



# Top-Down Knowledge Hiding in Organizations: An Empirical Study of the Consequences of Supervisor Knowledge Hiding Among Local and Foreign Workers in the Middle East

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## Abstract

This study adds to the growing research exploring the consequences of knowledge hiding in organizations. Drawing from the social exchange theory and the norm of reciprocity, this paper examines the direct and indirect—via distrust in supervisor—relationships between supervisor knowledge hiding (SKH) and supervisee organizational citizenship behavior directed at the supervisor (OCB-S) in the context of the Middle East. Using a supervisor–supervisee dyadic design, two-source data were obtained from 317 employees (local and foreign) of 41 Saudi firms. The findings suggest that supervisees’ distrust in their supervisors mediates the significant and negative relationship between SKH and supervisees’ OCB-S. Furthermore, the significant and positive relationship between SKH and distrust in supervisor is more pronounced for foreign workers than for local workers. This study provides empirical support and a better understanding of the existence and consequences of SKH for local and foreign workers and also discusses the theoretical and practical implications of the findings.

**Keywords** Knowledge hiding · Distrust in supervisor · Organizational citizenship behavior directed at the supervisor · The Kingdom of Saudi Arabia · Multigroup analysis · PLS-SEM

## Introduction

The success of an organization in achieving and maintaining its competitiveness is often attributed to the effectiveness of its knowledge management system which mostly relies on its employees’ motivation to exhibit knowledge sharing behavior (Bavik et al. 2017; Gagné 2009; Riege 2005). While ample research has highlighted the potential benefits of knowledge sharing for organizational growth and financial performance (Andreeva and Kianto 2012; Mesmer-Magnus and DeChurch 2009), annual losses amounting to \$31.5 billion in Fortune 500 companies have been attributed to knowledge hiding (Babcock 2004), which is defined as “an intentional attempt by an individual to withhold or conceal knowledge that has been requested by another person” (Connelly et al. 2012, p. 65). Knowledge hiding, particularly in its evasive hiding and playing dumb forms that are based on deception, is antisocial and unethical employee behavior that threatens the employee’s moral norms—sharing knowledge with coworkers and helping the organization maintain its competitiveness (Bavik et al. 2017; Lin 2007). Although knowledge hiding has been shown to impose a significant financial burden upon organizations (Babcock 2004), far less

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is known about the cost it inflicts upon employee prosocial and ethical behaviors (Connelly and Zweig 2015; Connelly et al. 2012). Thus, we aim to examine the consequences of supervisor knowledge hiding (SKH) for supervisees' prosocial behavior, i.e., organizational citizenship behavior directed at the supervisor (OCB-S) (Masterson et al. 2000). In doing so, we seek to extend the scarce literature on knowledge hiding in a number of important ways as explained below.

*First*, while only a handful of empirical studies (i.e., Černe et al. 2017, 2014; Connelly and Zweig 2015; Peng et al. 2018; Serenko and Bontis 2016; Škerlavaj et al. 2018) examine the consequences of knowledge hiding at the horizontal level, i.e., between two coworkers, the consequences of this unethical behavior at the vertical level, i.e., between a supervisor and a supervisee, are yet to be explored (Connelly and Zweig 2015). Given the prior research suggests that unethical leadership or supervisory behaviors, i.e., abusive supervision (Mackey et al. 2017) and self-serving leadership (Peng et al. 2018), have severe implications for the follower or supervisee work attitudes and behaviors, it is probable that the consequences of SKH are more devastating for the workplace outcomes than the consequences of coworker knowledge hiding. Thus, by focusing on SKH, this study contributes to both knowledge hiding and unethical leadership/supervisory behavior literatures.

*Second*, the handful of recent studies that examined the behavioral consequences of coworker knowledge hiding mostly focused on “reciprocal knowledge hiding” as one of the most likely reactions of the victim of knowledge hiding against the culprit of knowledge hiding (Černe et al. 2017, 2014; Connelly and Zweig 2015; Serenko and Bontis 2016). Drawing from the social exchange theory (Blau 1964) and the norm of reciprocity (Gouldner 1960), it is suggested that negative reciprocity “involves the tendency to return negative treatment for negative treatment” (Cropanzano and Mitchell 2005, p. 878) and motivates the victim of knowledge hiding to respond to the perpetrator by engaging in reciprocal knowledge hiding from the perpetrator. However, considering the control that supervisors have on pay and perks for supervisees, it is more likely that supervisees balance their negative social exchange with the supervisor through reducing extra-role behaviors, i.e., OCB-S, rather than reciprocal knowledge hiding, which may cause them further resources depletion. Thus, extending the literature, we examine the effect of SKH on supervisees' OCB-S which, though extra-role, is crucial for supervisors' managerial effectiveness (Masterson et al. 2000; Meyer et al. 2017; Podsakoff et al. 2009).

*Third*, understanding of the relationship between SKH and supervisees' OCB-S would not be complete without explaining whether this is a direct or an indirect relationship; and in case of an indirect relationship, what is the

underlying mechanism? To fully explain this relationship, we invoke the social exchange theory (Blau 1964) and the norm of reciprocity (Gouldner 1960) to explore the role of “distrust” as the underlying motivational mechanism through which the effect of SKH is transferred to supervisees' OCB-S. Specifically, we suggest that SKH first results in supervisees' distrust in their supervisor—confident expectations regarding the supervisor's harmful conduct (Lewicki et al. 1998)—which in turn, motivates the supervisees to reduce their OCB-S to balance the negative exchange with the supervisor. By exploring this mediation-based indirect relationship, we contribute to the knowledge hiding literature, which has mostly examined the direct relationships between knowledge hiding and negative work attitudes and behaviors.

*Fourth*, we conducted this study in the relatively unexplored work setting of the Kingdom of Saudi Arabia (KSA)—the world's largest oil producer and the wealthiest of the Middle Eastern countries (Nurunnabi 2017). Due to its economic dependence on oil export, the KSA has attracted a massive number of foreign workers<sup>1</sup>—who make up approximately one-third of its total workforce. This, in turn, has made employee work relationships in Saudi organizations very complicated and somewhat discriminatory. For instance, prior research on employee relationships in the Saudi work context (i.e., Mellahi 2007; Yeo and Marquardt 2015) suggests that Saudi employees are considerably more privileged than their foreign counterparts who have significantly fewer incentives (both monetary and non-monetary), lesser job autonomy and job security, lower bargaining power, and fewer rights to raise their voice against any supervisory abuse, particularly when their supervisor is Saudi (Mellahi 2007). Considering this, we conducted a multigroup analysis (MGA) of Saudis versus foreign workers to examine whether our hypothesized model differs significantly for the two groups.

