



Antecedents and Consequences of Employee Knowledge Hiding: A Meta-Analysis

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Abstract. Although there is an increasing number of researches on knowledge hiding, but existing studies are scattered in different fields and there is a lack of quantitative synthesis of extant literature. Based on the empirical literatures at home and abroad from 2012 to 2024 ($k=149$, $n=52846$), this study comprehensively meta-analyzes the antecedents and consequences of knowledge hiding. The results show that individual characteristics, interpersonal characteristics, situational factors, and knowledge complexity are significantly related to knowledge hiding; knowledge hiding is significantly associated with task performance and creativity. In addition, knowledge hiding plays a stronger negative impact on employee creativity than on task performance. The scales, measuring ways and research designs moderate the relationship between knowledge hiding and task performance and creativity to varying degrees. The findings deepen the theoretical explanations on the triggering factors and outcomes of knowledge hiding and promote the development of knowledge hiding theory.

Keywords: Knowledge Hiding, Antecedents, Consequences, Meta-analysis

1 Introduction

In the era of the knowledge economy, knowledge has become a crucial resource for organizations seeking to gain competitive advantage and achieve sustainable development ^[1]. Employees play a key role in the knowledge management. By effectively managing the knowledge and continuously promoting knowledge sharing, organizations can achieve better performance outcomes ^[2]. However, employee knowledge hiding behaviors present a challenge for organizations ^[3].

Knowledge hiding refers to the deliberate withholding or concealing of knowledge requested by others ^[4]. There are three types of knowledge hiding strategies: playing dumb, evasive hiding, and rationalized hiding. Researchers have pointed out that both playing dumb and evasive hiding involve elements of deception, while rationalized hiding is usually done to protect the interests of third parties. Although knowledge hiding is not necessarily a destructive behavior, past research had found that it can hinder the creativity and innovation of both the knowledge holder and the requester ^[5], damage interpersonal relationships ^[4], and impair individual, team, and organizational performance ^[6].

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Given the negative effects of knowledge hiding, it is especially important for organizations operating in complex and dynamic environments to actively explore the antecedents of employee knowledge hiding behaviors and intervene effectively. Knowledge hiding is regarded as a form of interpersonal abuse, and factors such as knowledge characteristics, individual traits, interpersonal relationships, and organizational context are considered the main triggers of knowledge hiding [1]. Although studies on the antecedents and consequences of knowledge hiding have gradually increased, existing research mainly focuses on individual-level causes and effects, with findings scattered and often inconsistent [7].

A large body of research has shown a negative relationship between knowledge hiding and job performance [6]. However, Wang et al. pointed out that knowledge hiding deprives employees of fulfilling their needs for competence and belonging. To restore their sense of well-being, salespeople may adopt adaptive behaviors to improve their sales performance. Therefore, a systematic review of the literature on knowledge hiding is necessary to standardize and validate the relationships between knowledge hiding, its triggers, and its outcomes.

To date, researchers have conducted a series of literature reviews. Early on, Xiao and Cooke provided a comprehensive review of knowledge hiding research in the Chinese context from 1997 to 2017 [3]. In terms of quantitative reviews, Arain et al. conducted a meta-analysis of empirical studies from 2010 to 2021 [8], examining the antecedents of the three dimensions of knowledge hiding and investigating its impact on performance, attitudes, and interpersonal relationships. This study primarily focused on building a network of the three dimensions of knowledge hiding but paid little attention to more recent and domestic studies. Skerlavaj et al. also conducted a meta-analysis on the antecedents and consequences of knowledge hiding from 2012 to 2022 [7], treating knowledge hiding as a whole and examining its mediating effects. However, they did not explore the role of interpersonal factors and knowledge characteristics as triggers, nor did they explain the causal relationships between interpersonal relationships, turnover intentions, and knowledge hiding.

Xiao's latest meta-analysis explored the antecedents and consequences of knowledge hiding from the perspective of the knowledge hider, examining the moderating role of cultural dimensions as well as the causal relationships between knowledge hiding, interpersonal factors, and well-being [9]. This study integrated key variables in knowledge hiding research, but by encoding certain specific variables as higher-order constructs, the strength of the relationships between these specific variables and knowledge hiding was difficult to clearly present.

Building on these studies, this paper uses a meta-analysis approach to quantitatively analyze the relationships between knowledge complexity, individual characteristics, interpersonal characteristics, situational factors, and knowledge hiding (as shown in Fig. 1). At the same time, it examines the relative impact of knowledge hiding on creativity and task performance, as well as the moderating effects of scale types and research designs. This study further integrates the academic literature on knowledge hiding, validates the strength of relationships between core variables and knowledge hiding, and promotes the development and deepening of knowledge hiding theory.

