

Workplace Friendship and Knowledge Hiding: A Moderated Mediation Model of Psychological Safety and Task Interdependence

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Abstract:

Previous research had focused on the influence effect of workplace friendship on knowledge sharing. However, little is known that workplace friendship might also contribute to breaking the concerns of choosing to hide and retain knowledge, leading to reducing knowledge hiding behaviours. Our purpose is to understand whether, how and when the inhibiting effect of workplace friendship on knowledge hiding is likely to unfold. Based on conservation of resources theory, we provide a moderated mediation model of psychological safety that associates workplace friendship with knowledge hiding. By analyzing the data from 455 respondents, our findings indicated that workplace friendships had a negative effect on knowledge hiding via psychological safety. We further found that the level of task interdependence moderated the indirect effect of workplace friendship on knowledge hiding via psychological safety. Overall, our research provides a theoretical and empirical foundation for future research on workplace friendship and knowledge management.

Keywords: Workplace friendship, knowledge hiding, psychological safety, task interdependence

I. INTRODUCTION

According to CNBS (National Bureau of Statistics of China), an employee in Chinese companies spent an average of 9.3 hours per day working, which means that colleagues have become the companions who spend the most time daily in the workplace. Workplace friendship is non-romantic, informal, positive relationships formed voluntarily between employees in the workplace that are characterized by communal norms and socio-emotional goals, in which employees trust and commit to each other, share common interests or values [1]. Because friendship serves as the source of both happiness and meaningfulness across the lifespan, workplace friendship is a relational network widely existing in the organization, which is also a critical underlying factor influencing employee behaviours [2]. To date, findings from empirical studies generally reveal that workplace friendship not only benefits employees thriving at work [3], enhances career well-being [4], but also promotes knowledge sharing and innovative behaviour, as well as reduce turnover intention [5] and workplace deviation behaviour [6].

Although scholars have focused on the influence of workplace friendship on knowledge management (e.g., Knowledge sharing) [7, 8], research about the relationship between workplace friendship and knowledge hiding is scarce. However, prior studies have found that workplace friendship tends to improve employee's knowledge sharing intention and behaviour, while whether workplace friendship might also contribute to breaking the concerns of choosing to hide and retain knowledge, leading to reducing knowledge hiding behaviours. Exploring this issue is theoretically critical because it contributes to paying more attention to the associations of informal relationships at work with knowledge hiding by the influence mechanism of workplace friendship on knowledge hiding instead of focusing only on knowledge sharing. Specifically, the causes and mechanisms between knowledge sharing and knowledge hiding are different because knowledge hiding is not simply the absence of sharing [9], which prevents us from concluding existing research on the relations to workplace friendships and knowledge sharing that workplace friendships can reduce knowledge hiding. In addition, as an intimate and informal interpersonal relationship formed by frequent interaction and contact between employees [10], workplace friendship is regarded as a key system for making decisions, mobilizing resources, hiding or transforming information, and performing other work-related functions. In this regard, knowledge hiding is a negative interpersonal behaviour to protect one's own resources [11], which promote it reasonable to consider that workplace friendship is well suitable for explaining specific interpersonal behaviours in the workplace and is also of significant research interest. Practically, with the advent of the era of a knowledge economy, the importance of knowledge management to organizational development is increasingly prominent [12]. It, in the workplace, seems to be pervasive for employees to conceal knowledge and information from colleagues, but this invisible and concealed counterproductive behaviour will bring enormous loss to companies. Thus, examining how workplace friendship influences employees' knowledge hiding behaviours is essential for theoretical research and management practice.

