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ORIGINAL RESEARCH

Observing Leadership as and in Networks: A Multilevel Investigation of Shared Leadership, Discrete Emotions, and Knowledge Behaviors

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Purpose: With an increasing demand for shared leadership to address complex, dynamic, and diverse knowledge situations, more attention should be paid to the knowledge behaviors of emergent leaders in teams. However, there is thus far a lack of research into the multilevel nature of shared leadership. Using a dual network lens, this study considers two aspects of shared leadership: "shared leadership as networks" (SLAN) and "shared leadership in networks" (SLIN). Based on emotion appraisal theory, this study investigated the impact of SLIN on leaders' productive and counterproductive knowledge behaviors through discrete emotions (pride and fear of losing power) and the moderating role of SLAN in guiding their emotions and subsequent behaviors.
Methods: A social network approach was employed to obtain data among 431 employees from 72 teams in China. We identified 350 emergent leaders via leadership sociograms. Statistical analysis methods, including multilevel regression analysis, Monte Carlo simulation, and simple slope analysis, were utilized to test our hypotheses.
Results: This study indicates that (1) SLIN is positively associated with pride ($B = 0.33$, $p < 0.001$), which in turn increases knowledge sharing ($B = 0.37$, $p < 0.001$); (2) SLIN is positively related to fear of losing power ($B = 0.21$, $p < 0.05$), which in turn is negatively associated with knowledge sharing ($B = -0.23$, $p < 0.001$) and positively associated with knowledge hiding ($B = 0.19$, $p < 0.001$); (3) SLAN moderated these aforementioned indirect effects.
Conclusion and Originality: First, by defining and differentiating between SLAN and SLIN, this study expands a new perspective on SLIN and facilitates the further development of multilevel shared leadership. Second, this study responds to recent calls for more research on leadership networks and individual-level outcomes of shared leadership. Moreover, it offers a novel theoretical framework to illustrate the impact of SLIN on their knowledge behaviors. Finally, the focus on the moderating role of SLAN identifies a significant contextual factor that prevents the dysfunctional effects of SLIN. These original discoveries enrich the literature on team leadership, emotions, and knowledge management. Further, our novel findings may be of interest to practitioners as they help organizations and teams manage the complex impacts of SLIN on knowledge behaviors in the contexts of an ongoing "affective revolution" and team-based organizational structures.
Keywords: shared leadership, pride, fear of losing power, knowledge sharing, knowledge hiding, social network approach

Introduction

Today, organizations must operate with continually emerging new technologies that are complex, dynamic, and unpredictable in commercial environments.[1,2] As a way to remain agile and flexible, organizations have adopted a more lateral and informal style of leadership, which can be termed shared leadership.[3,4] Shared team leadership facilitates the coordination and integration of knowledge among team members, enabling them to achieve higher levels of performance and creativity.[5–7] Despite the growing interest and numerous studies into shared leadership, there are still several important gaps in understanding shared leadership and its consequences.

First, there is a limited understanding of the multilevel nature of shared leadership. Given that shared leadership is a leadership network made up of multiple emergent leaders, the existing literature would benefit from the inclusion of individual-level analysis.[8] Thus, drawing on dual network lenses,[9] the first contribution of the current study is to introduce "shared leadership as networks" (SLAN) and "shared leadership in networks" (SLIN) to concepts to describe the multilevel attribute of shared leadership. Specifically, SLAN is defined as an emergent network of leadership whereby nodes and links represent team members and interactions related to leadership roles and influence, respectively.[10,11] SLIN is defined as emergent leaders who receive an overwhelming majority of leadership nominations (grants) by their peers.[12]

Second, recent studies have noted the potential benefits (eg, information communication and cooperation) and challenges (eg, power struggles and competition) for leaders in shared environments,[13,14] implying a potential double-edged sword effect of SLIN. Emerging leaders may either share knowledge to promote teamwork or hide knowledge to maintain their position of leadership and advantage over others. However, there no empirical research has yet explored the mechanisms at play between SLIN and knowledge behaviors. Therefore, to bridge this gap, we considered both productive (knowledge sharing) and counterproductive (knowledge hiding) knowledge behaviors, seeking to uncover the complex mechanisms between SLIN and knowledge behaviors.

One important mediation mechanism that might explain this double-edged sword effect is emotions. Indeed, the ongoing "affective revolution" has underlined the importance of emotions in the workplace,[15] particularly specific discrete emotions in the workplace.[16] Existing evidence suggests that pride helps to increase employees' intention to share knowledge,[17] but that fear of losing power triggers one's pessimistic expectations about the future, thus triggering knowledge hiding behaviors.[18] Pride (as a positive emotion) and fear of losing power (as a negative emotion) may have unique implications for explaining SLIN's knowledge behaviors. However, few studies have employed a comprehensive theoretical framework to examine the above emotional mechanisms. Emotion appraisal theory (EAT) is an appropriate framework to illustrate the generation of one's emotions as well as the subsequent coping mechanisms.[19,20] Knowledge sharing (an approach-oriented response) and knowledge hiding (an avoidance-oriented response) are the two specific coping strategies we focused on in this study.[18] Hence, drawing on EAT, we aimed to investigate the mediating role of pride and fear of losing power on the relationship between SLIN and knowledge behaviors.

Meanwhile, SLAN sets boundaries for the indirect relationship between SLIN and one's knowledge behaviors. According to EAT, team context provides the most direct setting for understanding individual emotions and coping strategies.[20] SLAN indicates a high density level in a leadership network, which can facilitate knowledge sharing processes within the team.[21] Emergent leaders who are embedded in a denser leadership network are more likely to develop a more critical awareness of the benefits of taking on leadership responsibilities, resulting in enhanced pride and increased knowledge sharing behaviors. Therefore, this study explored the moderating role of SLAN in the SLIN–discrete emotions relationship, thereby illustrating when SLIN engages with more productive knowledge behaviors. The theoretical model is depicted in Figure 1. The following research questions guided this study:

RQ1. How does a review on shared leadership help us to define and distinguish SLAN and SLIN?
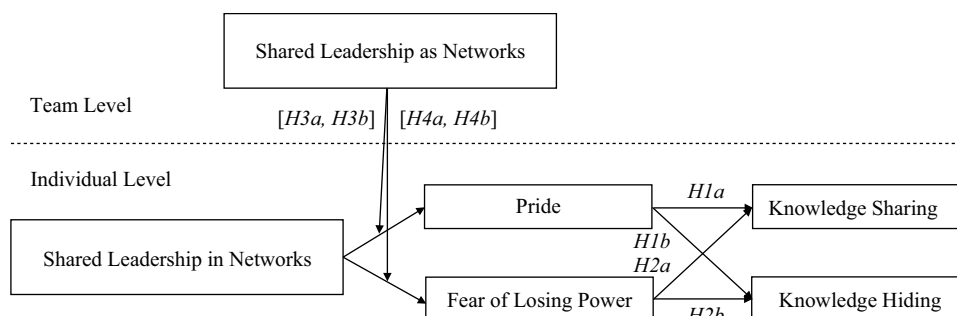

Figure 1 The overall theoretical model.
Notes: H1 and H2 represent proposed mediation paths from shared leadership in networks to the outcomes through pride and fear of losing power, respectively. H3 and H4 in brackets represent moderated mediation paths from shared leadership in networks to the outcomes through pride and fear of losing power, respectively.

RQ2. What mechanisms guide someone in a SLIN context to engage in productive and counterproductive knowledge behaviors, such as pride or fear of losing power?

RQ3. How does SLAN as a social context affect the knowledge behaviors of SLIN?

By addressing these research questions, this study offers three significant theoretical contributions. First, by defining SLAN and SLIN, our work bridges the disjointed domain of shared leadership and lays the foundation for further development of the concept of multilevel shared leadership. Second, we shift attention from the whole network to central nodes and investigate both the positive and negative effects of SLIN on actors (leaders), which answers recent calls to focus on individuals in networks[22] and on individual-level outcomes.[11] Further, this study provides an integrated theoretical framework for clarifying how SLIN links knowledge behaviors between leaders. Third, this study identifies SLAN as a contingent factor that may enable SLIN to engage in more knowledge sharing behaviors, thus expanding the knowledge on the utility boundaries of shared leadership. This study also has practical significance as it provides ways in which organizations can influence knowledge practices through emotional mechanisms. More importantly, it shows the top-down impact of SLAN on one's behaviors and how it helps practitioners to reinforce the positive side of SLIN.

