



How Peer Abusive Supervision Affects Sales Employees' Customer Knowledge Hiding: The Roles of Rivalry and Schadenfreude

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Purpose: This study aims to examine the impacts of peer abusive supervision, perceived rivalry and schadenfreude over the abused peers on sales employees' customer knowledge hiding.

Methods: We conducted multiple regression analyses of 283 sales employees' responses from two Chinese and two South Korean electronic device companies to test the hypotheses, which constitute a theoretical framework.

Results: Our empirical results confirmed the positive impact of peer abusive supervision on sales employees' customer knowledge hiding, with the relationship moderated by rivalry and schadenfreude; moreover, rivalry and schadenfreude jointly exert the greatest impacts on the main effect.

Conclusion: This study sheds light on the knowledge hiding literature, with theoretical implications for the research regarding the spillover effect of abusive supervision, rivalry, schadenfreude, customer knowledge sharing, and managerial practices about the management of customer knowledge among sales employees.

Keywords: peer abusive supervision, customer knowledge hiding, rivalry, schadenfreude, sales employees

Introduction

Customer knowledge (ie, customers' perceptions, thoughts, insights, and experiences about specific products and services¹ adds great value for companies to improve employee creativity, product and service quality, achieve innovation, and manage crises.²⁻⁵ A significant source of customer knowledge is sales employees, who can engage with and develop close relationships with customers to obtain and share knowledge about customers within firms.⁶ For sales employees, sales performance often depends on their ability to acquire customer knowledge (eg, customer preferences) from peers and share some customer knowledge without jeopardizing their competitive advantage.⁶ While they appear to be sharing knowledge with peers, sales employees may intentionally skip the valuable or critical information and only include outdated information to others; this is known as sales employee knowledge hiding.⁷ Firms have developed measures (eg, rewards and organizational culture) to encourage knowledge sharing among employees, and knowledge hiding remains prevalent in many firms.^{6,8-10} Such reluctance to share knowledge (ie, knowledge hiding) can cost Fortune 500 companies over \$31.5bn annually due to general knowledge hiding behaviors.¹¹ However, sales employees may only consider hiding customer knowledge as a measure to protect resources and competitive advantage at work, rather than harmful conduct.¹²

Previous studies have investigated the situational and personal factors responsible for knowledge hiding. Situationally, knowledge hiding is likely to happen in competitive¹³ and high distrust¹⁴ settings such as sales teams. Sales managers may structure a competitive culture, where sales employees are encouraged to compete against colleagues for personal achievements (eg, commissions) at work.¹³ As such, sales employees may keep the effective methods in turning sales leads into customers as secrets from their peers.⁶ Another situational factor is supervisors' abusive behavior towards sales employees.

Benevolent, moral, and authoritarian leadership is found to positively increase knowledge sharing among employees (eg, nurses) in the service sector.¹⁵ However, the growing competition in the marketplace imposes increasing pressure onto managers¹⁶ with sales goals and deadlines. Under pressure, some sales managers constantly transfer pressure to sales employees, often in the form of abusive supervision in workplaces.¹⁷ Abusive supervision is felt by an employee when supervisors display sustained hostile verbal and nonverbal behaviors.¹⁸ Reported forms of abusive supervision towards sales employees in China include public humiliation, drinking toilet water, running naked in public, and eating worms.

Abusive supervision and employees' level of knowledge sharing were found to be negatively related.¹⁹ Some scholars²⁰ confirmed the impact of abusive supervision on employees' knowledge hiding habits; others²¹ further found the positive impact that abusive supervision imposes on knowledge hiding among the sales force. However, abusive supervision affects the larger work;²² that is, in an organizational setting (eg, sales team), abusive supervision involves more than two parties (ie, abusive supervisors and victims), which requires investigation beyond the bilateral perspective.

Some researchers²³ identified the personal factors related to knowledge hiding: self-conscious emotions, perceived knowledge value, psychological possession of knowledge, and knowledge commitment. Indeed, sales employees may benefit from peers' insights while safeguarding their own knowledge. Some employees may realize that hiding knowledge violates the social norms (ie, knowledge sharing) of their organizations, thereby developing the self-conscious emotions such as guilt and shame.^{15,24,25} However, abused employees may experience emotional exhaustion^{12,26} and perceive their managers as violators of reciprocity. Previous studies have found that learning goal orientation, Islamic work ethic, and future orientation could help address the impact of abusive supervision on employee knowledge hiding.^{12,27}

So far, not much has been written about how sales employees respond to uncivil behaviors (eg, abusive supervision) towards peers at work, although employees often witness more incivilities than they experience.²⁸ To address this research gap, this study aims to examine the mechanisms underlying peer abusive supervision on customer knowledge hiding of sales employees. Specifically, we drew on social exchange theory and the embedded norm of reciprocity to examine the impacts of a situational factor (ie, rivalry) and a personal factor (ie, schadenfreude) in the association between peer abusive supervision and sales employee knowledge hiding. As a situational factor prevalent among sales employees, rivalry is defined as a sales employees' perceived competition against peers at work.²⁹ As a personal factor, schadenfreude refers to the pleasure in the sufferings of others.^{30,31} When observing incidents at work, employees differ in their attitudes and information processing from a third-party (vs bilateral) perspective.³² When observing abusive supervision, some employees may respond with empathy and even display counterproductive knowledge behavior (eg, knowledge hiding),³³ yet others may respond with counter-normative emotions such as schadenfreude.³⁰

To examine the above-mentioned relationships, we drew on the literature regarding sales employees' knowledge hiding in the context of abusive supervision and schadenfreude and rivalry among sales employees, and asked the following research questions (RQs):

RQ1: How does peer abusive supervision affect sales employees' customer knowledge hiding?

RQ2: How does the felt rivalry between sales employees and an abused peer affect their customer knowledge hiding?

RQ3: How does sales employees' schadenfreude towards the abused peer affect their customer knowledge hiding?