Thus, to address the above important research questions, we draw upon conservation of resource theory (COR) and provide a resource perspective that can help us understand whether, how and when the inhibiting effect of workplace friendship on knowledge hiding is likely to unfold. Conservation of resource theory proposes that individuals are motivated to acquire, retain, cultivate and protect resources and that they maintain a satisfactory level of resource adequacy by acquiring resources and avoiding losses [13]. In other words, only when individuals have sufficient resources are they more inclined to engage in resource consumption behaviours [14]. In this section, workplace friendship is not only a kind of positive interpersonal relationship but also a conditional resource, which can promote the gain of psychological and social resources. And exhibiting knowledge hiding indicates that employees maintain and preserve their resources and do not want that knowledge to be lost, which is considered a resource-preservation behaviour. As such, resource conservation theory can help us explain the inhibiting effect of workplace friendship on resource preserving behaviour from the perspective of resources. Firstly, Psychological safety refers to a psychological state as a result of mutual respect and interpersonal trust, reflecting employees' stock of positive psychological resources. In this way, following the logic of interpersonal resource-psychological resource-resource preserving behaviour, we propose that workplace friendship can reduce knowledge hiding behaviour through enhanced psychological safety. Additionally, given that knowledge hiding, considered as an adaptation to the social context, is the complex product of a person's

behaviour in a given situation, we examine whether there is a moderating impact of task interdependence (contextual factor) on the strength of the linkage between psychological safety (individual factor) and knowledge hiding.

Taken together, based on conservation of resource theory, we construct a mediating model of the effect of workplace friendship on knowledge hiding through psychological safety and explore the moderating role of task interdependence in this model (see Figure 1). This research provides several significant theoretical contributions to the extant literature on workplace friendship. First, our research not only enriches the antecedents of knowledge hiding from the lens of interpersonal relationship but also provide a preliminary exploration of the negative impact of informal interpersonal relationship such as workplace friendship on knowledge hiding. Second, given that knowledge hiding is a kind of resource-preserving behaviour, we consider workplace friendship as a crucial resource to employees and propose that it can better uncover the reason for choosing knowledge hiding for the sake of their own resources. By doing so, we offer a more comprehensive understanding of the antecedents and mechanisms of knowledge hiding. Third, we discuss the boundary conditions of the links of workplace friendship and knowledge hiding, which better explains the complex influence of individual factors and situational factors on knowledge hiding. Meanwhile, in practice, our research contributes to developing two-pronged strategies from both employees and organizations to effectively reduce employees' knowledge hiding behaviours and potential negative threats.

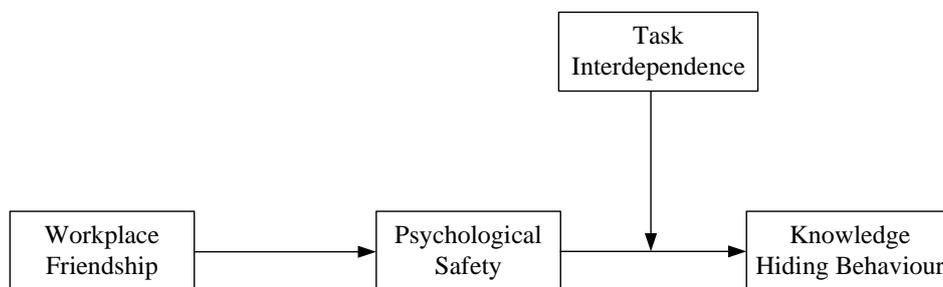


Fig 1: The conceptual model

II. HYPOTHESIS DEVELOPMENT

2.1 Workplace Friendship and Knowledge Hiding

Workplace friendship is defined as a non-exclusive workplace relationship characterized by mutual trust, commitment, reciprocal interests, and shared interests or values [1]. Specifically, as a special interpersonal relationship in the workplace, workplace friendship can not only create an organizational climate of mutual trust and harmony among employees [15,16], but also provide the approaches for employees to obtain supportive social resources and other key resources.

Knowledge hiding refers to the behaviour that organization members deliberately withhold knowledge due to a certain purpose, when they receive a knowledge request from a colleague, including three patterns such as evasive hiding, playing dumb and rationalized hiding. Knowledge hiding is different from the lack of knowledge sharing. In this section, the lack of knowledge sharing may be because employees are incapable of sharing due to the lack of information and knowledge rather than intentionally hiding knowledge. In contrast, knowledge hiding means that an individual has relevant knowledge but deliberately conceals it in the face of colleagues' requests .

