Perceived climate of Cha-xu and trust on knowledge sharing: a moderated mediation model

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Abstract

**Purpose** – This study aims to identify an antecedent that hinders knowledge sharing, namely, the perceived climate of Cha-xu. Based on the social exchange perspective, the authors propose a theoretical model that links the perceived climate of Cha-xu to employee knowledge sharing. This model focuses on the mediating role of two types of trust (vertical and horizontal trust) and the moderating role of task interdependence in influencing the mediation.

**Design/methodology/approach** – Using a sample of 509 Chinese employees, this study carried out a survey on an online platform. This study developed a structural equation model and tested the moderated mediation hypothesis by using Mplus 8.0.

**Findings** – The results showed that two types of trust act as mediators in the relationship between the perceived climate of Cha-xu and knowledge-sharing processes. The mediating effect of horizontal trust is stronger. Most significantly, findings show that this mediated relationship is contingent on the level of task interdependence.

**Originality/value** – This paper provides evidence for distinguishing vertical trust and horizontal trust in the field of knowledge management. From a managerial perspective, this study identifies traditional cultural factors for hindering knowledge-sharing processes within Chinese organizations.

**Keywords**  The perceived climate of Cha-xu, Vertical and horizontal trust, Knowledge sharing, Task interdependence

**Paper type** Research paper

1. Introduction

Knowledge sharing, as one of the most important sources of organizational competitiveness and continuous innovation, has led to a rapid growth of interest among practitioners and researchers (Cheng et al., 2021; Rahimi et al., 2017). Obviously, employees who refuse to
share knowledge with their coworkers threaten the fundamental interests of an organization (Bavik et al., 2018). Moreover, as knowledge is a critical asset for each individual. Employees may perceive potential risks in sharing their valuable knowledge with others. The importance of knowledge sharing for organization innovation performance coupled with the high potential risks for each employee makes it imperative to better understand the relative importance of the antecedents of hindering knowledge sharing.

Numerous studies have been conducted to examine the factors that influence knowledge-sharing behaviors (Singh et al., 2021; Zhang et al., 2017). To date, research on knowledge sharing has primarily focused on investigating the factors that contribute to knowledge sharing from a positive perspective. Some of these factors include knowledge self-efficacy (Kim and Yun, 2015), altruism (Obrenovic et al., 2020), leader competencies (Swanson et al., 2020), etc. Although these research studies can help organizations directly promote employee knowledge sharing, the literature on this topic is still limited in the following ways.

First, previous research has noted that the impact of negative events on knowledge sharing is significantly greater than that of positive ones (Baumeister et al., 2001). While the effects of negative situational factors received relatively limited attention (Lee et al., 2018). Given the importance of knowledge sharing, it is necessary to determine when employees may choose not to share their knowledge. Second, the significance of leader behaviors in knowledge sharing has been emphasized due to their crucial role in enhancing organizational efficiency, goal achievement and employee engagement (Dierdorff et al., 2009). Most of the leadership research focuses on the relationship between effective leader behaviors and knowledge sharing (Lu et al., 2019). However, some studies have found that harmful leadership behaviors can hinder knowledge sharing (Choi et al., 2019). Third, in terms of factor finding, cultural factors such as individualism-collectivism, power distance and uncertainty avoidance, seem to pose significant challenges in knowledge management practices (Castaneda and Ramirez, 2021; Chiu et al., 2017; Kim, 2019a, 2019b). Among studies on knowledge management with Chinese employees, only a limited number of studies have explored the influence of specific variables based on the Chinese social and cultural background (Fan, 2021; Xu et al., 2023; Zhao et al., 2017). For instance, variables such as Zhong-yong thinking, seniority culture and face expectancy have been examined. In the extant knowledge management literature, although these studies provided some insights into how traditional Chinese culture could affect knowledge sharing. However, the influence of Chinese traditional culture on knowledge sharing is still not clear and requires further study, both in terms of quantity and content.

Furthermore, exploring the mechanisms that link independent variables to knowledge sharing is also the focus of existing research, such as psychological safety, trust, organizational citizenship behavior and workplace belongingness (Kmieciak, 2020; Enwereuzor, 2021; Yin et al., 2019; Hasnat Bhatti et al., 2023). As knowledge sharing is a form of social exchange behavior, many researchers focus on trust behaviors as an important independent variable. For example, Blau (2017) proposed that trust is a crucial factor in integrating and maintaining social exchange relationships. In other words, individuals can gauge the degree of uncertainty by assessing trust and subsequently adapt their attitudes and behaviors accordingly. However, when research divides trust by referents, the existing discussion does not fully integrate and compare the differences of each type of trust (Le and Lei, 2018; Le and Nguyen, 2023; Park and Kim, 2018; Ng, 2023). Some studies have independently examined the relationship between trust in leadership and trust in coworkers. For example, Le and Nguyen (2023) clarified the influences of ethical leadership on employees’ knowledge-sharing behaviors by considering the mediating roles of trust in
leadership. Therefore, our understanding of how trust affects knowledge sharing is still inadequate. Further study is needed to examine the boundary conditions to gain a better understanding of the relationship between independent variables and trust.