In summary, our study answers three questions: *What is the relationship between SKH and supervisee OCB-S?* (2) *How does this relationship work?* And (3) *for which employees (i.e., local versus foreign) does this relationship matter more?*

The paper proceeds as follows. The following section addresses the theoretical foundation of the research and develops the hypotheses. The subsequent sections are related to the methodology, analyses, and results. The paper concludes with discussions related to the research findings, the

<sup>1</sup> We define “foreign” workers as those employees who do not have permanent residential status in the KSA (i.e., the host country) and whose work visas are sponsored by Saudi firms. Thus, they are different from “expatriate” workers whose overseas assignments are sponsored by their home country firms (Ang et al. 2003; Guzzo et al. 1994).

theoretical and practical implications, the research limitations, and future research directions.

## Theory and Hypothesis Development

### The context of the Kingdom of Saudi Arabia (KSA)

The KSA, which is a member of the G20 and the largest exporter of oil and gas products, is a leading country of the Gulf Cooperation Council (GCC). The country experienced an exponential economic and financial growth during the oil boom in the 1970s, which led to the creation of thousands of jobs in Saudi Arabia. There was a massive demand for skilled workforce in the KSA which could not be met by the Saudi workforce. Organizations in the KSA hired skilled foreign workers to meet this growing demand. This resulted in the country's reliance on foreign workers, who now form one-third of the total population of the country (Edgar et al. 2016). In order to reduce the unemployment among Saudis, the Saudi government took some steps in the last two decades to replace the foreign workers with skilled and educated Saudis through the *Saudization program* (Al-Asfour and Khan 2014; Nurunnabi 2017). Complementing the Saudization program, a recently launched *Nitaqat program* required all companies to have at least 30% of their workforce comprised of Saudi nationals (Koyame-Marsh 2016). Failure to comply with the Nitaqat program results in several punitive consequences, such as the denial of new work visas, the nonrenewal of existing visas for foreign workers, hefty fines, and a restriction of business activities for the firm. Also, the Saudi government recently introduced the KSA Vision-2030 (Saudi Vision 2030 2017), which aims to move from an oil-based economy to a knowledge-based economy and strictly implement the Saudization program to replace the foreign workers with Saudis (Al-Asfour and Khan 2014; Nurunnabi 2017). Under the KSA Vision-2030, several measures have been taken to discourage organizations from recruiting foreign workers, e.g., fixing their ratio in organizations, not renewing their job contracts, and imposing a progressive tax on dependents living with them in the KSA. These measures have created uncertainty among foreign workers regarding their job security and have instilled a fear of being replaced by local Saudis.

A large number of foreign workers from diverse socio-cultural backgrounds and punitive treatments for organizations failing to comply with the Saudization programs have given rise to very complicated working relationships in Saudi firms. For example, the KSA Vision-2030 encourages Saudi organizations to promote knowledge sharing among their employees by establishing knowledge management centers. However, it also makes employees, mainly foreign workers, aware of the potential role of their knowledge in

securing their jobs. Furthermore, not only foreign workers tend to use their knowledge as a deterrent against Saudization program, but local Saudis holding managerial positions are also inclined to keep their knowledge to themselves to avoid being replaced by more talented Saudi subordinates (Alshabari et al. 2015; Alshabari et al. 2016). For example, the findings of a recently conducted qualitative study by Yeo and Marquardt (2015) suggest that despite establishing knowledge management centers, both Saudi and foreign employees tend not only to avoid knowledge sharing but also to hide knowledge from others, particularly those in managerial positions. The initiatives being taken under the KSA Vision-2030 and the intricate working relationships within Saudi organizations make a very strong case for the exploration and comparison of the consequences of SKH for locals (i.e., Saudis) and foreign employees working in the KSA.

### Knowledge Hiding

According to Davenport and Prusak (1998), knowledge is “a fluid mix of framed experience, values, contextual information, and expert insights that provides a framework for evaluating and incorporating new experiences and information” (p. 5). Knowledge sharing plays a central role in effective knowledge management, where knowledge can be transferred among knowledge holders and seekers. Substantial empirical evidence produced over the last two decades suggests that employee knowledge sharing behavior is related to a wide range of positive work-related outcomes, such as individual performance (Quigley et al. 2007), team creativity and innovation (Cheung et al. 2016; Dong et al. 2017), and organizational financial performance (Andreeva and Kianto 2012). However, despite these benefits, many employees do not engage in knowledge sharing for various reasons, such as a self-referenced fears of losing face, losing power, and being isolated (Fang 2017), or an apprehension of being evaluated (Bordia et al. 2006); instead, they tend to engage in knowledge hiding, impairing the knowledge sharing process in organizations (Connelly et al. 2012).

Knowledge hiding refers to “an intentional attempt by an individual to withhold or conceal knowledge that has been requested by another person” (Connelly et al. 2012, p. 65). Although there may be some conceptual overlap between knowledge hiding and similar constructs, e.g., knowledge sharing and knowledge hoarding, knowledge hiding is distinct from these similar constructs in at least two ways (Connelly et al. 2012). First, knowledge hiding captures one's intentional attempt to hide knowledge from someone who has requested it, whereas, in both knowledge sharing and knowledge hoarding, it is not necessary for someone to request knowledge. Second, these similar constructs are not as broad as knowledge hiding, which is a higher-level construct with three sub-dimensions, i.e., evasive hiding,

playing dumb, and rationalized hiding, capturing the different ways in which knowledge hiding occurs (Connelly et al. 2012). In evasive hiding, the hider provides incorrect information or makes the false promise of providing complete information in the future, but with no such intention. In playing dumb, the hider pretends to be ignorant of the relevant knowledge, and in rationalized hiding, the hider either presents a justification of being unable to provide the required knowledge or blames another party for failing to provide the required knowledge (Connelly et al. 2012).