Conservation of resource theory states that individuals are motivated to strive to acquire, retain, cultivate and protect resources [13]. According to the priority principle of resources loss, individuals are more inclined to prioritize the protection of existing resources and prevent resource loss than taking risks when faced with potential resource loss. As such, when the resources owned or controlled by employees have been or will be lost, employees tend to take measures to avoid the loss of resources, which thus leads to adopting knowledge hiding strategies to maximize the maintenance of resources. In contrast, if individuals have sufficient resources, in the face of colleagues' knowledge requests, employees tend to promote the generation of resource gain spiral through knowledge sharing [17] rather than protecting their own resources through knowledge hiding, due to their reduced sense of pressure.

In this regard, workplace friendship, as an interpersonal relationship at work, can create a convenient way for individuals to obtain social resources through frequent social interaction [18] to promote the individual to reach a state of adequate resources. As a result, employees with workplace friendships do not have to worry about their resources being suffered, thus reducing behavioural strategies for knowledge hiding. Based on these arguments, we argue that workplace friendship can inhibit employees' knowledge hiding behaviour.

2.2 Workplace Friendship and Psychological Safety

Psychological safety describes that employees can express themselves comfortably and freely at work without worrying about negative effects on their self-image, status and career [19]. In other words, experiencing the feeling of trust, support, mutual understanding is conducive to enhancing individual psychological safety. Indeed, empirical research has proven that high-quality and positive relationships are critical factors in predicting employees' psychological safety [20]. Accordingly, workplace friendship, a high-quality interpersonal relationship characterized by trust and reciprocity, has an important implication for improving psychological safety [16].

Psychological safety is also an important psychological resource for an individual and is developed in a highly supportive environment [21]. According to COR, individuals can use their own resources to cultivate and nourish new resources. Empirically, employees' psychological safety has been found to be hinge on their perception of the resources available in the environment. In this regard, as a conditional resource, workplace friendship can provide not only emotional support and instrumental support for individuals but also positively influence their future work and life. In this way, workplace friendship can

be used as a means and tool for individuals to obtain other resources or to accumulate results, thus promoting the generation of internal resources (i.e., psychological safety) [22]. Based on these arguments, we propose the following:

Hypothesis 1: Workplace friendship will be positively associated with employees' psychological safety.

2.3 Psychological Safety and Knowledge Hiding

Knowledge hiding is the employees' deliberate behaviour to protect themselves, and employees perceive the threat to the environment may influence their behaviour toward colleagues' knowledge requests. In this regard, psychological safety has been found to play an inhibiting role in knowledge hiding behaviour [23]. Specifically, psychological safety means that employees have sufficient psychological resources, which provides them with enough courage to actively express themselves, take risks and engage in resource investment. Therefore, employees with high psychological safety tend to fail to feel threatened by the interpersonal environment around them, in which they need not worry about taking interpersonal risks in the group and feel embarrassed or punished for expressing themselves [24]. In contrast, employees with low psychological safety may fear that expressing themselves will put them at a disadvantage and sustain an injury from co-workers. Therefore, psychological safety can enhance individual personal resources, which promotes employees to give up the priority to protecting resources and engagement in knowledge hiding. Employees with high psychological safety have the confidence to bounce back quickly after a setback [25], even if hiding knowledge may pose a threat to them. Thus, we argue that employees' psychological safety can inhibit their knowledge hiding behaviour.

We further expect that The psychological resource gain caused by workplace friendship (i.e., psychological safety) will further encourage employees to judge the adequacy of existing resources and then choose resources investment principles, reducing knowledge hiding. Specifically, employees with friendship at work are more likely to interact with their peers and deepen mutual understanding [16], while the feelings of intimacy, loyalty and trust generated in the interaction are conducive to the exchange of supportive resources between employees. Workplace friendship not only enables employees to obtain sufficient personal resources but also helps them to recover quickly after setbacks, thus promoting their psychological safety [26]. Further, with a high level of psychological safety, employees tend to perceive the environment as non-threatening, in turn failing to hide knowledge and information. In sum, combining these arguments with the proposed effect of workplace friendship on psychological safety, we propose our second hypothesis:

Hypothesis 2: Workplace friendship will have a positive indirect effect on knowledge hiding via psychological safety.