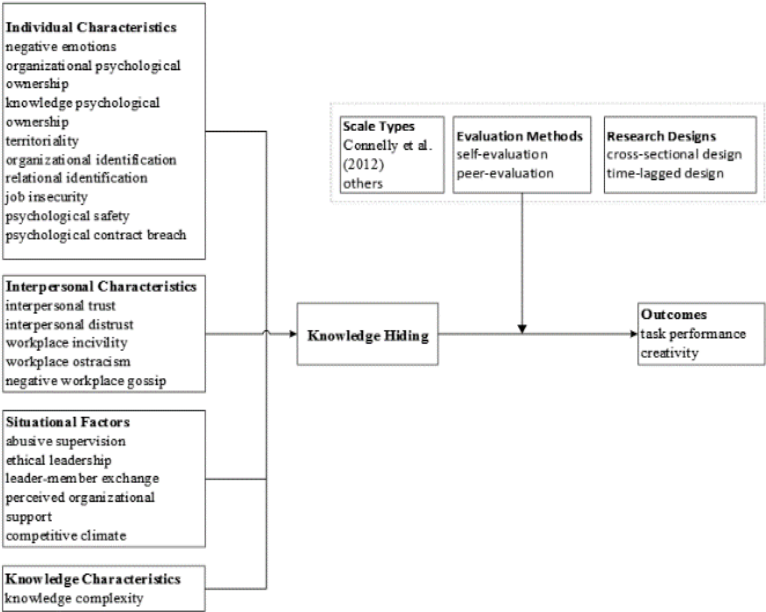


Fig. 1. Research Model.

2 Theoretical Foundation and Hypotheses

2.1 Individual Characteristics and Knowledge Hiding

An individual's attitudes and behaviors are often influenced by personal traits, which shape their tendency to engage in certain knowledge hiding behaviors [4]. Existing literature on knowledge hiding from the perspective of individual characteristics primarily focuses on personality traits and psychological states [1]. Drawing on classifications from previous researchers [3], this study mainly examines the impact of emotional and cognitive states on knowledge hiding.

First, employees experiencing negative emotions are more likely to exhibit avoidance behaviors and fewer helping or prosocial behaviors. Negative emotions lead individuals to evaluate others and their environment more negatively [10], reducing cognitive flexibility and limiting their freedom to act. As a result, they are more inclined to hide knowledge when faced with requests, without considering the potential consequences.

Second, psychological ownership refers to an individual's feeling of ownership over tangible or intangible objects, characterized by a sense of possession and a psychological connection to the object. Employees often invest significant time and effort to acquire or create the knowledge they use at work, and they tend to manage this knowledge carefully, leading to the development of knowledge ownership. A high level of psychological ownership over knowledge increases the desire to control and protect it,

prompting employees to hide knowledge to maintain control and avoid the threat of losing status or power. Related to psychological ownership is territoriality—when individuals regard knowledge as their personal resource, they are motivated to retain it and acquire more, making them more likely to hide knowledge when requested by colleagues.

Organizational identification refers to the extent to which individuals feel a sense of unity with their organization. Employees with high organizational identification are more likely to align their behaviors with the organization's interests. Since playing dumb and evasive hiding involve elements of deception and harm the organization, employees with strong organizational identification may be less likely to engage in these types of knowledge hiding. According to social exchange theory and the norm of reciprocity, relational identification stimulates individuals to maintain positive relationships with other members, facilitating communication and thereby suppressing knowledge hiding behaviors.

Job insecurity refers to employees' subjective perceptions of the risk of losing their current job. When individuals face the threat of losing resources, they tend to adopt defensive strategies to minimize further losses. As a result, job insecurity increases the likelihood of using knowledge hiding as a strategy to protect resources, rather than sharing knowledge as an investment. In contrast, psychological safety, which is based on mutual respect and trust among team members, enhances employees' positive evaluations of their work environment, motivating them to openly express opinions, suggest improvements, or seek feedback rather than deliberately withholding knowledge from colleagues [8]. Additionally, psychological contract breach refers to an employee's perception that the organization has failed to fulfill its commitments, often leading to feelings of anger or dissatisfaction. When employees believe that the organization has not kept its promises, they experience a sense of unfairness and reduced trust in the organization, leading them to reduce their work contributions and engage in knowledge hiding to restore balance in the exchange relationship [11].