The present research contributes to the existing literature by solving the above problems in the following several ways. First, our research contributes to understanding the relationship between traditional Chinese culture and knowledge sharing. We examine the Cha-xu climate (it is based on the benevolence, justice, propriety of Confucian culture, and it is the result of a harmful leadership behavior) which is a factor to hinder knowledge sharing. We also explore the mediation mechanisms that explain the proposed effect as an obstacle to employee knowledge sharing. Existing conclusions about the influence of Cha-xu climate on knowledge sharing are inconsistent (Peng and Zhao, 2011; Xu, 2015). This paper can further clarify the relationship between them. Second, our research integrates trust in team leaders and trust in team members into a framework and explores their mediating mechanism in the relationship between the Cha-xu climate and knowledge sharing. We discuss whether the influence of the Cha-xu climate on the two types of trust is different and can help us understand which type of trust is more important for knowledge sharing. Third, we select task interdependence as a buffer that could reduce trust among members amidst the perceived climate of Cha-xu. This is a crucial point in the literature because establishing trust requires opportunities for interaction and information exchange (Wu and Lee, 2016). The influence of leader behavior can be modified through interactions among colleagues (Shen et al., 2019). By understanding these important issues better, this study supplements the existing research and illuminates’ implications of helping organizations to ease the harmful impacts of Cha-xu climate.

2. Theoretical background and hypothesis development

2.1 Knowledge sharing and the perceived climate of Cha-xu

Knowledge sharing is a prerequisite for innovation. How to promote knowledge sharing has become an important research topic in the field of innovation management. Several researchers have summarized the antecedent variables which have an impact on knowledge sharing (Bavik et al., 2018). Knowledge sharing is a common phenomenon in both eastern and western organizations. However, the social and cultural backgrounds of the east and the west have distinct characteristics. Organizations that were established and developed in their respective social and cultural backgrounds will inevitably be influenced by culture. Therefore, the social and cultural environment needs to be considered in research on the knowledge-sharing behavior of employees within an organization.

Under the social-cultural context of the “guan-xi” orientation in China, scholars have identified an organizational climate resulting from the differential treatment of leaders, known as the “Cha-xu” climate (Fei, 1948; Liu, 2003). According to the density of relationships, leaders categorize team members into in-group and out-group and, subsequently, adopt differential treatment toward employees based on these distinctions (Lai et al., 2018). In the Chinese workplace, the Cha-xu climate is widespread and has a profound impact on both the individual and organizational levels (Chen and Dian, 2018). Knowledge sharing, an important behavior of employees in the workplace, may also be affected. Given the importance of knowledge sharing in such cultural environment, it is crucial to explore the relationship between the two. This will also help to promote the knowledge sharing behavior of employees within Chinese organizations.

Existing conclusions about the influence of Cha-xu climate on knowledge sharing are inconsistent. On the one hand, Xu (2015) found that implicit knowledge sharing can be promoted from a motivational perspective in high-level Cha-xu climate. On the other hand,
studies have found a negative relationship between Cha-xu and knowledge sharing. For example, based on a fairness perspective, Peng and Zhao (2011) discovered that the Cha-xu climate has a significant negative impact on individuals’ knowledge-sharing behavior. Other studies have also observed the occurrence of poor knowledge sharing under high-level cha-xu climate. The perceived climate of Cha-xu will positively affect knowledge destruction behavior and impede knowledge exchange within the organization (Sun and Lin, 2021; Feng et al., 2023). Research on the exchange difference between leaders and members has also found that a significant difference corresponds to a decrease in knowledge sharing behavior among employees (Kim et al., 2023; Tang et al., 2021). Although the Cha-xu climate does not uniformly affect knowledge sharing, the existing effects on the Cha-xu climate from emotional and psychological perspectives suggest that the impact of the Cha-xu climate is largely negative (Zhu and Xie, 2018).

Specially, according to social exchange theory and its reciprocity criteria (Cropanzano et al., 2017), we note that when individuals feel that they will benefit or are receiving positive treatment, they feel obligated to reciprocate. Furthermore, knowledge sharing is also an exchange behavior. When individuals feel that they are supported by their leaders, they are more willing to share their knowledge (Nerstad et al., 2018). The Cha-xu climate is a situation caused by leaders’ differential treatment, and most employees are alienated by leaders, which is called out-group members. In this kind of situation, out-group members’ knowledge-sharing behavior may be negatively affected. When out-group members are subjected to an unjust and inequitable organizational environment, there is a propensity for an escalation in knowledge-hiding behavior (Xiong et al., 2021; Akram et al., 2020).