2.4 The Moderating Role of Task Interdependence

Task interdependence describes the extent to which team members need to interact and rely on each

other to accomplish tasks effectively. Employees working under high task interdependence have to frequently interact and communicate with their colleagues to coordinate and complete work tasks [27]. In other words, task interdependence forces team members to interact with each other exchange knowledge and ideas, resulting in putting forward effective solutions in order to complete tasks. As such, when task interdependence is high, employees would not hide task-related knowledge even though they are not willing to spend time and energy to share knowledge with others. Because high task interdependence promotes them to become a community of interests [28], the behaviour of hiding knowledge from colleagues can harm their own work performance and achievement.

Based on COR, when employees are in an unsafe state, they are more likely to feel the tension and pressure of their own resources under threat, thus choosing knowledge hiding as a resource protection strategy [29]. However, in a high task interdependence, team members tend to provide resource support to other members, even if they feel insecure, which in turn decreases knowledge hiding behaviour. That is because, due to the high task interdependence, when employees provide resources to others to improve their work performance, others would also offer resources to them, which invisibly improves their own work resources. In this regard, high task interdependence can further promote their resource gain process. Therefore, we argue that in the group with high task interdependence, employees who have a high level of psychological safety tend to invest resources by reducing knowledge hiding behaviour to obtain more resources rather than choosing to protect resources. Hence, we propose the following hypothesis:

Hypothesis 3: Task interdependence would moderate the relationship between psychological safety and knowledge hiding, such that the strength of this relation would be negatively related to task interdependence.

Assuming task interdependence moderates the relationship of psychological safety and knowledge hiding, it is also likely that task interdependence would conditionally affect the strength of the indirect effect of workplace friendship and knowledge hiding. Therefore, we put forth our final hypothesis:

Hypothesis 4: The strength of the mediated relationship between workplace friendship and knowledge hiding through psychological safety would depend on task interdependence, such that the indirect of workplace friendship on knowledge hiding would be weaker under high task interdependence.

III. METHOD

3.1 Sample and Procedures

To test the hypotheses, We recruited 455 subjects from the enterprises of MBA (Master of Business Administration) students of certain companies. We first explained the research purpose, anonymity and security of this survey and then sent questionnaires to employees through Internet links or mail. In order to avoid the potential threats of common method variance, we conducted surveys in three-time points separated by one month. When answering this questionnaire, every time point, the last six digits of the ID

card number or the last four digits of the mobile phone number are required to fill, which can help us match the three-time survey data.

At Time 1(T1), respondents were asked to complete measures of workplace friendship, demographic variables and the marker variable; 501 completed surveys were received. At T2, we assessed employees' psychological safety and task interdependence in the group. At T3, participants reported knowledge hiding behaviour. After using identification codes to match the three waves of data, we finally received 455 respondents returning to the survey (90.8% response rate; 44.6% respondents were male, and their average age was 31.4 years. Among them, 73.2% had a bachelor's degree.

3.2 Measures

All measures were adapted from previously validated measures and translated by experts to create Chinese versions fitting the context and purpose of this study. All of the items were assessed on seven-point Likert-type scales. Negative emotions were measured on a scale from 1 (never) to 7 (frequently) and other variables from 1 (does not correspond at all) to 7 (corresponds very strongly).

Workplace friendship (Time 1). The revised two-dimensional workplace friendship scale was applied to assess this variable. In this scale, friendship opportunity and friendship prevalence were respectively measured with six items (e.g., "I have the opportunity to develop close friendship at my workplace" and "I can confide in people at work.").

Psychological safety (Time 2). This variable was measured by the five-item scale developed and validated by Liang et al. in the Chinese context. These five items reflect employees' perceptions of how safe it is to express themselves at work (e.g., "In the workplace, no one bothers me even if I disagree")

Task interdependence (Time 2). This variable was assessed using a six-item scale developed by Morgeson and Humphrey. These items captured employees' task interdependence in the group. A sample was "My work directly determines the progress of others."

Knowledge hiding (Time 3). We used three items scale developed by and validated by Peng in the Chinese context. These three items describe an employee's behaviour of hiding or concealing knowledge. A sample was "I withhold useful information or knowledge from others."