Hypothesis 1a: Negative emotions, knowledge psychological ownership, territoriality, job insecurity, and psychological contract breach are positively related to knowledge hiding.

Hypothesis 1b: Organizational psychological ownership, organizational identification, relational identification, and psychological safety are negatively related to knowledge hiding.

2.2 Interpersonal Characteristics and Knowledge Hiding

Knowledge hiding occurs within dyadic relationships, meaning that the quality of relationships between individuals significantly determines how a knowledge holder responds to a knowledge request [4]. In the knowledge hiding literature, interpersonal relationships are typically represented by variables such as interpersonal trust, interpersonal distrust, workplace incivility, workplace ostracism, and workplace negative gossip.

High levels of interpersonal trust reduce the uncertainty surrounding knowledge-sharing interactions, facilitating social exchange relationships and encouraging

cooperative behaviors such as knowledge sharing. Interpersonal distrust, on the other hand, refers to the lack of confidence in others, stemming from a belief that others harbor hostility and may act in ways that could harm oneself ^[12]. This psychological perception increases the risk that the knowledge holder might lose a competitive advantage by providing knowledge, making them more likely to engage in knowledge hiding ^[4].

Workplace incivility, characterized by hostile interpersonal treatment, often triggers a negative reciprocity belief, prompting the victim to engage in various retaliatory actions to protect their psychological needs and reestablish fairness. As a result, it is common for workplace incivility to lead to counterproductive knowledge behaviors, such as knowledge hiding. Workplace ostracism also enhances victims' willingness to hide knowledge ^[10]. Additionally, negative workplace gossip, where members of the organization spread rumors or discuss negative information about others behind their backs, encourages the victims of gossip to protect their remaining resources and strengthen their competitiveness. Given that core knowledge and expertise are essential for achieving goals, victims are more likely to reduce their willingness to share knowledge when requested.

Hypothesis 2a: Interpersonal trust is negatively related to knowledge hiding.

Hypothesis 2b: Interpersonal distrust, workplace incivility, workplace ostracism, and negative workplace gossip are positively related to knowledge hiding.

2.3 Situational Factors and Knowledge Hiding

Situational factors play an important role in either promoting or inhibiting knowledge hiding behaviors ^[4]. Existing literature emphasizes the impact of leadership styles and organizational climate. Abusive supervision, which has received considerable attention, refers to sustained verbal or non-verbal hostile behaviors from supervisors toward subordinates, excluding physical contact. Since knowledge hiding can have negative organizational consequences and remains covert, it can become a way for employees to indirectly retaliate against abusive supervisors ^[11]. In contrast, ethical leadership, which promotes moral behavior through two-way communication, reinforcement, and decision-making, can reduce employees' intention to engage in knowledge hiding, particularly in its deceptive forms, such as playing dumb and evasive hiding.

Leader-member exchange (LMX) theory is based on assumption that leaders possess limited resources and therefore treat subordinates differently. High-quality LMX relationships meet subordinates' socio-emotional needs and enhance their sense of organizational identification, motivating them to respond positively to knowledge requests from colleagues ^[2]. Perceived organizational support acts as a valuable resource that fosters a sense of obligation among employees to reciprocate through emotional commitment to the organization. Employees who expect future recognition and resources are more likely to engage in knowledge sharing and less likely to hide knowledge.

Competitive climate refers to employees' perceptions that their compensation, rewards, promotions, and other benefits are determined based on performance comparisons with colleagues. In a highly competitive climate, employees are more likely to view colleagues as competitors. They may intentionally withhold key knowledge to

protect their own interests, hindering the performance of high-achieving colleagues and reducing knowledge sharing.

Hypothesis 3a: Ethical leadership, leader-member exchange, and perceived organizational support are negatively related to knowledge hiding.

Hypothesis 3b: Abusive supervision and competitive climate are positively related to knowledge hiding.

2.4 Knowledge Characteristics and Knowledge Hiding

The characteristics of knowledge itself are closely related to knowledge hiding ^[4], particularly in the case of complex knowledge, which the knowledge holder perceives as difficult to effectively communicate ^[8]. On the one hand, complex knowledge increases the employee's value within the organization, thereby influencing their status and power. When requested to share complex knowledge, the knowledge holder faces the risk of losing core knowledge and enhancing the competitive advantage of others ^[12]. On the other hand, responding to requests for complex knowledge requires time and effort, which may hinder the knowledge holder from achieving their own task goals. As a result, they are less willing to invest time in sharing knowledge and more likely to engage in knowledge hiding ^[4].

