






“The influence of knowledge-hiding behavior on academic performance: empirical evidence from undergraduate students in Vietnam”

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THE INFLUENCE OF KNOWLEDGE-HIDING BEHAVIOR ON ACADEMIC PERFORMANCE: EMPIRICAL EVIDENCE FROM UNDERGRADUATE STUDENTS IN VIETNAM

Abstract

This study aims to investigate the impact of knowledge-hiding behavior on individual creativity and academic performance through the mediating role of academic self-efficacy. Using a quantitative approach with questionnaires and convenient sampling offers insights into fostering a more open learning environment. This study examined a sample of 3,466 undergraduate students, with 3,232 valid responses from various universities in Vietnam. This study utilized a two-stage, second-order partial least squares structural equation modeling (PLS-SEM) approach to evaluate the proposed hypotheses. The findings demonstrate that knowledge-hiding behavior adversely affects academic performance ($\beta = -0.054$, sig. = 0.000), individual creativity ($\beta = -0.153$, sig. = 0.000), and academic self-efficacy ($\beta = -0.109$, sig. = 0.000). Furthermore, academic self-efficacy has a positive and significant effect on academic performance ($\beta = 0.501$, sig. = 0.000), and mediates the impact of knowledge-hiding behavior on academic performance. Based on the results, this study proposes several measures to encourage knowledge sharing and improve educational outcomes in educational institutions.

Keywords

knowledge-hiding behavior, academic performance,
individual creativity, academic self-efficacy,
undergraduate students

JEL Classification

O34, I23

INTRODUCTION

Despite being counterintuitive in academic settings fundamentally designed for knowledge sharing, the phenomenon of knowledge hiding represents a significant yet underexplored area within the existing literature. While recent studies have extensively examined knowledge-sharing behavior, a considerable gap exists in understanding knowledge-hiding behavior, as highlighted by Ghani et al. (2019). Although the business sector has thoroughly investigated knowledge hiding, educational institutions have received comparatively little attention on this topic (Zhao et al., 2024). This is particularly concerning because universities are fundamentally designed to facilitate knowledge sharing (Demirkasimoglu, 2016). Despite this objective, knowledge-hiding behavior persists in academic environments (Yang & Ribiere, 2020), necessitating a focused exploration of its occurrence and implications in university settings. This study aims to fill this gap by investigating the unique academic context in which knowledge hiding occurs,



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thereby addressing the scarcity of research in this domain. This study aims to investigate the impact of knowledge-hiding behavior on individual creativity and academic performance through the mediating role of academic self-efficacy.

Furthermore, most existing studies on knowledge hiding have concentrated on professional and organizational settings, with limited research examining this behavior in educational contexts, particularly among students (Ghani et al., 2019). This gap raises critical questions regarding how knowledge-hiding behaviors manifest among undergraduate students and their potential impact on academic performance. While some studies suggest that knowledge hiding negatively affects students' academic outcomes (Zhao & Luo, 2024), others, such as Garg et al. (2021), indicate a possible positive relationship. This inconsistency underscores the need for empirical research to clarify the relationship between knowledge-hiding behavior and academic performance in diverse educational contexts.

Besides, the mediating role of academic self-efficacy in this relationship remains unexplored (Garg et al., 2021). Understanding whether academic self-efficacy amplifies or mitigates the effects of knowledge hiding on student performance is crucial for developing effective academic and institutional policies. Finally, while some scholars argue that intentional knowledge-hiding behavior can foster individual creativity (Zakariya & Bashir, 2021), others contend that it restricts knowledge sharing and inhibits innovation and performance (Yao et al., 2023). Given these conflicting findings, this study sought to provide a more comprehensive examination of the impact of knowledge-hiding behaviors on personal creativity. By explicitly addressing these research gaps, this study contributes to a deeper understanding of knowledge hiding in higher education and its broader academic implications.

1. LITERATURE REVIEW

While knowledge hiding has been extensively studied in organizational settings, it has received little attention in educational contexts despite its potential to impact knowledge management, collaboration, and innovation significantly. This review systematically analyzes the existing body of research, highlighting the urgent need for a deeper understanding of students' knowledge-hiding behavior and its effects on academic performance and creativity.

Knowledge hiding is deliberately withholding or concealing information upon request (Connelly et al., 2012). This behavior manifests in various forms, including evasive hiding, rationalized hiding, and playing dumb (Wang & Dong, 2022). In knowledge-based economies, where knowledge sharing is critical for gaining a competitive advantage, this behavior is widely regarded as counterproductive and detrimental to individuals and organizations (Serenko & Bontis, 2016). However, although some studies have touched on this phenomenon in educational settings, their scope remains limited.

Previous research has identified multiple drivers of knowledge hiding, such as competition, lack of trust, and interpersonal conflicts (Bogilović et al., 2017). These factors are consistent with those found in various organizational contexts, underscoring the pervasiveness of knowledge hiding across different domains. However, in academic settings, specific dynamics may further exacerbate the propensity for knowledge-hiding behaviors. For instance, intense academic pressure and pronounced peer competition, which is endemic to many educational environments, can significantly increase the prevalence of knowledge hiding among students (Xiong et al., 2021).