Theory and Hypotheses
SLAN and SLIN

In this section, we address RQ1. Shared leadership can be regarded as an "emergent process" whereby multiple individuals are identified as leaders through continuous "claiming-granting" interactions,[23,24] resulting in a broad distribution of leadership roles and influence among team members.[11] Thus, the multilevel nature of shared leadership can be observed. Specifically, emergent leaders are observed at the individual level, while emergent team phenomenon is observed at the team level. However, the current understanding and development of this multilevel structure are hindered by two main issues. First, there is a very little discussion of emergent leaders at the individual level, typically mentioned only in descriptions or measurements of shared leadership. Second, as of yet there is no integrated perspective to help us understand the connections and distinctions between individual-level and team-level shared leadership. Thus, for the current study, we reviewed related terms, definitions, and measurements in the shared leadership literature to provide support for this multilevel structure (see Table 1).

We specify and differentiate between "shared leadership as networks" (SLAN) and "shared leadership in networks" (SLIN), referring to the relevant terms in leadership networks as proposed by Crater et al.[9] As illustrated in Table 1, although definitions of shared leadership at the team level vary, one commonality is that shared leadership is conceptualized as "networks."[10,12,25] In a network, multiple individuals emerge as both informal leaders and followers. Thus, we have defined SLAN as an emergent network of leadership, with nodes representing team members and links representing interactions related to leadership roles and influence.[10,11] In terms of measurement, shared leadership can be assessed by diverse network indexes, such as density, centralization, network efficiency, and strength. In our study, density was employed to represent the whole network structure as it is the most frequently used index used to measure network structure[8,26,27] and has demonstrated adequate validity.[23] For individual-level shared leadership, the discriminant criteria and discussions are relatively inconsistent across the literature. Some researchers conceptualize it as "each team member individually perceives and accepts the leadership influence from their peers",[8] while others conceptualize it as "some team members who are identified as the nodes receiving the greatest number of ties."[10,25,28] However, the issue with the former is that all team members are implicitly identified as emergent leaders and assigned individual-level scores when measured. As such, we define SLIN as emergent leaders those who receive the overwhelming majority of leadership nominations (grants) by their peers.[12] Given that leadership is about direct influence on others, we used in-degree centrality to measure and identify emergent leaders in leadership sociograms.[29,30] In the next two sections, we will explore the consequences of SLIN and how these consequences are shaped by the team context (SLAN).

Dual Emotions and Knowledge Behaviors of SLIN

In this section, by introducing the Positive Emotion Path and the Negative Emotion Path, we address our RQ2. Specifically, we illustrate how pride and fear of losing power are elicited and how each influences subsequent responses. Emotional

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Table 1 Summary of Sample Terms, Definitions and Measurements of Shared Leadership at the Team Level and Individual Level

Analysis Unit	Terms	Definitions	Measurements	References
Team-level	Leadership Networks	Shared leadership focus on influence relations (interactions of influence related to the leadership process) among social actors (team members).	Centralization	Mayo et al[10]
	Emergent Network of Leadership	Shared, distributed phenomenon in which there can be several formally appointed and/or emergent leaders.	Qualitative coding based on sociodiagrams.	Mehra et al[12]
	Networks of Leadership Perceptions	Leadership can be represented as a network of leadership perceptions where nodes and ties represent group members and leadership perceptions respectively.	Did not assess the network structure.	Emery et al[25]
	Shared Leadership Network	Leadership that emanates from the members of teams and not simply from the appointed team leader.	Density, centralization, network efficiency, network strength.	Wu and Cormican[6]
	Team-Level Shared Leadership	Team-level shared leadership is an emergent team property that results from the distribution of leadership influence across multiple team members.	Density	Klasmeier and Rowold[8]
Individual-level	Prestigious Actors	Prestigious actors are those with many in-degrees or "choices" – that is, prestigious actors are chosen or nominated by many other individual members.	In-degree centrality	Mayo et al[10]
	Emergent Leaders	Individuals who received the overwhelming majority of leadership nominations	Qualitative coding based on sociodiagrams.	Mehra et al[12]
	Emergent Leaders	Emergent leaders are identified as the nodes receiving the greatest number of ties	Ties Received	Emery et al[25]
	High-Quality Leaders	High-quality leaders can be identified as the persons who receive the strongest ties	In-degree centrality	Fransen et al[28]
	Individual-Level Shared Leadership	Shared leadership is the extent to which an individual team member perceives and accepts (ie, grants) the leadership influence of their peers.	In-degree centrality	Klasmeier and Rowold[8]

appraisal theory (EAT) interprets the generation of and tactics for coping with emotions from an appraisal perspective.[19,20] Emotions are motivated by a broader kind of stimulus associated with benefits or harms.[19] SLIN signifies the centrality and status of emergent leaders, and such a network position contains both resources and risks.[31] Thus, SLIN could be regarded as a stimulus at the individual level. According to EAT, differential appraisals of stimulus determine emotion valence. Evaluations of having taken a leadership role that brings one closer to their goals or desired benefits will invoke pride, whereas evaluations that pull one further away from their goals or result in losses will invoke fear of losing power. To cope with these emotions, individuals may initiate different responses.[32] In line with Fang,[18] we proposed that knowledge sharing represents approach-oriented responses, whereas knowledge hiding reflects avoidance-oriented responses.

The Path of Positive Emotion: SLIN, Pride, and Knowledge Behaviors

Pride is a positive emotion that results from perceived benefits,[20] and at its core comprises self-worth, self-efficacy, and a sense of achievement.[33] Based on EAT, as leaders are involved in daily shared leadership activities, they can perceive

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benefits from exerting both self-directed and other-directed influence, and in turn experience pride. The reasons are as follows: First, leadership distribution creates a particularly motivating environment that reinforces one's mission and intrinsic motivation.[34] Emergent leaders are more inspired to carry out self-directed work, which enhances the meaning of their work and self-worth.[35] Second, compared with non-emergent leaders, SLIN is linked with a large number of members in the network. Interacting with different members leads to the development of excellent verbal persuasion abilities in SLIN, which helps the leaders to be effective in their other-directed work, also enhancing their sense of pride.[36] Therefore, SLIN positively predicts pride.

According to Lazarus,[20] positive emotions have action tendencies, which are primarily reflected in one's desire to take actions to maintain or enhance those emotional experiences. Following the core theme of pride,[33] pride indicates that individuals are confident in their ability to cope with tough situations (high coping potential) and hold a high level of self-value (high future expectations), both of which lead to approach-oriented responses, ie, knowledge sharing. Because knowledge sharing is generally considered to be an active and prosocial behavior, participating in these activities contributes to maintaining favorable emotional experiences. Research has shown that pride positively influences knowledge sharing.[17] Thus, we proposed that:

H1a: SLIN is positively and indirectly associated with knowledge sharing via pride.

Knowledge hiding, on the other hand, is viewed as an avoidance-oriented response in which individuals protect themselves by concealing facts and information from others.[18] Pride, as a self-conscious emotion, encourages individuals to avoid the degradation of their self-esteem or self-concept,[36] which leads to counterproductive work behaviors,[37] ie, knowledge hiding.[38] However, pride also stems from self-efficacy. A SLIN with high self-efficacy may believe in their own competency and be less likely to conceal knowledge for fear of making mistakes.[39] Hence, we propose that:

H1b: SLIN is negatively and indirectly associated with knowledge hiding via pride.