Hypothesis 4: Knowledge complexity is positively related to knowledge hiding.

2.5 Knowledge Hiding, Task Performance, and Creativity

Research on the outcomes of knowledge hiding primarily focuses on its impact on task performance, interpersonal relationships, creativity, and innovation behaviors. This paper focuses on examining the effects of knowledge hiding on employees' task performance and creativity, as well as the differences in their relative impact. Knowledge hiding is often perceived as unethical by knowledge requesters ^[13]. As a negative event, the knowledge holder's pretense of inability or provision of incomplete or inaccurate information can lead to interpersonal distrust. This distrust, in turn, makes it difficult for the knowledge holder to receive help or support from others in the future, ultimately affecting the completion of their work tasks ^[14].

Moreover, knowledge hiding implies a deliberate reduction in information flow, which directly diminishes the requester's knowledge base, forcing them to spend time acquiring knowledge that other members of the organization already possess. A diverse and rich knowledge base is a necessary condition for generating innovative ideas, so knowledge hiding hinders creativity. In addition, knowledge hiding prevents the knowledge holder from understanding potential problems in the workplace, as well as from accessing information shared by others. This limits their ability to engage in creative thinking or creative problem-solving. Finally, researchers have pointed out that task performance is largely dependent on employees' mastery of knowledge and skills relevant to job requirements, whereas creativity is a social process that relies heavily on the exchange of knowledge and collaboration between individuals ^[5]. By creating a cycle of interpersonal distrust, knowledge hiding obstructs communication between employees ^[14], thereby impairing the formation and execution of innovative ideas ^[9].

Therefore, the negative impact of knowledge hiding is more pronounced on creativity than on task performance.

Hypothesis 5: Knowledge hiding is negatively related to task performance and creativity.

Hypothesis 6: The negative impact of knowledge hiding on creativity is stronger than its impact on task performance.

2.6 Moderating Effects

The conclusions of prior studies on the impact of knowledge hiding have been inconsistent ^[1]. Based on the characteristics of meta-analysis, this paper explores the moderating effects of scale type, evaluation method, and research design on the relationship between knowledge hiding, task performance, and creativity. Currently, three main types of scales are used to measure knowledge hiding: Connelly et al.'s 12-item scale ^[4], Lin and Huang's 5-item scale, and Peng's 3-item scale. Due to differences in the content, focus, and psychometric properties of these scales, the measurement tools used in studies may influence the strength of the relationship between knowledge hiding and outcome variables.

Different evaluation methods may also affect the correlation between variables. Most empirical studies on knowledge hiding use self-report measures ^[4]. Given the covert nature of knowledge hiding ^[13], third parties may find it difficult to accurately observe and objectively assess such behavior. Therefore, researchers believe that self-reported measures are more appropriate, although social desirability may lead employees to underestimate their own knowledge hiding behavior ^[3], requiring the use of other evaluation methods as a supplement.

Research design is another potential moderating variable. Knowledge hiding research mainly adopts cross-sectional and time-lagged designs. Cross-sectional data collection may introduce common method bias, potentially overestimating the relationship between knowledge hiding and outcome variables. In contrast, time-lagged designs collect data on knowledge hiding and outcome variables at two different time points, reducing common method bias and reflecting the long-term effects of knowledge hiding. However, as the time interval increases, uncontrollable factors may influence the relationship between knowledge hiding and outcome variables ^[9].

Hypothesis 7: Scale type, evaluation method, and research design moderate the relationship between knowledge hiding and task performance and creativity.

3 Research Methodology

3.1 Literature Search

All literature was obtained through searches of both Chinese and international databases. Since Connelly et al. formally introduced the concept and measurement of knowledge hiding in the field of organizational management in 2012 ^[4], the time range for the search was limited to January 2012 to July 2024. The search used Chinese keywords and English keywords (knowledge hiding; knowledge hiding behavior; hide

knowledge). The search was conducted across Chinese databases (including CNKI, China Doctoral Dissertations Full-text Database, China Masters' Theses Full-text Database, Wanfang Data) and English databases (including EBSCO, Web of Science, ProQuest, APA PsycInfo, Elsevier Science Direct, Emerald). Additionally, references from previously published meta-analyses and reviews on knowledge hiding were manually searched. A total of 681 papers were retrieved, including 255 Chinese papers and 426 English papers. The whole process is shown in Fig. 2.