Marker Variable (Time 1). To reduce the potential common method biases triggered by cross-sectional research, the marker variable method was adopted in this study. In this study, the marker variable "Propensity to use the Web when searching for financial information", which is used in consumer behaviour research and verified by reasonability and feasibility, is adopted. This variable contains three items (e.g., "When searching for financial information in general").

IV. RESULTS

4.1 Test of Measurement Model

Although the survey was conducted in three stages, all of the variables in this study are measured by self-reporting, making it difficult to avoid the common method variance. Accordingly, we conducted single method-factor approaches to examine this and present the result in Table 1. We first constructed a model (Model 1) with the latent method factor (Propensity to use the Web when searching for financial information), and presented the results of model fit in Table 1, $\chi^2 = 918.929$ (df = 345), RMSEA = .060, CFI = .914, TLI = .898, SRMR = .038. Secondly, we further constructed a comparison model without the latent method factor (Model 2), and show the result of model fit was as follows: $\chi^2 = 869.769$ (df = 293), RMSEA = .051, CFI = .907, TLI = .896, SRMR = .050. We tested the significance of the difference between the two models by comparing the fitting indexes of the latent method factor and that of without the latent method factor. The results indicated that the difference between $\chi^2 = 918.929$ (df = 345) of five-factor model and $\chi^2 = 869.769$ (df = 293) of base-line model was 49.159 (df = 52), which meant these two model is not significance ($P > 0.05$). The results present no significant difference in the fitting indexes of the theoretical model with or without the latent method factor. In summary, CMV is not a serious problem in this study.

TABLE I. Descriptive statistics and correlations

	<i>Mean</i>	<i>SD</i>	1	2	3	4	5	6	7
Gender	1.55	0.50							
Age	31.42	6.62	0.07	1					
Education	3.05	0.61	0.03	-.11*	1				
Workplace friendship	3.60	1.20	-0.01	.12*	0.02	(0.96)			
Psychological safety	3.07	0.95	0.03	-0.08	-0.05	.42**	(0.88)		
Knowledge hiding	4.67	1.02	-0.05	-0.08	0.01	-.37**	-.58**	(0.77)	
Task interdependence	3.12	1.06	.15**	0.02	-.09*	.16**	.35**	-.43**	(0.84)

Note. N = 455. * $p < .05$, ** $p < .01$. For gender, 1 = male; 2 = female. Age was measured in years. Education level was coded as: 1 = high school or below 2 = practical degree; 3 = bachelor; 4 = master; 5 = PhD.

Descriptive statistics and correlations of all variables in this study are presented in Table 1. Next, before examining our hypothesis, we use Mplus7.0 to conduct a set of CFAs (comparing the fitting index results of the baseline model with other alternative models) to test the discriminant validity of each variable. The result of the hypothesized four-factor model showed that the values of all indexes were within acceptable and satisfactory ranges: $\chi^2 = 869.769$ (df = 293), RMSEA = .051, CFI = .907, TLI = .896, SRMR = .050, which fits the data better than other models (see Table II).

TABLE II. Model fit results for confirmatory factor analyses

Model	χ^2	df	χ^2/df	REMSEA	CFI	TLI	SRMR
Five-factor model: WF, PS, KH, TI, marker	918.929	345	2.664	0.060	0.914	0.898	0.038
Baseline model: WF, PS, KH, TI	869.769	293	2.968	0.051	0.906	0.896	0.050
Three-factor model: WF+PS, KH, TI	1649.48 6	296	5.573	0.100	0.799	0.758	0.112
Two-factor model: WF+PS+KH, TI	1923.44 8	298	6.455	0.109	0.735	0.711	0.125
One-factor model: WF+PS+KH+TI	2600.63 6	299	8.698	0.130	0.624	0.592	0.150

Note. N = 455. WF = Workplace Friendship, PS = Psychological Safety, KH = Knowledge Hiding, TI = Task Interdependence.