Considering these dimensions, researchers have recently begun to explore the negative consequences of knowledge hiding in organizations, such as less psychological safety; less thriving, creative and innovative individual and team behaviors; more voluntary turnover intentions; hurt relationships; and reciprocal knowledge hiding (Bogilović et al. 2017; Černe et al. 2017, 2014; Connelly and Zweig 2015; Fong et al. 2018; Jiang et al. 2018; Serenko and Bontis 2016). Although these consequences are based on knowledge hiding between two coworkers, “this is not to imply that supervisors never hide knowledge [from supervisee]” (Connelly and Zweig 2015, p. 488); rather, the consequences of such top-down knowledge hiding are still to be explored. In fact, there are multiple reasons to argue that supervisors do hide knowledge from their supervisees. For example, supervisors have earned the supervisory role due to their control over the specific work-related knowledge that their supervisees may not have. Thus, supervisors’ psychological ownership of their knowledge and their fears of losing power, being taken advantage of, and being exploited by their supervisees can lead to SKH.

This is particularly true in the complex and uncertain job market of the KSA, which has resulted in employees being skeptical about the true intentions of others’ conduct in the organization (Skok and Tahir 2010; Yeo and Marquardt 2015). In this ambiguous situation, supervisors’ control over work-related expert knowledge, which they have acquired or developed by investing considerable effort over an extended period, becomes a crucial factor determining their job security and career progression in the organization (Peng 2013). Therefore, we argue for the existence of SKH in the context of the KSA and explore its effect on supervisee pro-social behavior, i.e., OCB-S.

### **Supervisor Knowledge Hiding (SKH) and Supervisee Organizational Citizenship Behavior Directed Toward a Supervisor (OCB-S)**

Organ (1988) defines OCB as a “behavior that is discretionary, not directly or explicitly recognized by the formal reward system and that in aggregate promotes the effective functioning of the organization” (p. 4). Over the years, several dimensions of OCB, e.g., altruism, courtesy, and

conscientiousness, have emerged in the organizational behavior literature. However, Williams and Anderson (1991) suggested dimensions, i.e., OCB toward individuals (OCB-I) and OCB toward the organization (OCB-O), have been the most popular dimensions of OCB (Arain et al. 2017; Newman et al. 2017; Podsakoff et al. 2009). In further categorizing OCB, Masterson et al. (2000) introduced a third category, supervisor-directed OCB (i.e., OCB-S)—supervisees’ participation in extra-role work activities to support their supervisor above and beyond the call of duty—and suggested it as a more relevant category of OCB when measuring the effect of supervisor behavior (e.g., interactional justice) on supervisees’ prosocial behavior. Building on social exchange theory (Blau 1964), Masterson et al. (2000) suggested that supervisees’ perception of interactional justice by their supervisors has a significant positive association with supervisees’ OCB-S.

Social exchange theory (Blau 1964), in conjunction with the norm of reciprocity (Gouldner 1960), has been used as a leading theoretical framework to understand the effect of leader/supervisor behavior on follower/supervisee attitudes and behaviors (Shore et al. 2009). Following this theoretical framework, extant research on leader–follower/supervisor–supervisee relationship suggests that positive leader/supervisor behavior, e.g., leader-member exchange (LMX), ethical leadership, and servant leadership, motivates followers/supervisees to reciprocate positive leader/supervisor behavior by increasing their OCBs until a perceived balance of exchange is reached (Hoch et al. 2016; Newman et al. 2017). On the other hand, negative leader/supervisor behavior, e.g., abusive supervision, motivates followers/supervisees to negatively reciprocate leader/supervisor behavior by decreasing their OCBs until a perceived balance of exchange is reached (Mackey et al. 2013). Prior research suggests that abusive supervision and self-serving leadership (Mackey et al. 2017; Peng et al. 2018) are unethical supervisory behaviors that foster manipulative and unethical supervisee behaviors through the supervisors’ reward-punishment and role modeling capacity.

In further extending this work, we argue that SKH, i.e., the supervisor either deceives his/her supervisees—provides them with incorrect knowledge (evasive hiding) or acts ignorant of the required knowledge (playing dumb)—or gives them a justification by blaming others for failing to provide the required knowledge (rationalized hiding), is an unethical supervisory behavior for two reasons. First, SKH is an unethical behavior as supervisors through their role modeling capacity foster a culture of deception and compromise on professional duties in the workplace. Second, in the knowledge management literature, a supervisor is suggested as a legitimate source and facilitator of knowledge (Mary MacNeil 2004). By deceiving and deliberately not sharing the knowledge expected of them, supervisors put at stake

the legitimacy of social exchange in the workplace, which is primarily based on trust as not all of the duties can be put into writing. Consequently, SKH motivates supervisees to reduce their OCB-S<sup>2</sup> to balance the negative social exchange with their supervisors. For example, when a supervisee perceives that his/her supervisor hides knowledge from him/her, then he/she tends to balance the negative social exchange with the supervisor by reducing his/her OCB-S, e.g., not voluntarily helping the supervisor when he/she has a heavy workload and not sharing useful information with the supervisor. Thus, we hypothesize the following relationship.

**H1** SKH is negatively associated with supervisee OCB-S.

To fully understand the relationship between SKH and supervisee OCB-S, it is potentially significant to examine the underlying motivational mechanism maintaining the relationship. For this purpose, we again take the lead from social exchange theory (Blau 1964) and explore distrust in supervisor as the mediator between SKH and supervisee OCB-S.

### The Mediation of Distrust Between SKH and Supervisee OCB-S

The supervisee's distrust/trust in the supervisor refers to supervisee's confident expectations of the supervisor's negative/positive conduct (Lewicki et al. 1998). Prior empirical studies have confirmed that trust and distrust are not two sides of the same coin; rather, they are independent of each other and can coexist simultaneously (Cho 2006; Dimoka 2010; McKnight and Chervany 2001; McKnight et al. 2004). Following social exchange theory, the findings of prior empirical studies on the supervisor-supervisee relationship suggest that supervisees' perception of a positive/negative supervisory treatment engenders trust/distrust, respectively, in a supervisor (Liao and Chun 2016; Shore et al. 2009). However, in the case of supervisees' perceptions of negative supervisory behavior (e.g., strict observational monitoring),

distrust in a supervisor is a more likely reaction (Liao and Chun 2016).

Given that this study focuses on SKH, we examine distrust in supervisor as the underlying mechanism through which SKH translates into reduced supervisee OCB-S. Specifically, we argue that SKH results in supervisees' distrust in the supervisor, which in turn, motivates the supervisees to balance the negative social exchange with the supervisor by reducing their OCB-S. A supervisee's perceptions of evasive hiding (e.g., a supervisor agreed to help but instead gave information different from what was required), and playing dumb by a supervisor (e.g., a supervisor pretended that he/she did not have the capacity to provide the required knowledge, even though this was not true) signal to the supervisee that his/her supervisor does not trust him/her. Consequently, the supervisee starts distrusting his/her supervisor and subsequently reduces his/her OCB-S. This is consistent with the arguments presented by Černe et al. (2014) that an act of knowledge hiding by individual 1 from individual 2 motivates individual 2 to start distrusting individual 1 and to restore the balance in the social exchange with individual 1. Furthermore, the qualitative findings of Yeo and Marquardt (2015) highlight distrust in a supervisor as the consequence of SKH in the context of Saudi Arabia.