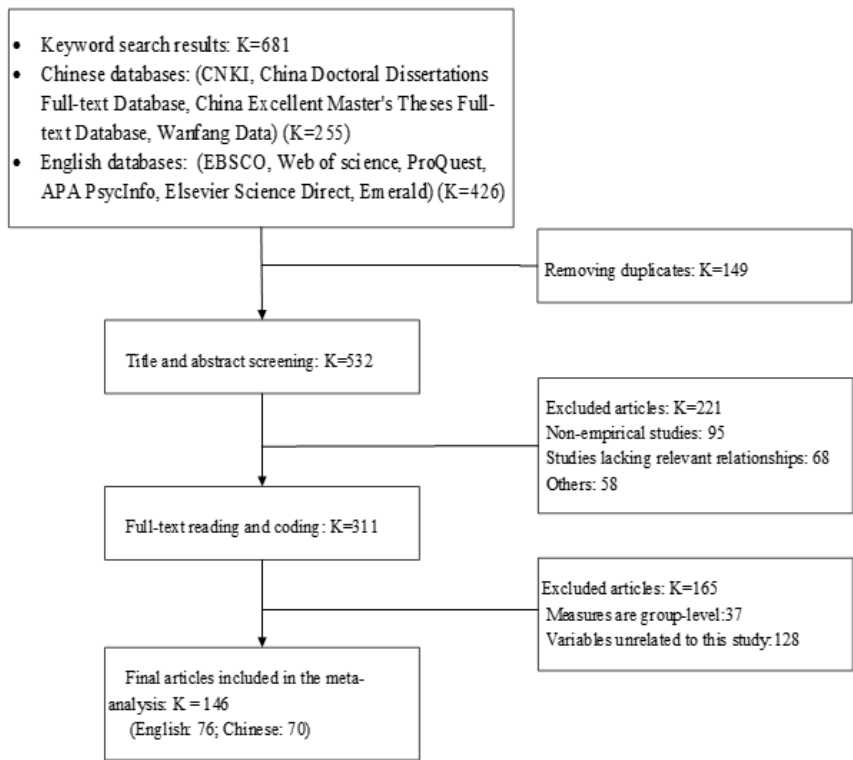


Fig. 2. Literature screening process.

3.2 Literature Screening Criteria

Following the screening criteria for meta-analysis studies, the retrieved literature was screened based on the following standards: (1) The study must be an empirical study involving the knowledge hiding variable, excluding purely theoretical, review, or case studies; (2) The empirical study must report sample sizes and correlation coefficients between variables; (3) The data in the study must not be reused, and if a dissertation was later published as a journal article, the journal article would take precedence; (4) The study must be at the individual level; (5) The study must include variables related to knowledge characteristics, individual characteristics, interpersonal characteristics,

situational factors, task performance, or creativity. After applying these criteria, a total of 146 papers were included, comprising 70 Chinese papers (36 dissertations and 34 journal articles) and 76 English papers. After calculating for independent samples, 149 independent samples were obtained.

3.3 Literature Coding

The literature included in this meta-analysis was coded based on the following categories: study information, year of publication, sample size, variables, correlation coefficients, sample reliability, scale type, evaluation method, and research design type. Each independent sample was coded separately. If a paper contained multiple independent samples, each sample was coded individually. In cases where the same study was published multiple times, only one instance was coded. Coding was conducted independently by two researchers, with a Kappa value of 0.97 indicating a high level of agreement. Any discrepancies were resolved through team discussions to ensure accurate coding.

For studies that reported different effect sizes for the same relationship (i.e., different dimensions of knowledge hiding with the same variable), the effect sizes were combined according to Hunter and Schmidt's method^[15]. In addition, based on the three-dimensional model of task performance, job performance, in-role performance and task performance were all coded as task performance. Similarly, creativity, innovation behavior and innovation performance were under the creativity construct^[16].

3.4 Analysis Method

This meta-analysis primarily adopts the methods proposed by Hunter and Schmidt^[15], along with Borenstein's meta-analysis methodology^[17]. A random-effects model was used to test the relationships between knowledge hiding and its antecedents and outcomes. To test moderating effects, subgroup analysis was employed to examine how scale types, evaluation methods, and research designs moderated the relationship between knowledge hiding and outcome variables^[17]. In addition, Z-statistics were calculated to test the heterogeneity of effect sizes, following the method used by Chiaburu et al.^[18]. The equation is as follows:

$$Z = \frac{(M\rho_1 - M\rho_2)}{\sqrt{(SE_1^2 + SE_2^2)}}, \quad SE = \frac{M\rho}{M_Y} * \frac{SD_Y}{\sqrt{k}} \quad (1)$$

4 Analysis Results

4.1 Publication Bias and Heterogeneity Tests

Publication bias was tested using the Fail-Safe N method, which estimates how many unpublished studies with null results would be needed to reduce the cumulative effect to a non-significant level. The results, shown in Table 1, indicate that for all variables

except organizational psychological ownership, psychological contract breach, workplace incivility, leader-member exchange, and knowledge complexity, the Fail-Safe N exceeds $5k+10$. Therefore, publication bias does not appear to be a significant issue in this meta-analysis.