4.2 Test of Conceptual Model

We used hierarchical linear modelling (HLM) using SPSS to examine Hypothesis 1~ Hypothesis 4. The results of hierarchical regression analysis are presented in Table 3. In support of Hypothesis 1, workplace friendship was positively related to psychological safety ($\beta = .34$, $p < .01$). Following the procedure suggested by Baron and Kenny, we test Hypothesis 2, which proposes the negative indirect effect of workplace friendship on knowledge hiding via psychological safety. As shown the Model 4 and Model 5 in Table 3, psychological safety was significantly related to knowledge hiding ($\beta = -.64$, $p < .01$) and played a significant mediating role in the relation of workplace friendship with Knowledge hiding ($\beta = -.57$, $p < .01$). We conducted model 4 (95% CI, $n = 5000$) of Conditional Process Analysis (Hayes, 2018) to examine the mediating effect of psychological safety further. The results revealed that the indirect effect was significant (estimate = .18, 95% CI = [-.234, .-133]). In conclusion, Hypothesis 2 is supported.

TABLE III. Results of hierarchical regression analysis

Variables	Psychological safety			Knowledge hiding				
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Gender	-0.07 (0.09)	0.08 (0.08)	-0.09 (0.10)	-0.10 (0.09)	-0.05 (0.08)	-0.05 (0.08)	-0.03 (0.08)	-0.02 (0.08)
Age	-0.01 (0.01)	-0.02 (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.02 (0.01)	-0.02 (0.01)	-0.02** (0.01)	-0.02** (0.01)
Education	-0.10 (0.07)	-0.12 (0.07)	0.01 (0.08)	0.03 (0.07)	-0.05 (0.06)	-0.04 (0.06)	-0.08 (0.06)	-0.07 (0.06)
WF		0.34** (0.03)		-0.31** (0.04)		-0.12** (0.04)		
PS					-0.64** (0.04)	-0.57** (0.05)	-0.54** (0.04)	-0.56** (0.04)
TI							-0.25** (0.04)	-0.25** (0.04)
PS×TI								-0.10** (0.03)
R ²	0.01	0.20**	0.01	0.14**	0.35**	0.37**	0.41**	0.42**
ΔR ²		0.19**		0.13**	0.34**	0.23**	0.40**	0.01**
F	1.71	27.42**	1.32	18.67	61.30**	52.32**	62.56**	54.47**

Note. N = 455. * p < .05, ** p < .01, *** p < .001. WF = Workplace friendship, PS = psychological safety, TI = Task interdependence. The values in the parentheses are standard errors. Effect size estimates are unstandardized coefficients.

Hypothesis 3 predicts that the negative relationship of psychological safety with knowledge hiding is stronger when task interdependence is high (vs low). As shown in Table 3 and illustrated in Figure 2, this interaction was significant ($\beta = -.10$, $p < .01$). Simple slope tests presented that the influence of psychological safety on knowledge hiding was significant and negative when task interdependence were high ($\beta = -.64$, $p < .01$) than when task interdependence were low ($\beta = .45$, $p < .01$), thus supporting Hypothesis 3.