For in-group members, the social comparison theory proposes that individuals belonging to an in-group will experience a sense of satisfaction and superiority when comparing themselves to members of an out-group. Consequently, individuals belonging to the group may demonstrate a tendency to avoid interacting with individuals who are not part of the in-group (Tang et al., 2020). Finally, according to the principles of social cognitive theory (Wood and Bandura, 1989), an unequal environment can cause both in-group and out-group employees to generate confrontational cognitive processes. This impedes the exchange of knowledge among employees (Yu and Xue, 2023). Thus, we posit that employees will exhibit a reluctance to engage in knowledge sharing activities when they perceive a climate of serious Cha-xu:

**H1.** The perceived climate of Cha-xu is negatively related to knowledge sharing.

### 2.2 Mediating effect of interpersonal trust

Trust can be viewed from different perspectives (Feitosa et al., 2020; Paliszkiewicz, 2018) and may yield different findings (Hughes et al., 2018). Accumulated evidence has consistently confirmed a positive relationship between team or lateral trust and performance (Palanski et al., 2011). But research on vertical trust has yielded inconsistent results. Therefore, this study aims to explore the difference in the influence of the Cha-xu climate on knowledge sharing through the two aspects of trust.

The climate of Cha-xu, as an organizational context formed by the differential treatment of leaders, contains information about the differential allocation of relevant resources by leaders based on the distance of relationships. According to the principles of social cognitive theory (Wood and Bandura, 1989), individuals engage in the cognitive processing and interpretation of information present in their social environment, which subsequently influences the formation and expression of their attitudes. In the context of the Cha-xu climate, a significant portion of the out-group has experienced a decrease in trust levels
(Chen and Dian, 2018). This leads to negative psychological responses during their cognitive processing (Shen et al., 2019; Kadam and Waheed, 2022). The reciprocity norms, as proposed by social exchange theory (Cropanzano et al., 2017), suggest that differential treatment by leaders has a detrimental effect on the quality of the exchange relationship between employees and leaders (Zhu and Xie, 2018). Furthermore, employees’ responses to leaders correspond to how they perceive their treatment by leaders. Thus, in the Cha-xu climate, most employees who are differentially treated will reduce their trust in the leader in return for the low level of trust shown by the leader (Luo and Cheng, 2015).

For in-group employees, their relationship with managers is very close. They can gain the trust in the organization and often maintain frequent exchange relationships with their leaders (Zhang et al., 2018). However, although these employees may be given more resources and attention in their work, they face the possibility of reshuffling at any time due to being taken care of by their own leaders, and they are willing to make extra efforts to “benefit” insiders. While consolidating their status, they often have a high sense of insecurity and distrust, which may make them worry about becoming potential “victims” of leadership’s improper treatment in the future (Dong et al., 2020; Kunze et al., 2016). As a result, employees within the in-group also have less confidence in receiving a fair return on their investment. Therefore, this study proposes that a strong perception of Cha-xu corresponds to reduced trust among most team members in the team leader.

In a team, resources are limited and employees need to acquire more resources. The differential treatment by leaders can create a situation in which competition for resources becomes intense among team members. Employees who receive fewer resources may become dissatisfied with their colleagues who have more resources and may take corresponding actions to acquire additional resources and enhance their competitiveness. Employees with access to more resources may also take steps to maintain their status. Research has found that in a strong Cha-xu climate, individuals comparing themselves with others can undermine the sense of camaraderie among employees and promote exclusion (Yuan et al., 2016), reduce their interpersonal trust (Paşamahmetoğlu et al., 2022). Thus, this study proposes that the perceived climate of Cha-xu is high, individuals will have less trust in team members.

The above findings show that the perceived climate of Cha-xu has a negative impact on trust. Trust, however, is crucial to social exchange behavior. Because knowledge sharing is a form of social exchange behavior, and at its core, social exchange involves mutual benefit. When one party provides the other party with something tangible or intangible, it expects to receive feedback in return. Yet, the timing and outcome of the feedback are uncertain; in other words, knowledge sharing involves an exchange activity that carries certain risks (Lin et al., 2020). Trust can reduce this risk and uncertainty because trust is the positive belief that both parties in an exchange still believe that the other party is reliable and will not take advantage of their weaknesses. Trust also entails the expectation of a positive result in an uncertain situation.

In relation to the influence of trust on knowledge sharing, individuals are more inclined to share their expertise and skills when they trust their leaders (Bhatti et al., 2021). As trust in the leader is high, team members are more willing to put in the effort to achieve the performance objectives that the team leader emphasizes. Trust among team members enhances the predictability of others’ future behavior, reducing the fear of risk and fostering a greater willingness to share knowledge with one another (Le and Nguyen, 2023). The trust relationship becomes more pronounced when we point to distinguishing specific aspects of trust, namely, trust in leaders and the effects of trust among members (Le and Lei, 2018).
In accordance with the path of environmental factors–cognition behavior, this paper proposes that the atmosphere of the perceived climate of Cha-xu negatively impacts on knowledge sharing by reducing the interpersonal trust:

\( H2. \) The relationship between the perceived climate of Cha-xu and knowledge sharing is mediated by trust in leaders.