Additionally, to test for heterogeneity in effect sizes, the Q -statistic was used. The results indicate that the Q -statistics for all relationships were significant ($p < 0.05$), suggesting significant heterogeneity in the effect sizes across studies. Therefore, a random-effects model was chosen for further analysis.

4.2 Directing Effects Analysis

The results of the meta-analysis testing the relationship between individual characteristics and knowledge hiding are presented in Table 1. Negative emotions (NE), knowledge psychological ownership (KPO), territoriality (TERR), job insecurity (JI), and psychological contract breach (PCB) were all positively related to knowledge hiding, while organizational psychological ownership (OPO), organizational identification (OI), relational identification (RI), and psychological safety (PS) were negatively related to knowledge hiding. Thus, both Hypothesis 1a and Hypothesis 1b were supported.

Table 1. Main effect analysis results and publication bias test.

Variables	k	N	γ	SD_γ	ρ	%Var	CV_{LL}	CV_{UL}	CI_{LL}	CI_{UL}	$Nfs_{-0.05}$	Q
Individual Characteristics												
NE	9	3247	0.30	0.19	0.35	6.79	0.09	0.60	0.21	0.40	1277	149.66
OPO	5	1675	-0.12	0.19	-0.15	7.38	-0.43	0.15	-0.23	-0.01	35	70.61
KPO	15	5008	0.25	0.28	0.28	3.16	-0.14	0.69	0.15	0.35	1605	508.74
TERR	9	2218	0.40	0.11	0.46	15.41	0.28	0.65	0.30	0.51	1321	51.80
OI	9	3959	-0.33	0.09	-0.38	19.64	-0.50	-0.25	-0.42	-0.25	1547	51.47
RI	6	1878	-0.48	0.04	-0.56	52.52	-0.62	-0.49	-0.56	-0.39	1043	9.36
JI	12	3382	0.37	0.14	0.41	11.50	0.20	0.62	0.26	0.47	2294	110.31
PS	13	5740	-0.48	0.16	-0.56	5.29	-0.79	-0.32	-0.55	-0.40	7136	286.12
PCB	4	1521	0.42	0.13	0.48	9.22	0.29	0.67	0.34	0.50	497	47.94
Interpersonal Characteristics												
IT	14	6750	-0.18	0.29	-0.21	2.27	-0.65	0.23	-0.27	-0.09	2241	665.76
ID	7	2395	0.47	0.14	0.55	7.66	0.33	0.77	0.38	0.55	1433	76.97
WI	4	1194	0.21	0.32	0.24	2.78	-0.25	0.73	0.10	0.32	136	148.77
WO	14	5067	0.55	0.16	0.61	3.10	0.31	0.91	0.47	0.62	10459	459.90
NWG	6	2263	0.36	0.14	0.41	10.21	0.22	0.60	0.27	0.45	762	66.56

Situational Factors													
EL	6	2227	-0.24	0.13	-0.27	13.25	-0.46	-0.09	-0.34	-0.14	276	50.29	
LMX	4	1118	-0.36	0.28	-0.42	49.76	-0.49	-0.34	-0.47	-0.26	232	13.63	
POS	5	1671	-0.33	0.14	-0.39	11.79	-0.58	-0.19	-0.42	-0.23	343	47.35	
AS	14	5115	0.40	0.17	0.44	6.28	0.20	0.68	0.31	0.48	4853	253.44	
CC	7	1789	0.32	0.13	0.38	18.75	0.21	0.56	0.21	0.43	497	40.79	
Knowledge Characteristics													
KC	5	1805	0.42	0.07	0.49	28.04	0.38	0.59	0.33	0.50	527	17.39	
Outcomes													
TP	9	2493	-0.25	0.22	-0.27	6.08	-0.59	0.05	-0.36	-0.14	481	142.05	
CRE	29	8727	-0.30	0.24	-0.33	4.47	-0.68	0.02	-0.40	-0.20	8876	629.46	

Note: $Nfs_{-0.05}$ represents the fail-safe N value at the $p = 0.05$ significance level; Q value and its significance indicate the degree of heterogeneity of the effect sizes.