The Path of Negative Emotion: SLIN, Fear of Losing Power and Knowledge Behaviors

Given the potential dysfunctional influences of sharing leaders,[13,14] SLIN with high in-degree centrality may lead to negative cognitions and behaviors. Fear of losing power (FLP) is a negative emotion that stems from perceived losses or threats that are associated with power and personal values.[18,20,40] According to EAT, SLIN is more likely to generate fear of losing power when one experiences potential losses or threats.[19] It may cost a great deal of time and energy to develop and maintain an effective leader-follower relationship, so a SLIN that involves more links may lead to role conflicts and overload.[13,41] In such a predicament, leaders are more vulnerable to anxiety or fear.[42] Furthermore, more links in the network imply more access to information from other powerful actors,[43] also increasing the likelihood of information devaluation because of unfair transactions with less-central members. Thus, SLIN may experience strong fear of losing power.

Negative emotions are associated primarily with withdrawal or avoidance tendencies.[44] Fear of losing power enhances uncertainty,[40] as individuals are unable to anticipate when they might suffer losses and their impacts, which then results in a sense of powerless. Teo and Yu[45] have put forth that individuals are inclined to terminate transactions in response to activities with high uncertainty. Knowledge sharing is an activity that involves uncertainty because there are no explicit rules with regards to how to reward knowledge owners for their contributions.[46] Consequently, the potentiality of adverse consequences may decrease one's desire to share knowledge. Previous research has found that FLP negatively affects knowledge sharing.[18,40] As such, we hypothesized that:

H2a: SLIN is negatively and indirectly associated with knowledge hiding via fear of losing power.

Fear tends to awaken pessimistic judgments and encourage avoidance-oriented responses.[47] When individuals experience strong fear, the avoidance coping system is triggered to help one escape from potential threats, or to create

a sense of psychological safety.[48] Fang found that FLP positively predicted knowledge hiding.[18] Hence, we proposed that:

H2b: SLIN is positively and indirectly associated with knowledge hiding via fear of losing power.

The Moderating Role of SLAN

By introducing team-level stimulus (SLAN), we explored the boundary conditions of the effects of SLIN on knowledge behaviors, thus addressing our RQ3. EAT suggests that social context is crucial in shaping one's emotions and emotional coping strategies.[20] In teams, leadership provide the most instantaneous social context for individuals. Previous studies revealed that leadership significantly influences employees' perceptions and their behaviors.[49,50] Thus, SLAN (representing the density of team leadership networks) may affect the emotions of leaders and indirectly impact their behaviors.

SLAN strengthens leaders' perceptions of benefits making them more likely to experience pride. In a denser network, more team members exert leadership responsibilities, which include team planning, problem-solving, mentoring and development, as well as support and consideration.[51] Team members are influenced by others while also exerting their own influence.[34] As a result, a SLIN can gain direct experience by leading others, as well as indirect experience by observing other leaders,[52] which together enhances their sense of accomplishment and pride. Furthermore, an increase in shared leadership density facilitates the development of a transactive memory system, implying that teams develop a strong collective memory structure that allows their members to confidently rely on each other's expertise.[27] This contributes to increased self-efficacy in completing tasks. Recent research also shows that a high density SLAN increases individuals' creative self-efficacy.[53] In other words, SLAN strengthens the positive relationship between SLIN and pride. Combining *H1a* and *H1b*, we predicted that the indirect influence of SLIN on knowledge behaviors via pride would be contingent on the level of SLAN, as reflected in the following:

H3: SLAN moderates the indirect effects of SLIN on (a) knowledge sharing and (b) knowledge hiding through pride. Specifically, these indirect effects are stronger under higher (vs lower) levels of SLAN.

In a dense leadership network, most team members lead and motivate each other, which shapes the common team culture.[54] Emergent leaders are inspired to fulfill their leadership responsibilities and believe that other team members will respond actively to their leadership efforts,[25] fostering a pleasant, trusting, psychologically safe workplace in which free expression of ideas is encouraged.[55,56] Thus, SLIN experiences less FLP. In addition, a high level of leadership network density also represents a high degree of mutual level and socialization.[57] In such a network, selfishness and unethical perceptions and behaviors are undesirable due to strong organizational norms and consensus,[58] therefore further weakening FLP. In short, SLAN weakens the positive relationship between SLIN and FLP. Combining *H2a* and *H2b*, we proposed that:

H4: SLAN moderates the indirect effects of SLIN on (a) knowledge sharing and (b) knowledge hiding through fear of losing power. Specifically, these indirect effects are stronger under higher (vs lower) levels of SLAN.

Method
Sample and Procedure

This study initiated a two-wave survey in Chinese knowledge-intensive teams. To ensure our samples were appropriate, we set two important team selection criteria: First, the invited teams should have a clear output which ensured that team members shared a common goal. Second, their teamwork was expected to be highly interdependent and required selective exploitation of members' unique expertise, which served as a foundation for sharing leadership responsibilities.[35] Next, we employed the relevant resources of a leadership project in China to contact Human Resources managers or team leaders from different organizations. We described the purposes of the research, sample selection criteria, and survey procedures of this study to them. With their assistance, we recruited 98 teams from different industries to participate in our study. These industries included IT (24.36%), finance (16.01%), scientific research and

development services (31.79%), and the pharmaceutical industry (27.84%). Sample teams were selected from information technology operation and maintenance, research and development (R & D), marketing, consultation, and scientific research.

The procedures were as follows. With the help of Human Resources managers or team leaders, we gathered a directory of all members ahead of data collection, providing each participant with a unique code to match them with their team. Meanwhile, a matching social network survey was designed to assess the leadership network structure of each team.[10] Next, two time-lagged surveys were administered in the field setting with a one-month interval. At Time1, 534 members from 98 teams were invited to participate in the first survey. In this phase, we collected data regarding their leadership network structure (SLIN and SLAN) and emotions (pride and fear of losing power). At Time 2, the second survey was distributed to all team members again, who this time were asked to rate their knowledge sharing and knowledge hiding behaviors. After the two time points, 464 questionnaires from 79 teams were returned. After excluding invalid questionnaires that had incomplete responses and data had obvious problems (eg the same rating score for all measurement items), 455 questionnaires from 79 teams were obtained. We then excluded seven sets of team data (24 members in total) because social network analysis requires a minimum 80% within-group response rate.[59] This left us with 431 members' data from 72 teams for the SLAN calculation. The effective response rates for teams and members were 73.47% and 80.71%, respectively. Furthermore, we identified 350 network stars by using leadership network sociograms and retained data from these 350 members for individual-level analysis.

The final sample comprised 431 team members from 72 teams, which also included the 350 emergent leaders. The average size of each team was 6.31 (SD = 1.56). The sample of the leader respondents had an average age of 27.62 years (SD = 3.95), 54.0% were female, and the average team tenure was 1.21 years (SD = 1.10). All were well-educated, with 77.43% holding a bachelor's degree, 10.0% a master's or doctor's degree, and 12.57% had a lower degree.

Measures

Similar to Hassan et al,[60] all materials were translated from English into Chinese using a back-translation procedure. The final draft of the surveys was sent to two experts in the field of organizational behavior and human resource management to ensure accuracy and clarity.

SLAN and SLIN (Time 1)

We employed a social network approach to assess leadership network structure. The process was divided into three steps. First, team members were asked to carefully read the definitions of the four leadership roles. After each definition, they were asked to rate their peers, ranging from 1 (not at all) to 5 (to a great extent). There are five items in total, four of which reflect the leadership functions,[51,61] and the other is the overall rating of leadership.[34] A sample item for the leadership roles is,"Navigator – Helps to establish the team's purpose and direction. A list of Navigator's actions: Initiates and energizes team action in pursuit of its purpose and goals; Communicates and reminds team of its overall purpose; Helps develop specific goals towards achieving team's purpose. Please rate to what extent each team member has engaged in the Navigator role." A sample item for overall leadership is, "To what degree does your team rely on this individual for leadership?" The five-item scale had a reliability alpha of 0.95. Second, the responses from the five items were aggregated and then collated into an overall leadership network matrix.[26] Finally, we use Ucinet 6.186 to compute density and in-degree centrality, to indicate SLAN and SLIN, respectively. Agreement among members was as follows: mean r_{wg} = 0.95, ICC_1 = 0.33, and ICC_2 = 0.75.