The impact of knowledge hiding in the context of higher education has garnered considerable research attention. A significant body of literature suggests that knowledge hiding detrimentally affects collaborative learning, essential for academic success and intellectual growth (Alam et al., 2021; Yuan et al., 2020). Such behaviors can hinder collective knowledge accumulation, impede group cohesion, and adversely influence academic performance. The detrimental effects of knowledge hiding on collaborative endeavors underscore the

need for institutions to cultivate an atmosphere of trust and open communication. In contrast, a subset of studies posits that knowledge hiding may function as a strategic mechanism through which students seek to protect their competitive advantage in an environment where individual achievements often dictate academic outcomes (Ghani et al., 2019). This perspective suggests that, under certain circumstances, withholding information might be perceived as a rational response to the pressures of a hyper-competitive academic landscape. Consequently, this duality in the potential motivations behind knowledge hiding necessitates a critical examination of the act itself and the contextual factors influencing it.

This complexity highlights the need to examine knowledge hiding not only as an individual strategy but also as a behavior with far-reaching consequences for academic communities. Understanding the conditions under which knowledge hiding hinders or enhances academic performance can provide valuable insights for educators and institutions seeking to balance competition and collaboration. Knowledge-hiding behavior significantly affects academic performance, influencing collaborative learning and trust within academic communities. Ismail and Welch (2023) indicate that knowledge hiding disrupts information flow, undermining collaborative learning efforts and eroding the foundational trust necessary for effective academic interactions. This highlights a critical challenge: As students and faculty engage in knowledge hiding, the essence of academic collaboration and shared inquiry may be compromised. However, substantial discrepancies persist in the literature regarding the direct impact of knowledge hiding on academic performance, suggesting a more complex interplay than was previously acknowledged. For instance, Xu and Jiesen (2022) conducted a study within dual teaching environments and found notable negative consequences of knowledge hiding on student engagement and academic achievement. This finding aligns with the notion that when students withhold knowledge, they impair their learning process and their peers, potentially perpetuating a cycle of disengagement. Conversely, Liu et al. (2020) presented an alternative perspective, arguing that strategic knowledge hiding can sometimes enhance individual performance in highly competi-

tive academic settings. The rationale behind this viewpoint is rooted in the premise that safeguarding one's intellectual contributions may provide students with a competitive advantage, leading to superior outcomes in contexts in which individual performance is paramount. This contrast emphasizes the dual-edged nature of knowledge hiding; while it may foster individual achievements in specific contexts, it simultaneously causes broader detriment to collaborative learning. The inconsistencies in findings across these studies may be attributed to various factors, including differences in research design, sample characteristics, and specific contextual environments. For example, Xu and Jiesen (2022) utilized a quantitative approach focused on dual-teaching settings, which may not account for variations in student motivation or institutional culture that can profoundly influence learning dynamics. By contrast, Liu et al. (2020) employed a qualitative framework that illuminated the strategic motivations behind knowledge hiding, thus capturing a different facet of its implications. In conclusion, knowledge-hiding behavior significantly undermines academic performance by disrupting collaborative learning and eroding trust within academic communities. While some argue that strategic knowledge hiding can yield individual benefits in competitive environments, the detrimental effects on group dynamics and peer learning highlight the need to foster a culture of openness and collaboration to enhance educational outcomes.

These broader implications suggest that the consequences of knowledge hiding extend beyond collaborative learning and academic performance, influencing students' psychological well-being and self-perception. Given that academic self-efficacy plays a crucial role in shaping students' motivation and success, examining its relationship with knowledge hiding offers valuable insights into the long-term impact of such behaviors. Knowledge-hiding behavior poses significant challenges in academic environments, particularly affecting students' academic self-efficacy. It refers to their beliefs about their capacity to effectively manage academic tasks and navigate challenges within an educational context (Igang & Soetjningsih, 2024). Existing literature has highlighted that knowledge hiding – behavior characterized by deliberately withholding valuable information or skills from

peers – can undermine students’ perceptions of their academic abilities. This, in turn, creates a detrimental cycle that negatively affects both motivation and academic performance (Kurdi et al., 2018). However, findings regarding the relationship between knowledge hiding and academic self-efficacy present inconsistencies that warrant further examination. For example, some studies, such as that conducted by Salimi et al. (2022), argue that a collaborative environment where knowledge sharing is actively promoted enhances academic self-efficacy and boosts academic performance. Their research indicated that when students share knowledge, they develop a deeper understanding of their subjects, reinforcing their confidence in their academic skills. Conversely, literature shows that knowledge hiding can lead to isolation and decreased self-efficacy, mainly because it prevents students from acquiring the necessary knowledge for successful academic outcomes. One potential reason for these inconsistent findings may be the methodological approaches employed in various studies. For instance, while some researchers utilize quantitative methods to measure self-efficacy and knowledge behaviors, others might adopt qualitative frameworks that offer richer, context-based insights but may not capture generalizable trends across larger populations.

Additionally, differences in sample characteristics, such as the diversity of student backgrounds or the specific academic disciplines studied, may influence the observed impact of knowledge hiding on self-efficacy. Furthermore, the relationship between knowledge hiding and academic burnout has been emphasized in several studies, suggesting that when students feel unsupported due to knowledge hoarding among peers, they become more susceptible to burnout due to diminished self-efficacy (Yu et al., 2016; Raza & Awang, 2020). This interplay highlights the importance of understanding the psychological and contextual factors shaping students’ academic experiences. In summary, knowledge-hiding behavior critically undermines academic self-efficacy by fostering feelings of isolation and limiting access to essential information that students need to navigate academic challenges effectively. This detrimental cycle erodes students’ confidence in their abilities and negatively affects their motivation and overall academic performance.

