

Arrogance Invites Loss, Humility Brings Benefit: The Impact of Humble Leadership Behavior on Team Creativity from a Team Communication Perspective (Postprint)

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Abstract

Humble leadership behavior represents an emerging leadership theory in recent years, while team creativity has consistently been a focal concern for both academia and practice; however, research deeply exploring the relationship between the two remains scarce. Based on a team communication perspective, this study investigates the influence mechanism through which humble leadership behavior affects team creativity and the boundary conditions for its effectiveness. Analysis of matched data from 76 team leaders and 342 team members reveals that humble leadership behavior positively influences team creativity; this influence process is jointly mediated by horizontal deep communication among team members and vertical feedback communication between team members and the team leader. Moreover, team cognitive diversity constitutes a critical boundary condition affecting the effectiveness of humble leadership behavior, wherein the positive influence of humble leadership behavior on team creativity through team communication processes becomes more pronounced in contexts of high team cognitive diversity.

Full Text

Modesty Brings Gains: The Influence of Humble Leader Behavior on Team Creativity from a Team Communication Perspective

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Abstract

Humble leader behavior represents an emerging leadership theory in recent years, while team creativity has consistently been a focal point for both academia and practice. However, current research lacks in-depth investigation into the relationship between these two constructs. This study examines the influence mechanisms of humble leader behavior on team creativity and the boundary conditions under which it operates from a team communication perspective. Analysis of matched data from 76 team leaders and 342 team members reveals that humble leader behavior positively influences team creativity. This influence is jointly mediated by horizontal deep communication among team members and vertical feedback communication between team members and leaders. Furthermore, team cognitive diversity represents an important boundary condition affecting the effectiveness of humble leader behavior; in contexts of high team cognitive diversity, the positive indirect effect of humble leader behavior on team creativity through team communication processes becomes more pronounced.

Keywords: humble leader behavior; deep communication; feedback communication; team cognitive diversity; team creativity

1.1 Research Problem

An increasing number of companies are adopting team-based work structures. Faced with intensifying market competition and rapidly changing external environments, enhancing team creativity has become critical for enterprises to stand out and achieve competitive advantage. Team creativity is not simply the sum of individual creativity but rather emerges from complex team processes, among which team communication constitutes a vital influencing factor. On one hand, team creativity originates from horizontal communication within teams; extensive and deep communication among team members can generate ideas with both practical value and innovativeness, thereby enhancing team innovation capability (Shin & Zhou, 2007). On the other hand, obtaining team creativity also depends on vertical communication between team members and leaders; effective vertical communication ensures that team innovation aligns with organizational goals and market demands while enabling leaders to provide appropriate support for team innovation (Amabile, Schatzel, Moneta, & Kramer, 2004). Although existing scholarship has recognized the importance of both horizontal and vertical communication for team creativity, research simultaneously considering these two communication processes remains lacking. In fact, horizontal and vertical communication represent independent components of team communication processes (Houmanfar, Rodrigues, & Smith, 2009), with distinct formation mechanisms and differential impacts on team creativity. Together, they capture the full spectrum of daily interpersonal interactions within teams. Therefore, examining both communication processes concurrently provides a more comprehensive understanding of how team communication influ-

ences team creativity.

Leadership behavior represents a crucial factor affecting team processes and outcomes (Chen, Tsui, & Farh, 2002). What kind of leadership behavior can enhance team creativity by simultaneously addressing both communication dimensions? Existing literature has not thoroughly explored this question, yet investigating it would enrich our understanding of team creativity formation processes and help managers implement effective measures to enhance team creativity in practice. First, effective horizontal communication requires leaders to provide a safe and free communication atmosphere that ensures team members can speak freely (Jain, Fennell, Chagpar, Connolly, & Nembhard, 2016) while also enhancing members' motivation to interact with one another (Cooley, 1994). Second, effective vertical communication necessitates that leaders remain approachable and work alongside team members (Lam, Peng, Wong, & Lau, 2017). However, inherent power and status differences between leaders and subordinates (Tost, Gino, & Larrick, 2013) can hinder free exchange, thus requiring a follower-focused, bottom-up leadership approach to facilitate bilateral communication. These characteristics that promote team communication processes align precisely with the essence of humble leader behavior, offering a promising avenue to address this research gap.

With the emergence of employee-focused leadership theories in recent years, the characteristic of humility has increasingly attracted scholarly attention in the leadership domain. Humble leader behavior refers to leaders' ability to acknowledge their own limitations and weaknesses, recognize followers' strengths and contributions, and model teachability—defined as actively listening to others' opinions and learning and growing together with employees (Owens & Hekman, 2012). Unlike traditional “top-down” leadership approaches that emphasize charisma and proactivity, humble leadership represents a “bottom-up” approach whose essence involves shifting attention from self to others and maintaining self-transcendent motivation (Owens & Hekman, 2016).