By answering these research questions, we provide empirical evidence on the relationship between peer abusive supervision and knowledge hiding, thereby contributing to the literature on the impact of abusive supervision on employee knowledge hiding and the spillover impacts of abusive supervision.^{22,27} Second, this study proposed and examined rivalry as a situational antecedent of sales employees' malicious reactions towards peers' suffering, thereby extending the leader (eg, abusive supervision) and organizational factor (eg, missing organizational support) as an antecedent of employee knowledge hiding.^{12,19,34} Third, this study contributes to the schadenfreude literature by examining the joint impacts of schadenfreude and rivalry on sales employees' customer knowledge hiding after observing abusive supervision, thereby providing a complete picture of how employees' schadenfreude act as an undesirable catalyst in the workplace.³⁵ Fourth, we followed the call of scholars to adopt a longitudinal design, thereby ruling out the reverse or reciprocal causation issues in models of abusive supervision antecedents and outcomes.^{36,37}

The rest of this paper is structured as follows: The following section synthesizes the literature and proposes hypotheses; the Method section introduces the research approach, methods, and measures of variables. The Results

Section presents the study results, followed by the Discussion Section, which discusses the theoretical contributions, managerial implications, limitations and suggests future research. The final section concludes this study.

Literature Review and Hypothesis Development

Customer Knowledge Hiding

Customer knowledge includes the insights, ideas, thoughts, needs, feelings, emotional motives, and lived experiences that customers develop.¹ Such knowledge is an important source for sales employees to maintain or improve their sales performance and for firms to capture customer demands.^{3,38,39} Unlike knowledge sharing that improves firm performance,⁴⁰ knowledge hiding involves negative and counterproductive behaviors (eg, pretending not to possess the requested knowledge, providing misleading information, and declining peers' request to share knowledge for specific excuses) that could harm firm interests.^{11,41} To succeed in their jobs, sales employees need to constantly upgrade customer knowledge,⁴² thus considering acquired customer knowledge an important source to outperform their peers^{23,42} and decide to hide it. Moreover, mentally stressful and emotionally exhausting contexts (eg, abusive supervision) could lead employees into defensive behaviors such as knowledge hiding.²¹ The consequences of knowledge hiding include reduced creativity and innovation,^{43,44} as well as workplace work deviance (eg, interpersonal conflicts and mistrust and social undermining incivility).^{20,45,46}

Antecedents of Customer Knowledge Hiding Based on Social Exchange Theory

According to social exchange theory, a social exchange involves complex interactions where an individual's intention to offer a favor is contingent on the beneficiary's obligation; this obligation to future reciprocation ensures the interpersonal favors and generosity between the two individuals.^{6,47} As a norm in social exchange, reciprocity dictates that each individual's resources should be fairly exchanged over time and that the non-reciprocal party should be punished.⁴⁸ Social exchange theory provides the theoretical perspective to understand the antecedents of knowledge hiding among sales employees, whose job involves constant exchanges of ideas, tips, and solutions related to customers.^{6,49} Drawing on the social exchange theory, several researchers further highlight the impacts of contextual (eg, abusive supervision) and personal (eg, interpersonal dynamics) factors^{3,9,50,51} in knowledge hiding. For instance, when a sales employee believes that he or she is being treated unfavorably, either by an abusive manager or a peer who refuses to reciprocate customer knowledge, he or she will act unfavorably in return. In other words, sales employees' knowledge hiding decision is based on the maximization of personal gains and the minimization of losses. In the context of abusive supervision, some scholars²¹ empirically tested and confirmed the positive impact of abusive supervision on employees' knowledge hiding behaviors. However, abusive supervision may reach beyond the abused sales employee, suggesting investigations of its impacts on a larger scale (eg, impacts on observers).²² When observing abusive supervision targeted at peers (ie, rivals at work), sales employees could be trapped in a social dilemma,⁵² which requires them to choose between standing up for peers and staying quiet to keep their self-interests.⁵³ In the context of abusive supervision, we unravel this puzzle by examining the factors that could affect sales employees' personal knowledge hiding behaviors when noticing their peers suffer from abusive supervision.

Peer Abusive Supervision and Sales Employees' Customer Knowledge Hiding

Previous studies have examined how abusive supervision could lead to employees' undesirable behavioral and attitudinal outcomes (eg, reduced knowledge sharing),^{54–56} with the recent focus on its spillover effects, ie, impacts on third-party employees.^{22,57,58} The authoritative power and tremendous pressure at work could drive sales managers into abusive behaviors, such as belittling, mocking, and freeriding.^{21,59} Abusive supervision thus violates the norm of reciprocity dictated in social exchange theory. Indeed, employees tend to endorse supervisory behaviors that provide themselves with the most favorable outcome or that align with their predominant value system (eg, fair treatment at work).³² Transformative and authentic supervision was found to be critical for employees to share critical information at work.⁵⁴ For destructive and toxic supervisors, employees will likely display knowledge hiding behavior.⁶⁰ A manager's hostility and mistreatment of employees a supervisor can make subordinates perceive a loss of valuable resources,⁵⁷ thus choosing to hide the knowledge to preserve their resources in order to avoid suffering the same abuse in the future.^{58,61} The felt insecurity about employment status may

trigger negative behaviors of not only the abused employees but also that of third parties.^{62,63} Moreover, a supervisor's abusive treatment of peers undermines the observers' perceived fairness during the social exchange at the workplaces.^{22,64} As such, observers in the sales team may perceive abusive supervision as a missing of justice within firms.⁶⁵ As such, sales employees who are not directly inflicted by abusive supervisors may still demonstrate strong negative reactions such as customer knowledge hiding. Therefore, we predict the following hypothesis:

H1. Peer abusive supervision has a positive impact on a sales employee's customer knowledge hiding.