\( H3. \) The relationship between the perceived climate of Cha-xu and knowledge sharing is mediated by trust in team members.

### 2.3 Moderating effect of task interdependence

According to social exchange theory (Cropanzano \textit{et al.}, 2017), social exchange can be more effectively mobilized among team members in highly interdependent task environments (Fong \textit{et al.}, 2018). Numerous studies have confirmed that task interdependence is an important contextual moderator. Where research has found that leaders’ differential treatment of team members is more acceptable in teams with high task interdependence (Han and Bai, 2014), therefore, we can see that task interdependencies support communication and cooperation and enable target individuals to adapt to each other and increase their interactions with each other. High task interdependence can also reduce the negative impact of unfairness on willingness to cooperate (Zhang \textit{et al.}, 2021). The above findings show that the perceived climate of Cha-xu will negatively impact the trust between colleagues. Therefore, employees must communicate with each other to complete the interdependent work tasks. Communication may help employees increase opportunities to understand each other and establish good interpersonal relationships. This paper proposes that task interdependence may moderate the relationship between the perceived climate of Cha-xu and team interpersonal trust. Teams with high task interdependence will experience a weakened negative effect of the perceived climate of Cha-xu on team members’ trust because members interact and observe each other’s performance more closely. In contrast, teams with low task interdependence experience a highly negative impact of the perceived climate of Cha-xu on team members’ trust. However, task interdependence is mainly among team members (Wu and Lee, 2016) and does not moderate the indirect effect of leadership trust on the relationship between the perceived climate of difference and knowledge sharing. Specific predictions are as follows:

\( H4. \) Task interdependence does not moderate the relationship between the perceived climate of Cha-xu and trust in leaders.

\( H5. \) Task interdependence moderates the relationship between the perceived climate of Cha-xu and trust in team members.

Task interdependence not only moderates the relationship between the perceived climate of Cha-xu and team members’ trust, but it may also influence the indirect impact of the perceived climate of Cha-xu on knowledge sharing through team member trust (Le Blanc \textit{et al.}, 2021; Zhang \textit{et al.}, 2022). Specifically, confidence in the team members mediates the perceived climate of Cha-xu influence on knowledge sharing. However, the intensity of the mediation effect will be affected by high and low task interdependence, as explained above. Thus, we present the following hypothesis:

\( H6. \) The indirect effect of the perceived climate of Cha-xu on knowledge sharing through trust in leaders is not moderated by task interdependence.
The indirect effect of the perceived climate of Cha-xu on knowledge sharing through trust in team members is moderated by task interdependence.

In summary, we integrate theories of Cha-xu climate, interpersonal trust and social exchange theory and social cognitive theory into the research model shown in Figure 1.

3. Method
3.1 Sample characteristics and data collection
We collected our primary data through online surveys on the Credamo platform, a reliable Chinese data-collection platform similar to Qualtrics Online Sample which is increasingly used by many psychological and managerial researchers (Ding and Xu, 2023; Gong et al., 2020; Jiang and Sedikides, 2021; Tian et al., 2022). These surveys yielded a total of 509 complete and valid responses for data analysis.

Demographics are as follows. Gender: the participants were 63.26% female and 36.74% male. Age: 25.95% below 25 years old, 37.13% between 25 and 30 years old, 24.95% between 30 and 35 years old and 12.97% above 35 years old, the average age was 29.3 years old. Team size: 1.96% had 3 team members, 25.15% had 4–7 team members, 34.18% had 8–11 team members and 38.70% had 12 or more team members. Education: 13.75% held a bachelor’s degree below, 77.14% held a bachelor’s degree and 8.84% had a master’s degree or above. Working experience: 22.40% had been working for one year or less, 36.35% had been working for one to three years and 41.26% had been working for three years or longer and the average working years was 2.3 years.

3.2 Variable measurement
All main variables were measured by a seven-point Likert scale ranging from “strongly disagree” (1) to “strongly agree” (7).

The perceived climate of Cha-xu adopted the scale by Liu (2003), which included 11 items from 3 dimensions, namely, interdependence, favoritism and cronies. Interdependence measures whether the leader maintains a close emotional relationship with a particular member (e.g. the supervisor has frequent contact with individual subordinates). Favoritism mainly measures whether the leader exhibits favoritism in resource allocation, treatment and promotion (for example, some colleagues are promoted faster than others). The crony role is when a small number of subordinates gain trust by acting as the boss’s close helper at work (e.g. certain subordinates help the supervisor with some tasks). This study does not
conduct detailed research at the dimension level. Thus, the three dimensions are combined to obtain constructs. Cronbach’s alpha was 0.921.