Thus, we hypothesize the following relationships.

**H2** SKH is positively associated with supervisee distrust in a supervisor.

**H3** Distrust in a supervisor is negatively associated with supervisee OCB-S.

**H4** Distrust in a supervisor mediates the negative association between SKH and supervisee OCB-S.

In order to fully explore the relationship between SKH and supervisee OCB-S in the complex working relationships between locals (i.e., Saudis) and foreign employees in the KSA, in the next section, we probe the differences in the relationships hypothesized in H1–H4 across the subsamples of local (i.e., Saudis) and foreign employees.

### Saudi Versus Foreign Employees

Social exchange theory (Blau 1964), in conjunction with the norm of reciprocity (Gouldner 1960), suggests that foreign employees tend to enjoy less positive social exchanges at their workplace—e.g., limited duration work visas with less job security and fewer financial benefits, limited career development and voice opportunities against supervisory abuse—than their local counterparts (Al Ariss 2014; Ang et al. 2003). For example, using a research sample from Singapore, Ang et al. (2003) highlighted that foreign workers

<sup>2</sup> Prior research on the consequences of employee knowledge hiding mostly focused on “reciprocal knowledge hiding” and recently focused on “counter productive work behavior” (CWB), as one of the most likely reactions of the victim of knowledge hiding against the culprit of knowledge hiding (Černe et al. 2017, 2014; Connelly and Zweig 2015; Serenko and Bontis 2016). However, given (1) the supervisory powers for punishing a supervisee who engages in negative work behavior, particularly toward the supervisor, and (2) the work context of the KSA, which is characterized by high uncertainty, low job security, a high-power-distance societal culture, and discrimination between locals and foreigners, it is expected that supervisees react against SKH by reducing their extra-role OCB-S rather than engaging in reciprocal knowledge hiding from and CWB toward their supervisors.

have lower distributive justice judgments, OCB, and performance than local workers. Similarly, using a research sample from UAE, Skok and Tahir (2010) highlighted that 80% of the surveyed participants reported that Arab workers were preferred over foreign workers for training purposes; 97% perceived that knowledge sharing occurred through informal verbal communication, mostly between Arab colleagues; and 93% perceived that Arab national culture discourages knowledge sharing, particularly with non-Arabs. Furthermore, the findings of a recently published qualitative study by Yeo and Marquardt (2015), in which 85% of the participants were foreign workers, highlighted that Saudi employees, particularly those in a supervisory role, considered foreign employees inferior to them and not worthy of knowledge sharing.

Given the aforementioned differences in foreign and local workers' social exchanges with their employers or agents of the employers, i.e., supervisors (Shore et al. 2009), the way these two groups of employees tend to balance their positive/negative exchange relationships may also differ. For example, when perceiving SKH, foreign workers may exhibit more distrust in their supervisor than their Saudi counterparts (Yeo and Marquardt 2015).

Moreover, the growing emphasis on the Saudization program has created uncertainty among foreign workers about their job security. The job market for foreign workers in Saudi Arabia is shrinking. Therefore, it is likely that, despite SKH and the resulting distrust in supervisors, foreign workers will not reduce their OCB-S to the extent that their supervisors take notice of it and make them pay for it. This consciousness for safety and job security is evident in the qualitative findings of Yeo and Marquardt (2015), such as "I often keep my mouth shut in meetings because there's no point trying to say something that may work to my disadvantage. I'd rather stay safe and let others sort out the politics and get their hidden agendas out" (p. 318). Consistent with these findings, we suggest that foreign employees may reduce their OCB-S, resulted from SKH and subsequently increased distrust, to a lesser extent than their Saudi counterparts. Taken together, we hypothesize the following relationships.

**H5** The hypothesized relationships (i.e., H1 to H4) will differ significantly in the foreign and Saudi subsamples, such that H1, H3, and H4 are weaker for foreign workers and H2 is stronger for foreign workers than for Saudi workers.

## Methods

### Sample and Procedure

Using a convenience sampling and a supervisor–supervisee dyadic design, the data were collected, by distributing hard

copies of two different types of research questionnaires, i.e., one for the supervisor and one for his/her supervisee, from employees of 41 domestic and multinational organizations. These organizations were operating in both the public and private sectors of Saudi Arabia. Since we aimed to gather data from both Saudi and foreign workers, the questionnaires were prepared in both English and Arabic. The Arabic translation of the employed measures from the original language (i.e., English) was carried out using both a forward (English into Arabic) and backward (Arabic into English) translation method. For this purpose, we hired the services of professional bilingual translators working at one of the coauthor's university's language and translation center. The supervisors' questionnaire consisted of measures of their supervisee's OCB-S. The supervisees' questionnaire consisted of the measures of SKH and distrust in their supervisor. The two questionnaires were assigned similar codes for later pairing. The use of two-sourced data provides a better assessment of the constructs by ruling out the threat of common method variance and self-reported biases (Podsakoff et al. 2012).

We employed undergraduate business students to distribute 560 supervisor–supervisee questionnaires. The data enumerators first contacted employees, who completed the "supervisee" questionnaire and identified the name of their supervisors. Following this, the enumerators contacted the referred supervisors to fill in the "supervisor" questionnaire. Once received, both questionnaires were matched using similarity codes, which were then removed during the data entry process to ensure the anonymity and confidentiality of the respondents. It is important to mention that each supervisor was required to fill in the "supervisee" questionnaire for only one of his/her supervisees. This procedure was followed (1) to avoid putting an undue burden on supervisors to complete questionnaires for multiple employees as it might have affected the quality of supervisors' response, and (2) to rule out the possibility of within-group difference in OCB-S ratings for multiple employees rated by the same supervisor.

Of the 560 total distributed supervisor–supervisee questionnaires, 342 dyads were returned, i.e., the response rate was 61%. After discarding the 25 cases with mismatched dyads and missing values, the remaining 317 supervisor–supervisee matching dyads were used to assess the hypothesized model. Respondents' names were erased during the data entry process to ensure anonymity. Of the 317 participating supervisors, 216 (68%) were Saudi and 101 (32%) were foreign, whereas, of the 317 participating supervisees, 183 (58%) were Saudi and 134 (42%) were foreign.