The Moderating Role of Rivalry Among Sales Employees

Rivalry is generally termed as a situation where actors are vying for the same scarce resources.⁶⁶ It is present in social groups such as sports teams (external) and sales teams (internal).^{42,67} Unlike sports players and fans who see their opposing counterparts as rivals and chase collective goals,⁶⁸ sales employees are competing with peers who are trained and organized to sell specific products or services for the same firm. Employees tend to constantly compare themselves with each other regarding performance, achievements, and recognitions from the employer and thus regard their peers as rivals.^{69–71} Rivalry is both relational and psychological.⁶⁶ Sales employees may develop specific and identifiable rivals, with the competitive relationship in their minds driving them to outperform rivals to secure more resources and higher positions from the employers.

Abusive supervision may present opportunities for some sales employees to get ahead of their abused peers, whose loss elicits an irresistibly pleasant sensation that aligns with “winning” the rivals.⁷² Since individuals often prefer the decision rule at work that offers them the most favorable results,³² rivalry may lead employees to take all the means to win the competition, even by unfair means. Sales employees may perceive abusive supervision towards peers as an opportunity to win the competition with these peers, and thus refrain from sharing customer knowledge, which may save the abused peers from the abusive situation. Moreover, sales employees may preserve customer knowledge to maintain leading performance at work, aiming to prevent themselves from possible abusive supervision. Therefore, the negative implication of rivalry may lead sales employees to negative attitudes and responses towards the abusive supervision of peers at work.⁷³ This study proposes that rivalry will enhance the impact between peer abusive supervision and sales employees' customer knowledge hiding. Therefore, we predict the following hypothesis:

H2. The relationship between peer abusive supervision and sales employees' customer knowledge hiding is moderated by rivalry such that the relationship is positive when rivalry is high rather than low.

The Moderating Role of Sales Employees' Schadenfreude Towards Abused Peers

Schadenfreude reflects an employee's negative and opportunistic emotions toward peers' misfortunes.⁷² In the event of abusive supervision targeted at peers, an observer tends to appraise the benefit of the event; once peers' suffering could lead to personal benefits, the observer will develop the emotion of schadenfreude.^{30,35} Previous studies^{73–75} concurred that the expected personal benefits are a significant trigger of schadenfreude, as well as interpersonal deviance toward the abused peers. Those studies consider schadenfreude as the passive emotion of evil pleasure at the witness of peers' mistreatment. Drawing on the literature,⁷⁶ we argue that schadenfreude could also indicate sales employees' stable tendency to feel evil pleasure across various situations (eg, suffering from abusive supervision and complaints from customers). In this case, we consider schadenfreude as a stable personality trait, measured by how often sales employees gloat at the various sufferings of peers. This consideration is aligned with the competitive context of sales employees, who gloat at a rival's suffering because of not only the expected personal gains, but also the possibility to outperform the rival at work and demonstrate superiority. However, abusive supervision suggests that observers of abusive supervision may develop an incongruent emotional state with the abused peer. Abusing supervisors often focus on their power to intimidate employees rather than reward employees for doing what is demanded, so sales employees may perceive abuse toward their peers to be undeserved (though potentially beneficial). In that case, these observers' socially developed emotions (eg, schadenfreude) could positively lead to concerns about justice and fairness.³⁰ For sales employees, the higher degree of schadenfreude they feel towards abused peers, the more likely they may question the justice and fairness of the abusing manager, fearing that they might become the abused victims in the future. Given such considerations, sales

employees observing abusive supervision may choose to hide their customer knowledge as a reaction to their perceptions of manager unfairness. Therefore, we predict the following hypothesis:

H3. The relationship between peer abusive supervision and sales employees' customer knowledge hiding is moderated by schadenfreude such that the relationship is positive when schadenfreude is high rather than low.

In an ideally competitive situation, high performers will receive rewards, which give employees the motivation to outperform their rivals. Competition has been identified as a driver of unethical behavior at work.⁷⁷ Specifically, employees will conduct cost-benefit appraisals in the event of unethical behavior (eg, abusive supervision). In a competitive setting, the degree of rivalry will increase among sales employees, who see their peers as rivals and obstacles to professional development and seek to obtain a competitive advantage at the setbacks and suffering of peers.⁷⁸ However, employees' perception of superiority depends on their relative status against peers at work.⁷⁹ As a result, sales employees are more concerned about their status after their peers become subjects of abusive supervision.

As discussed above, sales employees bearing the emotion of schadenfreude may at the same time realize that the perceived abusive supervision violates justice and fairness, thereby adding their feelings of threat to future status.⁷¹ In that case, sales employees may regard the abusive behavior targeted at a peer as a sign of the manager's hostility. While abusive supervision of peers may suggest temporary wins, sales employees may fear that they could become future victims of the manager's hostility and mistreatment and thus hide customer knowledge to reserve resources. As such, schadenfreude reminds sales employees that their rivals abused by managers do not deserve such mistreatment, and that the abusive managers may threaten their future status at work; in other words, their peers' loss may not necessarily give them the win. The above-mentioned pattern of research suggests the following hypothesis:

H4. Schadenfreude and rivalry jointly moderate the relationship between peer abusive supervision and sales employees' customer knowledge hiding, and the positive relationship is strongest when schadenfreude is high, and rivalry is high.

The above hypotheses lead to a theoretical framework (presented in Figure 1) which was examined in this research.

Methods

Research Approach

We conducted a quantitative approach to examine the influences of peer abusive supervision on sales employees' customer knowledge hiding, as well as the moderating roles of rivalry and schadenfreude in the relationship. The deductive approach allows us to develop hypotheses based on established theories and design the survey to test the hypotheses.⁸⁰ Specifically, we conducted a time-lagged survey to the sales employees of electronic device companies from China and South Korea to access a large target population.

