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Knowledge "hiding and seeking" during the pandemic: Who really wins in the new normal?

Abstract

Purpose: The recent COVID-19 pandemic caused a severe economic downturn. Employees working in these organisations face employment uncertainty. The pandemic disrupted their daily routines, and it added a layer of complexity to the already resource-constrained environment. During these times, employees would conserve their resources to maintain competitiveness, one of which is knowledge hiding. While economic activities are resuming, the appearance of new variants could mean the transition toward endemicity could be put on hold. Hence, there is a need to rethink the behaviour of employees as they would have elevated levels of anxiety towards resuming daily work activities. Therefore, this study attempts to address the question of understanding employees' perspectives toward knowledge sharing and knowledge hiding.

Method: Drawing on the conservation of resources (COR) theory, social learning theory (SLT) and the social exchange theory (SET), a conceptual framework involving ethical leadership was developed to examine if knowledge hiding or knowledge sharing behaviour is a resource for employees during these times. The partial least squares method of structural equation modelling was used to analyse results from 271 white-collar employees from Singapore

Results: Our results show that ethical leadership encourages knowledge sharing but does not reduce knowledge hiding. At the same time, knowledge hiding, not knowledge sharing, improves one's perception of work performance. Additionally, psychological safety is the key construct that reduces knowledge hiding and encourages sharing behaviour.

Originality: Overall, this study extends the theories, demonstrating that, first and foremost, knowledge hiding is a form of resource that provides employees with an added advantage in work performance during the endemic. At the same time, we provide a new perspective that ethical leaders' demonstration of integrity, honesty, and altruism alone is insufficient to encourage knowledge sharing or reduce knowledge hiding. It must lead to a psychologically safe environment.

Keywords: COVID-19, knowledge hiding, knowledge sharing, psychological safety, ethical leadership, White-collar employees, Singapore

Introduction

The growing importance of a knowledge-based economy suggests that knowledge is a crucial resource for organisational development, success and firm performance. From this light, a knowledge-sharing culture has been widely recognised as a critical factor that facilitates the exchange of knowledge within organisations (Cabrera and Cabrera, 2007). Such a culture requires the support of an effective knowledge management infrastructure, and its effectiveness depends on organisational members' behaviour (De Long and Fahey, 2000).

Therefore, one of the most critical agendas in any organisation is developing a systematic process for creating, sustaining, and retaining information. A way to achieve this is to encourage individuals to share their knowledge or information within their organisations. According to literature such as Farooq (2018), knowledge sharing is a major source of competitive advantage. Holdt Christensen (2007) further highlighted that such a process could take place in different directions, including horizontally (peer sharing), vertically (top-down or bottom-up direction), as well as diagonally (across business units). It is often perceived as a basic survival, the least expensive strategy, and an essential source for firms to increase innovation competence (Lei *et al.*, 2021). Though literature such as Chaman *et al.* (2021) has established the different antecedents that have the potential to affect knowledge sharing, Lei *et al.* (2021) argued there it is still poorly understood and studied. On this front, seminal work by Holdt Christensen (2007, p. 42) highlighted that knowledge sharing should not be seen as a destination but as an ongoing process of bridging interdependencies between the different processes enabling “the transformation of a given input to an organizational output.”

However, a layer of complexity is added when organisations are not the owners of individual knowledge assets, suggesting that individuals have no obligation to transfer their knowledge to other members (Issac *et al.*, 2021). This gives rise to a phenomenon known as "knowledge hiding". Following Connelly *et al.* (2019), knowledge hiding involves being evasive, playing dumb and rationalizing one's knowledge hiding behaviour. Indeed, knowledge hiding has been a critical issue for organisations that come with several damaging work outcomes at both employees' and organisations levels, including impairing the fabric that holds the organisation together where distrust grows, and the quality of relationships weaken (Nguyen *et al.*, 2022, Men *et al.*, 2020). It was reported that knowledge hiding costs Fortune 500 organisations at least \$31.5 billion annually (Shrivastava *et al.*, 2021). Given the severe ramifications, knowledge hiding is gaining increasing interest from researchers (e.g. Nguyen *et al.*, 2022, Issac *et al.*, 2021, He *et al.*, 2021, Shrivastava *et al.*, 2021, Alam *et al.*, 2021, Farooq and Sultana, 2021). Despite that, it remains to be an evolving construct that requires further exploration, especially since “there is a lack of consensus about the possible outcomes of knowledge hiding.” (Farooq and Sultana, 2021, p. 726)

Building on these, it is evident that knowledge sharing and knowledge hiding remain relevant in today's workplace and still require researchers' attention. First, there is a lack of studies examining knowledge sharing and knowledge hiding in the same model. Many studies tend to focus only on one form of behaviour. For instance, Venz and Nesher Shoshan (2021) investigated the perspective of knowledge hiding on interpersonal conflict and psychological strain, while Chaman *et al.* (2021) focused mainly on knowledge sharing. Pandey *et al.* (2021) highlight that knowledge sharing and knowledge hiding are not extremes along the same continuum but two distinct constructs displaying highly contrasting intentions. In this respect, Gagné *et al.* (2019) indicated that many existing works, such as Chaman *et al.* (2021), did not provide a holistic understanding of the literature as people may hold the simultaneous ins and outs for displaying knowledge sharing and knowledge hiding behaviours. In other words, questions are raised by Gagné *et al.* (2019) on what could be the possible novel insights when both knowledge hiding and knowledge sharing are simultaneously examined and placed in the same model. From this perspective, this study responds to Gagné *et al.* (2019) to extend our understanding of what adequately motivates knowledge sharing and demotivates knowledge hiding behaviour.

Despite scholarly interest in the causes and outcomes of knowledge sharing and knowledge hiding (e.g. Nguyen *et al.*, 2022, Issac *et al.*, 2021, Venz and Nesher Shoshan, 2021, Men *et al.*, 2020, Khoreva and Wechtler, 2020, Abdullah *et al.*, 2019), researchers such as He *et al.* (2021), Shrivastava *et al.* (2021) and Bernatović *et al.* (2021) have noted that further research is needed to extend the current focus of the literature. The role of interpersonal relationships, especially the positive leadership role, is missing in the knowledge management literature (Connelly *et al.*, 2019). Such conspicuous absence is a surprise as leaders are well-positioned to influence employees' behaviour and perspective (Ibarra and Hunter, 2007). Among the different leadership styles, Bernatović *et al.* (2021) argued that ethical leadership should be given more focus. After all, ethical leadership distinguishes itself from other leadership styles in its focal point on ethics. The leaders' actions create a work climate that shapes employees' ethical belief, encourages ethical behaviour and discourages unethical ones. In sum, this study responds to Nguyen *et al.* (2022) calls where they suggested scholars examine the effect of diverse leadership styles on knowledge management.

Second, though the importance of performance has emerged as a recurrent theme in several knowledge hiding literature, such as Bernatović *et al.* (2021), there is still a gap in understanding of knowledge sharing and knowledge hiding influencing an individual's performance. This can be seen in the inconsistent results seen in multiple studies. For instance, Černe *et al.* (2017) found that knowledge hiding between coworkers negatively influences their work ability. Similar results are observed in Serenko and Bontis (2016). However, Wang *et al.* (2019) found that knowledge hiding does not reduce the performance of salespersons. Instead, it encourages them to work harder to

improve their sales performance. The inconsistent results demonstrate that the outcome of knowledge hiding and sharing requires more investigation, which our study attempts to unravel.