Density captures the magnitude of reciprocal influence among team members, with higher levels indicating higher levels of SLAN. To compute the SLAN score, we aggregated all members' ratings and then divided them by the total number of ratings. This approach has been previously adopted and tested in numerous studies.[8,26,34] In-degree centrality captures the importance of an emergent leader and their influence on other team members.[29] Members with higher in-degree centrality (ie, the strength of the incoming ties) might be recognized as leaders.[10] Hence, we employ in-degree centrality to measure SLIN and identify leaders in leadership sociograms. To control the influence of team size, we standardized the in-degree centrality.

Pride (Time 1)

Pride was measured using a seven-item scale developed by Tracy and Robins,[33] which assesses positive emotion experiences triggered by achievement events or social relationships. Team members were asked to self-rate their authentic pride using a five-point Likert scale ranging from 1 "strongly disagree" to 5 "strongly agree". A sample item is, "When working with others in my group, I feel self-worth." (Cronbach's $\alpha = 0.96$).

Fear of Losing Power (Time 1)

Fear of losing power (FLP) was assessed using a five-item derived from Fang.[18] It measures the extent to which employees fear the loss of power, status, and personal value. Team members were asked to rate their FLP using a five-point Likert scale ranging from 1 "strongly disagree" to 5 "strongly agree". A sample item is, "I am afraid of being replaceable (losing my position) if I share all my relevant knowledge." (Cronbach's $\alpha = 0.95$).

Knowledge Sharing (Time 2)

Knowledge sharing was measured using a five-item scale developed by Huang et al,[62] which captures the existing knowledge sharing behaviors of team members. The scale included two dimensions, namely, tacit knowledge sharing (three items) and explicit knowledge sharing (two items). Participants' responses ranged from 1 "strongly disagree" to 5 "strongly agree". Sample items for these two dimensions included "I always provide my know-where or know-whom at the request of other team members" and "I share my work reports and official documents with members in this team frequently." (Cronbach's $\alpha = 0.92$).

Knowledge Hiding (Time 2)

Knowledge hiding was measured using a three-item scale developed by Serenko and Bontis,[38] which captures the extent to which individuals intentionally conceal or withhold work-related knowledge from other team members. Participants' responses ranged from 1 "strongly disagree" to 5 "strongly agree". A sample item is, "I often twist the facts to suit their needs when communicating with other members within the team" (Cronbach's $\alpha = 0.75$).

Control Variables

Control variables included team size, gender, age, and education, as the literature has noted their impact on knowledge behaviors.[63,64] Team job tenure was also controlled as it captures the experience of members working, which could influence their knowledge behaviors[63] and affect team effectiveness.[26]

Analytic Strategy

The hypothesized model included five level-one variables (ie, SLIN, pride, fear of losing power, knowledge sharing, and knowledge hiding) and one level-two variable (ie, SLAN). The multilevel model was tested in Mplus 7.4 using testing procedures as follows. To test Hypotheses 1 and 2, we built a mediational model.[65] We also applied Monte Carlo simulations (replication = 20,000) to estimate bias-corrected confidence intervals for the indirect effects.[66] To test Hypotheses 3 and 4, we built four cross-level moderated mediation models. We standardized the independent variable (SLIN) and the moderator (SLAN) with the grand mean to pay attention to the real moderating effect between groups.[67] We also calculated bias-corrected confidence intervals for the conditional indirect effects.

Results

Table 2 presents the means, standard deviations, and correlations of all variables in this study.

Confirmatory Factor Analysis

SLAN and SLIN can be methodologically separated from other variables.[26] Thus, we conducted a confirmatory factor analysis for the remaining variables (ie, pride, fear of losing power, knowledge sharing, and knowledge hiding). The four-factor model exhibited an excellent fit: $\chi^2 = 375.82$, df =164, $\chi^2/df = 2.29$, CFI = 0.96, TLI = 0.96, RMSEA = 0.06, SRMR = 0.04. In contrast, the other alternative models all showed a worse fit (pride and fear of losing power as one factor: $\chi^2 = 2270.36$, df =167, $\chi^2/df = 13.59$, CFI = 0.64, TLI = 0.59, RMSEA = 0.19, SRMR = 0.20); two-factor model

Table 2 Variable Means, Standard Deviations, and Correlations

Variables	Mean	SD	1	2	3	4	5	6	7	8	9
Individual Level											
1. Sex	1.54	0.50	—								
2. Age	27.62	3.95	–0.10	—							
3. Education	2.96	0.59	0.02	–0.25	—						
4. Team Job Tenure	1.21	1.10	–0.22**	0.52*	–0.17**	—					
5. SLIN	3.78	0.63	0.07	0.04	–0.03	0.10	—				
6. Pride	3.60	0.85	0.07	–0.13*	0.12*	0.18**	0.24**	—			
7. FLP	1.88	1.02	–0.05	0.00	0.02	–0.14**	0.13*	0.04	—		
8. Knowledge Sharing	3.62	0.89	0.05	–0.06	0.07	–0.11*	0.05	0.39**	–0.29**	—	
9. Knowledge Hiding	1.92	0.69	–0.05	–0.09	0.18**	–0.06	–0.01	0.03	0.36**	–0.21**	—
Team Level											
1. Team Size	6.31	1.56	—								
2. SLAN	3.73	0.43	–0.06								

Notes: *p < 0.05, **p < 0.01.
Abbreviations: SD, standard deviations; SLIN, shared leadership in networks; FLP, fear of losing power; SLAN, shared leadership as networks.

(pride and fear of losing power as one factor, and knowledge sharing and knowledge hiding as another factor: χ^2 = 2584.31, df =169, χ^2/df = 15.29, CFI = 0.59, TLI = 0.54, RMSEA = 0.20, SRMR = 0.21); and one-factor model (all variables as one factor: χ^2 = 3710.22, df = 170, χ^2/df = 21.82, CFI = 0.40, TLI = 0.33, RMSEA = 0.24, SRMR = 0.24). The results indicate discrimination between research variables.

Common Method Bias

This study adopted both procedural and statistical remedies to minimize common method bias.[68] First, we employed a social network approach to measure SLIN and SLAN, so they could be methodologically separated from other aggregation-based variables.[26] Further, we collected ratings of emotions and knowledge behaviors at different times, which provided temporal separation to mitigate the influence of common method bias.[68,69] Finally, statistical methods were applied to detect the magnitude of common method bias, including Harman's single-factor test and control for unmeasured latent method factor. Harman's single-factor test has been used by Hassan et al.[70] The results of Harman's single-factor test showed that the cumulative variance explained 77.45% of the total variance, with the first principal component explaining 33.39% of the variance (less than 50% and no more than half of the total variance). It indicated that common method bias had a limited impact on our study. In addition, following the recommendation by Podsakoff et al,[71] we controlled for an unmeasured latent method factor. The results showed that the fit indices between the controlled model with latent common method factor and the above four-factor model were not significantly changed ($\Delta\chi2$/df = 0.15, ΔCFI = 0.001, ΔTLI = 0.003, $\Delta RMSEA$ = 0.002, $\Delta SRMR$ = 0.002). It alleviates the concern for common method bias.

Tests of Mediation Effects

Figure 2 and Table 3 show the results of the mediation effects. Hypothesis 1 proposed that pride mediates the effect of SLIN on knowledge behaviors (knowledge sharing and knowledge hiding). Figure 2 shows that SLIN was positively
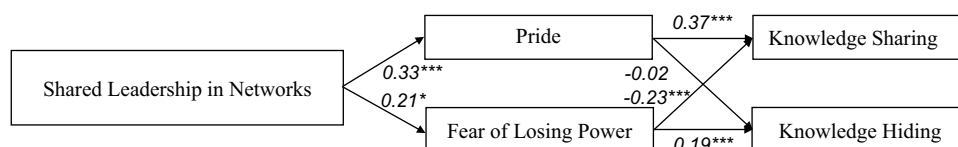

Figure 2 Results from multiple mediation model. *p < 0.05, ***p < 0.001.
Notes: Presented are nonstandardized model coefficients. Control variables and covariances between shared leadership in networks and knowledge behaviors are not shown.

