

# **Linking Shared Leadership to Teamwork Quality: Knowledge Sharing as a Mediator and Affiliation Climate as a Boundary Condition**

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*This study examines how shared leadership enhances teamwork quality through employees' knowledge sharing and whether affiliation climate strengthens these relationships. Using survey data from 447 employees, the results show that shared leadership positively predicts knowledge sharing, which in turn improves teamwork quality and partially mediates this relationship. Affiliation climate strengthens the positive effect of knowledge sharing on teamwork quality but does not moderate the link between shared leadership and knowledge sharing. These findings clarify the mechanism and boundary condition through which shared leadership promotes effective teamwork.*

*Keywords: shared leadership, knowledge sharing, teamwork quality, affiliation climate*

## **INTRODUCTION**

Organizations worldwide are confronting persistent labor shortages driven by demographic change, skill mismatches, and intensifying competition for talent (Szajna & Kostrzewski, 2022; Corrado et al., 2024; Guo & Wan, 2024). Although policy responses such as easing immigration restrictions and extending retirement ages may alleviate short-term staffing gaps, they are unlikely to fully offset structural pressures associated with aging societies and shrinking labor pools (Liu–Farrer et al., 2023). Under such conditions, organizations must rely not only on attracting employees but also on using existing human resources more effectively. Teamwork quality has therefore become a critical internal capability because it enhances coordination, mutual support, and role clarity, enabling teams to sustain performance under lean staffing conditions while also strengthening employee commitment and retention (Tarique & Schuler, 2010; Rosen et al., 2018; Kumpulainen et al., 2023).

Teamwork quality is increasingly important in contemporary organizations characterized by hybrid work arrangements, rapid change, and heightened demands for adaptability. High-quality teamwork improves productivity, flexibility, and resilience, while also making organizations more attractive to talented employees who value supportive and effective collaborative environments (Earle, 2003; Cotta &

Salvador, 2020; AlKhyeli & Hasan, 2023). Among the factors that may foster teamwork quality, shared leadership and knowledge sharing appear particularly important. Shared leadership distributes influence and responsibilities across team members, allowing individuals to contribute their expertise and participate in collective decision-making. Knowledge sharing, in turn, reduces information asymmetry, improves resource utilization, and facilitates mutual understanding, all of which are essential for effective team functioning (Hoch, 2014). Although prior research has recognized teamwork as fundamental to organizational performance, the mechanisms through which shared leadership contributes to teamwork quality remain insufficiently understood, especially under hybrid work conditions that complicate coordination and cohesion (Handke et al., 2024; Holubčík et al., 2024).

This study draws on social exchange theory (SET) and conservation of resources theory (COR) to explain these relationships. From a social exchange theory perspective, shared leadership signals reciprocity, fairness, and mutual obligation, thereby encouraging employees to contribute valuable knowledge because such contributions are more likely to be acknowledged and reciprocated (Blau, 1964). From a conservation of resources theory perspective, affiliation climate functions as an important socio-emotional resource that reduces relational risk and protects employees' cognitive and affective resources, making it more likely that shared knowledge will be accepted, integrated, and translated into effective teamwork (Hobfoll, 1989; Hobfoll, 2001; Sun et al., 2022). Prior studies suggest that supportive climates foster trust, mutual respect, and collaboration (Gumusluoglu & Scandura, 2017), yet existing evidence remains inconclusive regarding how organizational climate shapes the pathway from shared leadership to knowledge sharing and the extent to which it strengthens the effect of knowledge sharing on teamwork quality (Imam & Zaheer, 2021; Kim, 2021; Chew & Mohamed Zainal, 2024). This gap is especially salient in current work settings where collaboration depends not only on structural arrangements but also on the relational climate in which employees interact.

Accordingly, this study examines how shared leadership influences teamwork quality through knowledge sharing and how affiliation climate conditions these relationships. Specifically, we propose that shared leadership promotes employees' knowledge sharing, which in turn enhances teamwork quality. We further argue that affiliation climate strengthens both the relationship between shared leadership and knowledge sharing and the relationship between knowledge sharing and teamwork quality. By integrating social exchange theory and conservation of resources theory, this study develops a moderated mediation framework that explains both the social-exchange mechanism and the contextual conditions through which shared leadership is translated into more effective teamwork.

This study makes three contributions. First, it extends the teamwork quality literature by identifying shared leadership as an important antecedent of teamwork quality. Second, it clarifies the mediating role of knowledge sharing, thereby linking leadership processes to teamwork outcomes through a concrete behavioral mechanism. Third, it highlights affiliation climate as an important boundary condition, showing that leadership and knowledge-sharing processes may be more effective in supportive and relationally cohesive environments. In doing so, this study contributes to the literature on leadership, team dynamics, and organizational climate while also offering practical insights for organizations seeking to strengthen collaboration and resilience in talent-constrained and hybrid work contexts.

## **LITERATURE REVIEW**

### **Theoretical Foundation**

This study draws on social exchange theory and conservation of resources theory to explain how shared leadership influences teamwork quality through knowledge sharing and under what conditions these relationships are strengthened. Social exchange theory suggests that social relationships develop through reciprocal exchanges in which individuals respond to favorable treatment with positive attitudes and behaviors (Homans, 1958; Blau, 1964). In organizational contexts, when employees perceive support, trust, and fair treatment, they are more likely to reciprocate through constructive work behaviors and stronger engagement (Eisenberger et al., 2001; Coyle-Shapiro & Conway, 2005). Because social exchange is

inherently discretionary, it depends heavily on trust and ongoing relational commitment (Aryee et al., 2002; Chernyak–Hai & Rabenu, 2018).

Conservation of resources theory complements this perspective by emphasizing that individuals strive to acquire, protect, and preserve valued resources, including social support, psychological energy, and a sense of belonging (Hobfoll, 1989; Hobfoll, 2001; Halbesleben et al., 2014). In organizational settings, a supportive interpersonal climate can function as an important socio–emotional resource that reduces relational risk and facilitates collaborative behavior. Taken together, social exchange theory explains why shared leadership may encourage employees to share knowledge, whereas conservation of resources theory explains why affiliation climate may strengthen the effectiveness of knowledge sharing and its contribution to teamwork quality.