Every industry has undergone a severe economic downturn with corresponding stress throughout the economy during major global crises such as the COVID-19 pandemic (Agarwal, 2021). Other than work challenges, employees during the pandemic experience additional personal challenges due to the disruptions to their regular routines, adding a layer of complexity to an already resource-constrained setting (Tan and Yeap, 2021). Unsurprisingly, any additional potential threat of economic loss can stimulate a distinct set of agentic resources and drivers for knowledge hiding behaviours. From this perspective, knowledge hiding has been found as a strategy to regain lost or reduced resources (Hobfoll *et al.*, 2018, Nguyen *et al.*, 2022). As highlighted by Kniffin *et al.* (2021), a pandemic of this scale is unprecedented. While economic activities are gradually resuming, the appearances of new variants could disrupt the transition toward endemicity (McKinsey, 2022). Employees would have elevated levels of anxiety and depression that may further alter their workplace behaviours. Given this, we respond to Ammirato *et al.* (2020)'s call to broaden the knowledge management research horizon by adapting the questions to reflect the pandemic period.

Summing up, the primary objective of this study serves to provide insights into the mechanisms that underpin knowledge hiding and sharing behaviour during the pandemic. Specifically, it has two sub-objectives. First, investigating the effect of ethical leadership and psychological safety on knowledge hiding and knowledge sharing behaviours. Second, examining whether knowledge hiding or sharing is more desirable during the pandemic phase.

Theoretical Framework

Different scholars have described knowledge as information and skills acquired through formal and informal means (Nguyen *et al.*, 2022, He *et al.*, 2021, Ngoc Hoi, 2021, Shrivastava *et al.*, 2021). Broadly speaking, knowledge can be categorised into two main groups: explicit and tacit knowledge (Shrivastava *et al.*, 2021). The former refers to knowledge obtained from written or documented forms such as manuals, books and articles, while the latter refers to knowledge obtained mainly through individual experience, rooted in involvement, commitment and action (Jafari Navimipour and Charband, 2016). The transfer of explicit knowledge is comparatively easier than tacit knowledge. However, tacit knowledge provides an additional competitive advantage to the knowledge holder and the organisation. For these reasons, individuals hide knowledge and information, fearing the loss of their market value, leading to negative corollaries at different levels (Nguyen, 2020). In the field of knowledge management, scholars such as Shrivastava *et al.* (2021), Venz and Neshor Shoshan (2021), Men *et al.* (2020) have identified the antecedents and outcomes of knowledge hiding. For instance, employees hide knowledge to ensure organisational relevance (Nguyen *et al.*, 2022). Another reason is because they have gone through much effort to obtain it and would not want others to acquire it

with little or no effort (Bernatović *et al.*, 2021). Besides, personality traits and cultural contexts have also been found to influence one's tendency to hide knowledge (Arain *et al.*, 2019). Despite these, studies during times of organisational crises are rarely examined (Nguyen *et al.*, 2022, He *et al.*, 2021). Given the complexity of knowledge hiding phenomenon, it is logical that our conceptual model (see Figure 1) draws on three relevant theories to explain the phenomenon we are investigating – the conservation of resources (COR) theory, social learning theory (SLT) and social exchange theory (SET).

*** Insert Figure 1 ***

The COR theory is a stress theory which explains that people tend to maintain their current resources (Madden *et al.*, 2017). According to Hobfoll *et al.* (2018), there are three situations where individuals are motivated to perform conservation of resources – the threat of resources loss, an actual resources loss and a lack of gained resources as a result of the expending of resources. Based on the definition, we can develop three perspectives regarding COR theory. First, resources can come in different forms, including objects, states and conditions (Hobfoll, 2011). Second, any threatened loss of these resources drives individuals into a certain stress level (Hobfoll *et al.*, 2003). Third, these threats can arise from multiple fronts, including organisational crises.

As mentioned earlier, COVID-19 has altered employees' concept of work, the workplace and the workforce. While some employees adapt to the changes, others may not. As highlighted by Nguyen *et al.* (2022), some may perceive a loss of resources throughout this period, leading them to behave outside of norm behaviours, such as knowledge hiding. In this sense, employees view knowledge hiding as a resource to reduce any perceived negative consequences of resource sharing (Dash *et al.*, 2022, Agarwal, 2021). Additionally, in times of an organisational crisis, employees would experience different emotions that would push them out of their comfort zone. Knowledge hiding emerges naturally as employees see it as a way to maintain their skills, expertise and advantage (Agarwal, 2021).

Additionally, the effect of ethical leadership on knowledge sharing and hiding behaviour can be explained using the SLT and SET. As noted by Thyer and Myers (1998), SLT resides against the premise that employees would choose to emulate behaviours from leaders considered credible and attractive (Brown *et al.*, 2005). From this perspective, we argue that ethical leaders are role models of ethical behaviour, influencing their employees through the ethical dimension of their actions. Further, SET explained that through ethical leadership, leaders display fairness, trustworthiness and honesty (Cropanzano and Mitchell, 2005). They provide care and support to followers and create an ethical framework for them, which is reciprocated in a way valued by ethical leaders, which we postulated as increasing knowledge sharing and reducing knowledge hiding.

Hypotheses Development

Ethical Leadership on Knowledge Hiding and Knowledge Sharing

Knowledge is a valuable resource that can contribute to the achievement of its goals (Farooq, 2018). Employees who are willing to share knowledge held individually can develop organisational-specific expertise (Vij and Farooq, 2014). In this regard, knowledge sharing is a social activity that employees mutually exchange their knowledge and jointly create new knowledge (van den Hooff and de Ridder, 2004). It is a necessary process to support organisations to flourish in this competitive environment (Goswami and Agrawal, 2022). At the same time, knowledge hiding has been described as counterproductive and unethical behaviour that results in massive losses for the organization (Issac *et al.*, 2021). It refers to the “intentional falsification or concealment of knowledge in response to a definitive request” (Agarwal *et al.*, 2022, p. 771). Individuals hide knowledge for different reasons, but studies such as Bernatović *et al.* (2021) point out that such behaviour is driven by the fear of losing individual competitive advantage. Černe *et al.* (2017) further pointed out that knowledge hiding can take one or more of the following forms – (1) acting dumb by presenting themselves to be unfamiliar with the desired information; (2) performing evasive hiding by providing incomplete or misleading information; (3) rationalising knowledge hiding behaviour by providing reasons justifying their action.

Given the positive and negative ramifications of knowledge sharing and hiding, there has been an enhanced scholarly and practitioner interest in understanding the factors that affect the processes. Overall, the extant body of research has focused on various individual and situational factors that affect one’s hiding and sharing behaviour. For situational factors, variables such as the level of trust (Yan *et al.*, 2016), the security of the job (Serenko and Bontis, 2016), the organisational climate (Dash *et al.*, 2022), and perceived organisation politics (He *et al.*, 2021) are found to influence employees’ sharing and hiding practices. Similarly, individual factors influencing these behaviours include personal competitiveness (Hernaus *et al.*, 2019), psychological ownership (Peng, 2013), motivation to share (Khoreva and Wechtler, 2020) and perspective taking (Hernaus *et al.*, 2019). However, the role of interpersonal relationships, especially the positive leadership role, is missing in literature (Connelly *et al.*, 2019). According to Agarwal *et al.* (2022, p. 771), such conspicuous absence is surprising as “immediate supervisors, as major partners of social exchange in the workplace, can exercise a well-defined effect on subordinates’ behaviours and attitudes.” Similarly, Farooq and Sultana (2021, p. 710) echoed similar views that “supervisors are organizational representatives and major decision-makers; consequently, their actions could be an important factor in influencing subordinates’ discretionary behaviours.”