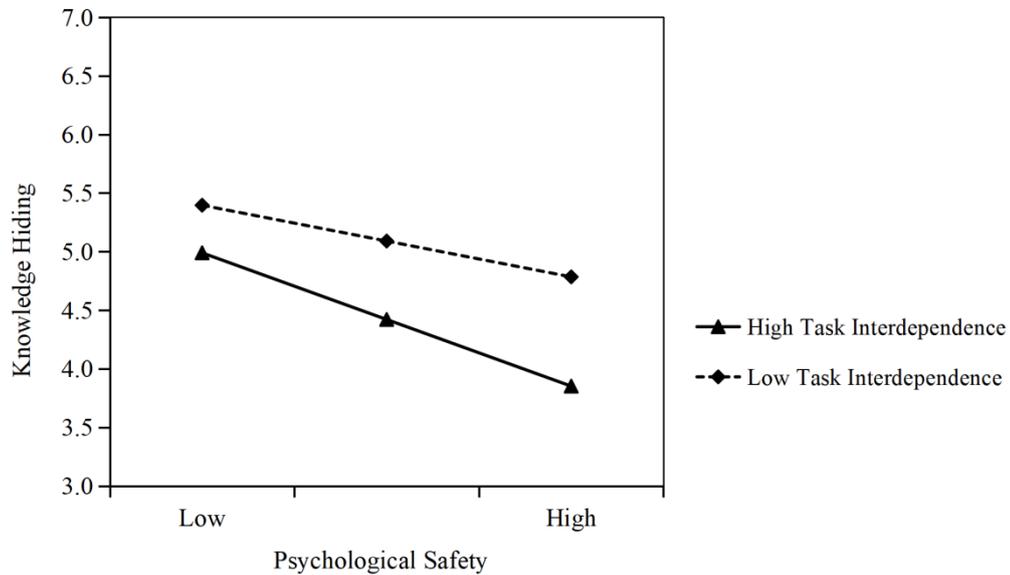


Fig 2: The moderating effect of task interdependence

Finally, we conducted a structural equation model (SEM) using Mplus 7.0 to examine Hypothesis 4, which proposes that task interdependence moderates workplace friendship–psychological safety–knowledge hiding mediating linkage and the results are presented in Table 4. Results indicated that the negative indirect effect was stronger when task interdependence was high ($\beta = .09$, $SE = 0.04$, $CI = [-0.13, -0.01]$) than when it was low ($\beta = .01$, $SE=0.06$, $CI = [-0.13, 0.11]$). The difference between these indirect effects was significant ($\Delta\beta = -.07$, $SE=0.03$, $CI = [-0.13, -0.01]$). Thus, Hypothesis 4 was supported.

TABLE IV. Moderated mediated results for workplace friendship across levels of task interdependence

Mediator	Level	Conditional indirect effects	S.E.	Est./S.E.	P-Value	LLCI	ULCI
Psychological safety	Low	-0.01	0.06	-0.19	0.85	-0.13	0.11
	High	-0.09	0.04	-2.37	0.02	-0.13	-0.01
	Difference	-0.07	0.03	-2.25	0.01	-0.13	-0.01

Note. Effect size estimates are unstandardized coefficients. Moderator values are the mean.

V. DISCUSSION AND CONCLUSION

Based on conservation of resource theory, we developed and investigated a model explaining how and when workplace friendship influence employees' psychological safety and knowledge hiding. Findings of

analyzing the three waves of data revealed that maintaining a friendship with colleagues at work had the beneficial effects of gaining the resource of psychological safety and, in turn, reducing knowledge hiding behaviour. Moreover, these impacts were constrained by the contextual factor, such that the indirect relationship of workplace friendship and knowledge hiding via psychological safety was significant when task interdependence were high.

5.1 Theoretical Implications

This research provides several important theoretical contributions to the extant literature on workplace friendship. First, we contribute to the workplace friendship literature by investigating the positive effect on knowledge management. Previous research has focused on the positive influence of workplace friendship on employees' knowledge sharing. We provided a comprehensive understanding that workplace friendship is beneficial to inhibit and reduce knowledge hiding behaviour, which can fuel scholars' interest in the relation of interpersonal relationships and knowledge hiding behaviour.

Second, we contribute to the application of conservation of resources theory to the research on the relations of workplace friendship and knowledge hiding. Because knowledge hiding behaviour is considered to be an approach of preserving and retaining personal resources, and workplace friendship is a kind of interpersonal resource, it is necessary and appropriate to explore and examine the influence of workplace friendship on knowledge hiding from the perspective of the resource. Drawing upon conservation of resources theory, we found that workplace friendship can promote the enrichment of individual psychological resources (psychological safety), in turn inhibiting resource preservation (knowledge hiding).

Third, we contribute to the fundamental question of "When do the beneficial consequences of workplace friendship on employee's behaviour?" Specifically, by exploring task interdependence as a key boundary condition, our findings indicated that the level of task interdependence moderated the indirect effect of workplace friendship on knowledge hiding via psychological safety. In a group with high task interdependence, psychological safety has a stronger influence on knowledge hiding. In this regard, the contribution of this study is to contribute theoretically and empirically examines the interaction of influence of individual and contextual factors on knowledge hiding, which provides a preliminary theoretical basis for future research on knowledge hiding at individual, team and organization levels.