Given the significant impact of knowledge hiding on academic self-efficacy, it is crucial to explore further how self-efficacy influences academic performance. As self-efficacy shapes students’ motivation, thought processes, and overall engagement with learning, understanding its role as a mediator between knowledge-hiding behaviors and academic success can provide deeper insights into effective educational interventions. Academic self-efficacy is a crucial psychological construct that influences students’ academic performance. A robust body of empirical research has consistently demonstrated a positive relationship between academic self-efficacy and enhanced academic outcomes. Higher levels of self-efficacy are associated with increased motivation, improved learning strategies, and more remarkable persistence in facing challenges. For instance, Kolo et al. (2017) emphasized that student’s beliefs in their efficacy shape their thought processes and behaviors, ultimately predicting future performance more accurately than past achievements, reinforcing the significance of fostering self-efficacy in educational contexts. Adding to this discourse, Artino (2012) conducted a comprehensive meta-analysis that identifies academic self-efficacy as the strongest predictor of college student’s academic success among a range of psychosocial factors. This analysis underscores the critical role of self-efficacy in shaping academic trajectories, suggesting that fostering self-efficacy may be an effective intervention to enhance student success. Likewise, Bhati et al. (2022) corroborated these findings by demonstrating that self-efficacy is a distinct promoter of academic performance across various educational streams, thereby establishing it as a vital determinant of academic achievement. This literature suggests that interventions aimed at increasing self-efficacy could significantly enhance student performance, making promoting academic self-efficacy a fundamental focus for educators and policymakers.

Academic self-efficacy plays a crucial role in shaping students’ learning behaviors and problem-solving approaches, so its influence extends beyond academic performance to domains such as creativity and innovation. Understanding how self-efficacy interacts with knowledge-sharing behaviors can provide deeper insights into the broader implications of knowledge hiding, partic-

ularly about creative processes. The relationship between knowledge hiding and creativity remains a complex and contentious issue within academic literature. A growing body of evidence suggests that knowledge hiding can significantly impede creative processes. Černe et al. (2014) argue that knowledge hiding restricts access to diverse perspectives and problem-solving strategies essential to innovation. The authors contend that when individuals engage in knowledge hiding, they inadvertently limit the pool of information and ideas available to their peers, which can stifle collaborative creativity and inhibit the generation of novel solutions to problems. Conversely, other research presents a more nuanced perspective, positing that selective knowledge hiding might foster independent thinking and enhance creative problem-solving capabilities. Zakariya and Bashir (2021) suggest that withholding information can encourage individuals to rely on their cognitive resources and innovative capacities in specific contexts. This perspective challenges the traditional view by suggesting that knowledge hiding may act as a catalyst for creativity under specific conditions, thus highlighting the complexity of this relationship. These contradictory findings underscore the need to consider contextual factors that may moderate the effects of knowledge hiding on creativity. For example, task complexity can play a critical role; complex tasks may require more collaboration and knowledge sharing, whereas more straightforward tasks may benefit from individual creativity fostered through independent work.

Additionally, group composition, such as the diversity of team members and their respective expertise, can further influence how knowledge hiding affects creative outcomes. Thus, the interplay between knowledge hiding, creativity, and various contextual elements warrants a rigorous empirical examination. In conclusion, while the relationship between knowledge hiding and creativity is complex, substantial evidence indicates that knowledge hiding harms creative processes by limiting access to diverse perspectives and collaborative problem-solving strategies. When individuals engage in knowledge hiding, they inadvertently restrict the flow of information necessary for innovation, ultimately stifling the collaborative creativity essential for generating novel solutions.

Building on the well-established relationship between academic self-efficacy and student performance, examining how self-efficacy functions in broader academic interactions, particularly in the context of knowledge hiding, is essential. Given its role in shaping motivation and engagement, academic self-efficacy may serve as a crucial buffer against the negative consequences of knowledge-hiding behaviors, thus influencing how students navigate academic challenges. The concept of academic self-efficacy is a crucial factor in the discourse on knowledge hiding. Knowledge hiding, which involves concealing information that could benefit others, can negatively affect academic interactions and outcomes. Research has underscored that a strong sense of academic self-efficacy significantly influences academic performance by shaping students' motivation, engagement, and resilience in learning environments. Numerous studies have shown that academic self-efficacy is a robust predictor of academic achievement. For example, Artino (2012) conducted a meta-analysis revealing that academic self-efficacy is a more powerful predictor of college students' academic success than many other psychosocial constructs, underscoring its importance in educational settings. Students with high self-efficacy are more inclined to adopt proactive learning strategies, enhance their ability to manage academic challenges and achieve positive results (Li et al., 2024).

Additionally, self-efficacy positively affects educational engagement and motivation, fostering greater involvement in learning activities and improving academic outcomes (Meng & Zhang, 2023). Conversely, knowledge hiding can diminish academic self-efficacy by fostering environments characterized by mistrust and competition rather than collaboration. Students who engage in knowledge hiding may experience a decline in self-esteem and confidence, which may hinder their motivation to strive for academic excellence. Evidence suggests that collective engagement, driven by knowledge sharing, enhances students' self-efficacy and promotes better performance (Mahmood et al., 2023; Hayat et al., 2020). Understanding how academic self-efficacy can mitigate the adverse effects of knowledge hiding is essential. When students possess strong beliefs about their academic capabilities, they exhibit

greater resilience in confronting obstacles, including the adverse dynamics created by knowledge hiding (Cassidy, 2015). This resilience enables them to navigate academic challenges and maintain or even improve their performance in unfavorable circumstances.