We developed the questionnaire (see Appendix 1) by adapting existing measurement scales according to the theoretical framework, which hypothesizes the positive influence of peer abusive supervision on sales employees' customer knowledge hiding, with the relationship moderated by sales employees' rivalry and schadenfreude over the abused peers. We then translated the questionnaire into Chinese and Korean and checked its reliability and validity

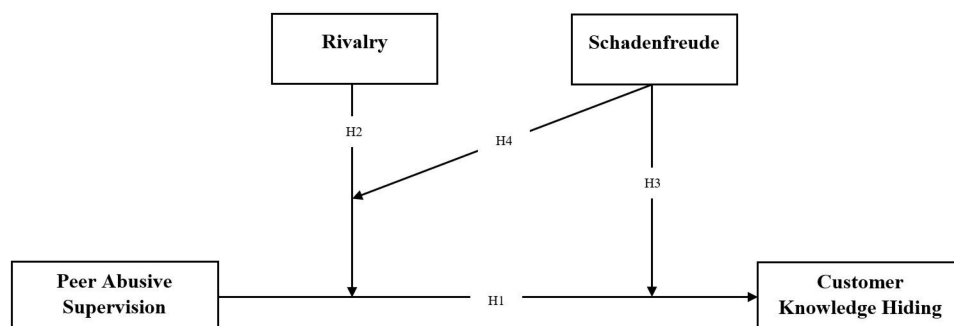


Figure 1 Theoretical framework.

through a pilot test. The pilot test invited two sales agents from China, two sales managers from South Korea, and a professor from China. These five respondents proofread the questionnaire for ambiguous expressions and misunderstandings and recommended revisions to the survey; they were exempted from the final survey. Eventually, we sent the questionnaire to the human resource departments (motivated to reduce employee turnover) of electronic device companies in China and South Korea.

Measures

During the survey, we asked each respondent to evaluate their degree of agreement or disagreement with each statement based on a 7-Likert-Scale.

Dependent Variable: Sales Employees' Customer Knowledge Hiding

We measured sales employees' customer knowledge hiding by adapting the 12-item scale developed by an existing study.⁸¹ Respondents were asked to rate the frequency of their response to their peers' requests for information about customers. The scale asked the respondents to evaluate the following statement: "In a specific episode where a particular colleague from your department asked you for information about customers, and you declined". It includes items such as "I pretended I did not know what he/she was talking about" on a 7-point scale (1 = Never, 7 = Always, $\alpha=0.96$).

Independent Variable: Peer Abusive Supervision

We measured peer abusive supervision with the 5-item scale developed in an existing study.⁸² Sales employees were asked to rate the extent to which the five common abusive supervision behaviors were observed from the supervisors (from the sales department) against their peers in the past two months (eg, "Ridiculed the colleague", "Put down the colleague in front of others") (1 = Never, 7 = Always, $\alpha = 0.92$).

Moderating Variable 1: Rivalry

We measured the felt rivalry among sales employees by adapting the 3-item scale developed by former scholars.⁷³ We asked the respondents to evaluate the extent to which they viewed peers as rivals at work (eg, "I consider some colleagues in this department as my rivals at work", "Some colleagues in this department are my rivals in terms of performance", "Overall, some colleagues are my rivals for promotions") (1 = Never, 7 = Always, $\alpha = 0.93$).

Moderating Variable 2: Schadenfreude

We measured schadenfreude by adapting the 4-item scale developed by former scholars.⁷² Immediately after they were asked to rate the extent to which their supervisor exhibited abusive behaviors towards peers in the same department, respondents were asked to rate the frequency they felt the specific emotions (eg, satisfied, relieved, happy, and schadenfreude) when they observed the abusive supervisions towards peers (1 = Never, 7 = Always, $\alpha = 0.86$).

Control Variables

Drawing on an existing organizational study,⁸³ we controlled the respondents' age (1 = 21–30, 2 = 31–35, 3 = 36–40, and 4 = 41 and above), gender (1 = male and 2 = female), and education (1 = Associate degree or below, 2 = Bachelor's degree, 3 = Master's degree, and 4 = Doctorate degree), as employees' background factors could influence their perceptions of organizational phenomenon.⁸⁴ Moreover, since nationality may influence observers' behaviors,⁴⁵ we also controlled the nationality (1 = China & 2 = South Korea) of each respondent.

Sample and Data Collection

This study examines the moderating roles of rivalry and schadenfreude in the relationship between peer abusive supervision and sales employees' customer knowledge hiding. The research data were collected through a time-lagged survey of sales employees working in four electronic device companies, two from China (with 873 and 724 sales employees respectively) and two from South Korea (with 1091 and 812 sales employees respectively). The participants were approached by seeking permission from human resource managers who sought to motivate their sales employees' performance and reduce employees' turnovers. The human resource managers were requested to identify and invite sales employees; we did not request sales managers to do so because they were indirect subjects of this study. We also assured

the confidentiality of sales employees through their human resource managers. At our request, the human resource managers randomly selected and contacted 10% (ie, 350) of their sales employees (87, 74, 109, and 80) via email and successfully collected a total of 314 usable responses. Four weeks later, the human resource managers emailed another round of surveys to the sales employees who completed the first survey, collecting 283 usable responses which were used for analysis. Table 1 presents the demographics of the 283 respondents. More than half the respondents were male (N = 153, 54.1%), and the majority were young (41.7% were aged between 21 and 30 years old). In terms of nationality, 53% of the respondents were Chinese (N = 150), 47% of them were Korean (N=133), and most respondents completed a bachelor's degree (N = 144, 50.9%).

Results

Common Method Bias

To minimize the possibility of common method variance,⁸⁵ we divided the cross-sectional data with a time lag of 4-week and surveyed two rounds. A 4-week time interval is long enough to allow changes in employee attitudes but is also short enough to allow stability in an employee's environment.⁸⁶ Data on peer abusive supervision, rivalry and schadenfreude were collected in the first time period (T1), and data on sales employees' knowledge hiding (dependent variable) were collected in the second time period (T2) with an interval of four weeks. The two-round data collection achieved response rates of 89.71% (T1) and 80.86% (T2), respectively.