The final important contribution is that a sample of the Chinese context is collected to test the proposed model. In order to take better advantage of the positive role of workplace friendships, it is required to have a more comprehensive understanding of workplace friendships. In China, the influence patterns of workplace friendship may be different from that in the West, as the phenomenon of maintaining social relationships permeates into Chinese People's daily social life and is considered an important lifestyle. Therefore, our research benefits scholars' attention to the different functions and influence mechanisms of workplace friendship depending on national culture.

5.2 Practical Implications

In terms of management practice, workplace friendship plays a significant role in employees' cognitive, emotional and behavioural responses and has been found to be a key system for making decisions, mobilizing resources, hiding or transforming information, and performing other work-related functions. Thus we encourage managers to promote building and maintaining friendships between employees to reduce hiding knowledge and information. For example, to enhance friendship at work, organizations can establish a flat organizational structure, promote win-win cooperation of organizational culture, organize team-building activities or festival celebrations to promote deeper communication and cooperation among employees.

Second, task interdependence is a favourable work style to reducing knowledge hiding through frequent, intimate communication and interaction and interdependence among employees. Thus, in task design, managers can strengthen the relevance and interdependence of team tasks and enhance the visibility of tasks among team members, according to the requirement of networked knowledge structure. By doing so, employees and teams are encouraged to form a community of interests, increasing group identity and commitment, which, in turn, reduces knowledge hiding.

5.3 Limitation and Future Research Directions

Our research is not without limitations. First, self-reporting measures are used to assess all our variables. However, regarding self-reported knowledge hiding, prior research argued that employees may be concerned about their own face and have reservations, self-serving bias or dishonesty when filling in the questionnaire, which may result in underestimating behaviour frequencies [30]. Thus, other reporting ways are likely to reflect the nature of knowledge hiding better. In addition, self-reporting is likely to be concerned about common method bias. In this regard, we conducted three waves of surveys among exogenous variables and endogenous variables. However, the data was still collected from a single respondent, and it also may not be possible to avoid the impact of the homologous error. Therefore, future research can use multi-source or other assessment methods to avoid the above problems in the data collection process.

Second, we constructed and examined a theoretical model linking workplace friendship to knowledge hiding from the perspective of individual and contextual factors, which considers several demographic factors as control variables. However, employees' knowledge hiding also is influence by organizational factors, which requires to control these and test our theoretical model or explore the moderating effect of an organizational factor in this model in the future studies.

Third, drawing upon conservation of resources theory, we, focusing on resource perspective, explore a mediating model of the relationship between workplace friendship and knowledge hiding, but other potential mechanisms cannot be ruled out. By exploring other potential mechanisms from different theoretical perspectives, managers can comprehensively understand knowledge hiding and develop a

multi-pronged approach to reduce employees' knowledge hiding behaviour. Future research should capture and explore the influence of social cognition generated in workplace friendship on knowledge hiding, such as relationship identity, belongingness, and perceived insider status.

In addition, other plausible assumptions may exist that workplace friendship may have a positive effect on knowledge hiding across the groups. For example, workplace friendship may increase interpersonal cliques, in which employees' identification and belongingness with the focal dyad or clique may trigger knowledge hiding from others outside this clique. Meanwhile, the perceptions of impenetrable boundaries caused by this focal clique increase the feeling excluded of employees outside focal dyad or clique, which may also lead to hiding knowledge to the members in this clique [1].

5.4 Conclusion

This research represents an initial attempt to investigate the influence of workplace friendship on knowledge hiding. In particular, we highlight the potential benefits of such positive interpersonal relationships and resources for employees, including psychological resources and knowledge hiding behaviour. This beneficial impact was furthermore strengthened by task interdependence. To sum up, the mediated moderation model of this research reveals how and when friendship at work is of significance to employees and organizations. Our findings contribute to the management practice that effectively reduces knowledge hiding through enhancing psychological safety originated from workplace friendship or intervening of task interdependence in the group. Moreover, we expect our study will inspire scholars' interest to further explore and uncover the underlying mechanisms of how other interpersonal relationships inhibit knowledge hiding.

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