### **Shared Leadership and Knowledge Sharing**

Shared leadership refers to a dynamic and interactive influence process in which leadership roles and responsibilities are distributed across team members rather than concentrated in a single formal leader (Pearce & Conger, 2003). Unlike traditional hierarchical leadership, shared leadership allows members to exercise influence according to their expertise and situational demands, thereby promoting autonomy, shared accountability, and collaborative decision–making (Zhu et al., 2018; Wang & Jin, 2023). Prior research has shown that shared leadership fosters participation, trust, and stronger internal collaboration within teams (Ramthun & Matkin, 2012; Bergman et al., 2012; Drescher et al., 2014). It also enhances flexibility and adaptability in complex and dynamic work environments (Grille & Kauffeld, 2015; Lyndon et al., 2020).

Knowledge sharing refers to the exchange of information, ideas, and expertise among organizational members (Bartol & Srivastava, 2002). Although it is critical for collaboration and learning, knowledge sharing is not automatic; it depends on employees' willingness to contribute what they know, which is influenced by trust, reciprocity, and organizational culture (Brock et al., 2005; Wang & Noe, 2010). Shared leadership is likely to foster such willingness. By decentralizing authority and recognizing members as legitimate contributors, shared leadership promotes open communication and reinforces the value of individual input (Carson et al., 2007; Gu et al., 2018). It also cultivates trust and cooperation, which reduce concerns about knowledge loss or misuse and make employees more willing to exchange ideas and expertise (Hoch, 2013; Lee et al., 2015; Berraies et al., 2021). From a social exchange theory perspective, employees who experience influence, inclusion, and mutual respect under shared leadership are likely to reciprocate by contributing knowledge to the team. Therefore:

***H1.** Shared leadership is positively related to employees' knowledge sharing.*

### **Knowledge Sharing and Teamwork Quality**

Teamwork quality reflects how effectively team members interact and collaborate in pursuing shared goals. It is commonly associated with communication, coordination, balanced member contributions, mutual support, effort, and cohesion (Hoegl & Gemuenden, 2001; Hoegl & Parboteeah, 2007). High teamwork quality enables teams to integrate diverse expertise, respond to challenges, and maintain strong collaborative performance (Hoegl & Parboteeah, 2003; Davis et al., 2022).

Knowledge sharing is a critical foundation for such high–quality teamwork. When employees share knowledge, information asymmetry is reduced, misunderstandings are less likely to occur, and team members develop a clearer understanding of task requirements, goals, and each other's expertise (Wang et al., 2006; Chang et al., 2017). Knowledge sharing also facilitates collective problem solving and helps teams make better use of available resources, thereby improving efficiency and coordination (Cummings, 2004; Gang, 2024). Moreover, the reciprocal exchange of ideas and experience strengthens interpersonal connection and collaborative commitment, both of which are central to teamwork quality (Lei et al., 2019). In this sense, knowledge sharing not only improves task execution but also enhances the relational and cohesive aspects of teamwork. Accordingly:

***H2. Employees' knowledge sharing is positively related to teamwork quality.***

### **The Mediating Role of Knowledge Sharing**

Although shared leadership is expected to improve team functioning, its influence on teamwork quality is unlikely to occur automatically. Instead, one important mechanism is knowledge sharing. Shared leadership creates a participative and trusting environment in which team members are empowered to contribute and exchange their expertise (Pearce & Conger, 2003; Carson et al., 2007; Hoch, 2013). Under such conditions, members are more likely to share insights, experiences, and problem-solving knowledge with one another (Gu et al., 2018). These exchanges help team members better understand each other's capabilities, roles, and contributions, which in turn enhances coordination, collaboration, and shared commitment to team goals (Wang et al., 2006; Lei et al., 2019). Thus, knowledge sharing serves as the behavioral process through which shared leadership is translated into higher teamwork quality. Rather than assuming that distributed leadership directly guarantees better teamwork, this perspective suggests that shared leadership first shapes a collaborative exchange environment, which then improves the quality of team interactions. Therefore:

***H3. Employees' knowledge sharing mediates the positive relationship between shared leadership and teamwork quality.***

### **The Moderating Role of Affiliation Climate**

Affiliation climate is a sub-dimension of organizational climate that emphasizes interpersonal connection, mutual support, belonging, and cohesion among members (Brock et al., 2005; Chennamaneni et al., 2012). Compared with other climate dimensions, affiliation climate is particularly relevant to the present study because shared leadership and knowledge sharing are fundamentally relational processes. A strong affiliation climate fosters trust, psychological safety, and a sense of acceptance, all of which encourage employees to participate more actively in collective activities and interactions (Sun et al., 2022).

This climate is likely to strengthen the relationship between shared leadership and knowledge sharing. Although shared leadership creates opportunities for participation, employees may still hesitate to share knowledge if the team lacks trust and social support. In contrast, when affiliation climate is high, members are more likely to perceive knowledge sharing as safe, valued, and consistent with team norms (Chennamaneni et al., 2012; Carmeli et al., 2009). Under such conditions, the positive effect of shared leadership on knowledge sharing should become stronger. Hence:

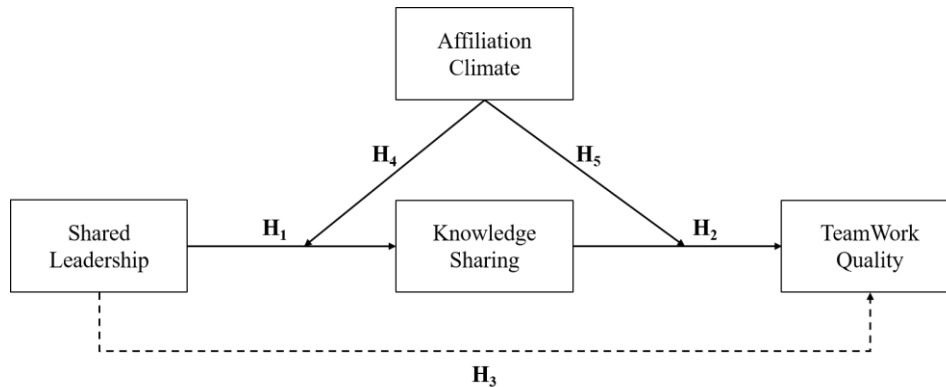
***H4. Affiliation climate positively moderates the relationship between shared leadership and employees' knowledge sharing, such that this positive relationship is stronger under a high affiliation climate.***

Affiliation climate is also likely to shape the extent to which knowledge sharing improves teamwork quality. Shared knowledge does not automatically translate into effective teamwork unless team members are willing to listen, integrate one another's input, and collaborate in a supportive manner. When affiliation climate is strong, trust and cohesion make it easier for teams to use shared knowledge for coordination, communication, and joint problem solving (Cummings, 2004; Wang & Noe, 2010; Sun et al., 2022). By contrast, when affiliation climate is weak, status concerns, low trust, and limited interpersonal support may reduce the benefits of knowledge sharing for teamwork outcomes (Carmeli et al., 2009). Therefore:

***H5. Affiliation climate positively moderates the relationship between employees' knowledge sharing and teamwork quality, such that this positive relationship is stronger under a high affiliation climate.***

Accordingly, the proposed research framework integrates these central constructs and hypotheses to examine the factors that facilitate teamwork quality in organizational contexts (See FIGURE 1).

**FIGURE 1**  
**HYPOTHESIZED THEORETICAL MODEL**



## METHODOLOGY

This study used a cross-sectional online survey to examine the relationship between shared leadership and teamwork quality. The questionnaire included five sections covering demographic information, shared leadership, knowledge sharing, teamwork quality, and affiliation climate. The target respondents were currently employed individuals from diverse industries, and data were collected between July and August 2024. A total of 566 questionnaires were returned. To ensure data quality, all responses were screened for completeness, target-population eligibility, and response consistency and plausibility. After this screening process, 447 valid questionnaires were retained for statistical analysis, resulting in an effective response rate of 79.0%. Among the valid respondents, 62.4% were male, 37.1% belonged to Generation X, 55.2% were married, 49.0% held a bachelor's degree, and 75.2% were general staff. In addition, 84.8% reported that they could not choose whether to work remotely. Detailed demographic information is presented in Table 1.

**TABLE 1**  
**DEMOGRAPHIC ATTRIBUTES**

| Items      | Aspects                                    | Frequency | Percentage |
|------------|--------------------------------------------|-----------|------------|
| Gender     | Male                                       | 279       | 62.4%      |
|            | Female                                     | 168       | 37.6%      |
| Generation | Born 1946–1964 CE (Baby Boomer Generation) | 16        | 3.6%       |
|            | Born 1965–1980 CE (Generation X)           | 166       | 37.1%      |
|            | Born 1981–1990 CE (Generation Y)           | 126       | 28.2%      |
|            | Born 1991–2010 CE (Generation Z)           | 139       | 31.1%      |
| Marriage   | Single                                     | 172       | 38.5%      |
|            | Married                                    | 247       | 55.2%      |
|            | Divorced                                   | 28        | 6.3%       |
| Education  | High school/specialist or below            | 85        | 19.0%      |
|            | Associate degree                           | 32        | 7.1%       |
|            | Bachelor's degree                          | 219       | 49.0%      |
|            | Master's degree                            | 108       | 24.2%      |
|            | Doctoral degree                            | 3         | 0.7%       |

|          |                       |     |       |
|----------|-----------------------|-----|-------|
| Position | General staff         | 336 | 75.2% |
|          | First-line supervisor | 85  | 19.0% |
|          | Mid-level manager     | 16  | 3.6%  |
|          | Senior executive      | 10  | 2.2%  |

All constructs were measured using established scales from prior studies and were assessed on a six-point Likert scale ranging from 1 (strongly disagree) to 6 (strongly agree). Shared leadership was measured with 12 items adapted from Dai and Tan (2023) and one item was reverse-coded. Knowledge sharing was assessed using the five-item scale developed by Bock et al. (2005). Teamwork quality was measured with 10 items from Meslec and Curşeu (2015). Affiliation climate was assessed using a four-item scale from Bock et al. (2005). These scales have been widely used in prior research and demonstrated acceptable empirical support for measuring the focal constructs.

## ANALYSIS RESULTS

IBM SPSS 25.0 and AMOS 24.0 were used to conduct the statistical analyses and structural equation modeling (SEM). SEM is appropriate for simultaneously assessing measurement properties and structural relationships among latent constructs (Kline, 2016; Hair et al., 2019). To reduce common method variance, the questionnaire was administered anonymously and included reverse-coded items, consistent with the procedural remedies suggested by Podsakoff et al. (2003).

Table 2 reports the descriptive statistics of the focal variables. The means of shared leadership ranged from 3.91 to 4.75, knowledge sharing from 4.45 to 4.63, teamwork quality from 4.37 to 4.58, and affiliation climate from 4.22 to 4.43. All skewness and kurtosis values fell within  $\pm 2$ , indicating acceptable normality for subsequent analyses (Kline, 2016).