Table 3 Results of Indirect and Conditional Indirect Effects of SLIN Through Emotions

Effects		DV: Knowledge Sharing				DV: Knowledge Hiding			
		Effect	SE	Low CI	High CI	Effect	SE	Low CI	High CI
Indirect effects of SLIN	Indirect effect via pride	0.13	0.03	0.06	0.21	−0.01	0.01	−0.03	0.02
	Indirect effect via FLP	−0.05	0.02	−0.10	−0.01	0.04	0.02	0.01	0.08
Conditional Indirect effects of SLIN	Indirect effect via pride when SLAN is high	0.14	0.05	0.04	0.24	−0.01	0.02	−0.05	0.02
	Indirect effect via pride when SLAN is low	−0.01	0.05	−0.11	0.08	0.001	0.01	−0.01	0.01
	The difference between two conditions	0.15	0.07	0.01	0.30	−0.01	0.02	−0.06	0.03
	Indirect effect via FLP when SLAN is high	0.06	0.02	0.01	0.10	−0.07	0.03	−0.14	−0.004
	Indirect effect via FLP when SLAN is low	−0.03	0.02	−0.07	0.02	0.03	0.03	−0.02	0.09
	The difference between two conditions	0.09	0.04	0.01	0.16	−0.10	0.05	−0.21	−0.001

Note: Low and high CI values represent bias-corrected 95% confidence interval (replication = 20,000).
Abbreviations: DV, dependent variable; SE, standard error; CI, confidence interval; SLIN, shared leadership in networks; FLP, fear of losing power; SLAN, shared leadership as networks.

associated with pride ($B = 0.33$, $SE = 0.08$, $p < 0.001$), and that pride significantly predicted knowledge sharing ($B = 0.37$, $SE = 0.07$, $p < 0.001$). Table 3 shows that pride mediated the effect of SLIN on knowledge sharing (Effect = 0.13, $SE = 0.03$, 95% CI [0.06, 0.21]), supporting Hypothesis 1a. However, the results indicated an insignificant relationship between pride and knowledge hiding ($B = −0.02$, $SE = 0.04$, $p > 0.05$), and pride did not mediate the effect of SLIN on knowledge hiding (Effect = −0.01, $SE = 0.01$, 95% CI [−0.03, 0.02]), failing to support Hypothesis 1b.

Hypothesis 2 proposed that fear of losing power mediates the effect of SLIN on knowledge behaviors. Figure 2 shows that SLIN was positively associated with fear of losing power ($B = 0.21$, $SE = 0.09$, $p < 0.05$), which was in turn significantly associated with knowledge sharing ($B = −0.23$, $SE = 0.05$, $p < 0.001$) as well as knowledge hiding ($B = 0.19$, $SE = 0.05$, $p < 0.001$). Supporting Hypotheses 2a and 2b, fear of losing power significantly mediated the effects of SLIN on knowledge sharing (Effect = −0.05, $SE = 0.02$, 95% CI [−0.10, −0.01]) and knowledge hiding (Effect = 0.04, $SE = 0.02$, 95% CI [0.01, 0.08]).

To test the likelihood of reverse causality, we compared the values of Akaike's Information Criterion (AIC) and Bayesian Information Criterion (BIC) for our mediation model and reverse causal model, based on recent work.[72,73] The results show that the hypothesized model (AIC = 14263.61, BIC = 14568.384) had lower AIC and BIC than the reverse causal model (AIC = 14938.50, BIC = 15247.14), indicating that our mediation model provided a better fit to the data.

Tests of Moderated Mediation Effects

We first tested moderation effects of SLAN. The results show that SLAN significantly interacted with SLIN to predict pride ($B = 0.50$, $SE = 0.23$, $p < 0.05$) and fear of losing power ($B = −0.74$, $SE = 0.24$, $p < 0.01$). These results provide initial support for Hypotheses 3 and Hypotheses 4. Then, we tested four moderated mediation models (see Table 3). In support of Hypothesis 3a, the indirect effect of SLIN on knowledge sharing (via pride) was stronger when SLAN was high (Effect = 0.14, $SE = 0.05$, 95% CI = [0.04, 0.24]) compared to low (Effect = −0.01, $SE = 0.05$, 95% CI = [−0.11, 0.08]), and the difference between these two conditions was significant (Effect = 0.15, $SE = 0.07$, 95% CI = [0.01, 0.30]). However, SLIN affecting knowledge hiding via pride was not significant either when SLAN was high (Effect = −0.01, SE

= 0.02, 95% CI = [−0.05, 0.02]) or low (Effect = 0.001, *SE* = 0.01, 95% CI = [−0.01, 0.01]), rejecting Hypothesis 3b. Similarly, the conditional effect of SLIN on knowledge sharing (via fear of losing power) was stronger when SLAN was high (Effect = 0.06, *SE* = 0.02, 95% CI = [0.01, 0.10]) compared to when it was low (Effect = −0.03, *SE* = 0.02, 95% CI = [−0.07, 0.02]). The difference between two conditions was significant (Effect = 0.09, *SE* = 0.04, 95% CI = [0.01, 0.16]), supporting Hypotheses 4a. Moreover, the conditional effect of SLIN on knowledge hiding via fear of losing power was stronger when SLAN was high (Effect = −0.07, *SE* = 0.03, 95% CI = [−0.14, −0.004]) compared to when it was low (Effect = 0.03, *SE* = 0.03, 95% CI = [−0.02, 0.09]), and the difference between the two conditions was significant (Effect = −0.10, *SE* = 0.05, 95% CI = [−0.21, −0.001]), supporting Hypotheses 4b.

Discussion

In this research, we discussed the multilevel nature of shared leadership (SLAN and SLIN). We also investigated the relationship between SLIN, emotions, and knowledge behaviors, as well as the moderated mediation effects of SLAN. Our results show that emergent leaders (SLIN) may feel pride and fear of losing power, which in turn can influence their knowledge behaviors. The results also indicate that SLAN is essential in increasing knowledge sharing and mitigating knowledge hiding when individuals take on emergent leadership roles. Surprisingly, pride strengthened knowledge sharing but failed to reduce knowledge hiding. One possible explanation for this could be that knowledge sharing and knowledge hiding are driven by different factors. Knowledge sharing may be driven by altruism, while knowledge hiding may be motivated by egoism via a series of tradeoffs between costs and values.[38] As such, pride may enable individuals to share knowledge to improve their self-esteem. However, they may also engage in knowledge hiding if there is no adequate return to justify their costs. This explains the non-significant results regarding Hypotheses 1b and 3b.

Theoretical Implications

Current findings suggest that we should shift our focus to shared leadership in networks (SLIN), as these individuals are the core of teams[10] and their knowledge behaviors are critical to team functions.[7,21] These individuals deliberately hiding crucial information that could have strategic value to the team can be detrimental to the team's ability to attain its goals.[74] Losses caused by knowledge hiding have been reported to amount to $31.5 billion in Fortune 500 firms.[75] Therefore, it is imperative to include individual-level analyses when investigating the effects of shared leadership on knowledge behaviors. However, individual-level knowledge in shared leadership contexts is largely undeveloped.[8] In this study, we consider both team-level shared leadership (SLAN) and individual-level shared leadership (SLIN) from a dual network lens. This provided insight into multilevel shared leadership and broadens research understandings on individual perspectives for future studies. Further, our novel findings confirm the double-edged sword effect between SLIN and knowledge practices. Amidst the "ongoing affective revolution",[15] this research can help academic researchers and practitioners understand the crucial discrete emotions that shape employees' knowledge behaviors. Moreover, our work identifies the contingent factor of SLAN that can contribute to organizations/teams promoting the positive side of SLIN in order to avoid impacts of its more problematic aspects. We list three specific contributions of this study below.

First, this study furthers the knowledge of the multilevel nature of shared leadership and specifically clarifies the conceptualization and operationalization of SLIN in the literature. While previous research has considered this multilevel structure,[8,54] there are several critical questions that remain unanswered. For instance, how can this structure be interpreted through an integrated theoretical lens? How does this structure develop from various definitions and measurements of shared leadership? Thus, we reviewed the existing literature and summarized the terms, definitions, and measurements related to this structure. We then defined and distinguished between SLAN and SLIN from dual network lenses, enabling the possibility to develop shared leadership literature. More importantly, by clarifying SLIN, our work expands the research focus, from the entire leadership network to the focal leaders in the network, enabling future research to focus on the outcomes of SLIN at different levels.