This study focuses on interpersonal trust in the team, which is divided into two dimensions: trust in team members and trust in team leaders. We used Podsakoff et al. (1990) six-items scale to measure the extent to which employees evaluated their trust in the leader, including “I feel confident that my leader will always try to treat me fairly” and “My manager would never try to gain an advantage by deceiving workers.” Cronbach’s alpha was 0.873. Trust in team members was measured using a scale developed by Cook and Wall (1980), which includes six items to assess the employees’ trust in their team members, such as “I can trust the people I work with to lend me a hand if I needed it” and “I can rely on other workers not to make my job more difficult by working carelessly.” Cronbach’s alpha was 0.807.

Knowledge sharing behavior was measured by using the scale developed by Lu et al. (2006), which is based on the Bock’s scale and is combined with the Chinese cultural background. The scale has a total of eight question items, such as “In daily work, I take the initiative to share my work-related knowledge with my colleagues” and “I keep my work experience and never share it with others easily(R),” Cronbach’s alpha was 0.894.

We used five items from Van der Vegt and Janssen (2003) to measure individual team members’ task interdependence. These items include: “I need information and advice from my colleagues to perform my job well” and “I have a one-person job; it is not necessary for me to coordinate or cooperate with others”, etc. Cronbach’s alpha was 0.818.

In this study, the four most common demographic variables in organizational behavior – gender, age, education and working years – were selected as control variables. These variables have an impact on the outcome variables (Martins and Meyer, 2012). Team size affects employee attitudes and behaviors (Jackson et al., 1991). Thus, this study also controlled for team size.

4. Results
4.1 Common method bias
The study used self-reported data and common method biases may be present. First, the results of using SPSS 20 for Harman’s univariate test show that the cumulative variance explained by the rate of the first precipitation factor is 33.756%, which does not exceed 40%. Therefore, the tentative belief is that the common method bias of the measurement data in this study is small and will not lead to false correlations among the data results. Second, a single-factor confirmatory factor analysis was performed on all self-assessed items to test for common method bias, and the results showed poor model fit ($\chi^2$/df = 9.458, RMSEA = 0.129, CFI = 0.564, TLI = 0.534). Findings indicate that no serious common method bias problem exists.

4.2 Confirmatory factor analysis
We conducted a series of confirmatory factor analyses to examine the discriminant validity and convergent validity of the study variables by using Mplus 8.0. The factor loading into each item was greater than the cutoff value of 0.5 and was significant at the 0.01 level. As shown in Table 1, the average variant extraction amount of each variable is greater than or near the standard of 0.50, indicating the high convergent validity of the questionnaire scales. The discriminant validity of each variable was tested by model comparison. As exhibited in Table 2, the hypothesized five-factor measurement model yielded a good fit to the data ($\chi^2 = 1170.162$, df = 454, $\chi^2$/df = 2.577, CFI = 0.920, TLI = 0.913, RMSEA = 0.056). Moreover, the five-factor model fits better than several competing models. The result supports the notion that five constructs are distinguishable.
4.3 Descriptive statistics

Table 3 presents the basic descriptive statistics and correlations among study variables. A significant negative correlation exists between the perceived climate of Cha-xu and employee knowledge sharing \( r = -0.231, p < 0.01 \), which is consistent with \( H1 \).

4.4 Test for multicollinearity

As shown in Table 3, the correlations among focal study variables are below the threshold of 0.70 (Dormann et al., 2013), and the largest variance inflation factor across all the regression models was 2.150, which relieves multicollinearity concerns.

4.5 Structural equation modeling and analysis

4.5.1 Test of mediation. One structural equation modeling was performed to analyze the relationship between variables with the help of Mplus 8.0. We controlled for the demographic variables (gender, age, education, hours worked and team size). The results are shown in Table 4.

<table>
<thead>
<tr>
<th>Factor</th>
<th>Item</th>
<th>Estimate</th>
<th>SD</th>
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<th>CR</th>
<th>AVE</th>
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<td>0.53</td>
</tr>
<tr>
<td></td>
<td>E02</td>
<td>0.677***</td>
<td>0.028</td>
<td>23.983</td>
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<tr>
<td></td>
<td>E03</td>
<td>0.711***</td>
<td>0.026</td>
<td>27.114</td>
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<tr>
<td></td>
<td>E04</td>
<td>0.785***</td>
<td>0.022</td>
<td>35.320</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes: ***p < 0.001; CR = composite reliability; AVE = average variance extract
Source: Authors’ own work

Table 1. Convergent validity
First, the mediating effect of team leader trust. The main effect of the perceived climate of Cha-xu on employees’ knowledge sharing was tested, and the results show that the main effect is significant ($\beta = -0.108, p < 0.01$). Then, the direct effect of the perceived climate of Cha-xu on employees’ knowledge sharing is not significant ($p > 0.05$) after trust in leaders.
was added. Leadership trust has a significant effect on knowledge sharing \((\beta = 0.192, p < 0.05)\), and the Cha-xu climate has a significant effect on leadership trust \((\beta = -0.339, p < 0.01)\). The mediating effect value is \(\beta = -0.065, p < 0.05\) and the 95% confidence interval is \([-0.135, -0.013]\). Thus, \(H2\) was supported.