Furthermore, research indicates that positive feelings associated with self-efficacy can alleviate stress and improve academic outcomes, thereby counteracting the negative consequences of dysfunctional behaviors in educational settings (Adeniyi et al., 2016). Thus, the potential of academic self-efficacy to mediate the effects of knowledge hiding on academic outcomes requires further exploration. In conclusion, academic self-efficacy is critical in the relationship between knowledge-hiding behavior and academic performance. By fostering resilience and motivation, students with high academic self-efficacy are better equipped to navigate the challenges presented by knowledge hiding, which can lead to diminished collaboration and trust in the academic setting. Consequently, enhancing academic self-efficacy can mitigate the adverse effects of knowledge hiding and promote better academic outcomes.

This study aims to investigate the impact of knowledge-hiding behavior on individual creativity and academic performance through the mediating role of academic self-efficacy. In summary, although research on knowledge hiding in educational settings is emerging, critical gaps remain in understanding its definitions, drivers, and impacts. Moreover, inconsistencies in prior research, often driven by methodological variations, necessitate a more comprehensive analysis. Based on the literature review, the following hypotheses are proposed:

- H1: Knowledge-hiding behavior hurts academic performance.*
- H2: Knowledge-hiding behavior hurts academic self-efficacy.*
- H3: Academic self-efficacy has a positive impact on academic performance.*
- H4: Knowledge-hiding behavior hurts individual creativity.*

- H5: Academic self-efficacy mediates the relationship between knowledge-hiding behavior and academic performance.*

2. METHODOLOGY

This study employed quantitative research methods utilizing a questionnaire for surveying. This study designed a questionnaire to survey the relationship between variables such as knowledge hiding behavior (KHB), Playing Dumb (PD), Evasive Hiding (EH), Rationalized Hiding (RH), Academic Self-Efficacy (ASE), Academic Performance (AP), and Individual Creativity (IC). The article assesses all indicators using a five-point Likert scale, ranging from “strongly disagree” to “strongly agree.”

This study used scales adopted from previous studies. Specifically, the “Playing Dumb” (PD) scale includes four indicators from PD1 to PD4; the “Evasive Hiding (EH)” scale consists of four indicators from EH1 to EH4; the “Rationalized Hiding (RH)” scale consists of four indicators from RH1 to RH4 adapted from the scale by Connelly et al. (2012). Playing Dumb (PD), Evasive Hiding (EH), and Rationalized Hiding (RH) are three first-order constructs that constitute the second-order construct (knowledge-hiding behavior, KHB). Also, the “Academic Self-Efficacy (ASE)” scale includes five indicators from ASE1 to ASE5 adapted from Xiaoying et al.’s study (Xiaoying et al., 2024). The “Individual Creativity (IC)” consists of four indicators from IC1 to IC4, adapted from the research of Nguyen et al. (2022). Finally, the “Academic Performance (AP)” scale consists of four indicators, from AP1 to AP4, adapted from the study of Hanaysha et al. (2023). Questions about personal characteristics were added to the questionnaire to collect information about the respondents.

The study used convenience sampling and collected primary data through an online Google Forms survey. The authors distributed 3,466 survey forms to the study sample, of which 3,232 were usable after cleaning (about 93.3%). This research selected students from universities in Vietnam. The students included first-year students, sophomores, juniors and seniors. Besides, undergraduates come from various universities, ranging from humani-

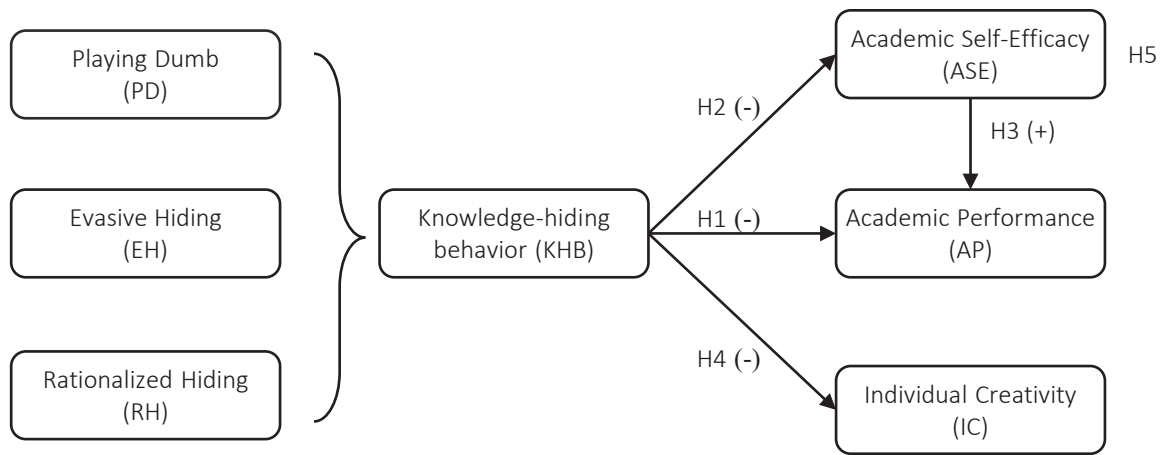


Figure 1. Research model

ties and social sciences, natural sciences, formal sciences and professions, and applied sciences.