**TABLE 2**  
**DESCRIPTIVE STATISTICS**

|     | Min | Max | Average   | S.D.        | Skewness      | Kurtosis     |
|-----|-----|-----|-----------|-------------|---------------|--------------|
| SL  | 1   | 6   | 3.91~4.75 | 1.119~1.299 | -1.004~-0.258 | -0.714~0.752 |
| KS  | 1   | 6   | 4.45~4.63 | 1.042~1.123 | -0.750~-0.994 | 0.212~0.881  |
| TWQ | 1   | 6   | 4.37~4.58 | 1.099~1.224 | -0.852~-1.179 | 0.308~1.425  |
| AC  | 1   | 6   | 4.22~4.43 | 1.220~1.336 | -0.931~-1.066 | 0.385~0.648  |

Confirmatory factor analysis showed that the four-factor measurement model demonstrated an acceptable fit to the data (CMIN/df = 3.893, RMSEA = 0.081, RMR = 0.053, CFI = 0.921, IFI = 0.921, NNFI = 0.914). As shown in Table 3, Cronbach's alpha values ranged from 0.941 to 0.968 and CR values ranged from 0.941 to 0.968, both exceeding recommended thresholds, indicating strong reliability (Nunnally, 1978; Fornell & Larcker, 1981). The AVE values ranged from 0.660 to 0.835, all above 0.50, supporting convergent validity (Fornell & Larcker, 1981).

**TABLE 3**  
**ITEMS FACTOR LOADINGS, CRONBACH'S  $\alpha$ , CR, AND AVE OF THE CONSTRUCT**

| Variable | Items | Factor Loadings | Cronbach's $\alpha$ | CR    | AVE   |
|----------|-------|-----------------|---------------------|-------|-------|
| SL       | 12    | 0.673~0.878     | 0.958               | 0.959 | 0.660 |
| KS       | 5     | 0.844~0.895     | 0.941               | 0.941 | 0.762 |
| TWQ      | 10    | 0.819~0.901     | 0.968               | 0.968 | 0.752 |
| AC       | 4     | 0.882~0.934     | 0.952               | 0.953 | 0.835 |

In addition, Table 4 shows that the square roots of AVE were greater than the inter-construct correlations, confirming discriminant validity (Hair et al., 2019).

**TABLE 4**  
**CORRELATION OF THE VARIABLES**

|     | 1         | 2        | 3        | 4        | SL           | KS           | TWQ          | AC           |
|-----|-----------|----------|----------|----------|--------------|--------------|--------------|--------------|
| 1   |           |          |          |          |              |              |              |              |
| 2   | -0.543*** |          |          |          |              |              |              |              |
| 3   | 0.201***  | -0.116*  |          |          |              |              |              |              |
| 4   | -0.280*** | 0.218*** | 0.040    |          |              |              |              |              |
| SL  | 0.111*    | -0.041   | -0.060   | 0.143**  | <b>0.813</b> |              |              |              |
| KS  | 0.044     | 0.017    | -0.105*  | 0.205*** | 0.699***     | <b>0.873</b> |              |              |
| TWQ | -0.004    | 0.101*   | -0.147** | 0.186*** | 0.768***     | 0.717***     | <b>0.867</b> |              |
| AC  | 0.046     | 0.075    | -0.100*  | 0.162*** | 0.751***     | 0.708***     | 0.858***     | <b>0.914</b> |

Note: 1. \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

2. 1: Generation, 2: Marriage, 3: Education, 4: Position

Table 5 presents the structural model results. Shared leadership had a significant positive effect on knowledge sharing (Estimate = 1.198,  $t = 14.284$ ,  $p < 0.001$ ), supporting Hypothesis 1. Knowledge sharing also had a significant positive effect on teamwork quality (Estimate = 0.793,  $t = 14.656$ ,  $p < 0.001$ ), supporting Hypothesis 2.

**TABLE 5**  
**HYPOTHESIS TESTING**

| Hypothesis     | Path Relations | Estimate | $\beta$ | $t$ -value | $p$ -value |
|----------------|----------------|----------|---------|------------|------------|
| H <sub>1</sub> | SL→KS          | 1.198    | 0.084   | 14.284     | ***        |
| H <sub>2</sub> | KS→TWQ         | 0.793    | 0.054   | 14.656     | ***        |

Note: 1. \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

The mediating role of knowledge sharing was tested using bootstrapping, which is widely recommended for indirect effect estimation (Preacher & Hayes, 2008). As shown in Table 6, the indirect effect of shared leadership on teamwork quality through knowledge sharing was 0.266, the direct effect was 0.534, and the total effect was 0.800. All associated  $p$ -values were significant, and the 95% confidence intervals excluded zero. Because both the indirect and direct effects remained significant, knowledge sharing was found to play a partial mediating role in the relationship between shared leadership and teamwork quality. Thus, Hypothesis 3 was supported.

The moderating role of affiliation climate was examined using interaction terms. Table 7 shows that the interaction between shared leadership and affiliation climate was not significant ( $B = 0.021$ ,  $p = 0.284 > 0.05$ ), indicating that affiliation climate did not moderate the relationship between shared leadership and knowledge sharing. Therefore, Hypothesis 4 was not supported.

**TABLE 6**  
**THE MEDIATING EFFECT OF KS ON THE RELATIONSHIP BETWEEN SL AND TWQ**

|                              | Estimate | 95% Confidence Interval |             |             |
|------------------------------|----------|-------------------------|-------------|-------------|
|                              |          | BC/PC <i>p-value</i>    | BC          | PC          |
| Indirect effect<br>SL→KS→TWQ | 0.266    | 0.001/0.001***          | 0.166~0.377 | 0.166~0.377 |
| Direct effect<br>SL→TWQ      | 0.534    | 0.001/0.001***          | 0.389~0.660 | 0.386~0.657 |
| Total effect<br>SL→TWQ       | 0.800    | 0.001/0.001***          | 0.745~0.844 | 0.745~0.844 |

Note: 1. \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

**TABLE 7**  
**THE MODERATING EFFECT OF AC ON THE RELATIONSHIP BETWEEN SL AND KS**

| Hypothesis     | Variable | B     | SE    | CR    | <i>p-value</i> |
|----------------|----------|-------|-------|-------|----------------|
| H <sub>4</sub> | SL X AC  | 0.021 | 0.029 | 1.072 | 0.284          |

Note: 1. \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

By contrast, Table 8 indicates that the interaction between knowledge sharing and affiliation climate was significant ( $B = 0.092$ ,  $p < 0.001$ ), supporting Hypothesis 5.