Interpersonal trust (IT) was found to be negatively related to knowledge hiding, while interpersonal distrust (ID), workplace incivility (WI), workplace ostracism (WO), and negative workplace gossip (NWG) were positively related to knowledge hiding. Therefore, Hypothesis 2a and Hypothesis 2b were supported.

Ethical leadership (EL), leader-member exchange (LMX), and perceived organizational support (POS) were negatively related to knowledge hiding, while abusive supervision (AS) and competitive climate (CC) were positively related to knowledge hiding. Therefore, Hypothesis 3a and Hypothesis 3b were supported.

Knowledge complexity (KC) was positively related to knowledge hiding, supporting Hypothesis 4.

Finally, knowledge hiding was negatively related to both task performance (TP) and creativity (CRE), supporting Hypothesis 5.

4.3 Moderating Effects Analysis

Moderator analysis was conducted to explore how scale type, evaluation method, and research design moderated the relationships between knowledge hiding, task performance, and creativity. Due to the relatively small number of studies for certain moderators (e.g., evaluation methods), analysis for these variables was not performed to maintain the stability of the results. The results of the moderator analysis are shown in Table 2. Two main types of scales were identified: Connelly et al.'s scale and other types of scales. No significant differences were found in the strength of the relationships between knowledge hiding and task performance or creativity when using different scales.

Regarding research design, both cross-sectional and time-lagged designs were used in the included studies. The relationship between knowledge hiding and task performance was not significantly moderated by research design. However, the strength of the relationship between knowledge hiding and creativity varied significantly depending on the research design. Hypothesis 7 was partially supported.

Table 2. Moderating effects test.

Variables	<i>k</i>	N	γ	SD_{γ}	ρ	SD_{ρ}	CI_{LL}	CI_{UL}	CV_{LL}	CV_{UL}	Z
Scale Types											
Task perfor- mance											
others	4	1127	-0.277	0.143	-0.310	0.171	-0.385	-0.169	-0.529	-0.091	-0.451
Connelly	5	1366	-0.224	0.258	-0.243	0.294	-0.337	-0.111	-0.620	0.134	
Creativity											
others	8	2594	-0.332	0.265	-0.375	0.305	-0.429	-0.235	-0.765	0.016	-0.488
Connelly	21	6133	-0.287	0.225	-0.317	0.256	-0.393	-0.182	-0.644	0.012	
Research De- signs											
Task perfor- mance											
cross-sectional	5	1259	-0.156	0.076	-0.171	0.087	-0.277	-0.035	-0.282	-0.059	1.387
time-lagged	4	1234	-0.342	0.266	-0.385	0.314	-0.441	-0.243	-0.788	0.170	
Creativity											
cross-sectional	17	5430	-0.229	0.263	-0.252	0.295	-0.333	-0.125	-0.629	0.126	2.782**
time-lagged	12	3297	-0.418	0.120	-0.476	0.144	0.516	0.321	-0.660	-0.291	

Note: The Z is used to test whether the effect sizes are homogeneous.

4.4 Relative Weight Analysis

Hypothesis 6 proposed that knowledge hiding has a stronger impact on creativity than on task performance. To test this hypothesis, a relative weight analysis method was employed. The results, shown in Table 3 and Table 4, confirmed that knowledge hiding plays a more dominant role in explaining creativity compared to task performance. Therefore, Hypothesis 6 was supported.

Table 3. Correlation matrix of variables.

Variables	Knowledge hiding	Task performance	Creativity
Knowledge hiding	1	-0.273	-0.333
k (N)	—	9(2493)	29(8727)
Task performance	—	1	0.550 ^a
k (N)	—	—	28(7760)

Note: Correlation coefficients without specified sources are derived from this study, a [16].

Table 4. Results of relative weight analysis.

Outcomes	Task performance	creativity
Knowledge hiding	35.15	64.85

5 Discussion

5.1 Theoretical Implications

First, this study expands upon previous meta-analyses by Arain et al. [8], Skerlavaj et al. [7], and Xiao [9] and systematically validates the strength of the relationships between individual characteristics, interpersonal characteristics, situational factors, and knowledge hiding, building on the theoretical framework proposed by Connelly et al. This study provides early meta-analytic evidence on the antecedents and outcomes of employee knowledge hiding, revealing that negative factors generally have a stronger relationship with knowledge hiding than positive factors, and that interpersonal characteristics play a particularly important role. For example, interpersonal distrust, workplace ostracism, and negative workplace gossip were all significantly positively related to knowledge hiding, advancing our understanding of the conditions that trigger knowledge hiding.