The data were then analyzed and processed using Smart PLS software, version 3.0. The model was analyzed using partial least squares structural equation modeling (PLS-SEM). It was selected for its efficacy in dealing with intricate models, non-normal data, and limited sample sizes; this approach accommodates reflecting and formative assessment models (Hair et al., 2019).

This study utilized two-stage, second-order partial least squares structural equation modeling (PLS-SEM), a statistical technique that analyzes complex causal relationships between observed and latent variables. In the first stage, the study evaluated the measurement model and structural model with first-order variables, including Laying Dumb (PD), Evasive Hiding (EH), Rationalized Hiding (RH), Academic Self-Efficacy (ASE), Individual Creativity (IC), and Academic Performance (AP).

In the second stage, the research evaluates the measurement and structural models, including

the second-order variable (knowledge-hiding behavior, KHB). It tests the research hypotheses regarding the impact of knowledge-hiding behavior (KHB) on Academic Self-Efficacy (ASE), Individual Creativity (IC), and Academic Performance (AP), the impact of Academic Self-Efficacy (ASE) on Academic Performance (AP), and the mediating role of ASE on the relationship between KHB and AP.

3. RESULTS

Table 1 describes the characteristics of the survey sample, and the results show the characteristics of the participant group, which included 3,232 students. Table 1 indicates that most respondents were female, accounting for 76.5% (n = 2,467), while 23.5% (n = 765) were male.

Regarding educational level, the respondents were mainly freshmen, accounting for 54% (n = 1,743), followed by sophomores (20.3%, n = 656). Juniors and seniors accounted for 17.1% and 8.7% of the sample.

Table 1. Sample characteristics

Trails	Item	Number (total: 3,232)	Proportion
Gender	Male	765	23.5
	Female	2,467	76.5
Educational level	Freshman	1,743	54
	Sophomore	656	20.3
	Junior	552	17.1
	Senior	281	8.7

Table 1 (cont.). Sample characteristics

Trails	Item	Number (total: 3,232)	Proportion
Major	Biology	2	0.06
	Chemistry – Food Technology	5	0.15
	Construction – Architecture	1	0.03
	Culture - Art – Physical Education and Sports	16	0.50
	Economics	1,986	61.54
	Educational Science	3	0.09
	Electrical, Electronic, and Automation	14	0.43
	History - Archaeology – Ethnology/Anthropology	3	0.09
	Information Technology	240	7.44
	Law	98	3.04
	Linguistics	30	0.93
	Literature	1	0.03
	Pharmaceutical Sciences	1	0.03
	Philosophy – Sociology, Political Science	3	0.09
	Physics	3	0.09
	Transportation	1	0.03
	Other	826	25.55

Examining the majors, it is clear that economics majors have the highest proportion, accounting for 61.54% (n = 1,986). Although their presence may be more robust than economics, other fields, such as Information Technology (7.44%) and Law (3.04%), are also present. The “Other” category also constitutes 25.55%, indicating a diversity of disciplines within the survey sample.

Table 2 provides descriptions of the indicators listed as separate items that correspond to the factors identified and related to the constructs.

According to Hair et al. (2019), each item’s CA, CR, and rho A values should be greater than 0.70 to demonstrate internal reliability. The research model evaluation in Table 2 reveals that the first test excluded the variables ASE3, EH1, IC1, IC3, PD4, and RH4 owing to their outer loading coefficient’s failure to meet the requirements. In the second outcome test, the model fulfilled the specified criteria. All indicators had an outer loading higher than 0.70, with the highest outer loading being PD2 (outer loading = 0.882) and the smallest being ASE1 and ASE5 (outer loading = 0.732).

Table 2. Convergent validity, measurement models, and reliability

Construct	Outer loading	VIF	Model type
Playing Dumb (PD) (AVE = 0.725, CA = 0.810, CR = 0.725, rho A = 0.888)			
PD1	0.852	1.893	Reflective
PD2	0.882	2.085	
PD3	0.819	1.569	
Evasive Hiding (EH) (AVE = 0.700, CA = 0.785, CR = 0.875, rho A = 0.787)			
EH2	0.762	1.615	Reflective
EH3	0.787	1.584	
EH4	0.856	1.759	
Rationalized Hiding (RH) (AVE = 0.610, CA = 0.685, CR = 0.824, rho A = 0.705)			
RH1	0.835	1.377	Reflective
RH2	0.746	1.383	
RH3	0.760	1.267	

Table 2 (cont.). Convergent validity, measurement models, and reliability

Construct	Outer loading	VIF	Model type
Academic Self-Efficacy (ASE) (AVE = 0.570, CA = 0.749, CR = 0.841, rho A = 0.755)			
ASE1	0.732	1.487	Reflective
ASE2	0.792	1.529	
ASE4	0.761	1.446	
ASE5	0.732	1.389	
Academic Performance (AP) (AVE = 0.734, CA = 0.879, CR = 0.917, rho A = 0.879)			
AP1	0.818	1.892	Reflective
AP2	0.874	2.406	
AP3	0.869	2.466	
AP4	0.863	2.353	
Individual Creativity (IC) (AVE = 0.717, CA = 0.607, CR = 0.835, rho A = 0.619)			
IC2	0.818	1.235	Reflective
IC4	0.875	1.235	

Note: PD = Playing Dumb; EH = Evasive Hiding; RH = Rationalized Hiding; ASE = Academic Self-Efficacy; AP = Academic Performance; IC = Individual Creativity; AVE = Average of Variance Extracted; CA = Cronbach’s Alpha; CR = Composite Reliability.