### Saudi Sample

Among the Saudi supervisors, 77% were male and 23% were female, the average age was 38 years, and the average

**Table 1** Descriptive statistics and intercorrelations

Constructs	Mean	STD	EH	PD	RH	Distrust	OCB-S
EH	2.235	1.224	<b>0.847</b>				
PD	2.281	1.278	0.746**	<b>0.839</b>			
RH	3.246	1.516	0.389**	0.453**	<b>0.843</b>		
Distrust	2.617	1.260	0.465**	0.527**	0.240**	<b>0.806</b>	
OCB-S	5.057	1.174	-0.227**	-0.248**	-0.134*	-0.259**	<b>0.682</b>

*N* = 317 (Saudi = 183; Foreign 134)

*EH* evasive hiding, *PD* playing dumb, *RH* rationalized hiding, *OCB-S* organizational citizenship behavior directed at supervisor

\* $<0.05$ ; \*\* $<0.01$ ; the diagonal (bold italic) values represent average variance extracted (AVE)

experience was 3 years. Among the Saudi supervisees, 60% were male and 40% were female; the average age was 31 years, the average experience was 4.6 years, and the average tenure under the current supervisor was 2.8 years.

### Foreign Sample

Among the foreign supervisors, 81% were male and 19% were female, the average age was 38 years, the average experience was 5.85 years. Among the foreign supervisees, 78% were male and 22% were female, the average age was 33 years, the average experience was 5.85 years, and the average tenure under the current supervisor was 3.8 years.

### Measures

All the questions were measured on a scale ranging from 1 (not at all) to 7 (to a great extent).

*SKH* was measured using a 12-item scale developed by Connelly et al. (2012). This scale consists of four items each for evasive hiding, playing dumb, and rationalized hiding. The scale opens with the following statement: "For a moment, visualize in your mind your supervisor, who receives a knowledge request from you: how does he/she behave?" A sample item of evasive hiding is as follows: "My supervisor agrees with me but never really intends to provide me with the requested information." A sample item of playing dumb is as follows: "My supervisor says that he/she does not know, even though he/she does." A sample item of rationalized hiding is as follows: "My supervisor explains that the information is confidential and only available to authorized people." The alpha reliability values of these subscales of *SKH* in this study are 0.94 for evasive hiding, 0.93 for playing dumb, and 0.94 for rationalized hiding.

*Distrust in supervisor* was measured using a 5-item scale developed by McAllister, Lewicki, and Bies (2000) and further validated by Liao and Chun (2016). A sample item is as follows: "Whenever possible, my supervisor takes advantage of me." The alpha reliability value for this scale is 0.94.

*OCB-S* was adapted from the 7-item scale of individual-directed OCB developed by Williams and Anderson (1991). The supervisor assessed his/her supervisee's OCB-S behavior. A sample item is as follows: "He/she voluntarily helps me when I have a heavy workload." The alpha reliability value for this scale is 0.92.

We also *controlled* for the effects of the participants' organization, gender, age, experience, supervisor-supervisee relationship tenure, and supervisor's nationality (i.e., Saudi/foreign) on supervisee's OCB-S (Podsakoff et al. 2000, 2009).

Table 1 presents the mean, standard deviation, and intercorrelations of *SKH* (i.e., evasive hiding (EH), playing dumb (PD), and rationalized hiding (RH)), distrust, as well as OCB-S.

### Analysis and Results

The hypothesized research model was tested by using PLS-SEM (Hair Jr et al. 2016; Lohmöller 1989) with the statistical software SmartPLS 3 (Ringle et al. 2015). The hypothesized model was tested by following a two-step data analysis approach, i.e., in the first step, we assessed the measurement model to confirm the factorial validity of the employed measures, and in the second step, we assessed a structural model to test the hypothesized relationships.

### Measurement Model

We assessed *SKH*, which has been conceptualized as a combination of evasive hiding, playing dumb, and rationalized hiding (Connelly et al. 2012), using one factor higher-order formative construct, whereas the rest of the unidimensional latent constructs, i.e., distrust in supervisor and OCB-S, were assessed using first-order reflective measurement models (refer to Fig. 1). The adequacy of these measurement models was assessed for composite reliability, convergent validity, and discriminant validity. According to Hair, Black, Babin, and Anderson (2010),

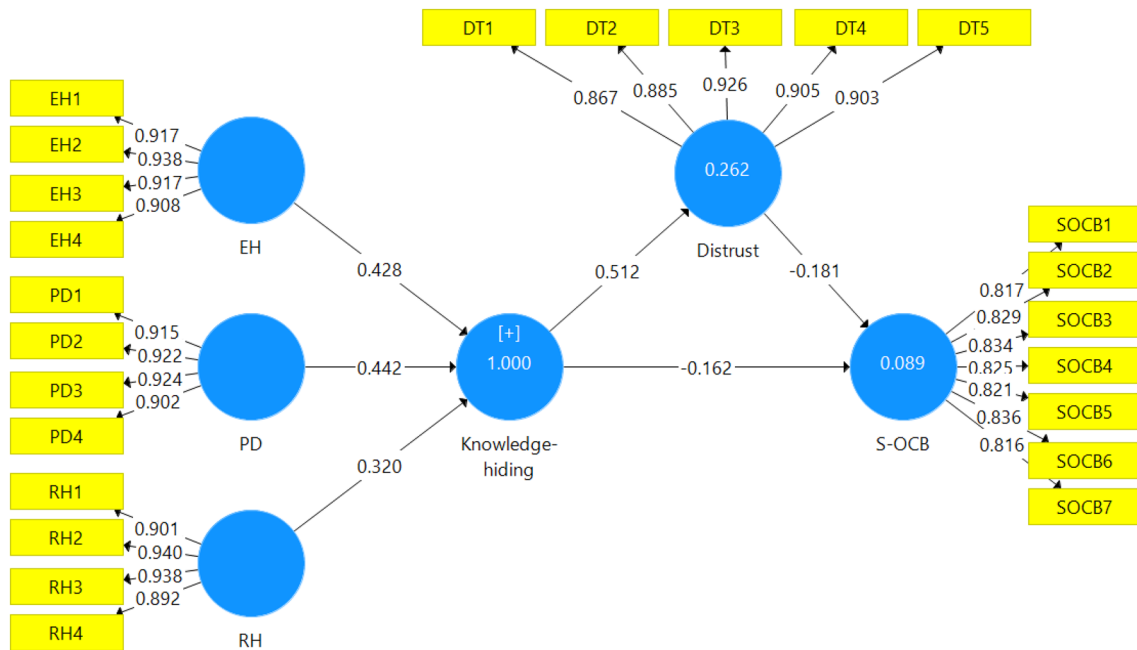


Fig. 1 Hypothesized measurement and structural models

Table 2 Discriminant validity (HTMT<sub>0.85</sub>)