To test the mediating effect of team members was tested, the main effect of Cha-xu climate perception on employees’ knowledge sharing, and the result shows that the main effect is significant \((\beta = -0.108, p < 0.01)\). After the addition of trust in team members, the direct effect of the perceived climate of Cha-xu on employee knowledge sharing is not significant \((p > 0.05)\); the effect of team member trust on knowledge sharing is significant \((\beta = 0.783, p < 0.01)\); and the effect of Cha-xu climate on team member trust is significant \((\beta = -0.226, p < 0.01)\). The mediating effect value was \(\beta = -0.177, p < 0.05\), and the 95% confidence interval was \([-0.258, -0.122]\). Therefore, it can be seen that the perceived climate of Cha-xu has a negative impact on knowledge sharing through the two dimensions of team interpersonal trust. Thus, \(H3\) was supported.

The above results show that the two mediating effects were significantly different, and the confidence interval was \([-0.230, -0.014]\). The influence of trust in team members on knowledge sharing was stronger than that trust in leader \((0.783 > 0.192)\), and the difference is significant, confidence interval was \([-0.090, -0.227]\). The negative effect of the perceived of Cha-xu climate on the trust in leader was stronger than that on the trust in team members \((-0.339 > -0.226)\), and the difference was significant, confidence interval was \([-0.196, -0.030]\).

4.5.2 Test of moderation. This study argues that task interdependence does not moderate the relationship between the perceived climate of Cha-xu and trust in the team leader, however, it plays a moderating role in the relationship between the perceived climate of Cha-xu and trust in team members. The specific analyses are as follows.

When the mediating variable is trust in leaders; the interaction terms of the perceived climate of Cha-xu and task interdependence have a significant predictive effect on trust in leadership \((\beta = 0.157, p < 0.05)\). To further confirm whether the moderating effect of task interdependence between the perception of Cha-xu climate and the relationship of leadership trust is in line with the original expectation, this study refers to the practice of Aiken et al. (1991), taking the value of task plus and minus one standard deviation into the regression model and drawing it (see image below).

Figure 2 shows that the negative correlation between the perceived climate of Cha-xu and the trust in leadership is weaker in the high-task interdependence situation compared with the low-task interdependence situation, which is in line with the original expectation. This study conducted a simple slope analysis to more accurately judge the significance of the moderating effect. Results showed that in the context of high task interdependence, the negative correlation between the perceived climate of Cha-xu and trust in leadership was weak (simple slope of \(-0.171, p < 0.05\)). In contrast, in the context of low task interdependence (the mean of task interdependence minus one standard deviation), the negative association between the perceived climate of Cha-xu and trust was stronger (simple slope of \(-0.484, p < 0.01\)). The result rejects \(H4\). In cases of high task interdependence, this will help employees understand why some of their colleagues are favored by their leaders. If employees can accept these reasons, the negative feelings toward the leader will be reduced.

When the mediating variable is team member trust, the interaction term between the perceived climate of Cha-xu and task interdependence on trust in members is significant \((\beta = 0.146, p < 0.01)\). To further confirm whether the moderating effect of task interdependence on the perceived climate of Cha-xu and the trust relationship of team members is consistent with the original expectation, this study refers to the practice of
Aiken et al. (1991), taking the value of task plus or minus one standard deviation into the regression model and plotting it (see Figure 3).

Figure 3 shows that compared with the situation with low task interdependence, the negative correlation between the differential atmosphere and trust is weaker in the high task interdependence situation, which is in line with the original expectation. At the same time, this study conducted a simple slope analysis to more accurately judge the significance of the moderating effect. Result shows that in the context of high task interdependence (the mean
of task interdependence plus one standard deviation), a weakly negative correlation existed between the perceived climate of Cha-xu and trust in team members (simple slope of $-0.055$, $p < 0.01$). In contrast, in situations with low task interdependence (mean task interdependence minus one standard deviation), the perceived climate of Cha-xu was negatively associated with trust in team members (simple slope of $-0.348$, $p < 0.01$). This result supports $H5$.

4.5.3 Test of moderated mediation. The results of the moderated mediation effect test are shown in Table 5. First, task interdependence can moderate the mediating effect of trust in leadership between the perceived climate of Cha-xu and employee knowledge sharing; that is, when task interdependence is low, trust in leadership is the difference between the perception of differential climate and employee knowledge sharing. The mediating effect between them is significant; the indirect effect is $-0.125$, and the 95% confidence interval is $[-0.218, -0.064]$. However, when the task interdependence is high, the mediating effect is significant, but the effect value is low at $-0.044$. This finding shows that a high level of task interdependence corresponds to a weak indirect relationship between the perceived climate of Cha-xu and knowledge sharing through trust in leadership. Thus, $H6$ is rejected.