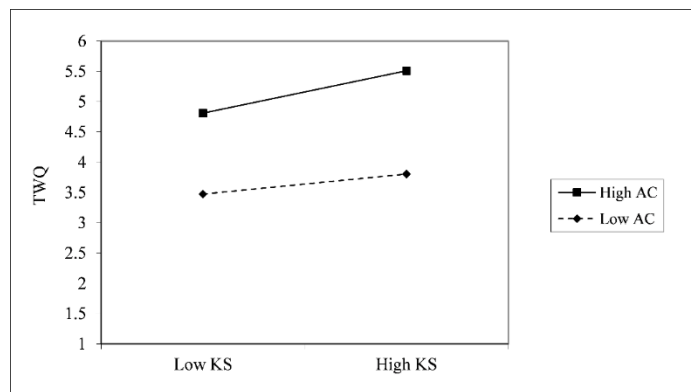
**TABLE 8**  
**THE MODERATING EFFECT OF AC ON THE RELATIONSHIP BETWEEN KS AND TWQ**

| Hypothesis     | Variable | B     | SE    | CR    | <i>p-value</i> |
|----------------|----------|-------|-------|-------|----------------|
| H <sub>5</sub> | KS X AC  | 0.092 | 0.132 | 4.913 | ***            |

Note: 1. \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

As illustrated in Figure 2, the positive relationship between knowledge sharing and teamwork quality was stronger under high affiliation climate than under low affiliation climate. This finding suggests that affiliation climate enhances the positive effect of knowledge sharing on teamwork quality.

**FIGURE 2**  
**INTERACTION PLOT OF THE MODERATING EFFECT OF AC ON THE RELATIONSHIP BETWEEN KS AND TWQ**



## DISCUSSION AND IMPLICATIONS

This study examined whether knowledge sharing explains the relationship between shared leadership and teamwork quality and whether affiliation climate shapes these relationships. The findings support a staged process model. Shared leadership was positively associated with knowledge sharing, knowledge sharing was positively associated with teamwork quality, and knowledge sharing partially mediated the relationship between shared leadership and teamwork quality. In addition, affiliation climate did not significantly moderate the relationship between shared leadership and knowledge sharing, but it did strengthen the positive relationship between knowledge sharing and teamwork quality.

### Discussion of Findings

The findings suggest that shared leadership improves teamwork quality in part because it encourages team members to exchange knowledge more actively. This result is consistent with the view that shared leadership distributes influence and responsibility across team members, thereby increasing participation and reciprocal contribution (Pearce & Conger, 2003; Carson et al., 2007). The positive effect of knowledge sharing on teamwork quality further indicates that teams function better when members openly exchange expertise, task information, and practical experience. Such exchanges likely improve coordination, mutual adjustment, and the integration of complementary knowledge, which are central to effective teamwork (Lewis, 2003; Srivastava et al., 2006; Wang & Noe, 2010).

The mediation result is particularly important because it clarifies how shared leadership is translated into better teamwork. Rather than affecting teamwork quality only directly, shared leadership appears to operate through a process in which distributed influence stimulates knowledge exchange, which then supports team functioning. At the same time, the mediation was partial, suggesting that other mechanisms may also connect shared leadership to teamwork quality.

The moderation findings reveal a more nuanced role for affiliation climate. Affiliation climate did not strengthen the relationship between shared leadership and knowledge sharing, suggesting that the initiation of knowledge sharing may depend more on structural features embedded in shared leadership than on socioemotional context. However, affiliation climate did strengthen the relationship between knowledge sharing and teamwork quality, indicating that a cohesive and acceptance-oriented climate helps teams make better use of shared knowledge. This interpretation is consistent with research showing that psychologically supportive contexts reduce interpersonal risk and facilitate the use of peer input in collective work (Edmondson, 1999; Schneider et al., 2013).

### Theoretical Implications

This study makes three main theoretical contributions. First, it extends shared leadership research by identifying knowledge sharing as a key mediating mechanism linking shared leadership to teamwork quality. This helps specify the process through which distributed influence improves team functioning (Pearce & Conger, 2003). Second, it distinguishes knowledge sharing from teamwork quality, showing that knowledge sharing is a proximal exchange process rather than simply another expression of teamwork effectiveness. This supports a more process-based view of team functioning in which leadership arrangements shape interaction processes, which then influence team outcomes (Lewis, 2003; DeChurch & Mesmer-Magnus, 2010). Third, the results suggest a stage-contingent role for affiliation climate. Shared leadership appears to initiate knowledge exchange through structural participation cues, whereas affiliation climate strengthens the translation of shared knowledge into coordinated teamwork. This interpretation is broadly consistent with social exchange theory and conservation of resources theory (Blau, 1964; Hobfoll, 1989; Hobfoll, 2001).

### Management and Practical Implications

For practice, the findings suggest that managers should first build structural conditions for shared leadership and then strengthen the team's affiliation climate. Shared leadership should be embedded through concrete arrangements such as rotating facilitation, distributed decision responsibilities, and visible

documentation of team decisions, rather than relying only on a leader's personal style (Hackman, 2002; Pearce & Conger, 2003). In addition, organizations should support knowledge sharing through practical routines and systems, such as after-action reviews, shared knowledge platforms, and incentives that reward contributions helping others perform better (Wang & Noe, 2010). Finally, managers should cultivate an affiliation climate that makes shared knowledge more likely to be accepted and used. Practices such as structured turn-taking, appreciation for peer support, and open discussion of mistakes can reduce interpersonal risk and improve the team's ability to convert knowledge into high-quality collaboration (Edmondson, 1999; Schneider et al., 2013).