Constructs	EH	PD	RH	Distrust	OCB-S
EH					
PD	0.797				
RH	0.416	0.485			
Distrust	0.495	0.561	0.256		
OCB-S	0.246	0.268	0.146	0.279	

EH Evasive hiding, PD Playing dumb, RH Rationalized hiding, OCB-S Organizational citizenship behavior directed at supervisor

composite reliability (CR) is established when the loadings of indicators of a latent construct are higher than 0.7; convergent validity is established when the average variance extracted (AVE) is greater than 0.5. Except for OCB-S (i.e., 0.68), the AVE value of all the measures was above 0.80, and the CR value of all the measures was above 0.90. Thus, all the measures fulfilled the criteria of composite reliability and convergent validity.

Furthermore, to establish discriminant validity, we used the heterotrait–monotrait (HTMT) ratio of the correlations method, which has recently been established as a superior criterion over the traditional Fornell–Larcker method for assessing discriminant validity, with a maximum threshold of 0.85 (Henseler et al. 2015; Rasoolimanesh et al. 2017). The results of the HTMT<sub>85</sub> ratio (refer to Table 2) showed that all the employed measures had a value of less than 0.85; therefore, discriminant validity was also established.

### Hypotheses Testing

We tested hypotheses H1–H4 in the structural model by assessing the significance (*p* value) of the structural paths between the latent variables. The results (Table 3) indicated that SKH had a significant and negative (total) effect on OCB-S (path coefficient = −0.225, *p* < 0.001); thus, H1 was supported by the results. The results also showed that SKH had a significant and positive association with distrust in one’s supervisor (path coefficient = 0.512, *p* < 0.001), which then had a significant and negative association with OCB-S (path coefficient = −0.181, *p* < 0.01); thus, H2 and H3 were also supported. H4, regarding the indirect effect of SKH on OCB-S via distrust in the supervisor, was also supported by the results (path coefficient = −0.093, *p* < 0.01); however, it was a partial



**Table 3** Hypothesized structural model

Hypotheses	Coefficients	T value	BC-CIs	Supported
H1: SKH → OCB-S				Yes
Total effect	-0.225***	4.188	-0.374 and -0.138	
Direct effect	-0.162*	2.313	-0.295 and -0.017	
H2: SKH → distrust	0.512***	11.025	0.418 and 0.595	Yes
H3: distrust → OCB-S	-0.181**	2.921	-0.297 and -0.046	Yes
H4: SKH → distrust → OCB-S	-0.093**	2.743	-0.161 and -0.025	Yes

N=317

\* < 0.05; \*\* < 0.01; \*\*\* < 0.001

BC-CIs bias-corrected confidence intervals

**Table 4** Measurement invariance of the hypothesized model (5000 permutations)

Constructs	Step 1	Step 2	5% quantile of $c_u$	Result 1	Step 3				Result 2
					MD	CIs	VD	CIs	
		c							
EH	Yes	1.000	1.000	Yes	-0.262	-0.223 0.223	-0.331	-0.393 0.427	No
PD	Yes	1.000	1.000	Yes	-0.324	-0.221 0.228	-0.341	-0.379 0.400	No
RH	Yes	1.000	1.000	Yes	0.017	-0.215 0.223 (ns)	0.096	-0.218 0.231	Yes
Distrust	Yes	1.000	0.999	Yes	-0.293	-0.231 0.220	0.011	-0.293 0.305	No
OCB-S	Yes	0.996	0.999	Yes	-0.165	-0.222 0.225	-0.039	-0.309 0.326	Yes

c Original composite score correlation,  $c_u$  Perm, CIs confidence intervals, MD mean difference, VD variance difference, Step 1 Configural invariance (Same algorithms for both groups), Step 2 Compositional invariance (Correlation=1), Result 1 partial measurement invariance established; Result 2 full measurement invariance established

mediation, as the direct effect of SKH on OCB-S was still significant (path coefficient = -0.162,  $p < 0.05$ ).

**Multigroup Analysis**

An MGA was also performed using a two-step analytical procedure. First, we assessed the invariance of the measurement models using measurement invariance of composites (MICOM) method (Henseler et al. 2016) to establish measurement invariance for the measurement models of Saudi and foreign subsamples. MICOM method consists of three steps: in the first step, configural invariance is assessed; in the second step, the establishment of compositional invariance is assessed; and in the third step, equal means and variance is assessed. For the first step, we used the same measurement model, as tested above, for both Saudi and foreign groups using identical algorithm settings. In this way, the first step of the MICOM method regarding configural invariance was established. To establish the remaining two steps of MICOM, we ran the permutation procedure with 5000 permutations and a 5% significance level for both groups.

In step 2, we compared the original composite score correlations (c) with the composite score correlations obtained from the permutation procedure ( $c_u$ ). The results (Table 4) established the compositional invariance between the two groups. Lastly, we assessed the equality of means and variance between the two groups.

The results established the full measurement invariance for rationalized hiding (RH) and OCB-S, with partial measurement invariance for evasive hiding (EH), playing dumb (PD), and distrusting one’s supervisor. According to Henseler et al. (2016), when partial or full measurement invariance is established, then it is proper to assess the invariance of the structural model to examine whether the groups are different in their path coefficients.