As highlighted earlier, sharing one’s knowledge has been described as risky, for it may result in losing one’s competitiveness. In uncertain situations such as COVID-19, positive leadership behaviour is critical in playing a motivational role that builds employees’ intra-psychic state that encourages them

to share without fear of reprisals (Wu and Lee, 2017). In this regard, this study tests ethical leadership as a form of positive leadership behaviour that encourages positive actions and discourages negative ones. Following Brown *et al.* (2005), ethical leadership consists of two aspects – the moral person and the moral manager. Aligned with the earlier definition, the moral person component reflects one personal trait of trustworthiness, honesty and integrity, while the moral manager component reflects a leader's commitment to encouraging ethical practices in the organisation, either using positive or negative reinforcements (Brown *et al.*, 2005). Specifically, given their position and influence, followers often regard ethical leaders as credible, appealing, and legitimate role models to emulate the desired behaviour. Through their behaviours, ethical leaders can create a work environment that fosters two-way communication, reinforcement of right behaviour and making decisions based on a set of transparent and objective criteria (Zheng *et al.*, 2011). Specifically, the powers accorded to ethical leaders allow them to reward desirable behaviours and punish undesirable ones. Empirically, studies such as Abdullah *et al.* (2019) have shown that role modelling coupled with appropriate guidance by organisational leaders effectively influences employees' working attitudes and behaviours. At the same time, ethical leaders affect trust (Men *et al.*, 2020), moral awareness (Haines *et al.*, 2007), organizational commitment (Zheng *et al.*, 2011) and psychological ownership (Goswami and Agrawal, 2022). Following these arguments, we hypothesised that ethical leadership negatively affects employees' knowledge hiding behaviours because, through behaving ethically, such as sharing knowledge and providing appropriate guidance, ethical leaders set the tone on how the right things should be done in the workplace.

H1a: Ethical leadership negatively influences knowledge hiding.

H1b: Ethical leadership positively influences knowledge sharing.

Ethical Leadership and Psychological Safety

Leveraging the social learning theory, ethical leaders who interact with their followers or subordinates truthfully and openly foster mutual trust and respect between the followers and subordinates (Walumbwa *et al.*, 2013). Additionally, earlier works such as Cheng (2017) have demonstrated that the presence of such elements contributes to high-quality relationships and promotes positive work behaviour. According to Edmondson (1999), the ability and willingness to demonstrate a high level of trust and mutual respect reflects employees feeling psychologically safe. This is further mentioned in Nembhard and Edmondson (2006) that leaders' practices and attitudes add to the employees' psychological safety. Specifically, it is recorded by Chaman *et al.* (2021), Men *et al.* (2020) that some personality traits of leaders like receptiveness, simplicity of approach, and comprehension, build employees' psychological well-being at work. Abdullah *et al.* (2019) explained that when employees observe interpersonal behaviour displayed by ethical leaders, such as benevolence, advocacy and caring, employees are more inclined to take the interpersonal risk and show trust and mutual respect

with coworkers. These works of literature show us that the character and practices of leaders influence employees' work-related outcomes. Therefore, we emphasised that the degree of psychological safety that employees observe, is strongly identified with the states of mind and practices of leaders in the organisation. Based on the above, we hypothesized that:

H2: Ethical leadership positively influences psychological safety.

Psychological Safety on Knowledge Hiding and Knowledge Sharing

In the contemporary business world, organizations increasingly require their employees to contribute to continuously improving organizational processes and practices through behaviours that enable learning to occur (Newman *et al.*, 2017). While these are welcoming for the organisations, they inherently contain individual risks. For instance, sharing errors in work processes could be seen as going against the vested interests of others (Lee and Dahinten, 2021). Likewise, experimenting with new workplace initiatives may be seen negatively as showing off or attempting to destabilise current working norms (Newman *et al.*, 2017). As a result of such individual risks, employees are reluctant to share knowledge, inhibiting individual and organizational learning (Frazier *et al.*, 2017). Hence, the ability to provide a psychologically safe environment is critical to encouraging employees' perspectives to be heard as part of organisational learning. Introduced as part of organisational science by Schein and Bennis (1965, p. 45), psychological safety has been identified as a critical part of creating a climate that “encourages provisional tries and which tolerates failure without retaliation, renunciation, or guilt.” Recent empirical works tend to gravitate towards Edmondson (1999) definition that psychological safety is a shared belief amongst individuals as to whether it is safe to engage in interpersonal risk-taking in the workplace. Earlier research, such as Nembhard and Edmondson (2006), has shown that a psychologically safe work environment reduces employees' defensiveness and encourages them to focus on group goals rather than self-protection. In such a climate, employees feel less restrictive and are more likely to behave openly without worrying about negative consequences for their competencies (May *et al.*, 2004). In contrast, when employees do not experience psychological safety, the climate is filled with mistrust, often manifesting as frequent conflict and competition (Issac *et al.*, 2021). Employees would be warier of each other and be guarded against any loss of resources (He *et al.*, 2021). Consequently, employees in this situation are bound to be concerned about the costs and risks associated with knowledge sharing, such as losing competitive advantage (Bernatović *et al.*, 2021) or being criticised for sharing incomplete or dated information (Nguyen *et al.*, 2022). It is evident that employees' psychological safety can help them to communicate openly and create a knowledge-sharing environment where they can discuss and share work-related knowledge. As such, we predict the following relationships among the variables:

H3a: Psychological safety negatively influences with knowledge hiding.

H3b: Psychological safety positively influences with knowledge sharing.

Knowledge Hiding and Knowledge Sharing on Employees' Work Performance

Work performance refers to employees' behaviour contributing to the organisation's effectiveness (Razzaq *et al.*, 2019). As He *et al.* (2021) noted, work performance can be influenced by knowledge hiding. It hinders knowledge transfer where new knowledge is not transmitted, distributed, and disseminated to the organisation. In other words, individuals who hide their knowledge are not able to learn and integrate different forms of knowledge to enhance their job performance (Arain *et al.*, 2019). Furthermore, knowledge concealment frequently obstructs the transformation of individual tacit information into explicit knowledge, which further prevents building a knowledge pool (He *et al.*, 2021). Additionally, employees who hide knowledge often have a mindset with a negative, vicious cycle in which they are less likely to seek help or help others.; therefore, they are sceptical about the support offered by other colleagues (Bernatović *et al.*, 2021). From this perspective, knowledge hiding reduces innovation capabilities, impairs problem-solving and creativity, and reduces decision-making effectiveness. Consequently, performance declines.

In the same vein, a knowledge-sharing culture enables organisations to improve their skills and capabilities, enhance their value and maintains their competitive advantage (Chaman *et al.*, 2021). Participating in knowledge-sharing activities creates new, original knowledge resources that competitors will find difficult to imitate (Nguyen, 2020). Another advantage of knowledge sharing in the workplace is that employees with expertise pass everything they know on to others (Yan *et al.*, 2016). They turn it into a resource that everyone can use and a pool of knowledge their coworkers can apply to their jobs (Ngoc Hoi, 2021). Knowledge sharing leads to higher-performing individuals who can make quick, informed decisions that benefit the organisation. Considering the above, the following hypotheses are postulated:

H4a: Knowledge hiding negatively influences individual work performance.

H4b: Knowledge sharing positively influences individual work performance.

Mediating Role of Psychological Safety

The earlier hypotheses suggest that psychological safety could be a mediating variable between ethical leadership and followers' or subordinates' knowledge hiding and knowledge sharing behaviour. Specifically, earlier studies have suggested that ethical leadership inhibits knowledge hiding (Jafari Navimipour and Charband, 2016) and promotes knowledge sharing (Khoreva and Wechtler, 2020). From these literatures, Men *et al.* (2020) concluded that psychological safety is essential in encouraging knowledge-sharing behaviour. Given our earlier arguments that ethical leadership promotes a psychologically safe environment that aligns with the social exchange theory, we argue that psychological safety is the construct that drives the relationships between ethical leadership and knowledge sharing and knowledge hiding. Thus, the set variables would be represented by the following hypotheses:

H6a: Psychological safety mediates the relationship between ethical leadership and knowledge hiding.

H6b: Psychological safety mediates the relationship between ethical leadership and knowledge sharing.