Moreover, the results show that the average variance extracted (AVE) coefficient of all latent variables in the research model is more significant than 0.6. This result demonstrates that all scales in the research model achieved excellent convergent validity (Hair et al., 2019). Moreover, the study confirmed that all variance inflation factor (VIF) values were under five. This observation validates that the variables exhibit low correlation (Hair et al., 2021).

Therefore, all of these indicators for the second-order construct analysis are accepted. According to the criteria established by Henseler et al. (2015), Table 3 shows that all HTMT ratios are low at 0.85, which means that the measurement model can determine the difference between the variables.

Table 3. Heterotrait-monotrait ratios

Latent variable	AP	ASE	IC
ASE	0.632	–	–
IC	0.826	0.788	–
KHB	0.205	0.122	0.195

Note: KHB = Knowledge-hiding behavior; ASE = Academic Self-Efficacy; AP = Academic Performance; IC = Individual Creativity.

Table 4. Path coefficients

Path	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	t-statistics (O/STDEV)	p-values	Decision
H1: KHB → AP	–0.192	–0.193	0.020	9.425	0.000	Accepted
H2: KHB → ASE	–0.109	–0.110	0.021	5.226	0.000	Accepted
H3: ASE → AP	0.501	0.502	0.017	29.480	0.000	Accepted
H4: KHB → IC	–0.153	–0.155	0.020	7.585	0.000	Accepted

Note: KHB = Knowledge-Hiding Behavior; ASE = Academic Self-Efficacy; AP = Academic Performance; IC = Individual Creativity.

After obtaining the path analysis results, the research hypotheses of the model were tested (Table 4).

All p-values in the hypothesis testing results table were less than 0.05, indicating the acceptance of all research hypotheses (Hair et al., 2021). Table 5 illustrates the acceptance of Hypotheses H1, H2, H3, and H4. According to Table 5, knowledge-hiding behavior negatively and significantly affects academic performance ($\beta = -0.192$, sig. = 0.000). Besides, knowledge-hiding behavior negatively affected academic self-efficacy ($\beta = -0.109$, sig. = 0.000) and negatively and significantly influenced individual creativity ($\beta = -0.153$, sig. = 0.000). However, academic self-efficacy positively affected academic performance ($\beta = 0.501$, sig. = 0.000).

Table 5 presents the specific indirect effects. The research model had one specific indirect effect (KHB → ASE → AP). This specific indirect effect has a p-value of $0.000 < 0.05$. Therefore, the ASE variable (Academic Self-Efficacy) has a mediating role in the relationship between the KHB variable

Table 5. Specific indirect effects

Specific indirect effects	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	t-statistics (O/STDEV)	p-values
H5: KHB → ASE → AP	-0.054	-0.054	0.011	4.950	0.000

Note: KHB = Knowledge-Hiding Behavior; ASE = Academic Self-Efficacy; AP = Academic Performance.

Table 6. Total indirect effects

Path	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	t-statistics (O/STDEV)	p-values
KHB → AP	-0.054	-0.054	0.011	4.950	0.000

Note: KHB = Knowledge-Hiding Behavior; AP = Academic Performance.

(Knowledge-Hiding Behavior) and the AP variable (Academic Performance) (Hair et al., 2021).

Table 6 presents the total indirect effect of the research model. The total indirect effects are equal to the sum of the specific indirect effects; in this case, the specific indirect effect is equal to the total indirect effect because the research model has only one mediator and one specific indirect effect.

The total indirect effect has a p-value of 0.000 < 0.05. As a result, there is an indirect relationship between the KHB (knowledge-hiding behavior) variable and the AP (Academic Performance) variables (Hair et al., 2021).

4. DISCUSSION

This study aims to investigate the impact of knowledge-hiding behavior on individual creativity and academic performance through the mediating role of academic self-efficacy.

First, research has shown that knowledge-hiding behaviors – specifically playing dumb, evasive hiding, and rationalized hiding – can hurt students’ academic performance, supporting previous empirical findings. Connelly et al. (2012) and other experts show how such behaviors dramatically reduce organizational employee performance. Knowledge-hiding behavior also affects student-faculty trust and collaborative learning. According to research, knowledge concealing impairs information flow, undermining the trust needed for academic engagement. This breakdown of confidence and collaboration highlights a fundamental issue: Students and faculty who impede knowledge sharing jeopardize academic integrity and collaborative inquiry (Liu et al., 2020). Xu and Jiesen (2022) also showed that information concealing might lead to disengagement for the hider and their peers. Given these findings, an open and collaborative academic culture is crucial. Institutions should conduct systematic interventions to improve information-sharing and address