## CONCLUSION

This study contributes to the teamwork and shared leadership literature by showing that shared leadership enhances teamwork quality partly through knowledge sharing and that affiliation climate strengthens the translation of shared knowledge into effective teamwork. Specifically, shared leadership was positively associated with knowledge sharing, knowledge sharing was positively associated with teamwork quality, and knowledge sharing partially mediated the relationship between shared leadership and teamwork quality. Although affiliation climate did not significantly moderate the relationship between shared leadership and knowledge sharing, it did strengthen the relationship between knowledge sharing and teamwork quality. These findings support a staged process perspective in which structural features initiate exchange and socioemotional climate enhances knowledge utilization (Pearce & Conger, 2003; Wang & Noe, 2010; Edmondson, 1999).

Several limitations remain. Future research should test stage-specific climates, examine boundary conditions such as team virtuality and task interdependence, and explore adjacent mechanisms such as voice and transactive memory. Longitudinal and multi-source designs would further strengthen causal inference and construct precision. For practice, the results suggest a clear sequence: organizations should first create the structural scaffolding for shared leadership and knowledge exchange, and then cultivate an affiliation climate that helps teams turn shared knowledge into high-quality coordination.

## REFERENCE

- AlKhyeli, A., & Hasan, H.B. (2023). A Framework to Investigate the Influence of Job Knowledge, Performance Appraisal, and Teamwork on Organisational Performance: Mediating Role of Retention. *International Journal of Operations and Quantitative Management*, 29(2), 157–176. <https://doi.org/10.46970/2023.29.2.08>
- Aryee, S., Budhwar, P.S., & Chen, Z.X. (2002). Trust as a mediator of the relationship between organizational justice and work outcomes: Test of a social exchange model. *Journal of Organizational Behavior: The International Journal of Industrial, Occupational and Organizational Psychology and Behavior*, 23(3), 267–285. <https://doi.org/10.1002/job.138>
- Bartol, K.M., & Srivastava, A. (2002). Encouraging knowledge sharing: The role of organizational reward systems. *Journal of Leadership & Organizational Studies*, 9(1), 64–76. <https://doi.org/10.1177/107179190200900105>
- Bergman, J.Z., Rentsch, J.R., Small, E.E., Davenport, S.W., & Bergman, S.M. (2012). The shared leadership process in decision-making teams. *The Journal of Social Psychology*, 152(1), 17–42. <https://doi.org/10.1080/00224545.2010.538763>
- Berraies, S., Hamza, K.A., & Chtioui, R. (2021). Distributed leadership and exploratory and exploitative innovations: mediating roles of tacit and explicit knowledge sharing and organizational trust. *Journal of Knowledge Management*, 25(5), 1287–1318. <https://doi.org/10.1108/JKM-04-2020-0311>
- Blau, P.M. (1964). Justice in social exchange. *Sociological Inquiry*, 34(2), 193–206. <https://doi.org/10.1111/j.1475-682X.1964.tb00583.x>

- Bock, G.W., Zmud, R.W., Kim, Y.G., & Lee, J.N. (2005). Behavioral intention formation in knowledge sharing: Examining the roles of extrinsic motivators, social-psychological forces, and organizational climate. *MIS Quarterly*, pp. 87–111. <https://doi.org/10.2307/25148669>
- Carmeli, A., Brueller, D., & Dutton, J.E. (2009). Learning behaviours in the workplace: The role of high-quality interpersonal relationships and psychological safety. *Systems Research and Behavioral Science: The Official Journal of the International Federation for Systems Research*, 26(1), 81–98. <https://doi.org/10.1002/sres.932>
- Carson, J.B., Tesluk, P.E., & Marrone, J.A. (2007). Shared leadership in teams: An investigation of antecedent conditions and performance. *Academy of Management Journal*, 50(5), 1217–1234. <https://doi.org/10.5465/amj.2007.20159921>
- Chang, H.H., Hung, C.J., Huang, C.Y., Wong, K.H., & Tsai, Y.J. (2017). Social capital and transaction cost on co-creating IT value towards inter-organizational EMR exchange. *International Journal of Medical Informatics*, 97, 247–260. <https://doi.org/10.1016/j.ijmedinf.2016.10.015>
- Chernyak-Hai, L., & Rabenu, E. (2018). The new era workplace relationships: Is social exchange theory still relevant? *Industrial and Organizational Psychology*, 11(3), 456–481. <https://doi.org/10.1017/iop.2018.5>
- Chew, Y.C., & Mohamed Zainal, S.R. (2024). A Sustainable Collaborative Talent Management Through Collaborative Intelligence Mindset Theory: A Systematic Review. *SAGE Open*, 14(2), 21582440241261851. <https://doi.org/10.1177/21582440241261851>
- Corrado, A., Pisacane, L., & Alarcón Ferrari, C. (2024). The agrifood-migration nexus: migration regimes and the politics of labour shortages in Italy and Sweden. *Journal of Ethnic and Migration Studies*, 50(5), 1252–1276. <https://doi.org/10.1080/1369183X.2023.2279749>
- Cotta, D., & Salvador, F. (2020). Exploring the antecedents of organizational resilience practices—A transactive memory systems approach. *International Journal of Operations & Production Management*, 40(9), 1531–1559. <https://doi.org/10.1108/IJOPM-12-2019-0827>
- Coyle-Shapiro, J.A., & Conway, N. (2005). Exchange relationships: examining psychological contracts and perceived organizational support. *Journal of Applied Psychology*, 90(4), 774–781. <https://doi.org/10.1037/0021-9010.90.4.774>
- Cummings, J.N. (2004). Work groups, structural diversity, and knowledge sharing in a global organization. *Management Science*, 50(3), 352–364. <https://doi.org/10.1287/mnsc.1030.0134>
- Dai, D.H., & Tan, K.H. (2023). The Influence of Organizational Culture and Shared Leadership on Digital Transformation and Firm Performance. *Journal of Governance and Regulation*, 12(3), 214–222. <https://doi.org/10.22495/jgrv12i3siart3>
- Davis, A.S., Kafka, A.M., González-Morales, M.G., & Feitosa, J. (2022). Team belonging: Integrating teamwork and diversity training through emotions. *Small Group Research*, 53(1), 88–127. <https://doi.org/10.1177/10464964211044813>
- DeChurch, L.A., & Mesmer-Magnus, J.R. (2010). The cognitive underpinnings of effective teamwork: a meta-analysis. *Journal of Applied Psychology*, 95(1), 32–53. <https://doi.org/10.1037/a0017328>
- Drescher, M.A., Korsgaard, M.A., Welp, I.M., Picot, A., & Wigand, R.T. (2014). The dynamics of shared leadership: building trust and enhancing performance. *Journal of Applied Psychology*, 99(5), 771–783. <https://doi.org/10.1037/a0036474>
- Earle, H.A. (2003). Building a workplace of choice: Using the work environment to attract and retain top talent. *Journal of Facilities Management*, 2(3), 244–257. <https://doi.org/10.1108/14725960410808230>
- Edmondson, A. (1999). Psychological safety and learning behavior in work teams. *Administrative Science Quarterly*, 44(2), 350–383. <https://doi.org/10.2307/2666999>
- Eisenberger, R., Armeli, S., Rexwinkel, B., Lynch, P.D., & Rhoades, L. (2001). Reciprocation of perceived organizational support. *Journal of Applied Psychology*, 86(1), 42–51
- Fornell, C., & Larcker, D.F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39–50. <https://doi.org/10.1177/002224378101800104>