Validity and Reliability

Using Mplus 8.0, we conducted a confirmatory factor analysis (CFA) on these models to test the convergent and discriminant validity of the scales.⁸⁷ According to Table 2, when the hypothesized model was compared with a series of competing models, the four-factor model indicated the best fit. The values on the fit indices showed that the four-factor CFA model provided a good fit for the data ($\chi^2/DF = 2.495$, CFI = 0.931, TLI = 0.922, RMSEA = 0.073, and SRMR = 0.040). This result offered a significant improvement in chi-square over a series of competing models. Using SPSS 25, we also examined the standardized factor loadings of the items for each construct, and the average variance extracted (AVE) of each construct to assess convergent validity.⁸⁸ As is displayed in Table 3, the standardized factor loadings of all

Table 1 Demographics

Characteristics		N	%
Gender	Male	153	54.1%
	Female	130	45.9%
Age	21–30	118	41.7%
	31–35	72	25.4%
	36–40	47	16.6%
	41 above	46	16.3%
Nationality	China	150	53.0%
	South Korea	133	47.0%
Education	Associate degree or below	65	23.0%
	Bachelor's degree	144	50.9%
	Master's degree	74	21.9%
	Doctorate degree	12	4.2%

Note: N = 283.

Table 2 Confirmatory Factor Analysis Results

Model	Description	χ^2	DF	χ^2/DF	CFI	TLI	RMSEA	SRMR	$\Delta\chi^2$	ΔDF
Hypothesized model	Four-factor model	613.666	246	2.495	0.931	0.922	0.073	0.040		
Model 1	Three-factor model	1060.107	249	4.257	0.847	0.831	0.107	0.100	446.441	3
Model 2	Two-factor model	1762.242	251	7.021	0.715	0.687	0.146	0.124	1148.576	5
Model 3	One-factor model	2723.608	252	10.808	0.535	0.490	0.186	0.171	2109.942	6

Notes: Four-factor model: peer abusive supervision, rivalry, schadenfreude, customer knowledge hiding. Three-factor model: peer abusive supervision, rivalry and schadenfreude combined; customer knowledge hiding. Two-factor model: peer abusive supervision, rivalry and schadenfreude combined; customer knowledge hiding. One-factor model: peer abusive supervision, rivalry, schadenfreude, and customer knowledge hiding combined.

Abbreviations: CFI, comparative fit index; TLI, Tucker-Lewis index; RMSEA, root mean square error of approximation; SRMR, standardized root mean square residual.

Table 3 Convergent Validity

Constructs	Items	STD. Factor Loadings	CR	AVE
Peer abusive supervision (PAS)	PAS1	0.81	0.92	0.69
	PAS2	0.86		
	PAS3	0.84		
	PAS4	0.80		
	PAS5	0.84		
Rivalry (RIV)	RIV1	0.86	0.93	0.83
	RIV2	0.95		
	RIV3	0.92		
Schadenfreude (SCH)	SCH1	0.78	0.86	0.61
	SCH2	0.79		
	SCH3	0.74		
	SCH4	0.82		
Customer knowledge hiding (KH)	KH1	0.81	0.96	0.65
	KH2	0.82		
	KH3	0.79		
	KH4	0.78		
	KH5	0.81		
	KH6	0.81		
	KH7	0.83		
	KH8	0.79		
	KH9	0.77		
	KH10	0.82		
	KH11	0.79		
	KH12	0.85		

Abbreviations: CR, composite reliability; AVE, average variance extraction.

the items exceeded the threshold value (0.70), and the AVE values for all the constructs exceeded the threshold value (0.50), suggesting good convergent validity.

Correlation Analysis

Table 4 presents the means, standard deviations, and intercorrelations of the key variables. In the correlation matrix, peer abusive supervision was significantly and positively correlated with sales employees' customer knowledge hiding, partially supporting our hypotheses. In addition, rivalry was significantly correlated with peer abusive supervision and knowledge hiding; schadenfreude was significantly correlated with peer abusive supervision, rivalry, and knowledge hiding.

We examined the construct reliability by Cronbach's alpha. According to Table 4, high reliabilities of Cronbach's alpha coefficients were observed through all variables ranging from 0.86 to 0.96. Prior to conducting analyses, we checked the variance inflation factor (VIF) values of the regression coefficients in each of the models. All values were below 10, suggesting that multicollinearity was not a problem.⁸⁹

Hypothesis Tests

We conducted hierarchical regression using SPSS 25 to test the hypotheses. To test H1, we entered the control variables before the independent variables. After that, we followed the steps suggested by literature⁹⁰ to test the proposed moderating effects, ie, H2, H3 and H4. To address the possible problem of collinearity, we centered the independent variables and the moderators while testing H2, H3 and H4.⁸⁹

Table 4 presents the results of the regression analyses. Hypothesis 1 proposed that peer abusive supervision (PAS) is positively related to sales employees' sales employees' customer knowledge hiding (KH). The result of the regression analysis in model 1 (Table 5) demonstrated that PAS has a significant positive effect on KH ($\beta = 0.25$, $p < 0.05$). Hence, Hypothesis 1 was supported. Hypothesis 2 predicted an interaction effect of rivalry (RI) and PAS on KH. The results in model 4 (Table 5) confirmed that the interaction term of RI and PAS on KH was significant ($\beta = 0.33$, $p < 0.05$). Following previous scholars,⁸⁹ we plotted the results by adapting the method of ± 1 standard deviation. According to Figure 2, the positive relationship between PAS and sales employees' KH was strengthened when RI was high. The simple slope test demonstrated that the positive relationship between PAS and sales employees' KH was significant both when RI was high (simple slope = 0.96; $t = 4.63$; $p = 0.00$) and when RI was low (simple slope = -0.33 ; $t = -4.00$; $p = 0.00$). Therefore, Hypothesis 2 was supported.