This study proposes that humble leader behavior can simultaneously promote horizontal team communication processes (deep communication) and vertical communication processes (feedback communication), thereby enhancing team creativity. Additionally, since both team communication processes and team creativity are influenced by team composition, we examine team cognitive diversity as a key contextual factor affecting team creativity (Wang, Kim, & Lee, 2016). Thus, we also test the moderating role of team cognitive diversity. The overall research model is shown in Figure 1 [Figure 1: see original paper]. In summary, this study contributes to research on team creativity and team communication while responding to scholarly calls to examine the effectiveness of humble leader behavior as an emerging leadership approach.

1.2.1 Humble Leader Behavior and Team Creativity

Team creativity represents the capacity of team members to collaboratively generate novel and useful ideas through creativity-related processes (Shin & Zhou, 2007). Social learning theory (Bandura, 1977) posits that learning from and imitating others constitutes an important influence on individual behavior, and leaders with high status and reward power often serve as role models for team members. By emulating humble leaders' modest and learning-oriented attitudes, team members become more willing to consult and exchange ideas with colleagues, which facilitates the formation of team creativity-related processes (Boies, Fiset, & Gill, 2015). Moreover, since team innovation often requires breaking conventions and entails certain risks, humble leaders' willingness to坦然 acknowledge their own limitations and虚心 accept others' opinions enables team members to voice innovative ideas without fear of punishment for contradicting leaders or holding dissenting views, ultimately promoting team creativity. Based on this reasoning, we propose:

Hypothesis 1: Humble leader behavior is positively related to team creativity.

1.2.2 The Mediating Role of Team Communication Processes

The mediating role of deep communication. Deep communication refers to the horizontal communication process in which team members openly share ideas and perspectives and engage in deep reflection about them (Gibson & Vermeulen, 2003). By emulating humble leader behavior, employees can focus on colleagues' strengths while acknowledging their own weaknesses. Appreciating others' advantages and reflecting on one's own limitations can motivate learning and discussion with other members—as the ancient saying goes, “When you see a worthy person, think of becoming his equal; when you see an unworthy person, reflect on your own shortcomings” —thereby facilitating deep communication among members. Simultaneously, by learning from humble leaders' acceptance and acknowledgment of their own weaknesses, employees can reduce the conflicts and contradictions that deep communication might otherwise generate (Tekleab & Quigley, 2014), fostering a freer and more comprehensive communication atmosphere. Therefore, humble leader behavior can promote deep communication among team members.

Effective deep communication among members contributes to mutual understanding, knowledge sharing, trust building, and the generation of high-quality ideas—all outcomes consistent with factors that enhance team creativity (e.g., van den Hooff & De Ridder, 2004). Hülsheger, Anderson, and Salgado's (2009) meta-analysis of nearly three decades of research on team-level innovation also concluded that high-quality member communication represents a key factor in promoting team creativity. Thus, humble leader behavior may enhance team

creativity through the mediating effect of deep communication. Based on this reasoning, we propose:

Hypothesis 2a: Humble leader behavior is positively related to deep communication.

Hypothesis 2b: Deep communication mediates the positive relationship between humble leader behavior and team creativity.

The mediating role of feedback communication. Feedback communication refers to the vertical communication process in which team members and leaders share information, exchange ideas, and evaluate each other (Andrews & Kacmar, 2001). Humble leaders willingly communicate with team members and provide feedback because this enables them to identify employees' strengths and appreciate their contributions. Humble leaders also seek feedback from subordinates to discover their own weaknesses and improve themselves, and team members tend to fulfill this request because it helps build good relationships with leaders and enhances self-efficacy (Anseel, Beatty, Shen, Lievens, & Sackett, 2015). Furthermore, a key characteristic of humble leaders is their ability to step down from the "pedestal" and work alongside employees, jointly progressing—this behavior increases opportunities for daily work interactions and creates favorable conditions for bilateral communication. Therefore, humble leader behavior facilitates feedback communication between team members and leaders.

Feedback communication also positively influences team creativity. Leaders' stable participation in feedback communication helps team members obtain consistent and unified information, thereby aligning team innovation goals and directions and avoiding confusion and contradictions. Feedback communication enables team members to identify their own weaknesses and consequently improve and enhance idea quality; it also helps leaders understand current work conditions and subordinates' challenges, allowing them to adjust management approaches and provide appropriate resources and support to help subordinates overcome difficulties (Zhou, 2003). Therefore, humble leader behavior may also enhance team creativity through the mediating effect of feedback communication. We propose the following hypotheses:

Hypothesis 3a: Humble leader behavior is positively related to feedback communication.

Hypothesis 3b: Feedback communication mediates the positive relationship between humble leader behavior and team creativity.

1.2.3 The Moderating Role of Cognitive Diversity

Team cognitive diversity refers to differences among team members in thinking styles, knowledge and abilities, values, and beliefs (van der Vegt & Janssen, 2003). Diverse cognitive approaches provide rich cognitive resources for team

creativity (Kearney & Gebert, 2009), but such differences can also create 隔阂 and contradictions among members (Greer, Jehn, & Mannix, 2008). Therefore, how to effectively wield this “double-edged sword” of team diversity has remained a hot topic in creativity research. This study argues that humble leader behavior is more effective in contexts of high team cognitive diversity.