We proceeded to assess the differences between the path coefficients of the structural models of the two groups using Henseler, Ringle, and Sinkovics (2009) boot-strap-based MGA, which has been recently established as the most conservative MGA method for PLS-SEM (Rasoolimanesh et al. 2017; Schlägel and Sarstedt 2016). The results (refer to Table 5) showed that Saudi and foreign employees

**Table 5** MGA of the hypothesized model (Saudi vs Foreign)

Hypotheses	Foreign (134)		Saudi (184)		Diff	H- <i>p</i>	Supported
	Coefficients	BC-CIs	Coefficients	BC-CIs			
<b>H1: SKH → OCB-S</b>							
Total effect	-0.214*	-0.358 -0.011	-0.320***	-0.470 -0.142	0.105	0.816	No
Direct effect	-0.099 (ns)	-0.306 0.172	-0.229**	-0.392 -0.043	0.130	0.808	No
<b>H2: SKH→Distrust</b>							
	0.598***	0.466 0.700	0.432***	0.279 0.558	0.167	0.967	Yes
<b>H3: Distrust→OCB-S</b>							
	-0.193 (ns)	-0.362 0.041	-0.210**	-0.363 -0.044	0.017	0.549	No
<b>H4: SKH→Distrust→OCB-S</b>							
	-0.115 (ns)	-0.232 0.022	-0.091*	-0.180 -0.021	0.025	0.366	No

*H-p* Hensler's MGA *p* value, *BC-CIs* Bias-Corrected Confidence Intervals, *Diff* Difference, *ns* nonsignificant

significantly differ on the path from SKH → distrust (H2), as the coefficient was significantly stronger for foreigners (0.598\*\*\*) than for Saudis (0.432\*\*\*). However, no significant difference was established in the coefficients for H1, H3, and H4. Thus, H5 was partially supported by the results. It is interesting to note that although MGA revealed no significant differences in Saudi and foreign employees for H1 (SKH → OCB-S), H3 (distrust → OCB-S), and H4 (SKH → distrust → OCB-S), the path coefficients of these relationships were stronger for Saudi employees (H1: -0.320\*\*\*, H3: -0.210\*\*, and H4: -0.091\*) than for foreign employees (H1: -0.214\*, H3: -0.193 *ns*, and H4: -0.115 *ns*).

## Discussion

This study aimed to extend the prior understanding of knowledge hiding by examining the existence and consequences of SKH in the context of the Middle East, in particular in the KSA. Building on social exchange theory, we first examined the direct and indirect relationships, via distrust in a supervisor, between SKH and supervisee OCB-S. In the second step, we conducted an MGA to examine the difference in these relationships across local (i.e., Saudi) and foreign subsamples. The PLS-SEM-based results of this study provided full support for the first part and partial support for the second part. More specifically, in providing support for H1, the results showed that SKH had a significant and negative association with supervisee OCB-S. The results for H2 and H3 showed that SKH had a significant and positive association with distrust in one's supervisor, which then had a significant and negative association with supervisee OCB-S. Lastly, the results for H4 showed that distrust in the supervisor significantly mediated the direct negative association between SKH and supervisee OCB-S.

## Theoretical Implications

To the best of our knowledge, this is the first study to examine the existence and consequences of knowledge hiding in a supervisor-supervisee relationship (i.e., SKH) in the relatively unexplored and complicated work context of the KSA. Prior research on knowledge hiding suggests that the victims of knowledge hiding react to the perpetrator by engaging in reciprocal knowledge hiding (Černe et al. 2014; Connelly and Zweig 2015; Serenko and Bontis 2016). In the context of SKH, it is logical to expect that supervisees react to SKH by reducing their OCB-S. Our finding is consistent with the leadership-OCB literature, suggesting that negative and unethical supervisory treatment, such as abusive supervision, motivates supervisees to reduce their OCB to restore balance in their negative social exchange with their supervisors (Mackey et al. 2017).

Drawing upon social exchange theory and the norm of reciprocity, this study revealed not only the significant negative association between SKH and supervisee OCB-S but also how this relationship is mediated by distrust in one's supervisor, which served as the underlying motivational mechanism maintaining this relationship. The mediation effect of distrust in one's supervisor between SKH and supervisee OCB-S is also consistent with both the knowledge hiding and OCB literatures. For instance, Černe et al. (2014) suggest that an employee's experience of knowledge hiding by another employee first engenders a feeling of distrust, which in turn motivates the victim to engage in reciprocal knowledge hiding from the culprit of the knowledge hiding. The mediation of distrust between the negative supervisory treatment and OCB relationship has also been supported in the leadership-OCB literature. For instance, Wu et al. (2012) highlight that supervisees' perception of perceived interactional justice by their benevolent supervisor first provokes a

feeling of trust in the supervisor, which then motivates supervisees to increase their OCB, whereas supervisees' perception of negative supervisory behavior (e.g., strict observational monitoring) stimulates a feeling of distrust in the supervisor, which in turn motivates supervisees to reduce their positive work behavior, i.e., OCB-S (Liao and Chun 2016).

An MGA of this study highlighted that the consequences of SKH, particularly distrust in one's supervisor, in the complex work context of the KSA were not the same for Saudi nationals and foreign employees. Foreign workers showed more distrust in the supervisor but smaller decreases in their OCB-S, whereas Saudi employees showed less distrust but larger decreases in their OCB-S. Specifically, the data partially supported H5 regarding the MGA of Saudi and foreign employees for the relationships hypothesized in H1 to H4. Significant differences between Saudi and foreign subsamples were recorded only for H2, in which the significant and positive association between SKH and distrust in the supervisor was significantly stronger for foreign workers than for Saudis. This finding is in line with the qualitative study of Yeo and Marquardt (2015) and the descriptive survey of Skok and Tahir (2010), which highlighted that foreign employees perceived knowledge hiding and distrust in their supervisors more than their Saudi counterparts.

Furthermore, although the MGA did not show a statistically significant difference for H1, H3, or H4, the direction and coefficient size for these relationships showed that foreign workers reduced their OCB-S less than their Saudi counterparts. This is again consistent with the qualitative findings of Yeo and Marquardt (2015), who highlighted lower or nonexistent job security among foreign workers resulting from the Saudization program. Accordingly, we argue that, despite SKH and the subsequent distrust in supervisor, foreign workers might still be trying to remain in their supervisors' good graces by engaging in OCB-S to save their jobs.

Overall, these findings make valuable contributions to the prior knowledge hiding literature. By using a research sample from Saudi Arabia and conducting an MGA of locals (Saudis) and foreign workers, this study comprehensively addressed the research calls of Connelly and Zweig (2015), to examine the (1) knowledge hiding that occurs between supervisor and supervisee and (2) association between knowledge hiding and OCB. Additionally, employing supervisor-supervisee dyadic data, rigorous data analysis in PLS-SEM, and some recently developed advanced analytical techniques, i.e., HTMT, MICOM, and MGA, represent a significant methodological contribution of this paper to the knowledge hiding literature.