Hypothesis 3 proposed an interaction effect between SCH and PAS on sales employees' KH. The results in model 6 (Table 5) demonstrated that the interaction between SCH and PAS on sales employees' KH was significant ($\beta = 0.12$; $p < 0.05$). As the simple slope test presented in Figure 3, the positive relationship between PAS and sales employees' KH is

Table 4 Descriptive Statistics and Correlations Among Variables

Variables	Mean	SD	Gender	Age	Nationality	Edu	PAS(T1)	RI(T1)	SCH(T1)	KH(T2)
Gender	1.46	0.50	–							
Age	2.07	1.11	0.01	–						
Nationality	1.47	0.50	0.10	–0.10	–					
Edu	2.07	0.78	–0.03	–0.02	0.09	–				
PAS(T1)	4.17	1.78	–0.12*	0.08	–0.01	–0.02	(0.92)			
RI(T1)	5.25	1.54	0.04	0.04	–0.04	–0.07	0.35**	(0.93)		
SCH(T1)	4.90	1.45	0.05	0.02	0.11	–0.03	0.23**	0.36**	(0.86)	
KH(T2)	4.88	1.39	0.03	0.02	–0.07	0.06	0.24**	0.17**	0.31**	(0.96)

Notes: N = 283. Cronbach's alpha coefficients are on the diagonal in parentheses. * $p < 0.05$, ** $p < 0.01$.

Abbreviations: SD, standard deviations; PAS, peer abusive supervision; RI, rivalry; SCH, schadenfreude; KH, customer knowledge hiding.

Table 5 Regression Results

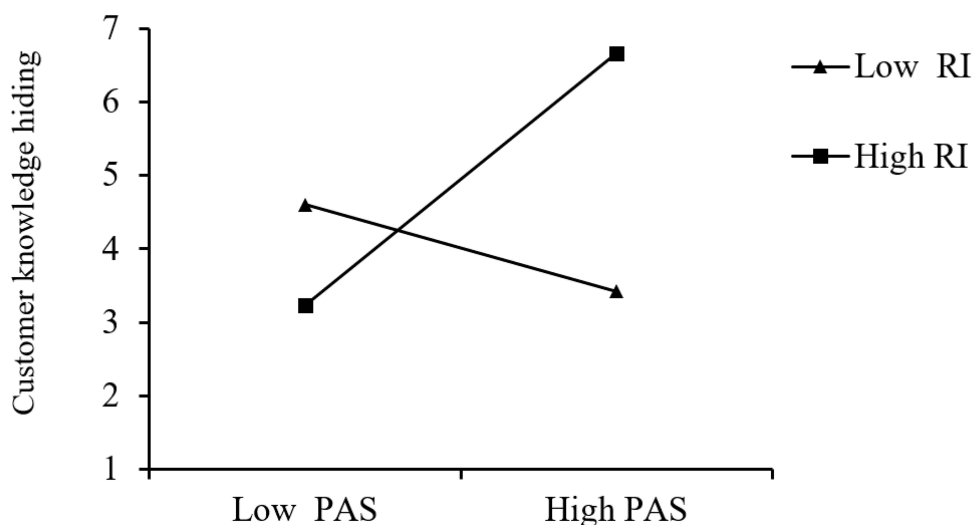
Variables	Customer Knowledge Hiding							
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Gender	0.04	0.07	0.07	0.08	0.06	0.06	0.06	0.02
Age	0.01	-0.01	-0.01	0.00	-0.01	-0.01	-0.01	0.01
Nationality	-0.08	-0.08	-0.08	-0.08	-0.11	-0.11	-0.11	-0.09
Edu	0.07	0.08	0.09	0.07	0.09	0.08	0.09	0.10*
PAS		0.25***	0.22**	0.23***	0.19**	0.19**	0.18**	0.15**
RI			0.10	0.22**			0.01	0.07
SCH					0.28***	0.32***	0.28***	0.19**
PAS*RI				0.33***				0.40***
PAS*SCH						0.12*		0.15*
RI*SCH								-0.10
PAS*RI*SCH								0.32***
R ²	0.01	0.07	0.08	0.17	0.15	0.16	0.15	0.32
ΔR^2	0.01	0.06***	0.07***	0.09***	0.13***	0.01*	0.13***	0.18***
F	0.81	4.35**	4.05**	8.09***	7.78***	7.36***	6.65***	11.75***

Notes: *, $p < 0.05$; **, $p < 0.01$; ***, $p < 0.001$.

Abbreviations: PAS, peer abusive supervision; RI, rivalry; SCH, schadenfreude.

significant when SCH is high (simple slope = 0.48; $t = 2.51$; $p = 0.00$), and the interaction effect is not significant when SCH is low (simple slope = 0.04; $t = 0.53$; $p = 0.60$). Therefore, Hypothesis 3 was also supported.

Hypothesis 4 proposed joint moderating effects of RI and SCH on the relationship between PAS and sales employees' customer knowledge hiding. The results in model 8 (Table 5) demonstrated that the interaction term of RI, SCH and PAS on sales employees' customer knowledge hiding was significant ($\beta = 0.32$; $p < 0.05$). As the simple slope test in Figure 4

**Figure 2** The moderating role of rivalry.

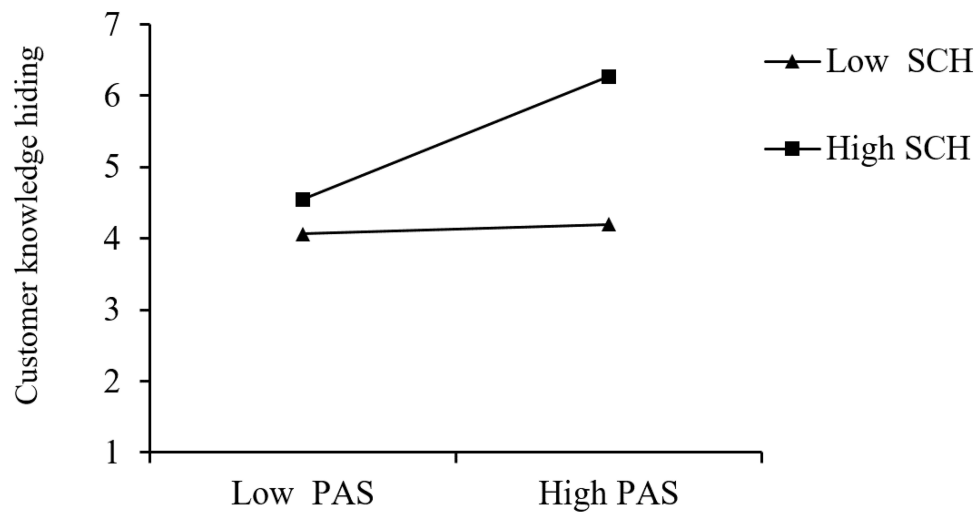


Figure 3 The moderating role of schadenfreude.