Similarly, when task interdependence is low, team member trust plays an important role in the perceived climate of Cha-xu and employee knowledge sharing. The mediating effect between the two is significant; the indirect effect is $-0.279$, and the 95% confidence interval is $[-0.383, -0.158]$, excluding zero in the CI. However, when the task interdependence is high, the mediating effect is $-0.044$, the 95% confidence interval is $[-0.095, -0.109]$, excluding zero in the CI. This finding indicates that a high level of task interdependence weakens the indirect relationship between the perceived climate of Cha-xu and knowledge sharing through team member trust. Thus, $H7$ is supported.

5. Discussion
Based on a sample of 509 Chinese employees, this study found that the perceived climate of Cha-xu had significant effects on both vertical and horizontal trust, as well as significant indirect effects on knowledge sharing. In addition, both vertical and horizontal trust mediated the negative relationship between the perceived climate of Cha-xu and knowledge sharing. Furthermore, task interdependence moderated the relationship between the perceived climate of Cha-xu and team interpersonal trust. These relationships were found to be more pronounced for individuals with lower levels of task interdependence. We will discuss the implications of these findings for theory and practice, identify the limitations of the study and propose directions for future research.

<table>
<thead>
<tr>
<th>Mediator</th>
<th>Moderator level</th>
<th>Conditional indirect effect</th>
<th>Bootstrap 95% CI</th>
<th>Notes: *$p &lt; 0.05$; **$p &lt; 0.01$</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>LL 95% CI</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>UL 95% CI</td>
<td></td>
</tr>
<tr>
<td>Trust in team members</td>
<td>High</td>
<td>$-0.044** (0.049)$</td>
<td>$-0.095$</td>
<td>$-0.109$</td>
</tr>
<tr>
<td></td>
<td>Low</td>
<td>$-0.279** (0.022)$</td>
<td>$-0.383$</td>
<td>$-0.158$</td>
</tr>
<tr>
<td></td>
<td>Difference</td>
<td>$0.235** (0.027)$</td>
<td>$0.150$</td>
<td>$0.333$</td>
</tr>
<tr>
<td>Trust in leader</td>
<td>High</td>
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<td>$-0.087$</td>
<td>$-0.019$</td>
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<tr>
<td></td>
<td>Low</td>
<td>$-0.125** (0.016)$</td>
<td>$-0.218$</td>
<td>$-0.064$</td>
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<tr>
<td></td>
<td>Difference</td>
<td>$0.081** (0.027)$</td>
<td>$0.039$</td>
<td>$0.150$</td>
</tr>
</tbody>
</table>

Table 5. Mediated moderation effect results

Source: Authors’ own work
5.1 Theoretical implications

With the increasing importance of individual knowledge sharing in knowledge-based organizational environments, our findings suggest several important insights that can provide a new comprehensive explanation of perceived climate of Cha-xu and knowledge sharing.

Our first theoretical contribution consists in demonstrating that the perceived climate of Cha-xu is negatively related to employee knowledge sharing behaviors. It is important to identify the antecedent factors that may prevent employees from engaging in knowledge sharing. Based on the social exchange theory (Blau, 2017), we have demonstrated that employees will reduce their levels of knowledge sharing when employee feel that they are receiving negative treatment. This is because knowledge-sharing behaviors involve exchange actions. The decision on whether or not to do exchange behavior is contingent on an evaluation of the costs and benefits (Casimir et al., 2012). Knowledge is valuable, rare, inimitable and non-substitutable resource for individuals and organizations. Consequently, promoting knowledge sharing is more difficult than promoting other social exchange behaviors.

Although several researchers have suggested that the perceived climate of Cha-xu could have an important impact on individuals' willingness to share knowledge (Peng and Zhao, 2011; Xu, 2015), the results of these studies are inconsistent. To verify this conflict in the literature on knowledge sharing, this study explored the relationship between the perceived climate of Cha-xu and knowledge sharing from a social exchange perspective. We found that the perceived climate of Cha-xu as a negative team climate leads to lower employee trust, which in turn reduces knowledge sharing.

Second, the findings of this study add to the evidence on the harmful impact of the perceived climate of Cha-xu on various work outcomes. The extant research on the perceived climate of Cha-xu clearly demonstrates that abusive behaviors have deleterious consequences for both organizations and individuals. These consequences include inhibiting innovation behavior, lowering job performance and organizational justice behavior and increasing knowledge destruction (Ma and Su, 2020; Shen et al., 2019; Sun and Lin, 2021). This study expands insights into the detrimental outcomes of the perceived climate of cha-xu by including employees' knowledge-sharing behavior, which is considered critical to organizational success. Thus, our research contributes to the literature on the perceived climate of Cha-xu as well by expanding the effects on critical knowledge management area.