## Practical Implications

The results of this study have useful practical implications for managers in terms of understanding the existence and consequences of SKH in organizations, particularly organizations in the Middle East. Specifically, our results remind supervisors that their knowledge hiding may backfire and increase supervisees' feelings of distrust, which then decreases supervisees' OCB-S. Prior OCB research has suggested that a supervisor's success often depends on the extent to which his/her supervisees are motivated to exhibit OCB-S. For instance, assisting a (fresh) supervisor in doing some of his/her supervisory duties, helping him/her learn quickly, passing him/her useful information that he/she himself/herself may not collect, and providing socio-emotional support to him/her when he/she is down are some examples of how a supervisee's OCB-S can be valuable to his/her supervisor. It is crucial for supervisors to avoid creating any perception of SKH by their supervisees, as this can result in distrust and reduced OCB-S.

Furthermore, prior research on the "trickle-down" effect of supervisory behavior (Mawritz et al. 2012; Mayer et al. 2009) suggests that supervisees' perceptions of unethical supervisory behavior, i.e., abusive supervision, motivate them to exhibit the same unethical behavior toward others. Following these findings, it can be inferred that supervisees' perceptions of SKH can stimulate them to exhibit the same unethical behavior toward the supervisors and the coworkers. Thus, our findings suggest supervisors be the ethical role models for their supervisees by exhibiting knowledge sharing and refraining from knowledge hiding behaviors. To achieve this goal, HR managers should implement non-discriminatory HR policies and procedures that facilitate a one-on-one communication channel between the supervisor and each supervisee, which could be quite useful in building a positive image and subsequent trust in supervisors by supervisees, which is an essential condition for the knowledge sharing behavior.

This is particularly true in the case of foreign workers working in the Middle East, who often complain about discriminatory supervisory behavior between Saudi and non-Saudi employees (Skok and Tahir 2010; Yeo and Marquardt 2015). The results of the MGA in our study also confirm that foreign supervisees reacted to SKH by showing distrust in supervisors more than their local Saudi counterparts. Thus, we suggest that managers pay attention to this aspect of work life and implement fair and equitable HR policies for both local (Saudi) and foreign employees. According to Metcalfe and Murfin (2012), the KSA relies on a large foreign workforce due to the lack of a skillful local workforce. The pressure has increased to train this local workforce, as the country is facing challenges in establishing equal employment opportunities to establish sustainable industries.

Furthermore, to minimize the existence of SKH, it is essential for top management to pay attention to those factors that motivate supervisors to hide knowledge from their supervisees, i.e., a fear of losing power, losing face, and exploitation (Fang 2017); a lack of psychological safety; and an uncertain work context and policies (Yeo and Marquardt 2015). This can be achieved by designing and implementing human resource planning strategies that foster a sense of both psychological and actual job security among local and foreign employees. Such policies would motivate employees to assume collective ownership of the knowledge creation and dissemination processes in their organizations.

### Limitations and Future Research

Albeit this study has several strengths—e.g., use of two-source supervisor–supervisee dyadic data, rigorous and advanced data analysis in PLS-SEM to establish discriminant and convergent validity and measurement and structural invariance before examining the MGA—it also has some limitations. Despite some advantages of PLS-SEM, i.e., a rigorous 3-step procedure to ensure measurement invariance of the hypothesized measurement and structural regression models across local and foreign workers, built-in function of HTMT for ensuring discriminant validity, and a smaller sample size requirement for conducting an MGA, the use of PLS-SEM does have some limitations. For example, Hair Jr et al. (2016) state that PLS-SEM does not provide standard goodness-of-fit statistics and the evaluation of model is thus based on its ability to predict the endogenous variable. However, they also suggest that the use of PLS-SEM is preferable when using formative indicators. The results of this study should be interpreted in light of these caveats in mind.

Moreover, the directionality of hypothesized relationships in our model was consistent with the theory and prior knowledge hiding and OCB literatures. Nevertheless, the use of cross-sectional data is not an ideal research design. Future research may replicate our model using a 3-wave research design, i.e., measure SKH in time 1, distrust in the supervisor in time 2, and OCB-S in time 3. This time-lagged design would be more accurate in establishing the causal order of the relationships than the inferences made in this study.

Given that this study examined the mediation effect of distrust in a supervisor between SKH and OCB-S, future research might explore other mediating mechanisms, i.e., supervisor-based self-esteem (Landry and Vandenberghe 2009). For instance, it could be that SKH first hurts a supervisee's supervisor-based self-esteem, e.g., he/she feels not important or valuable to his/her supervisor, which then motivates him/her to withhold his/her OCB-S, or even some other extra-role positive behavior, i.e., promotive and prohibitive voices (Lianget al. 2012). Furthermore, it is very likely that some factors, e.g., psychological safety,

the availability of alternative job opportunities, and a knowledge sharing climate, moderate the direct and indirect relationships between SKH and OCB-S. Replicating the relationships examined in this study with some of these moderators might better explain the reason for the nonsignificant direct and indirect effects of SKH on OCB-S for foreign employees.

Furthermore, drawing from Mawritz et al. (2012) highlighted “trickle-down” effect of abusive supervision, an exciting extension of our work would be to collect multilevel data on knowledge hiding, i.e., a supervisor's knowledge hiding from a supervisee and a supervisee's knowledge hiding from a coworker and to examine whether the effect of SKH trickles down to supervisees' knowledge hiding from coworkers.

### Conclusion

This study aimed to answer three important research questions in the knowledge hiding literature, such as how SKH affects supervisee OCB-S, why it affects supervisee OCB-S, and for which employees (i.e., local versus foreign) it affects supervisee OCB-S more. The findings show that SKH was negatively related to employee OCB-S, and this relationship existed partly due to the mediation effect of distrust in one's supervisor, which was first engendered by SKH and led to decreased OCB-S. Furthermore, SKH is found to engender distrust in one's supervisor significantly more for foreign workers than for local workers. The theoretical implications of this study highlight the existence of SKH and its potential positive effects on employees' distrust in their supervisor—which is significantly larger for foreign workers than for local workers – and the subsequent decrease in OCB-S. In terms of managerial implications, these findings provide recommendations for managers to be an ethical role model for their supervisees by exhibiting knowledge sharing behavior rather than knowledge hiding behavior, as the latter ultimately negatively affects them through employee increased distrust and decreased OCB-S.

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## Compliance with Ethical Standards

**Conflict of interest** Being a first and corresponding author of this article, I declare that there is no conflict of interest related to this article.

**Ethical Approval** All the procedures performed in this research/article involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards. This article does not contain any studies with animals performed by any of the authors.

**Informed Consent** Informed consent was obtained from all the individual participants included in the study.

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