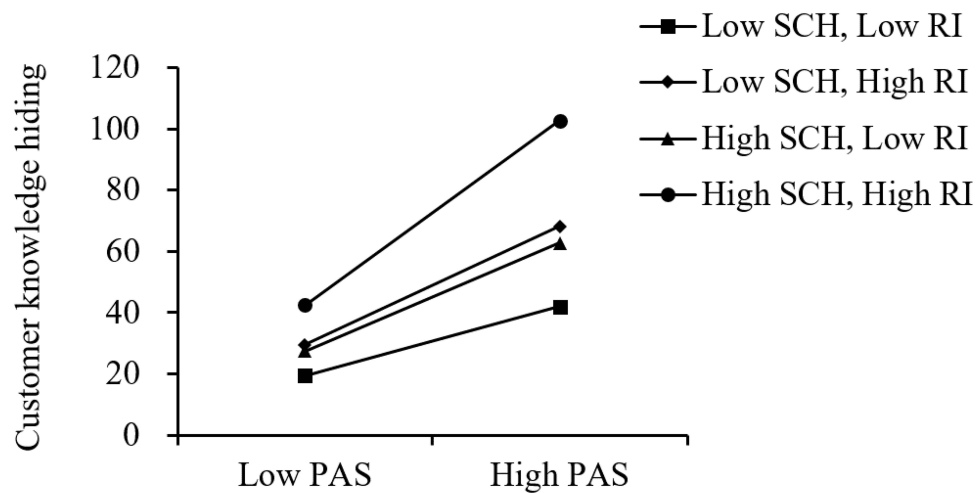


Figure 4 The interaction effect of schadenfreude and rivalry.

shows, the relationship between AS and sales employees' KH was more strongly positive when both RI and SCH were higher rather than in other situations. Thus, Hypothesis 4 was supported.

Discussion

Previous studies have noted that negative supervisory behavior could precipitate employees to hide their knowledge.^{21,33,60,91} In the context of sales teams, former research²¹ has investigated the impact of abusive supervision on knowledge hiding behavior among sales employees. However, these scholars have not examined the spillover effects and the moderating mechanisms of this process, although abusive supervision affects the larger work environment. This study extends the above study by examining how sales employees' observation of abusive supervision targeted at peers affects their hiding of customer knowledge. The study also examined the moderating roles of rivalry among sales employees and the schadenfreude that they constantly display at the suffering of peers at work.

In order to answer our research questions, we drew on social exchange theory and the embedded norm of reciprocity to hypothesize the moderating influence of rivalry and schadenfreude on the relationship between peer abusive supervision and sales employees' knowledge hiding behaviors. In general, our empirical results supported our hypothesized relationships. Our results suggest that peer abusive supervision is positively related to sales employees' customer

knowledge hiding behaviors. This finding extends previous findings regarding sales employees' knowledge hiding triggered by abusive supervision towards themselves.³⁴ Specifically, our results confirmed the spillover effect of this relationship. That is, sales employees could also relate abusive supervision towards peers to a threat to their valuable resources at work and perceive such conduct as a breach of fairness in the workplace social exchange, thereby deciding to hide customer knowledge.

We found that the main effect was strengthened when rivalry was high. This result concurred with previous studies^{32,72,73} that confirmed rivalry as a situational factor related to the negative attitudes of observers towards their abused peers at work. We also found that the main effect was strengthened by sales employees' *schadenfreude* towards peer abusive supervision. This result concurred with previous studies^{30,72,75} that confirmed abusive supervision as an emotional response that observers could develop towards peers' mistreatment. The result further suggested that sales employees may feel *schadenfreude* after observing abusive supervision towards peers. They may also realize the unfair and unjust behavior of managers may not generate any benefits, thereby choosing to hide customer knowledge.

Our results suggest that sales employees with a stronger (rather than weaker) rivalry and *schadenfreude* are more likely to hide customer knowledge after observing abusive supervision targeted at their peers. Such results concurred with previous observations that employees' perception of competitive advantage at work depends on their relative status against peers.⁷⁹ It extends former findings that observers of abusive supervision will develop *schadenfreude*, which further increases their work engagement.³⁵ These results suggest that, in a rivalling situation, *schadenfreude* from peer abusive supervision could raise sales employees' concerns about future status and supervisor hostility, thereby leading to customer knowledge hiding.

Theoretical Implications

This study has achieved a number of contributions to theory and research that can provide a new comprehensive explanation of customer knowledge hiding and peer abusive supervision. First, this study extends the abusive supervision literature to consider the spillover impacts of abusive supervision on employee knowledge hiding.¹⁹ Specifically, we zoomed in on such impacts in the specific context of sales departments. Customer knowledge allows firms to capture customer demands and improve existing products and services,^{1,38,58} and frontline sales employees are critical sources of such knowledge. However, the growing authoritative power and increasing pressure drive sales managers to transfer the pressure to sales employees through abusive supervision,⁵⁸ affecting not only the abused employees but also the observers. We demonstrated that sales employees perceive their customer knowledge as valuable resources, with abusive supervision violating the norm of reciprocity (ie, their contribution of customer knowledge may not be appreciated by their sales managers). We also found that observers' misgivings that they might become the victims in the future will stimulate them toward customer knowledge hiding behaviors. In doing so, we extend the existing studies regarding the specific spillover effects of abusive supervision.²²

Second, this study proposed and examined the possible antecedent of sales employees' malicious reactions towards peers' suffering. In a performance-oriented culture, sales managers encourage sales employees to outperform their peer colleagues. This embedded social comparison (for performance and benefits) may result in rivalry, which according to our hypothesis, could lead sales employees to hide their customer knowledge when observing their rivals are abused by supervisors. In doing so, we extended the leader (eg, abusive supervision and self-serving leadership) and organizational factor (eg, missing organizational support) as an antecedent of knowledge hiding behaviors.^{9,19,21} The interactive effect of rivalry between peer abusive supervision and customer knowledge hiding suggests a specific situation where the observed missing of justice (ie, abusive supervision towards peers) and the rivalry between the observers (ie, sales employees) and the abused peers collectively lead observers to hide customer knowledge for resource conservation and social comparison advantage.