- Gang, X. (2024). Study on the Optimization and Expansion of the Architectural Design Process by BIM Technology. *International Journal of Natural Resources and Environmental Studies*, 2(2), 191–197. <https://doi.org/10.62051/ijnres.v2n2.21>
- Grille, A., & Kauffeld, S. (2015). Development and preliminary validation of the shared professional leadership inventory for teams (SPLIT). *Psychology*, 6(01), 75–92. <https://doi.org/10.4236/psych.2015.61008>
- Gu, J., Chen, Z., Huang, Q., Liu, H., & Huang, S. (2018). A multilevel analysis of the relationship between shared leadership and creativity in inter-organizational teams. *The Journal of Creative Behavior*, 52(2), 109–126. <https://doi.org/10.1002/jocb.135>
- Gumusluoglu, L., Karakitapoğlu-Aygün, Z., & Scandura, T.A. (2017). A multilevel examination of benevolent leadership and innovative behavior in R&D contexts: A social identity approach. *Journal of Leadership & Organizational Studies*, 24(4), 479–493. <https://doi.org/10.1177/1548051817705810>
- Guo, Y., & Wang, J. (2024). Practices for rural population aging in China: Land-based pension. *Habitat International*, 151, 103136. <https://doi.org/10.1016/j.habitatint.2024.103136>
- Hackman, J.R. (2002). *Leading teams: Setting the stage for great performances*. Brighton, MA, USA: Harvard Business Press.
- Halbesleben, J.R., Neveu, J.P., Paustian-Underdahl, S.C., & Westman, M. (2014). Getting to the “COR” understanding the role of resources in conservation of resources theory. *Journal of Management*, 40(5), 1334–1364. <https://doi.org/10.1177/0149206314527130>
- Hair, J.F., Black, W.C., Babin, B.J., & Anderson, R.E. (2019). *Multivariate Data Analysis* (8th). Boston, MA, USA: Cengage.
- Handke, L., Aldana, A., Costa, P.L., & O'Neill, T.A. (2024). Hybrid teamwork: What we know and where we can go from here. *Small Group Research*, 55(5), 805–835. <https://doi.org/10.1177/10464964241279078>
- Ho, D.D. (2025). The Role of Social Capital and Shared Leadership in the Digital Transformation and Firm Performance. *SAGE Open*, 15(3), 21582440251347340. <https://doi.org/10.1177/21582440251347340>
- Hobfoll, S.E. (1989). Conservation of resources: a new attempt at conceptualizing stress. *American Psychologist*, 44(3), 513–524. <https://doi.org/10.1037/0003-066x.44.3.513>
- Hobfoll, S. E. (2001). The influence of culture, community, and the nested-self in the stress process: Advancing conservation of resources theory. *Applied Psychology*, 50(3), 337–421. <https://doi.org/10.1111/1464-0597.00062>
- Hoch, J.E. (2013). Shared leadership and innovation: The role of vertical leadership and employee integrity. *Journal of Business and Psychology*, 28, 159–174. <https://doi.org/10.1007/s10869-012-9273-6>
- Hoch, J.E (2014). Shared leadership, diversity, and information sharing in teams. *Journal of Managerial Psychology*, 29(5), 541–564. <https://doi.org/10.1108/JMP-02-2012-0053>
- Hoegl, M., & Gemuenden, H.G. (2001). Teamwork quality and the success of innovative projects: A theoretical concept and empirical evidence. *Organization Science*, 12(4), 435–449. <https://doi.org/10.1287/orsc.12.4.435.10635>
- Hoegl, M., & Parboteeah, K.P. (2003). Goal setting and team performance in innovative projects: On the moderating role of teamwork quality. *Small Group Research*, 34(1), 3–19. <https://doi.org/10.1177/1046496402239575>
- Hoegl, M., & Parboteeah, K.P. (2007). Creativity in innovative projects: How teamwork matters. *Journal of Engineering and Technology Management*, 24(1–2), 148–166. <https://doi.org/10.1016/j.jengtecman.2007.01.008>
- Holubčík, M., Soviar, J., & Rechterík, M. (2024). Systematic Approach to Academic Teamwork as Basis of Effective Cooperation. *Systems*, 12(9), 329. <https://doi.org/10.3390/systems12090329>
- Homans, G.C. (1958). Social behavior as exchange. *American Journal of Sociology*, 63(6), 597–606. <https://doi.org/10.1086/222355>