Second, this study investigated both the positive and negative effects of SLIN on leaders. By doing so, we extend existing research on the positive effects of shared leadership on the team knowledge process.[7,21] By shifting the perspective from the whole team to specific members, our findings identify preliminary evidence about the more problematic side of shared leadership.[11] The focus of the current study also moved away from the implicit assumption

that shared leadership activities are perceived and experienced the same way. Liang et al[35] suggest that individual differences may result in distinct individual-level outcomes. We found that there are indeed differences in individuals' appraisals of taking on leadership roles, resulting in a diverse range of emotional experiences and knowledge behaviors. Our work was a response to Sweeney et al[22] who have suggested that attention to individuals is necessary to gain insight into how they interact within a leadership network. More importantly, these findings highlight the importance of pride and fear of losing power as behavioral motivators. These discrete emotions have unique implications for knowledge behaviors, and in supporting subsequent team success. By targeting specific discrete emotions, our findings complement the work by Hmieleski et al[15] by enriching the understandings of the mediating mechanisms of shared leadership, as well as advancing the general understandings of team leadership, discrete emotions, and knowledge management practices.

Third, our work determined a boundary condition for the effects of SLIN on knowledge behaviors, which provides solid support for preventing the dysfunctional impact of SLIN. Specifically, SLAN was shown to be an important factor in explaining the different reactions of emergent leaders. As shown in Table 3, the indirect effects between SLIN and knowledge behaviors were stronger at a high level of network density, while these indirect effects were not significant at a low network density level. This indicates the significance of network density in strengthening one's pride and knowledge sharing behaviors, as well as weakening their FLP and knowledge hiding behaviors. These discoveries not only add significant value to the shared leadership and knowledge management literature, but also provide theoretical implications for practitioners to intervene in counterproductive knowledge behaviors. In addition, this research responds to Carter et al[9] who suggested developing theoretical extensions of leadership and undertaking multilevel leadership network research. We have extended shared leadership theory by considering two aspects of leadership – leadership as relational and leadership itself – and employed a social network approach to investigate how this multilevel structure affects individuals.

Practical Implications

In today's dynamic, complex and ambiguous market environment, shared leadership is indispensable for organizations to maintain competitive advantages. The effectiveness of shared leadership relies on teams' ability to obtain, coordinate, and integrate unique knowledge among their emergent leaders.[27] However, given that knowledge is embodied in particular individuals, team knowledge processes are only facilitated when members and leaders contribute their knowledge voluntarily. Our study focused on individuals in leadership networks, highlighting how SLIN engages in both productive and counterproductive knowledge behaviors through discrete emotions. Further, our work provides meaningful insights to potential practitioners regarding ways to mitigate the problematic side of SLIN, and offers the following managerial implications for organizations/teams.

Considering the potential costs and benefits of SLIN, organizations should take action to reduce its negative aspects while amplifying its positive aspects. To do this, organizations must be mindful of leaders' emotions. In terms of knowledge hiding, the question of how to alleviate individuals' fears of losing power is critical. Fear of losing one's position or advantage encourages individuals to engage in knowledge hiding.[18] Some research has indicated that the absence of reasonable payoffs may lead to counterproductive knowledge behavior.[76,77] Therefore, organizations could combine HRM policies to reward or promote SLIN who lead their teams effectively. Attention to pride seems to be a desirable practice for knowledge sharing. Teams could adopt social recognition programs[78] to recognize the contributions of emergent leaders, which would help to strengthen their pride and knowledge sharing.

Moreover, our findings highlight the significance of SLAN for one's emotional experiences and knowledge behaviors. Carson et al[34] suggested that several internal factors can increase the density of SLAN, specifically: shared purposes, social support, and voice. Hence, managers can promote goal orientation and leadership motivation of SLIN by shaping collective work goals. They might also develop team support mechanisms that allow team members to provide emotional strength and assistance to one another. Furthermore, creating an environment where team members can express their ideas freely might be another potential way to increase the likelihood of team members taking on leadership roles. Based on these findings, we recommend organizations build denser leadership networks through staffing and training. For example, organizations could increase network density by designing leadership mechanisms that allow for a greater number of members to take on leadership roles or responsibilities, such as rotating team member leadership responsibilities over time.[11] Or, organizations could consider mentoring and developing team members to enhance their shared

leadership competencies. The elevated leadership competency might contribute to the effectiveness of mutual influence among team members and therefore increase network density.

Limitations and Future Directions

There are some limitations of the current study that may provide opportunities for future research. First, despite collecting data from multiple sources and phases, this study was limitated in its ability to explore emotional stability. Therefore, future studies could adopt a longitudinal research design to capture changes in discrete emotions.

Second, consistent with most studies, we utilized density to capture leadership network structure.[26,34] However, networks with the same density may have different dispersions of influence among peers.[11] Thus, using centralization and density together would be desirable for future research.

Third, our study examined the double-edged sword effect of SLIN on knowledge behaviors at the individual level, but this finding cannot be inferred to the team level. We encourage future research to examine these effects at the team level.

Conclusion

Effectiveness in shared leadership teams depends on the voluntary knowledge contribution of emergent leaders. To provide insights into the relationship between emergent leaders and their knowledge behaviors, this study defines SLAN and SLIN and examines how and when SLIN can be a double-edged sword in organizations. The significance of this study is in enriching leadership network research and providing an integrated framework for the evolution of multilevel shared leadership. Our findings contribute to shared leadership, discrete emotions, and knowledge management literature by demonstrating that SLIN with high in-degree centrality can lead to the formation of distinct discrete emotions (pride and fear of losing power) and behaviors (knowledge sharing and knowledge hiding). Further, a high-density leadership network (SLAN) was shown to help trigger the positive side of SLIN. In practice, our work provides evidence of valuing the emotions of SLIN and developing network density to manage the dark side of SLIN. We hope that this study will inspire future research to expand the understanding of multilevel shared leadership and the interactions among emergent leaders and their team dynamics.

Data Sharing Statement

The data supporting the conclusions of this paper is available from the first author upon reasonable request.

Ethical Approval

Informed consent was obtained from all participants in the study. All procedures were conducted in accordance with the ethical standards of the Declaration of Helsinki. This study was approved by the Institutional Review Board of Jilin University.

Author Contributions

All authors made a significant contribution to the work reported, whether that is in the conception, study design, execution, acquisition of data, analysis and interpretation, or in all these areas; took part in drafting, revising or critically reviewing the article; gave final approval of the version to be published; have agreed on the journal to which the article has been submitted; and agree to be accountable for all aspects of the work.

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Disclosure

The authors report no conflicts of interest in this work.