Methodology

Sampling and Data Collection

As this study focuses on private sector employees, purposive sampling was employed as the sampling technique. Public sector employees are excluded because there is greater job security in the public sector compared to the private sector. During the COVID-19 pandemic, public sector employees are playing a leading role in responding to the pandemic as they are needed to find new ways to either stimulate the economy or keep the functioning of the various ministries (OECD, 2020). The international labour organisation (ILO) has further indicated that job opportunities in the public sector have provided a respite from the shrinking private sector during the COVID-19 pandemic (ILO, 2021). In other words, employees in the private sector face job insecurity due to pandemic-related alterations such as lockdowns, restructuring or downsizing (Tian *et al.*, 2022). Given the volatility, employees in the private sector are more likely to have a different perspective on knowledge sharing and hiding, allowing us to understand better the sentiments in the current situation (Tian *et al.*, 2022).

An anonymous online survey was designed and distributed via an online survey platform, SoGoSurvey. Similar methods have been adopted by Nguyen *et al.* (2022), Tan and Yeap (2021). The data collection was done from January to March 2022, where Singapore is still undergoing the Omicron wave of about 20,000 daily cases (Tan and Tan, 2022). The nature and objective of the study, researchers involved, confidentiality and anonymity nature, potential benefits and risks associated with participating in the study were addressed at the beginning of the survey. Furthermore, respondents were informed of the expected time to complete the entire survey questionnaire and that their participation was voluntary.

The sample size requirement was determined using G*Power analysis. To achieve a power of 80% at an effect size of 0.15, a minimum of 103 usable responses was required (Faul *et al.*, 2007). We received 285 respondents. Data screening and cleaning were done to eliminate unusable observations. As a result, 271 respondents were included in the final sample and were deemed adequate for further analysis. Besides, our sample size of 271 respondents exceeds Kock and Hadaya (2018) recommended minimum sample size for PLS-SEM of 160.

Instruments

The instruments for the key constructs were adopted and modified from existing measurements from established studies, which have substantiated the validity and reliability of the instruments. Specifically, ethical leadership was measured by asking respondents to answer 15 items relating to

their leader on a 6-point Likert scale based on Men *et al.* (2020). 12 items on knowledge hiding were measured based on Abdullah *et al.* (2019) on a 5-point Likert scale. Finally, psychological safety was measured using three items based on Edmondson (1999), and both knowledge sharing and work performance comprised five items adapted from Henttonen *et al.* (2016). Both are on a 7-point Likert scale. The details of the questionnaire items are presented in Appendix 1.

Method of Analysis

The descriptive analysis was conducted using IBM SPSS 24.0 statistical software package. The partial least squares structural equation modelling method (PLS-SEM) was adopted for statistical analysis. The algorithm of PLS-SEM was developed by Wold (1982) and later improved by Kroonenberg and Lohmoller (1990). We adopted the PLS-SEM approach for several reasons. First, PLS-SEM exhibits favourable convergence behaviour and statistical power in circumstances where sample sizes are small (Hair *et al.*, 2017). Second, PLS-SEM offers higher flexibility in specifying complex models (Hair *et al.*, 2017). Besides, the research model of this study involves both mediation and moderation assessment, which makes PLS-SEM the appropriate method for investigation. Additionally, PLS-SEM has been widely deployed across different domains, including tourism (Fam *et al.*, 2020, Tan *et al.*, 2020b), education (Sim *et al.*, 2020), human resources (Tan and Yeap, 2021, Tan *et al.*, 2020c, Tan *et al.*, 2020a), technology adoption (Leong *et al.*, 2020) and consumer behaviour (Tan *et al.*, 2022). Some limitations of PLS-SEM include its inability to accommodate a structural model with a non-recursive relationship and its goodness-of-fit indexes that are still at infancy stage (Ramayah *et al.*, 2018) As our study does not have a non-recursive relationship and our model follows a prediction modelling perspective, there appears little concern regarding the issues (Henseler *et al.*, 2009). Following guidelines from Hair *et al.* (2017), a two-stage approach is used to evaluate the model,

Stage 1: Measurement model. We examined the internal consistency reliability by ensuring that the factor loading is above 0.708 and the composite reliability is above 0.70, followed by the convergent validity where the average variance extracted (AVE) are above 0.50 (Hair *et al.*, 2017). The discriminant validity would be assessed using the heterotrait-monotrait ratio of correlations (HTMT) criterion test, which is defined as "the mean value of the indicator correlations across constructs (i.e. the heterotrait-heteromethod correlations) relative to the (geometric) mean of the average correlations of the indicators measuring the same construct" (Ringle *et al.*, 2020, p. 1626). Henseler *et al.* (2015) suggested the cut-off of the values not exceed 0.90.

Stage 2: Structural model. According to Hair *et al.* (2017), the evaluation of the structural model involves analysing the path coefficients, coefficient of determination (R^2), effect sizes to R^2 (f^2) and Stone-Geisser predictive relevance (Q^2). Firstly, the R^2 represents the variance in the endogenous construct explained by all of the exogenous constructs linked to it, with 0.26, 0.13 and 0.02 as substantiated, moderate and weak, respectively (Cohen, 1988, Ramayah *et al.*, 2018). The R^2 value

can also quantify the strength of the structural model relationships using the f^2 effect size (Hair *et al.*, 2017). Unlike path coefficients, which result from regressing an endogenous construct on its immediate predecessor constructs, the f^2 effect size indicates the independent constructs' effect in producing the R^2 values (Tan *et al.*, 2022). As a guide, f^2 effect sizes of 0.02, 0.15, and 0.35 represent small, medium, and large effects of the exogenous latent variable (Cohen, 1988). Finally, Q^2 represents the predictive relevance of the model (Hair *et al.*, 2017). According to Chin (2010), a Q^2 value larger than zero for a specific endogenous latent variable indicates the PLS path model has predictive relevance for this construct.

Control Variables

Tan & Yeap (2021) explained that using control variables is common among management researchers, as it would lower the likelihood of confounded results, which would restrict the model's explanatory power. This study added gender, age, work experience, and tenure as control variables. Many scholars such as Feng and Savani (2020) highlight that men and women prioritise work and family roles differently. Naturally, the way they define performance at work differs too. Additionally, we believe that the understanding of resources is incomplete and insufficient until we consider the importance of employees' age, experience, and education. Concomitantly, the COR theory often assumes that all resources are equally rewarding throughout one's profession (Atinc *et al.*, 2011). However, this may not be entirely true as individuals with age, with longer work experience and higher education, would have a different attitude towards their job (Bernerth *et al.*, 2017). These attitude differences allow them to gain the additional resources necessary for better work performance to stay in their respective fields (Tan and Yeap, 2021). At the same time, they would be more selective in allocating resources to optimise the desired outcomes (Tan *et al.*, 2020a). As such, gender, age, work experience and education as control variables will enable us to uncover their influence on the relationships under investigation.

Data preparation and respondents' profile

As this is a cross-sectional study, we have implemented procedural remedies to reduce common method bias (CMB). As recommended by Podsakoff *et al.* (2003, p. 887), we have, first and foremost, used instruments of different scales to prevent respondents from "using their initial ratings to anchor the scale and thereby influence the scaling of their subsequent judgments". At the same time, we created temporal separation by placing demographic questions between dependent and independent variables (Podsakoff *et al.*, 2003). Finally, we assured respondents anonymity and confidentiality throughout the data collection process. Methodologically, the Harman single-factor test found that the single component explains 27% of the variation, which is less than the 40% criterion, signifying that CMB is not a severe concern in this study. (Babin *et al.*, 2016). From Table 1, 65.3% of the respondents are female. The majority are 35 years and younger (72.7%), 71.2% have less than ten years of working experience, and 79% hold a university bachelor's degree or higher.