- Imam, H., & Zaheer, M.K. (2021). Shared leadership and project success: The roles of knowledge sharing, cohesion and trust in the team. *International Journal of Project Management*, 39(5), 463–473. <https://doi.org/10.1016/j.ijproman.2021.02.006>
- Kim, S.L. (2021). Supervisor knowledge sharing and employee knowledge sharing: The moderating roles of learning goal orientation and affective organizational commitment. *Sustainability*, 13(8), 4176. <https://doi.org/10.3390/su13084176>
- Kline, R.B. (2016). *Principles and practice of structural equation modeling* (4th ed.). New York, NY, USA: Guilford Press.
- Kumpulainen, K.R., Sajaniemi, N., Suhonen, E., & Pitkäniemi, H. (2023). Occupational well-being and teamwork in Finnish early childhood education. *Journal of Early Childhood Education Research*, 12(2), 71–97. <https://doi.org/10.58955/jecer.v12i2.119784>
- Lee, D.S., Lee, K.C., & Seo, Y.W. (2015). An analysis of shared leadership, diversity, and team creativity in an e-learning environment. *Computers in Human Behavior*, 42, 47–56. <https://doi.org/10.1016/j.chb.2013.10.064>
- Lei, H., Do, N.K., & Le, P.B. (2019). Arousing a positive climate for knowledge sharing through moral lens: the mediating roles of knowledge-centered and collaborative culture. *Journal of Knowledge Management*, 23(8), 1586–1604. <https://doi.org/10.1108/JKM-04-2019-0201>
- Lewis, K. (2003). Measuring transactive memory systems in the field: scale development and validation. *Journal of Applied Psychology*, 88(4), 587. <https://doi.org/10.1037/0021-9010.88.4.587>
- Liu-Farrer, G., Green, A.E., Ozgen, C., & Cole, M.A. (2023). Immigration and labor shortages: Learning from Japan and the United Kingdom. *Asian and Pacific Migration Journal*, 32(2), 336–361. <https://doi.org/10.1177/01171968231188532>
- Lyndon, S., Pandey, A., & Navare, A. (2020). Shared leadership and team creativity: Investigating the role of cognitive trust and team learning through mixed method approach. *Personnel Review*, 49(9), 1805–1822. <https://doi.org/10.1108/PR-05-2019-0262>
- Meslec, N., & Curşeu, P. L. (2015). Are balanced groups better? Belbin roles in collaborative learning groups. *Learning and Individual Differences*, 39, 81–88. <https://doi.org/10.1016/j.lindif.2015.03.020>
- Nunnally, J.C. (1978). *Psychometric theory* (2nd ed.). New York, NY, USA: McGraw-Hill.
- Pearce, C.L., & Conger, J.A. (2003). All those years ago. *Shared Leadership: Reframing the Hows and Whys of Leadership*, 1–18.
- Preacher, K.J., & Hayes, A.F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods*, 40(3), 879–891. <https://doi.org/10.3758/BRM.40.3.879>
- Podsakoff, P.M., MacKenzie, S.B., Lee, J.Y., & Podsakoff, N.P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88(5), 879–903.
- Ramthun, A.J., & Matkin, G.S. (2012). Multicultural shared leadership: A conceptual model of shared leadership in culturally diverse teams. *Journal of Leadership & Organizational Studies*, 19(3), 303–314. <https://doi.org/10.1177/1548051812444129>
- Rosen, M.A., DiazGranados, D., Dietz, A.S., Benishek, L.E., Thompson, D., Pronovost, P.J., & Weaver, S.J. (2018). Teamwork in healthcare: Key discoveries enabling safer, high-quality care. *American Psychologist*, 73(4), 433–450. <https://doi.org/10.1037/amp0000298>
- Schneider, B., Ehrhart, M.G., & Macey, W.H. (2013). Organizational climate and culture. *Annual Review of Psychology*, 64(1), 361–388. <https://doi.org/10.1146/annurev-psych-113011-143809>
- Srivastava, A., Bartol, K.M., & Locke, E.A. (2006). Empowering leadership in management teams: Effects on knowledge sharing, efficacy, and performance. *Academy of Management Journal*, 49(6), 1239–1251. <https://doi.org/10.5465/amj.2006.23478718>
- Sun, Y., Shang, R.A., Cao, H., Jiang, H., Boehnke, K., & Fu, J. (2022). Improving knowledge transfer through enterprise social media: The mediating role of transactive memory. *Industrial Management & Data Systems*, 122(1), 272–291. <https://doi.org/10.1108/IMDS-04-2021-0216>

- Szajna, A., & Kostrzewski, M. (2022). AR–AI tools as a response to high employee turnover and shortages in manufacturing during regular, pandemic, and war times. *Sustainability*, 14(11), 6729. <https://doi.org/10.3390/su14116729>
- Tarique, I., & Schuler, R.S. (2010). Global talent management: Literature review, integrative framework, and suggestions for further research. *Journal of World Business*, 45(2), 122–133. <https://doi.org/10.1016/j.jwb.2009.09.019>
- Wang, J.K., Ashleigh, M., & Meyer, E. (2006). Knowledge sharing and team trustworthiness: it's all about social ties! *Knowledge Management Research & Practice*, 4(3), 175–186. <https://doi.org/10.1057/palgrave.kmrp.8500098>
- Wang, S., & Noe, R.A. (2010). Knowledge sharing: A review and directions for future research. *Human Resource Management Review*, 20(2), 115–131. <https://doi.org/10.1016/j.hrmr.2009.10.001>
- Wang, Y., & Jin, X. (2023). Exploring the role of shared leadership on job performance in IT industries: Testing the moderated mediation model. *Sustainability*, 15(24), 16767. <https://doi.org/10.3390/su152416767>
- Zhu, J., Liao, Z., Yam, K.C., & Johnson, R.E. (2018). Shared leadership: A state-of-the-art review and future research agenda. *Journal of Organizational Behavior*, 39(7), 834–852. <https://doi.org/10.1002/job.2296>