Second, this study further explores the impact of knowledge hiding on performance outcomes. While previous research has examined the effects of knowledge hiding on individual performance, extra-role behavior, creativity, innovation, attitudes, and interpersonal relationships, much of this research has focused on the negative organizational effects of knowledge hiding without differentiating its impact on task performance and creativity. Drawing on theories of task performance and creativity, this study proposes that knowledge hiding obstructs the sharing, collection, and integration of diverse knowledge and perspectives among employees, hindering collaboration and support, and thereby has a greater impact on creativity than on task performance. By employing relative weight analysis, this study empirically validates the stronger effect of knowledge hiding on creativity, further enriching the literature on the outcomes of knowledge hiding and highlighting the importance of smooth knowledge exchange and strong interpersonal interactions for fostering innovation.

Third, this study explores the moderating effects of methodological factors. Although the data analysis showed that scale type did not significantly moderate the relationship between knowledge hiding, task performance, and creativity, research design did moderate the relationship between knowledge hiding and creativity. Therefore, measurement methods and research design can explain the variability in the strength of relationships reported in the literature, providing theoretical guidance for the selection and optimization of measurement tools and research designs in future studies on knowledge hiding.

5.2 Practical Implications

The results of this study provide valuable managerial insights. On the one hand, employees' emotional and psychological states, especially negative emotions, knowledge-based psychological ownership, and territoriality, increase their tendency to engage in knowledge hiding. Therefore, managers should pay attention to fluctuations in employees' emotional states and provide timely support to replenish employees' psychological resources, mitigating the negative impact of negative emotions. Additionally, managers should foster a work environment where employees feel valued and respected, enhancing their organizational identification and psychological safety.

On the other hand, knowledge hiding is an interpersonal behavior, and interpersonal relationships are key factors in mitigating employee knowledge hiding. Interpersonal distrust, incivility, ostracism, and negative workplace gossip are all significantly positively related to knowledge hiding. This implies that managers should promote open communication and foster close interpersonal relationships among employees. Providing formal communication channels and opportunities for informal networking can enhance understanding and trust between employees, helping them rationally handle misunderstandings and conflicts, thereby reducing negative gossip and workplace exclusion.

Furthermore, leaders play an important role in influencing employees' knowledge hiding behavior. Leaders often serve as role models for subordinates, and by demonstrating other-oriented and ethical values, they can guide employees to consider others' interests and adhere to ethical norms, reducing knowledge hiding behaviors. To minimize the negative effects of destructive leadership behaviors that trigger knowledge hiding, organizations should establish fair and transparent supervisory mechanisms, create a competitive yet cooperative work environment, and strengthen leadership training programs focused on ethics and leadership development [9].

5.3 Limitations and Future Directions

Although this study provides significant contributions to the literature on knowledge hiding, there are some limitations that should be acknowledged. First, following the approach taken by previous meta-analyses [8], this study only included empirical studies that provided at least three pieces of data. Due to practical constraints, unpublished studies and conference papers were not included, which may limit the comprehensiveness of our analysis of the antecedents of knowledge hiding. Future research should consider including a broader range of sources, such as working papers, dissertations, and conference proceedings, to provide a more comprehensive understanding of the factors influencing knowledge hiding.

Second, this study primarily focused on individual-level antecedents and outcomes of knowledge hiding, as existing research is predominantly centered at this level [1]. As a result, the study does not address team-level or organizational-level factors that might influence knowledge hiding, nor does it explore the interpersonal and attitudinal outcomes at higher levels of analysis. Additionally, the underlying mechanisms through which knowledge hiding operates were not examined. Future research should consider

using multi-level meta-analytic structural equation modeling (MASEM) to explore the relative importance of various factors at different levels and to verify the mediating mechanisms of knowledge hiding.

6 Conclusion

This study conducted a comprehensive meta-analysis on the antecedents and consequences of knowledge hiding, providing valuable insights into the triggers and outcomes of this behavior within organizations. By synthesizing literature from 2012 to 2024, this study systematically validates the relationships between key individual, interpersonal, and contextual factors and knowledge hiding. It also highlights the stronger impact of knowledge hiding on creativity compared to task performance, reinforcing the importance of knowledge exchange and collaboration in fostering organizational innovation.

These findings offer practical guidance for managers in addressing knowledge hiding behaviors. By paying attention to employees' emotional states, fostering a positive work environment, and promoting ethical leadership, organizations can mitigate the negative effects of knowledge hiding and promote a more collaborative and innovative work culture.

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