Third, this study contributes to the *schadenfreude* literature by examining it as a stable personality trait among sales employees. Previous studies have focused on the effect of peer abusive supervision on *schadenfreude*.⁹²⁻⁹⁴ Those studies consider *schadenfreude* as the passive emotion of pleasure after observing peers' suffering. In contrast, we propose that *schadenfreude* could indicate sales employees' stable tendency to feel evil pleasure across various situations (eg, suffering from abusive supervision and complaints from customers), ie, a moderator of peer abusive supervision and

sales employees' knowledge hiding. Our empirical results suggest that when sales employees perceive that they have a highly rival relationship with the abused peers, their schadenfreude trait could draw them to "enjoy" such a negative situation.⁷⁶ Moreover, we found the joint impacts of schadenfreude and rivalry on sales employees' customer knowledge hiding after witnessing abusive supervision, which extends the schadenfreude literature with a complete picture of how employees' schadenfreude act as an undesirable catalyst in the workplace.

Finally, a previous scholar observed that most abusive supervision studies adopted a cross-sectional study design.³⁷ He suggested longitudinal designs which can allow researchers to rule out reverse or reciprocal causation issues in models of abusive supervision antecedents and outcomes.³⁶ We followed the suggestion of an existing study³⁶ and used longitudinal design as an improvement that helps lessen the threat of single-source method biases, thereby making our contribution to research methods.

Managerial Implications

Customer knowledge hiding, as a set of counterproductive behaviors, seriously hinders intra-organizational knowledge dissemination and accumulation, thus harming firms' innovation and customer satisfaction. Such knowledge is often developed by sales employees during interactions with customers. This study confirmed abusive supervision as an important antecedent of customer knowledge hiding and demonstrated the great practical value to study sales employees' knowledge hiding behaviors and suggesting implications for managerial practices in the following ways. First, firms should develop an organizational culture that encourages sales employees to share customer knowledge within firms. Specific rewarding and punishing policies could be developed and enforced to stimulate employees to share valuable customer insights and reduce intentional or malicious customer knowledge hiding. More importantly, those policies should specify how sales employees' interests (eg, performance evaluations and promotions) could be recognized and protected from freeriding.

Second, we agree with previous suggestions^{19,54} that manager candidates should be screened for leadership style and personality traits, with those bearing abusive supervision not included in the management team. We further remind that abusive supervision has a destructive force not only on the abused employees but also on observers. As such, firms are advised to establish whistleblowing channels for sales employees to report abusive supervision. Specific rewards for whistleblowers and punishments for abusive supervisors should be stipulated and enforced to guarantee a fair and just atmosphere where sales employees can maintain reciprocal relationships with peers and managers by sharing customer knowledge.

Third, performance-oriented sales teams can cultivate rivalry among employees who seek pleasure from peers' suffering. The negative behavior (ie, customer knowledge hiding) of sales employees' schadenfreude towards abused peers suggests that managers should address the balance between benefiting from the positive effects of competition at work while monitoring and controlling the side effects. The most effective measure to prevent the impacts of abusive supervision to spread among observers is to prevent it.³² For instance, sales managers should implement principles of justice and implement them at work to meet sales employees' psychological need for fairness. We further suggest that sales managers should be alert to sales employees' rivalry and schadenfreude, set interdependent goals, and encourage and reward cooperation.

Limitations and Future Research

Our findings have to be interpreted in light of some limitations. Cross-sectional designs have been the dominant approach in abusive supervision studies. Former scholars⁹⁵ argue that research in abusive supervision is hampered by the overuse of self-report surveys, a reliance on single-source data, and analyses at the individual level rather than at a group or organizational level. Although sales employees are the best perceivers of their own behavior changes, their responses are still subjective. For instance, using memories about the impact of previous incidents (ie, peer abusive supervision) on current behavior (ie, customer knowledge hiding) is less valid and reliable than using the experience sampling method.⁹⁶ Therefore, future studies on the topic could adopt longitudinal and experimental designs, develop combined group/organizational and individual levels of analysis (eg, asking supervisors and employees to mutually evaluate each other), and focus on abusive supervision's dynamic processes.

Conclusion

Despite some limitations, this study contributes to the literature on the relationship between abusive supervision and customer knowledge hiding. Drawing on the social exchange theory, we developed a theoretical framework regarding the roles of peer abusive supervision, rivalry, and schadenfreude in customer knowledge hiding among sales employees. We concluded that 1) sales employees will hide customer knowledge after observing their peers abused by sales managers; 2) when the sales employees' feel rivalry with their abused peers is high, they are more likely to hide customer knowledge; likewise; 3) sales employees are also likely to hide customer knowledge when their schadenfreude over their abused peers is high, and 4) sales employees' intentions to hide customer knowledge become the strongest when both schadenfreude and rivalry are high. In doing so, this study enriches our understanding of spillover effects (eg, customer knowledge hiding) of abusive supervision among sales employees.

Ethics Statement

The studies involving human participants were conducted under the Declaration of Helsinki guidelines, reviewed and approved by Chongqing Technology and Business University. The participants provided their informed consent to participate in this study.

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Disclosure

The authors report no conflicts of interest in this work.

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