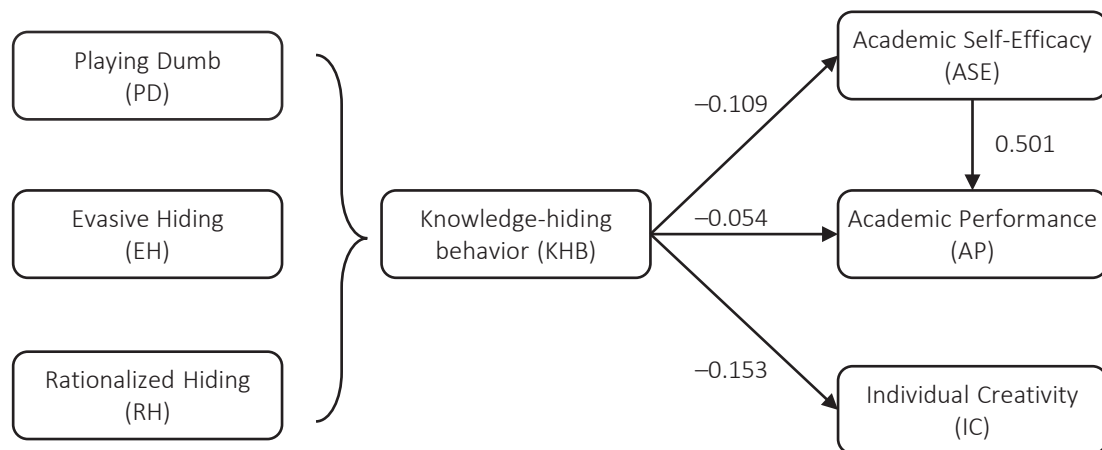


Figure 2. Structural model result

reasons for knowledge hiding. Targeted training on negotiating competitive pressure without knowledge concealing could create a more inclusive academic atmosphere that improves outcomes.

Second, this study found that knowledge-hiding behavior negatively affected academic self-efficacy less than creativity and learning outcomes (-0.109). Knowledge concealment lowers students' academic confidence; however, its effects may be less severe than previously thought. Students who hide knowledge as a retaliation may have other information sources and learning skills that offset the adverse effects. Discouragement from peer dishonesty, guilt, and shame for knowledge-hiding might eventually sap their academic motivation. Comparing these data to earlier research revealed some similarities and differences. Research findings support previous research (Ramayah et al., 2014; Kurdi et al., 2018) that knowledge concealing lowers academic self-efficacy by disrupting students' perceptions of their academic task performance. According to research, knowledge concealing isolates students and stops them from obtaining the knowledge they need for academic success, producing a self-reinforcing cycle that lowers self-efficacy. The findings differ slightly from Salimi et al. (2022) in that knowledge-sharing contexts boost self-efficacy by improving topic understanding and academic confidence. Study methods, sample characteristics, or academic contexts may cause these contradictions.

Some studies use quantitative ways to measure self-efficacy, while others use qualitative methods to gain subtle, context-dependent insights that may not apply to all student demographics. This study found that knowledge concealment had a low adverse effect on self-efficacy. Psychological and contextual elements in the literature may explain this. Knowledge concealing inhibits information and collaborative learning, although students' adaptive learning strategies and abilities to obtain knowledge from other sources may minimize its effects on self-efficacy. Competitive academic contexts may help students develop resilience and self-reliance, reducing the negative consequences of knowledge concealing self-efficacy. According to Yu et al. (2016) and Raza and Awang (2020), knowledge concealing may worsen self-efficacy over time when combined with aca-

demical burnout. This emphasizes the need to study knowledge-hiding's long-term impacts beyond academia. From these findings, some practical recommendations are made to reduce the harmful effects of information concealing on academic self-efficacy. First, schools should promote knowledge sharing through collaborative learning and peer mentoring. Engaging students in knowledge-sharing activities can boost their self-efficacy by improving their academic understanding and sense of community. Second, colleges should create intervention programs to address psychological problems like distrust and academic competition that cause knowledge hiding. Schools can reduce knowledge hiding by fostering trust and transparency. Third, educators should teach ethical knowledge-sharing techniques, emphasizing collaborative learning over short-term competitive gain. To produce more focused and successful educational practices, contextual variables, including institutional culture and discipline distinctions, should be studied to see how they affect knowledge concealment and self-efficacy.

In conclusion, knowledge concealment lowers academic self-efficacy less than other outcomes. This study emphasizes the need to promote knowledge sharing and address the psychological causes of knowledge sharing. Institutional policies and actions that foster trust, collaboration, and ethical information exchange can boost student self-efficacy and academic achievement.

Third, this study shows that academic self-efficacy is vital to student achievement. According to prior research, students with strong fundamental knowledge and abilities feel less stress and better academic adaptation (Schunk & DiBenedetto, 2022). Low-self-efficacy pupils hesitate to pursue academic goals, reducing their ability to innovate and impact (Kusuma et al., 2024). These findings suggest confidence in one's ability to use knowledge successfully is as important as skill (Bandura, 2013). This study supports a large body of research linking academic self-efficacy to student success. Studies like Kolo et al. (2017) show that students' efficacy beliefs impact their cognitive processes and behaviors, frequently better predicting future success than prior achievements. The most important predictor of college success among psychosocial characteristics was self-efficacy, according to

Artino (2012), showing that its development is essential for academic success. According to Bhati et al. (2022), self-efficacy is essential throughout educational fields. While the current study supports these general findings, it also shows that self-efficacy may be limited when adolescents encounter academic pressure without proper assistance. This shows that students' motivation and achievement may require structural and psychological assistance beyond self-efficacy. Both theoretical and empirical approaches explain the relationship between academic self-efficacy and student performance. Schunk and DiBenedetto (2022) suggested that high-self-efficacy pupils are likelier to use adaptive learning strategies, persevere through academic challenges, and actively solve complex problems. This study found that self-efficacy promotes academic resilience and inventiveness.