** Insert Table 1 **

Endogeneity testing

Using the R software, we further tested the endogeneity of the constructs in the model. Following Sarstedt *et al.* (2020, p. 538), endogeneity occurs “when a predictor construct is correlated with the error term of the dependent construct to which it is related, indicating that the predictor constructs not only explain the dependent construct but also its error.” Given that PLS-SEM relies on regression analysis, considering endogeneity is particularly relevant for studies focusing on explanation (Sarstedt *et al.*, 2020). The assessment follows Hult *et al.* (2018) procedures, starting with the application of Park and Gupta (2012) Gaussian copula approach. Following Sarstedt *et al.* (2020), the first step is to verify if the variables, which potentially exhibit endogeneity, are nonnormally distributed. Table 2 of our results shows that the independent variables were significant, indicating that they were non-normally distributed, allowing us to proceed with the Gaussian copula approach (Sarstedt *et al.*, 2020). In this regard, Table 3 shows that none of the Gaussian copulas in various combinations of up to 15 models was significant. In summary, endogeneity was not present in the current study, therefore supporting the robustness of the structural model in this study.

*** Insert Table 2 ***

*** Insert Table 3 ***

Results

Measurement model assessment

We first conduct the assessment of the measurement model. As shown in Table 4, all items have met the required thresholds for factor loading (of at least 0.708), AVE (of at least 0.50) and composite reliability (of at least 0.70). Additionally, the HTMT criterion test (see Table 5) shows that discriminant validity has been achieved as the values for each construct are in the range of 0.336–0.870, satisfying the requirement of HTMT 0.90 as indicated by Hair *et al.* (2017). Putting these together, we can conclude that the model is reliable and valid.

** Insert Table 4 **

** Insert Table 5 **

Structural model assessment

Before the structural model assessment, we tested for multicollinearity via that variance inflation factor (VIF). Table 6 shows that the VIF ranges from 1.000 to 1.116, which is below 3.33, indicating that collinearity is not an issue in this model (Diamantopoulos and Sigauw, 2006). The bootstrapping of 5,000 subsamples clearly shown that ethical leadership has a significant positive relationship with knowledge sharing (H1b: $\beta= 0.249$, $t=3.081$, $p < 0.05$) and not knowledge hiding (H1a: $\beta= -0.024$,

$t=0.333, p = 0.370$). At the same time, ethical leadership creates a psychologically safe climate (H2: $\beta= 0.322, t=6.016, p < 0.01$). Hence, H1b and H2 are supported, but not H1a. On the effect of a psychologically safe environment, our results showed that both H3a and H3b are supported, as it reduces knowledge hiding (H3a: $\beta= -0.357, t=6.147, p < 0.01$) and promotes knowledge sharing behaviour (H3b: $\beta= 0.145, t=1.806, p < 0.05$). Our results also show that hiding knowledge has a significant positive relationship with work performance (H4a: $\beta= 0.121, t=1.736, p<0.05$), while knowledge sharing does not lead to any improvement in work performance (H4b: $\beta= 0.065, t=0.680, p=0.248$). Given the results run contrary to our hypotheses, both H4a and H4b are not supported. Finally, our mediation analysis demonstrated that a psychologically safe environment is a critical construct that explains the relationships between ethical leadership and knowledge hiding (H5a: $\beta= -0.115, t=3.960, p < 0.01$), as well as ethical leadership and knowledge sharing (H5b: $\beta= 0.047, t=1.668, p < 0.05$). For the control variables, our results illustrate that none of them has any significant effect on the endogenous variables.

*** Insert Table 6 ***

Table 6 also shows the R^2 values. The results show that 13.3% of the variance in knowledge hiding is explained by both ethical leadership and psychological safety (moderate model). Similarly, 10.6% of the variance in knowledge sharing is explained by ethical leadership and psychological safety (moderate model). For psychological safety, ethical leadership accounts 10.4% (moderate model). Finally, only 1.4% of the variance in work performance is accounted for by knowledge hiding and knowledge sharing, which is a weak model according to Cohen (1988). Concomitantly, most of the effect sizes (f^2) in this model are considered small effects. However, Table 4 also shows that ethical leadership has a negligible effect in producing R^2 for knowledge hiding ($f^2 = 0.001$). Likewise, a negligible effect has been observed on knowledge sharing behaviour on work performance ($f^2 = 0.004$). Finally, the Q^2 values larger than "0" indicate that this model contains predictive relevance.

Discussions

Our results suggest that ethical leadership is essential in creating a psychologically safe environment. This result is not surprising. Studies such as Men *et al.* (2020) demonstrated that ethical leadership positively influences one's sense of psychological safety. Ethical leaders provide the optimal setting for employees by inspiring, developing, and establishing a culture of trust and respect (Demirtas *et al.*, 2017). Doing so creates a work environment where individuals can show and employ themselves without fear of negative consequences on self-image, status, or career.

From another perspective, a psychologically safe environment is a shared belief that the team feels safe in interpersonal risk-taking where team members feel accepted and respected (Frazier *et al.*, 2017). This explanation is further shown in our results, where psychological safety is crucial in reducing knowledge hiding and encouraging knowledge sharing behaviour. Our results demonstrate

that psychological safety may provide an extra benefit: helping leaders navigate the complexity of the new work environment brought about by the pandemic.

Interestingly, our results indicate that ethical leaders do not reduce the phenomenon of knowledge hiding. This result contradicts Abdullah *et al.* (2019), who found a significant negative relationship between these two constructs. The tendency to hide knowledge is mainly person-dependent, not dependent on leadership style. In other words, it is an outcome of personality traits such as trust and emotional intelligence. Evident from the profile of our respondents (mainly young individuals 35 years old and younger), Issac *et al.* (2021) pointed out that this group of individuals often carries a sense of entitlement, which means they do not trust each other easily. Such personality traits often result in knowledge hiding behaviours due to the fear of losing their competitive edge.

Undeniably, organisations would want employees to share knowledge based on the general principle that knowledge dissemination leads to greater creativity (Khoreva and Wechtler, 2020) and more innovative solutions (Taghizadeh *et al.*, 2020) and better organisational performance (Abdullah *et al.*, 2019). However, this belief does not necessarily reflect in individual employees. Our results reveal that knowledge hiding has a significant positive relationship with increased work performance. This runs contrary to studies such as Nguyen *et al.* (2022), where knowledge hiding caused a reduction in work performance. We provide probable explanations from two perspectives.

First and foremost the culture in Singapore. Singapore is a society that bases an individual's advancement on one's achievements rather than social status (Teo, 2019). The country is known for its '*kiasu*' culture, a colloquial term which means 'fear of losing out and 'winning at all costs' (Ellis, 2014). This is a prominent cultural trait of Singapore that encompasses greed, selfishness, and inconsiderate behaviour (Bedford and Chua, 2017). Bedford and Chua (2017) further highlighted that the important marker of *kiasu* behaviour was that it always entailed comparison with others, resulting in actions such as putting effort into obtaining something that others are getting and displaying behaviour at the expense of others. This phenomenon reflects Singapore's meritocratic society, which according to Clifton (2020), makes an individual more selfish, less self-critical and even more prone to discriminatory behaviours. Seeing from this perspective, knowledge owners may hide knowledge when they deem themselves to be facing a situation of diminishing power (He *et al.*, 2021, Barbaranelli *et al.*, 2018)

Taking a leaf from the above, the COVID-19 pandemic has created massive global economic disruptions, where Singapore recorded its worst full-year recession since its independence in 1965 (MTI, 2021). Undoubtedly, employees may have the impression that they will soon lose their jobs and feel insecure about their future. Yet, Aris (2022) pointed out that these fears do not dissipate in the endemic phase. Ip (2022) cautioned against being overly optimistic about the endemic phase. He further highlighted that it would not be the same as pre-pandemic, with endemic COVID-19 continue

taking on a toll on health, work and mobility (Ip, 2022). Given this, it is not unreasonable to infer that employees are still being pessimistic about the economy. As a result, they would continue to feel insecure, further encouraging them to hide knowledge to sustain their competitive advantage and keep their jobs.