Third, our research offers a description of how the perceived climate of Cha-xu influences employees’ knowledge-sharing behaviors. Our findings strongly demonstrate that among vertical trust (trust in team leaders) and horizontal trust (trust in team members) mediate the relationship between the perceived climate of Cha-xu and employees’ knowledge-sharing behaviors. While it has been suggested that leaders’ differential treatment is related to trust and that individuals’ trust could be an important factor in determining knowledge-sharing levels (Bhatti et al., 2021; Liu et al., 2009), this study introduces vertical and horizontal trust as a significant psychological mechanism (i.e. mediator) linking the perceived climate of cha-xu and knowledge sharing. According to the social exchange theory (Blau, 2017), the finding that the perceived climate of Cha-xu indirectly influences employees’ knowledge-sharing behaviors through trust suggests that employees who are reducing trust due to differential treatment supervisors are likely to reduce risky behaviors, such as knowledge sharing (Lin et al., 2020). Our results also suggest a negative correlation between the perceived climate of Cha-xu and trust in leader and trust in team members, and the negative impact on the leader trust is greater.
Finally, our efforts to examine task interdependence as a moderator offer important insights into the contingency factors of the effect of the perceived climate of Cha-xu on internal team interpersonal trust. The tasks interdependence does indeed moderate the relationship between the perceived climate of Cha-xu and trust in team members. It also has a moderating effect on the indirect impact on member trust. The moderating effect of task interdependence on trust in leadership may be attributed to the fact that when tasks are highly interdependent, the team leader’s assistance is crucial for the effective functioning of the team. In this process, there is also more interaction between the leader and the members (Hon and Chan, 2013). In addition, in teams with high task interdependence, members share common goals and achieving these goals necessitates interaction, communication and collaboration among team members. Therefore, in such a team, members will not waste time paying attention to the leader’s unfair behavior. They still have a strong sense of psychological security and are willing to share their thoughts (Peng et al., 2019).

5.2 Managerial implications
Our study also offers some important implications for practitioners. First, a leader’s differential behavior could be an important factor influencing social exchange behaviors, such as knowledge sharing. Although some employees are willing to share their knowledge, their efforts could be ineffective when their leaders established Cha-xu climate. Given the negative impact of the perceived climate of Cha-xu, organizations should invest more time and effort in preventing the Cha-xu climate in the workplace. For example, the organization can strengthen the construction of rules and regulations, establish comprehensive evaluation indicators, restrain managers from the outside and enable managers to improve their management skills.

Second, as our research shows, organizations should pay more attention to enhancing team interpersonal trust to mitigate the negative effects of the perceived climate of Cha-xu. The negative consequences of a leader’s differential treatment can be reduced by providing more organizational support and resources to employees. Organizations can also implement corresponding measures to restore or rebuild trust in employees and the trust of employees in their leaders.

Third, given our result that the combination of a high Cha-xu climate and low task interdependence may indeed harm information sharing processes, we recommend team leaders to strengthen task interdependence when promoting team goals. An implication of our results is that higher task interdependence moderates the negative effect of the Cha-xu climate. Therefore, managers should consider investing efforts in cultivating cooperative norms and cultures to encourage team members to perform their tasks interdependently.

5.3 Limitations and future research
In calling attention to limitations, we simultaneously discuss avenues for future research. The first limitation is that this paper incorporates a cross-sectional design, which limits our ability to make strong causal inferences among the variables in the theoretical model. Therefore, we hope that in the future, a corresponding experimental research paradigm can be proposed to perform strict causal inference on the relationship between variables, or strict longitudinal research can be adopted.

The second limitation is that our examples of the perceived climate of Cha-xu, trust and task interdependence came from the same source. Thus, we cannot entirely rule out the problems associated with common method bias (Podsakoff et al., 2003). Although we controlled for common method bias by using statistical methods, which increased the objectivity of the data. Nevertheless, a beneficial approach would be to measure knowledge
sharing from diverse sources, including supervisors, their subordinates and the subordinates’ coworkers, to enhance the validity of the measures. Future research can use multi-source methods to gather data.

The third limitation is that, according to social exchange theory, we examined the mechanism linking the perceived climate of Cha-xu and knowledge sharing. However, other potential mechanisms cannot be ruled out. For example, the Cha-xu climate may cognitively stimulate negative moods (Ma and Su, 2020) which then cause employees’ reluctant knowledge-sharing behaviors. As the field of knowledge sharing progresses, it is important to explore other potential mechanisms with different theoretical approaches.

Finally, the Cha-xu climate emphasizes the differential treatment of leaders who classify employees as insiders and outsiders. Although Luo and Cheng (2015) found that in-group members have higher organizational trust than out-group members, this study did not explore the relationship between the perceived climate of Cha-xu and knowledge sharing from this perspective. Some studies have also found that differential treatment of differential leadership will have varying effects on the cognitive processes of insiders and outsiders (Yuan et al., 2016). Future researchers can adopt this perspective as a starting point to further explore the difference in the impact of the perceived climate of Cha-xu on in-group and on out-group employees. Wang et al. (2022) found that the perceived climate of Cha-xu can promote employees’ innovative performance through individual learning. This suggests that the cha-xu climate does not always have a negative impact on an organization. Researchers can further investigate the positive effects of the Cha-xu climate in future studies.

References


Further reading


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