References

1. Kumar V, Reinartz W. Loyalty programs: design and effectiveness. In: *Customer Relationship Management*. Berlin and Heidelberg: Springer; 2018:179–205.
2. Marzi G. On the nature, origins and outcomes of over featuring in the new product development process. *J Eng Technol Manage*. 2022;64:101685. doi:10.1016/j.jengtecman.2022.101685
3. Lee MY, Edmondson AC. Self-managing organizations: exploring the limits of less-hierarchical organizing. *Res Organ Behav*. 2017;37:35–58. doi:10.1016/j.riob.2017.10.002
4. Wu Q, Cormican K. Shared leadership and team effectiveness: an investigation of whether and when in engineering design teams. *Front in Psychol*. 2021;11569198. doi:10.3389/fpsyg.2020.569198
5. Gu J, Chen Z, Huang Q, Liu H, Huang S. A multilevel analysis of the relationship between shared leadership and creativity in inter-organizational teams. *J Creative Behav*. 2018;52(2):109–126. doi:10.1002/jocb.135
6. Wu Q, Cormican K. Shared leadership and team creativity: a social network analysis in engineering design teams. *J Technol Manage Innov*. 2016;11(2):2–12. doi:10.4067/S0718-27242016000200001
7. Han SJ, Lee Y, Beyerlein M, Kolb J. Shared leadership in teams: the role of coordination, goal commitment, and knowledge sharing on perceived team performance. *Team Perform Manag*. 2018;24(3–4):150–168. doi:10.1108/Tpm-11-2016-0050
8. Klasmeier KN, Rowold J. A multilevel investigation of predictors and outcomes of shared leadership. *J Organ Behav*. 2020;41(9):915–930. doi:10.1002/job.2477
9. Carter DR, DeChurch LA, Braun MT, Contractor NS. Social network approaches to leadership: an integrative conceptual review. *J Appl Psychol*. 2015;100(3):597. doi:10.1037/a0038922
10. Mayo M, Meindl JR, Pastor J-C. Shared leadership in work teams: a social network approach. In: *Shared Leadership: Reframing the Hows and Whys of Leadership*. Vol. 193–214. Thousand Oaks, CA: Sage; 2003:chap 9.
11. Zhu J, Liao Z, Yam KC, Johnson RE. Shared leadership: a state-of-the-art review and future research agenda. *J Organ Behav*. 2018;39(7):834–852. doi:10.1002/job.2296
12. Mehra A, Smith BR, Dixon AL, Robertson B. Distributed leadership in teams: the network of leadership perceptions and team performance. *Leadersh Q*. 2006;17(3):232–245. doi:10.1016/j.leaqua.2006.02.003
13. Doos M, Wilhelmson L. Fifty-five years of managerial shared leadership research: a review of an empirical field. *Leadership-London*. 2021;17(6):715–746. doi:10.1177/17427150211037809
14. Sinha R, Chiu CY, Srinivas SB. Shared leadership and relationship conflict in teams: the moderating role of team power base diversity. *J Organ Behav*. 2021;42(5):649–667. doi:10.1002/job.2515
15. Hmieleski KM, Cole MS, Baron RA. Shared authentic leadership and new venture performance. *J Manage*. 2012;38(5):1476–1499. doi:10.1177/0149206311415419
16. Conroy SA, Becker WJ, Menges JI. The meaning of my feelings depends on who I am: work-related identifications shape emotion effects in organizations. *Acad Manage J*. 2017;60(3):1071–1093. doi:10.5465/amj.2014.1040
17. Van Den Hooff B, Schouten AP, Simonovski S. What one feels and what one knows: the influence of emotions on attitudes and intentions towards knowledge sharing. *J Knowl Manag*. 2012;16(1):148–158. doi:10.1108/13673271211198990
18. Fang Y-H. Coping with fear and guilt using mobile social networking applications: knowledge hiding, loafing, and sharing. *Telemat Inform*. 2017;34(5):779–797. doi:10.1016/j.tele.2017.03.002
19. Lazarus RS. *Emotion and Adaptation*. New York: Oxford University Press; 1991a.
20. Lazarus RS. Progress on a cognitive-motivational-relational theory of emotion. *Am Psychol*. 1991b;46(8):819–834. doi:10.1037/0003-066x.46.8.819
21. Lee DS, Lee KC, Seo YW. An analysis of shared leadership, diversity, and team creativity in an e-learning environment. *Comput Hum Behav*. 2015;42(1):47–56. doi:10.1016/j.chb.2013.10.064
22. Sweeney A, Clarke N, Higgs M. Shared leadership in commercial organizations: a systematic review of definitions, theoretical frameworks and organizational outcomes. *Int J Manag Rev*. 2019;21(1):115–136. doi:10.1111/ijmr.12181
23. D'Innocenzo L, Mathieu JE, Kukenberger MR. A meta-analysis of different forms of shared leadership–team performance relations. *J Manage*. 2016;42(7):1964–1991. doi:10.1177/0149206314525205
24. DeRue DS, Ashford SJ. Who will lead and who will follow? A social process of leadership identity construction in organizations. *Acad Manage Rev*. 2010;35(4):627–647. doi:10.5465/amr.35.4.zok627
25. Emery C, Calvard TS, Pierce ME. Leadership as an emergent group process: a social network study of personality and leadership. *Group Process Intergr*. 2013;16(1):28–45. doi:10.1177/1368430212461835
26. Chiu CC, Owens BP, Tesluk PE. Initiating and utilizing shared leadership in teams: the role of leader humility, team proactive personality, and team performance capability. *J Appl Psychol*. 2016;101(12):1705–1720. doi:10.1037/apl0000159
27. He H, Hu Y. The dynamic impacts of shared leadership and the transactive memory system on team performance: a longitudinal study. *J Bus Res*. 2021;130(6):14–26. doi:10.1016/j.jbusres.2021.03.007
28. Fransen K, Van Puyenbroeck S, Loughead TM, et al. Who takes the lead? Social network analysis as a pioneering tool to investigate shared leadership within sports teams. *Soc Networks*. 2015;43:28–38. doi:10.1016/j.socnet.2015.04.003
29. Hoppe B, Reinelt C. Social network analysis and the evaluation of leadership networks. *Leadersh Q*. 2010;21(4):600–619. doi:10.1016/j.leaqua.2010.06.004
30. Nordback ES, Espinosa JA. Effective coordination of shared leadership in global virtual teams. *J Manage Inform Syst*. 2019;36(1):321–350. doi:10.1080/07421222.2018.1558943
31. Yu Y, Hao J-X, Dong X-Y, Khalifa M. A multilevel model for effects of social capital and knowledge sharing in knowledge-intensive work teams. *Int J Inform Manage*. 2013;33(5):780–790. doi:10.1016/j.ijinfomgt.2013.05.005
32. Lazarus RS, Folkman S. *Stress, Appraisal, and Coping*. New York: Springer; 1984.
33. Tracy JL, Robins RW. The psychological structure of pride: a tale of two facets. *J Pers Soc Psychol*. 2007;92(3):506–525. doi:10.1037/0022-3514.92.3.506

34. Carson JB, Tesluk PE, Marrone JA. Shared leadership in teams: an investigation of antecedent conditions and performance. *Acad Manage J.* 2007;50(5):1217–1234. doi:10.2307/20159921

35. Liang B, Knippenberg D, Gu Q. A cross-level model of shared leadership, meaning, and individual creativity. *J Organ Behav.* 2021;42(1):68–83. doi:10.1002/job.2494

36. Williams LA, DeSteno D. Pride and perseverance: the motivational role of pride. *J Pers Soc Psychol.* 2008;94(6):1007–1017. doi:10.1037/0022-3514.94.6.1007

37. Bai Q, Lin W, Wang L. Family incivility and counterproductive work behavior: a moderated mediation model of self-esteem and emotional regulation. *J Vocat Behav.* 2016;94:11–19. doi:10.1016/j.jvb.2016.02.014

38. Serenko A, Bontis N. Understanding counterproductive knowledge behavior: antecedents and consequences of intra-organizational knowledge hiding. *J Knowl Manag.* 2016;20(6):1199–1224. doi:10.1108/Jkm-05-2016-0203

39. Homsma GJ, Van Dyck C, De Gilder D, Koopman PL, Elfring T. Learning from error: the influence of error incident characteristics. *J Bus Res.* 2009;62(1):115–122. doi:10.1016/j.jbusres.2007.12.003

40. Hsu MH, Chang CM. Examining interpersonal trust as a facilitator and uncertainty as an inhibitor of intra-organisational knowledge sharing. *Inform Syst J.* 2014;24(2):119–142. doi:10.1111/isj.12000

41. Yang H-L, Cheng -H-H. Creative self-efficacy and its factors: an empirical study of information system analysts and programmers. *Comput Hum Behav.* 2009;25(2):429–438. doi:10.1016/j.chb.2008.10.005

42. Liu X, Min Q, Wu D, Liu Z. How does social network diversity affect users' lurking intention toward social network services? A role perspective. *Inform Manage-Amster.* 2020;57(7):103258. doi:10.1016/j.im.2019.103258

43. Ahuja MK, Galletta DF, Carley KM. Individual centrality and performance in virtual R&D groups: an empirical study. *Manage Sci.* 2003;49(1):21–38. doi:10.1287/mnsc.49.1.21.12756