Similar to existing studies such as Lee and Dahinten (2021), our mediation results reinforce the importance of psychological safety within knowledge management literature. There could be several reasons for this. Fear of speaking out, expressing ideas, and reporting errors prevail in many organisations due to an unhealthy organisational culture, depriving employees of the opportunity to contribute to improved organisational performance (Lee and Dahinten, 2021). In Asian cultures and organisations where collectivism, hierarchy, seniority, and obedience are emphasised, raising voices, contributing ideas, sharing opinions, and disclosing errors may not be readily encouraged (Chaman *et al.*, 2021). As the results demonstrate, having a psychologically safe environment has never been more critical as workplaces have been transformed by the pandemic.

Theoretical Implications

Our study contributes to the scholarly literature in several ways. First, by unveiling psychological safety as a mediator, we contribute to the current body of knowledge hiding literature by identifying the underlying mechanism that connects ethical leadership and knowledge hiding and knowledge sharing. We have provided a new perspective that ethical leaders' display of integrity, honesty, and altruism must lead to a psychologically safe environment before it can effectively reduce knowledge hiding phenomena and encourage knowledge sharing. Given the scarcity of research on the mediating effect of ethical leadership and knowledge hiding (Abdullah *et al.*, 2019), this contribution is timely and relevant.

As Zacher and Rudolph (2021) pointed out, crises such as the COVID-19 pandemic present both a chance and a problem for research and practice in HRM, organisational behaviour, and industrial, work, and organisational psychology. It allows researchers to examine whether and how events related to the crisis (such as infection outbreaks, lockdowns, work-from-home orders, and changes in working circumstances) influence dynamic within-person changes in employee experiences and behaviour.

In response to this call, this is the first study that contributes to the current literature by examining knowledge hiding and its causes and effects in times of COVID-19 pandemic. The unique findings from this study (such as knowledge hiding leads to improvement of self-perceived performance) help researchers understand employees' behaviour in the current state of crisis and plan and anticipate future ones. In the same vein, the results of this study extend the COR theory as it provides empirical evidence that in times of organisational crises, employees see knowledge hiding as a form of resource as it would provide them with an added advantage in work performance.

Practical Implications

Based on the findings of this study, some practical implications are proposed. First, organisations must help leaders develop their ethical leadership qualities and enhance their ethical leadership level. On this, organisations may provide coaching that helps leaders develop ethical sensitivity, offer ethical conduct guidelines that leaders should model in their policy initiatives and actions, and establish a mentoring program. In other words, organisations should go beyond compliance and competency training. Organisations need to provide an environment that allows leaders' ethical leadership to shape the organisational culture. This necessitates leaders to examine what they convey in their daily actions and how they make employees feel comfortable expressing their thoughts and issues. At the same time, diversity and inclusion training should also be coordinated simultaneously with ethical training. This integrated strategy ensures that ethical leaders' competencies will cultivate outstanding employees, fostering trust, providing constructive comments, and respecting virtues and diversity across cultures and age groups.

Other than displaying ethical leadership behaviours, organisations can build psychological safety in employees ranging from educational activities, which may include role-playing workshops simulating the practice of expressing concerns, debriefing leaders, video presentations to educate them on the importance of speaking up, case studies and scenarios to inform how others have benefitted from opinion and knowledge sharing (O'Donovan and McAuliffe, 2020). In other words, purely providing lip service by saying "just trust me" would not work. Leaders should adopt an incremental approach toward building and maintaining a psychologically safe environment. For instance, leaders could frame individual challenges as team challenges to encourage ownership of the problem. At the same time, leaders should walk the talk by demonstrating that they are always open to hearing new ideas. Finally, leaders could develop policies and structures that focus on collaboration, increased transparency, and openness.

Limitations and Future Research Direction

Our study has some limitations that offer avenues for future research. Firstly, this study examined the conceptual framework in a single country. The community beliefs, organisational and national culture vary across countries. These external factors may affect how the variables are related to each other. Future research may examine the model in different countries or contexts, which may later be used for comparative study. At the same time, we noted that the R^2 values for some of the constructs could be low, meaning that it does not explain much of the endogenous variables. In this regard, future researchers could consider including personality traits, diverse leadership styles, and supporting mechanisms to draw a complete picture of knowledge hiding and sharing phenomena.

Secondly, the data were collected at a specific time using a self-reported survey. Such a design may pose a limitation in drawing causality among the variables. Respondents are more likely to respond

with socially desirable behaviour due to self-reporting bias. To assess behaviour changes over time, a longitudinal study will be useful. This would enable comparison between crisis and non-crisis situations and reveal how it affects job insecurity and knowledge hiding. At the same time, future researchers could adopt a mixed method study that allows exploration of complex issues, development of new propositions, and further contextualising the results (Turner *et al.*, 2021).

Finally, the sample of this study is obtained from the private sector, which may limit the generalisability of the results. The different nature of businesses exposes employees to different job demands and stress levels that could influence their perspective towards knowledge sharing and hiding. Future researchers could determine if such behaviours are replicated in not-for-profit organisations.

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Table 1. Descriptive Statistics

Variable	Category	Frequency (n=271)	Percentage
Gender	Male	94	34.7
	Female	177	65.3
Age	Below 25 years old	21	7.7
	26 – 29 years old	72	26.6
	30 – 35 years old	104	38.4
	36 – 39 years old	29	10.7
	40 – 45 years old	22	8.1
	46 - 49 years old	10	3.7
	50 - 55 years old	8	3.0
	56 years old and above	5	1.8
Work experience	Less than 4 years	58	21.4
	5 - 7 years	74	27.3
	8 - 10 years	61	22.5
	11 years and above	78	28.8
Education	Doctorate Degree	19	7.0
	Master's degree	47	17.3
	Bachelor's degree	148	54.6
	Diploma	46	17.0
	Certificate	8	3.0
	Other	3	1.1

Table 2: Kolmogorov Smirnov test with Lilliefors correction

Exogenous variables to WP	<i>p</i> value
ETH	0.0002**
KH	0.0624*
KSB	0.0002**
PS	0.0048**

Note(s): ETH: Ethical leadership, KH: Knowledge hiding, KSB: Knowledge sharing behavior, PS: Psychological safety