Bandura (2013) also noted that students with higher self-efficacy are likelier to take charge of their learning. Artino (2012) noted that academic contexts reinforce or undermine self-efficacy beliefs, possibly explaining self-efficacy-based student performance inequalities. This study and the literature suggest numerous ways to boost student academic self-efficacy. To boost academic confidence, schools should offer mentorship and peer-assisted learning. Second, educators should create a supportive learning environment encouraging students to use failures as learning opportunities. Third, goal planning and reflection activities might boost students' self-efficacy and academic achievement. Finally, governments should promote inclusive educational policies that give all students equal opportunity to build resilience and succeed academically to address institutional culture's impact on self-efficacy. These projects emphasize the need to promote self-efficacy in schools to maximize students' potential and long-term success.

Fourth, this study shows that academic self-efficacy is vital to student achievement. According to prior research, students with strong fundamental knowledge and abilities feel less stress and better academic adaptation (Schunk & DiBenedetto, 2022). Low-self-efficacy pupils hesitate to pursue academic goals, reducing their ability to innovate and affect (Kusuma et al., 2024). These

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Bandura (2013) also noted that students with higher self-efficacy are likelier to take charge of their learning. Artino (2012) noted that academic contexts reinforce or undermine self-efficacy beliefs, possibly explaining self-efficacy-based student performance inequalities. Institutions should take proactive steps to improve learning and reduce knowledge hiding. Supporting knowledge sharing through structured peer cooperation improves learning (Perry-Smith, 2006). Formal peer mentorship programs can encourage openness and support (Kanter, 1988). Additionally, by educating others, peer-led discussions and collaborative problem solving can boost cognitive engagement and information acquisition (Roscoe & Chi, 2008).

Learning institutions should develop transparency and trust rules to combat knowledge hiding. Rewarding knowledge-sharing and including team-based assessments can reduce knowledge-

hiding (Connelly et al., 2012). A positive academic atmosphere where students recognize the benefits of information exchange can reduce social isolation and mistrust (Mohamed et al., 2023). To promote free discussion, faculty should demonstrate collaboration and give constructive comments.

This study examined how academic self-efficacy mediates knowledge-hiding behavior and academic success. The data show that knowledge hiding severely affects students' academic performance, with significant ramifications. Knowledge concealment has less of a detrimental effect when academic self-efficacy is included. This supports previous findings indicating that high-self-efficacy students may overcome educational difficulties, including peer misbehavior and knowledge concealing (Hayat et al., 2020). Self-efficacy improves problem solving and resilience in educational settings (Bandura, 2013). Comparative literature shows that academic self-efficacy is crucial to academic performance. Studies show self-efficacy highly affects academic success (Zhao et al., 2024). Hayat et al. (2020) and Zhao et al. (2024) found that students with high self-efficacy use proactive learning strategies to overcome academic problems. Knowledge-hiding environments foster mistrust and lower self-efficacy, demotivating kids to

succeed academically (Hayat et al., 2020). This is supported by Zhao et al. (2024). The framework from the literature review can explain the research outcomes. Academic self-efficacy buffers and accelerates. It reduces knowledge concealing and helps students actively seek out alternate sources of knowledge, promoting independent learning (Zhao et al., 2024). This supports Cassidy's (2015) claim that kids are resilient and self-confident when facing unfavorable peer behavior (Hayat et al., 2020). Thus, while knowledge concealment is a significant challenge, self-efficacious students use their confidence to achieve and increase their academic performance despite external factors. These findings have led to practical recommendations for educators and institutions. Create an environment that boosts student self-efficacy first.

Additionally, working with students to improve awareness of the negative impacts of knowledge-hiding and promoting transparency and cooperation may boost their confidence. Finally, formal academic self-efficacy assessments can be implemented into educational frameworks to track and improve students' self-perceptions (Zhao et al., 2024). By building self-efficacy, educators can help students overcome academic problems and reduce the adverse effects of knowledge hiding.

CONCLUSION

This study aims to investigate the impact of knowledge-hiding behavior on individual creativity and academic performance through the mediating role of academic self-efficacy.

These findings indicate that knowledge-hiding behavior affects both academic performance and creativity. Additionally, academic self-efficacy plays a crucial mediating role, whereby knowledge-hiding behavior reduces self-efficacy and negatively affects academic performance. These results highlight the detrimental consequences of knowledge-hiding behavior in educational settings and emphasize the importance of fostering an open and collaborative learning environment.

Based on these insights, universities should integrate knowledge-sharing practices into all aspects of academic life, particularly teaching and research. Institutions should develop strategies to minimize knowledge hiding among students and to enhance their academic performance and creativity. Educators should implement measures to strengthen students' academic self-efficacy and reduce the adverse effects of knowledge hiding on learning outcomes.

Despite these contributions, this study did not differentiate between the three dimensions of knowledge-hiding behavior: playing dumb, evasive hiding, and rationalized hiding. Future research should investigate the distinct effects of these dimensions on various academic and psychological factors, offering a more nuanced understanding of knowledge-hiding behaviors in educational contexts.

CONFLICT OF INTEREST STATEMENT

Author(s) reported no conflict of interest.

AUTHOR CONTRIBUTIONS

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Writing – original draft: Tran Hai Yen, Chu Tien Minh, Nguyen Ngoc Diep, Dang Thu Huong.

Writing – review & editing: Tran Hai Yen.

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