44. Barclay LJ, Kiefer T. Approach or avoid? Exploring overall justice and the differential effects of positive and negative emotions. *J Manage.* 2014;40(7):1857–1898. doi:10.1177/0149206312441833

45. Teo TS, Yu Y. Online buying behavior: a transaction cost economics perspective. *Omega.* 2005;33(5):451–465. doi:10.1016/j.omega.2004.06.002

46. Staples DS, Webster J. Exploring the effects of trust, task interdependence and virtualness on knowledge sharing in teams. *Inform Syst J.* 2008;18(6):617–640. doi:10.1111/j.1365-2575.2007.00244.x

47. Kish-Gephart JJ, Detert JR, Treviño LK, Edmondson AC. Silenced by fear: the nature, sources, and consequences of fear at work. *Res Organ Behav.* 2009;29:163–193. doi:10.1016/j.riob.2009.07.002

48. Kiewitz C, Restubog SLD, Shoss MK, Garcia PRJM, Tang RL. Suffering in silence: investigating the role of fear in the relationship between abusive supervision and defensive silence. *J Appl Psychol.* 2016;101(5):731. doi:10.1037/apl0000074

49. Al Halbusi H, Tang TL-P, Williams KA, Ramayah T. Do ethical leaders enhance employee ethical behaviors? *Asian J Bus Ethics.* 2022;11(1):105–135. doi:10.1007/s13520-022-00143-4

50. Al Halbusi H, Williams KA, Ramayah T, Aldieri L, Vinci CP. Linking ethical leadership and ethical climate to employees' ethical behavior: the moderating role of person–organization fit. *Pers Rev.* 2020;50(1):159–185. doi:10.1108/PR-09-2019-0522

51. Hiller NJ, Day DV, Vance RJ. Collective enactment of leadership roles and team effectiveness: a field study. *Leadersh Q.* 2006;17(4):387–397. doi:10.1016/j.leaqua.2006.04.004

52. Bandura A, Walters RH. *Social Learning Theory.* Englewood Cliffs: Prentice Hall; 1977.

53. He W, Hao P, Huang X, et al. Different roles of shared and vertical leadership in promoting team creativity: cultivating and synthesizing team members' individual creativity. *Pers Psychol.* 2020;73(1):199–225. doi:10.1111/peps.12321

54. DeRue DS, Nahrgang JD, Ashford SJ. Interpersonal perceptions and the emergence of leadership structures in groups: a network perspective. *Organ Sci.* 2015;26(4):1192–1209. doi:10.1287/orsc.2014.0963

55. Bergman JZ, Rentsch JR, Small EE, Davenport SW, Bergman SM. The shared leadership process in decision-making teams. *J Soc Psychol.* 2012;152(1):17–42. doi:10.1080/00224545.2010.538763

56. Liu S, Hu J, Li Y, Wang Z, Lin X. Examining the cross-level relationship between shared leadership and learning in teams: evidence from China. *Leadersh Q.* 2014;25(2):282–295. doi:10.1016/j.leaqua.2013.08.006

57. Mathieu JE, Kukenberger MR, D'innocenzo L, Reilly G. Modeling reciprocal team cohesion–performance relationships, as impacted by shared leadership and members' competence. *J Appl Psychol.* 2015;100(3):713–734. doi:10.1037/a0038898

58. Coleman J. *Foundations of Social Theory.* Cambridge, MA: Harvard University Press; 1990.

59. Sparrowe RT, Liden RC, Wayne SJ, Kraimer ML. Social networks and the performance of individuals and groups. *Acad Manage J.* 2001;44(2):316–325. doi:10.2307/3069458

60. Hassan MS, Ariffin RNR, Mansor N, Al Halbusi H. The moderating role of willingness to implement policy on street-level bureaucrats' multidimensional enforcement style and discretion. *Int J Public Admin.* 2021;1–15. doi:10.1080/01900692.2021.2001008

61. Carson JB. *Internal Team Leadership: An Examination of Leadership Roles, Role Structure, and Member Outcomes.* University of Maryland, College Park; 2006.

62. Huang X, Hsieh J, He W. Expertise dissimilarity and creativity: the contingent roles of tacit and explicit knowledge sharing. *J Appl Psychol.* 2014;99(5):816. doi:10.1037/a0036911

63. Huo W, Cai Z, Luo J, Men C, Jia R. Antecedents and intervention mechanisms: a multi-level study of R&D team's knowledge hiding behavior. *J Knowl Manag.* 2016;20(5):880–897. doi:10.1108/Jkm-11-2015-0451

64. Škerlavaj M, Connelly CE, Cerne M, Dysvik A. Tell me if you can: time pressure, prosocial motivation, perspective taking, and knowledge hiding. *J Knowl Manag.* 2018;22(7):1489–1509. doi:10.1108/JKM-05-2017-0179

65. Preacher KJ, Zyphur MJ, Zhang Z. A general multilevel SEM framework for assessing multilevel mediation. *Psychol Methods.* 2010;15(3):209–233. doi:10.1037/a0020141

66. Preacher KJ, Selig JP. Advantages of Monte Carlo confidence intervals for indirect effects. *Commun Methods Meas.* 2012;6(2):77–98. doi:10.1080/19312458.2012.679848

67. Enders CK, Tofighi D. Centering predictor variables in cross-sectional multilevel models: a new look at an old issue. *Psychol Methods.* 2007;12(2):121–138. doi:10.1037/1082-989x.12.2.121

68. Podsakoff PM, MacKenzie SB, Podsakoff NP. Sources of method bias in social science research and recommendations on how to control it. *Annu Rev Psychol*. 2012;63(1):539–569. doi:10.1146/annurev-psych-120710-100452

69. Al Halbusi H. Who pays attention to the moral aspects? Role of organizational justice and moral attentiveness in leveraging ethical behavior. *Int J Ethics Syst*. 2022;38(3):357–379. doi:10.1108/IJOES-09-2021-0180

70. Hassan MS, Raja Ariffin RN, Mansor N, Al Halbusi H. An examination of street-level bureaucrats' discretion and the moderating role of supervisory support: evidence from the field. *Administrat Sci*. 2021;11(3):65. doi:10.3390/admsci11030065

71. Podsakoff PM, MacKenzie SB, Lee J-Y, Podsakoff NP. Common method biases in behavioral research: a critical review of the literature and recommended remedies. *J Appl Psychol*. 2003;88(5):879. doi:10.1037/0021-9010.88.5.879

72. Matta FK, Scott BA, Colquitt JA, Koopman J, Passantino LG. Is consistently unfair better than sporadically fair? An investigation of justice variability and stress. *Acad Manage J*. 2017;60(2):743–770. doi:10.5465/amj.2014.0455

73. Yam KC, Christian MS, Wei W, Liao Z, Nai J. The mixed blessing of leader sense of humor: examining costs and benefits. *Acad Manage J*. 2018;61(1):348–369. doi:10.5465/amj.2015.1088

74. Černe M, Nerstad CG, Dysvik A, Škerlavaj M. What goes around comes around: knowledge hiding, perceived motivational climate, and creativity. *Acad Manage J*. 2014;57(1):172–192. doi:10.5465/amj.2012.0122

75. Babcock P. Shedding light on knowledge management. *Society Human Res Manage*. 2004;49(5):46–51.

76. Kumar Jha J, Varkkey B. Are you a cistern or a channel? Exploring factors triggering knowledge-hiding behavior at the workplace: evidence from the Indian R&D professionals. *J Knowl Manag*. 2018;22(4):824–849. doi:10.1108/JKM-02-2017-0048

77. Labafi S. Knowledge hiding as an obstacle of innovation in organizations a qualitative study of software industry. *AD-Minist*. 2017;30:131–148. doi:10.17230/ad-minister.30.7

78. Li N, Zheng X, Harris TB, Liu X, Kirkman BL. Recognizing "me" benefits "we": investigating the positive spillover effects of formal individual recognition in teams. *J Appl Psychol*. 2016;101(7):925. doi:10.1037/apl0000101