Table 3: Assessment of endogeneity test using the Gaussian Copula approach

Test	Construct	Beta	<i>t</i> value	<i>p</i> value
Gaussian copula of model 1 (endogenous variables; ETH)	ETH	0.079	0.770	0.442
	KH	0.043	0.663	0.508
	KSB	0.067	1.053	0.293
	PS	-0.284	-4.300	0.000
	°ETH	0.055	0.856	0.393
Gaussian copula of model 2 (endogenous variables; KH)	ETH	0.146	2.265	0.024
	KH	-0.012	-0.041	0.967
	KSB	0.064	1.010	0.313
	PS	-0.281	-4.239	0.000
	°KH	0.049	0.176	0.861
Gaussian copula of model 3 (endogenous variables; KSB)	ETH	0.147	2.294	0.023
	KH	0.038	0.597	0.551
	KSB	0.054	0.539	0.591
	PS	-0.282	-4.216	0.000
	°KSB	0.007	0.118	0.906
Gaussian copula of model 4 (endogenous variables; PS)	ETH	0.151	2.343	0.020
	KH	0.037	0.580	0.563
	KSB	0.061	0.962	0.337
	PS	-0.168	-0.815	0.416
	°PS	0.109	-0.578	0.564
Gaussian copula of model 5 (endogenous variables; ETH, KH)	ETH	0.779	0.761	0.447
	KH	-0.003	-0.009	0.993
	KSB	0.067	1.056	0.292
	PS	-0.284	-4.282	0.000
	°ETH	0.054	0.851	0.396
Gaussian copula of model 6 (endogenous variables; ETH, KSB)	°KH	0.044	0.158	0.874
	ETH	0.075	0.710	0.478
	KH	0.044	0.662	0.508
	KSB	0.077	0.741	0.459
	PS	-0.284	-4.231	0.000
Gaussian copula of model 7 (endogenous variables; ETH, PS)	°ETH	0.057	0.856	0.393
	°KSB	-0.008	-0.130	0.897
	ETH	0.069	0.669	0.504
	KH	0.042	0.657	0.512
	KSB	0.064	1.002	0.317
Gaussian copula of model 8 (endogenous variables; KH, KSB)	PS	-0.123	-0.585	0.559
	°ETH	0.067	1.023	0.307
	°PS	-0.157	-0.806	0.421
	ETH	0.146	2.262	0.024
	KH	-0.008	-0.027	0.979
Gaussian copula of model 9 (endogenous variables; KH, PS)	KSB	0.057	0.554	0.580
	PS	-0.282	-4.192	0.000
	°KH	0.045	0.160	0.873
	°KSB	0.006	0.094	0.926
	ETH	0.150	2.312	0.022
Gaussian copula of model 9 (endogenous variables; KH, PS)	KH	-0.034	-0.116	0.908
	KSB	0.061	0.966	0.335
	PS	-0.162	-0.775	0.439

	°KH	0.069	0.248	0.805
	°PS	-0.115	-0.602	0.547
Gaussian copula of model 10 (endogenous variables; KSB, PS)	ETH	0.153	2.359	0.019
	KH	0.037	0.582	0.561
	KSB	0.033	0.313	0.755
	PS	-0.149	-0.695	0.488
	°KSB	0.020	0.328	0.743
	°PS	-0.131	-0.653	0.515
Gaussian copula of model 11 (endogenous variables; ETH, KH, KSB)	ETH	0.074	0.693	0.489
	KH	-0.009	-0.031	0.976
	KSB	0.080	0.757	0.450
	PS	-0.283	-4.206	0.000
	°ETH	0.057	0.858	0.392
	°KH	0.050	0.179	0.858
	°KSB	-0.010	-0.154	0.878
Gaussian copula of model 12 (endogenous variables; ETH, KH, PS)	ETH	0.067	0.652	0.515
	KH	-0.032	-0.108	0.914
	KSB	0.064	1.007	0.315
	PS	-0.116	-0.546	0.585
	°ETH	0.068	1.024	0.307
	°KH	0.072	0.257	0.797
	°PS	-0.163	-0.830	0.408
Gaussian copula of model 13 (endogenous variables; ETH, KSB, PS)	ETH	0.071	0.673	0.501
	KH	0.042	0.655	0.513
	KSB	0.055	0.504	0.615
	PS	-0.118	-0.545	0.586
	°ETH	0.066	0.973	0.332
	°KSB	0.007	0.102	0.919
	°PS	-0.163	-0.800	0.424
Gaussian copula of model 14 (endogenous variables; KH, KSB, PS)	ETH	0.151	2.327	0.021
	KH	-0.024	-0.082	0.935
	KSB	0.035	0.332	0.740
	PS	-0.145	-0.670	0.503
	°KH	0.060	0.212	0.832
	°KSB	0.019	0.302	0.763
	°PS	-0.134	-0.666	0.506
Gaussian copula of model 15 (endogenous variables; ETH, KH, KSB, PS)	ETH	0.069	0.650	0.517
	KH	-0.030	-0.099	0.921
	KSB	0.057	0.527	0.599
	PS	-0.113	-0.517	0.606
	°ETH	0.066	0.979	0.328
	°KH	0.070	0.247	0.805
	°KSB	0.005	0.073	0.942
	°PS	-0.170	-0.817	0.415

Note: (1) ° indicates the copula term in the model (2) ETH: Ethical leadership, KH: Knowledge hiding, KSB: Knowledge sharing behavior, PS: Psychological safety

Table 4. Measurement Model

Constructs	Items	Outer Loading	Composite Reliability	Average Variance Extracted
Ethical Leadership	ETH1	0.759	0.973	0.71
	ETH2	0.871		
	ETH3	0.882		
	ETH4	0.881		
	ETH5	0.887		
	ETH6	0.835		
	ETH7	0.853		
	ETH8	0.904		
	ETH9	0.809		
	ETH10	0.857		
	ETH11	0.848		
	ETH12	0.787		
	ETH13	0.856		
	ETH14	0.764		
	ETH15	0.826		
Knowledge Hiding	KH1	0.631	0.942	0.578
	KH2	0.752		
	KH3	0.772		
	KH4	0.694		
	KH5	0.834		
	KH6	0.832		
	KH7	0.731		
	KH8	0.835		
	KH9	0.691		
	KH10	0.723		
	KH11	0.783		
	KH12	0.811		
Knowledge Sharing Behaviour	KSB1	0.784	0.923	0.706
	KSB2	0.786		
	KSB3	0.881		
	KSB4	0.895		
	KSB5	0.848		
Psychological Safety	PS1	0.659	0.815	0.597
	PS2	0.784		
	PS3	0.862		
Work Performance	WP1	0.891	0.936	0.747
	WP2	0.879		
	WP3	0.904		
	WP4	0.795		
	WP5	0.847		

Table 5. Discriminant Validity

	ETH	KH	KSB	PS	WP
ETH					
KH	0.153				
PSB	0.302	0.266			
PS	0.369	0.438	0.242		
WP	0.076	0.108	0.064	0.291	

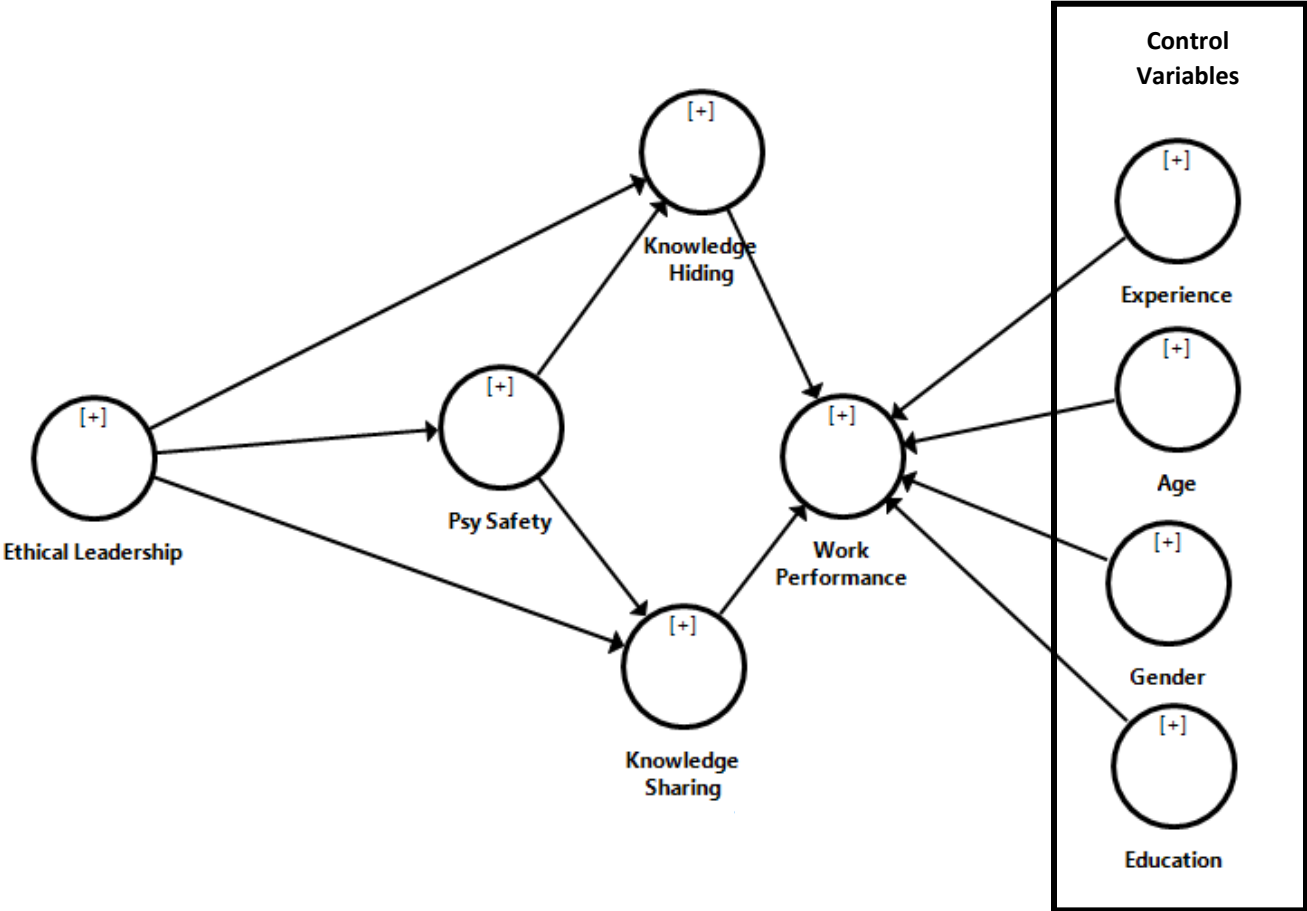
Note(s): (1) Discriminant validity achieved at $HTMT_{0.85}$ (2) ETH: Ethical leadership, KH: Knowledge hiding, KSB: Knowledge sharing behavior, PS: Psychological safety, WP: Work performance

Table 6. Structural Model

	Hypotheses	Std Beta	Std Error	t-value	VIF	5.00%	95.00%	f ²	R ²	Q ²
H1A	ETH -> KH	-0.024	0.073	0.333 ^(NS)	1.116	-0.142	0.098	0.001	0.133	0.071
H1B	ETH -> KSB	0.249	0.081	3.081**	1.116	0.114	0.378	0.062	0.106	0.063
H2	ETH -> PS	0.322	0.054	6.016***	1.000	0.227	0.402	0.116	0.104	0.054
H3A	PS -> KH	-0.357	0.058	6.147***	1.116	-0.438	-0.241	0.132		
H3B	PS -> KSB	0.145	0.080	1.806**	1.116	-0.011	0.259	0.021		
H4A	KH -> WP	0.121	0.069	1.736**	1.070	-0.047	0.208	0.014	0.015	0.007
H4B	KSB -> WP	0.065	0.095	0.680 ^(NS)	1.070	-0.123	0.184	0.004		
H5A	ETH -> PS -> KH	-0.115	0.029	3.960***		-0.172	-0.077			
H5B	ETH -> PS -> KSB	0.047	0.028	1.668**		0.004	0.096			
	<i>Control Variables</i>									
	Age -> WP	0.027	0.098	0.274 ^(NS)						
	Experience -> WP	0.118	0.095	1.238 ^(NS)						
	Gender -> WP	-0.037	0.063	0.582 ^(NS)						
	Education -> WP	0.022	0.070	0.321 ^(NS)						

Note(s): (1) ETH: Ethical leadership, KH: Knowledge hiding, KSB: Knowledge sharing behavior, PS: Psychological safety, WP: Work performance (2) * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$, NS: Not significant

Figure 1. Conceptual Model



Appendix 1: Questionnaire items

Ethical Leadership

- ETH1. During the COVID-19 pandemic, my leader demonstrates interest for ethical and moral values.
- ETH2. During the COVID-19 pandemic, my leader conveys ethical standards to team members clearly.
- ETH3. During the COVID-19 pandemic, my leader demonstrates ethical behaviour in their decisions and actions.
- ETH4. During the COVID-19 pandemic, my leader is an honest individual and will tell the truth.
- ETH5. During the COVID-19 pandemic, my leader is someone whose actions is consistent with their values (Walks the talk).
- ETH6. During the COVID-19 pandemic, my leader assigns tasks to members in a fair and unbiased manner.
- ETH7. During the COVID-19 pandemic, my leader carries out promises and commitments.
- ETH8. During the COVID-19 pandemic, my leader makes it a point to do what is ethical and fair even when it is not easy.
- ETH9. During the COVID-19 pandemic, my leader owns up to mistakes and takes responsibility for it.
- ETH10. During the COVID-19 pandemic, my leader sees honesty and integrity as important personal values.
- ETH11. During the COVID-19 pandemic, my leader demonstrates dedication and selflessness for the organisation.
- ETH12. During the COVID-19 pandemic, my leader is against unethical practice to boost performance.
- ETH13. During the COVID-19 pandemic, my leader is fair and unbiased when evaluating team member's performance and giving rewards.
- ETH14. During the COVID-19 pandemic, my leader prioritises the needs of others over their own.
- ETH15. During the COVID-19 pandemic, my leader ensures that team members are responsible for using ethical practices at their work.

Knowledge Hiding

- KH1. During the COVID-19 pandemic, I agreed to help him/her but never really intended to.
- KH2. During the COVID-19 pandemic, I agreed to help him/her but instead gave him/her information different from what s/he wanted.
- KH3. During the COVID-19 pandemic, I told him/her that I would help him/her out later but stalled as much as possible.
- KH4. During the COVID-19 pandemic, I offered him/her some other information instead of what he/she really wanted.
- KH5. During the COVID-19 pandemic, I pretended that I did not know the information.
- KH6. During the COVID-19 pandemic, I said that I did not know, even though I did.
- KH7. During the COVID-19 pandemic, I pretended I did not know what s/he was talking about.
- KH8. During the COVID-19 pandemic, I said that I was not very knowledgeable about the topic.
- KH9. During the COVID-19 pandemic, I explained that I would like to tell him/her, but was not supposed to.
- KH10. During the COVID-19 pandemic, I explained that the information is confidential and only available to people on a particular project.
- KH11. During the COVID-19 pandemic, I told him/her that my boss would not let anyone share this knowledge.
- KH12. During the COVID-19 pandemic, I said that I would not answer his/her questions.

Knowledge Sharing Behaviour (during the COVID-19 pandemic)

- KSB1. During the COVID-19 pandemic, my colleagues and I share reports and official documents in depth.
- KSB2. During the COVID-19 pandemic, my colleagues and I share manuals, methodologies and models in depth.
- KSB3. During the COVID-19 pandemic, my colleagues and I share know-where and know-whom in depth.
- KSB4. During the COVID-19 pandemic, my colleagues and I share experience and know-how in depth.
- KSB5. During the COVID-19 pandemic, my colleagues and I share expertise from education and training in depth.

Psychological Safety

- PS1. During the COVID-19 pandemic, it is safe to take risks in this work environment.
- PS2. During the COVID-19 pandemic, problems and tough issues are able to be raised.
- PS3. During the COVID-19 pandemic, no one will deliberately compromise my efforts.

Work Performance

- WP1. During the COVID-19 pandemic, I am better at my work compared to my colleagues.
- WP2. During the COVID-19 pandemic, I am more effective in my work compared to my colleagues.
- WP3. During the COVID-19 pandemic, the quality of my work is better than my colleagues.
- WP4. During the COVID-19 pandemic, I am more creative in my work compared to my colleagues.
- WP5. During the COVID-19 pandemic, I have better collaborative capability compared to my colleagues.