Team cognitive diversity moderates the influence of humble leader behavior on team creativity through deep communication. When team cognitive diversity is high, team members hold different perspectives and insights on the same issues. By learning from humble leaders, even when facing members with different viewpoints, employees can recognize their own limitations and maintain open attitudes toward others’ perspectives, thereby reducing social categorization-based conflicts (Greer et al., 2008) and facilitating in-depth exchanges. On the other hand, diverse cognitive approaches also make individual strengths more easily identifiable (Park & Kim, 2015), making the humble leader behavior characteristic of emphasizing attention to others’ strengths and learning from others more effective, thereby promoting deep communication among members and enhancing team creativity. Conversely, similar cognitive approaches make it easy for members to reach consensus, limiting the generation of diverse ideas and in-depth discussion, thus weakening the positive impact of humble leader behavior.

Team cognitive diversity also moderates the influence of humble leader behavior on team creativity through feedback communication. When team cognitive diversity is high, team members are likely to generate multiple opinions while processing work issues (Mello & Rentsch, 2015), and members expect to identify optimal solutions among their own and others’ perspectives (Wang et al., 2016), thus seeking more feedback from leaders. Humble leaders’ open attitudes toward different viewpoints, provision of opportunities for employees to express ideas, and ability to recognize unique advantages in diverse perspectives enable them to offer more guidance and assistance, ultimately promoting bilateral exchanges and enhancing team creativity. Conversely, when team cognitive diversity is low, members encounter and contemplate more similar issues, and leaders can address most members’ problems by providing feedback on a few issues. Based on this analysis, we propose:

Hypothesis 4: Team cognitive diversity moderates the indirect effects of humble leader behavior on team creativity through (a) deep communication and (b) feedback communication. Specifically, when team cognitive diversity is high, these positive indirect effects are strengthened; when team cognitive diversity is low, these effects are weakened.

2.1 Sample and Procedure

The sample comprised R&D teams from four technology companies in southeastern China, making it suitable for studying team creativity. We first communi-

cated with senior management about the research significance and obtained their support, then requested human resources departments to provide names of team leaders and direct subordinates. We subsequently matched sample information with questionnaires, sealed questionnaires in envelopes, and attached labels with names and team information on the front to help team members clearly identify their team and direct leader. To ensure anonymity, we instructed employees to seal completed questionnaires in envelopes and remove the labels afterward. Human resources staff assisted throughout the data collection process.

We conducted two waves of data collection. In the first wave, subordinates evaluated their leaders' humble behavior and team cognitive diversity. One month later, in the second wave, subordinates assessed deep communication among team members and feedback communication with team leaders, while team leaders rated team creativity. Overall, we distributed 86 team leader questionnaires and corresponding 379 team member questionnaires. We excluded samples that failed to complete either wave or had missing data on key variables in the research model, resulting in a final matched sample of 76 leader questionnaires (88.37% response rate) and 342 subordinate questionnaires (90.24% response rate). Among team leaders, 53.95% were male, with an average age of 37.00 years ($SD = 5.82$), and 97.40% held bachelor's degrees or higher. Among team members, 53.22% were male, with an average age of 31.45 years ($SD = 5.43$), and 91.36% held bachelor's degrees or higher. Team size ranged from 3 to 10 members, with an average of 4.50 members per team ($SD = 3.39$).

2.2 Variable Measurement

All measures were adapted from scales used in international journals. We employed a standard translation-back-translation procedure with English-major graduate students to ensure scale accuracy and comprehensibility (Brislin, 1980). Except for team cognitive diversity, all items used a 7-point Likert scale (1 = strongly disagree, 7 = strongly agree).

Humble leader behavior was measured using the 9-item scale developed by Owens, Johnson, and Mitchell (2013). Sample items include "My leader actively seeks feedback, even critical feedback" (acknowledging limitations, weaknesses, and mistakes), "My leader often compliments others on their strengths" (recognizing others' strengths and contributions), and "My leader shows a willingness to learn from others" (modeling teachability). Cronbach's alpha at the team level = 0.96.

Deep communication was measured using the 3-item scale developed by Gibson and Vermeulen (2003). A sample item is "Team members have high-quality discussions." Cronbach's alpha at the team level = 0.91.

Feedback communication was measured using the 3-item scale developed by Zhou (2003). A sample item is "My leader frequently provides us with

developmental feedback.” Cronbach’ s alpha at the team level = 0.94.

Team cognitive diversity was measured using the 4-item scale developed by van der Vegt and Janssen (2003). Employees were asked about the degree of differences among team members in thinking styles, knowledge and abilities, values, and beliefs. For example, “To what extent do team members differ in their thinking styles?” (1 = very small differences; 7 = very large differences). Cronbach’ s alpha at the team level = 0.96.

Team creativity was measured using the 3-item scale employed by Farh, Lee, and Farh (2010). A sample item is “This team’ s output is highly creative.” Cronbach’ s alpha at the team level = 0.92.

Control variables included team leader gender (1 = male, 2 = female), age (years), highest education level (1 = elementary school, 2 = middle school, 3 = high school, 4 = bachelor’ s, 5 = master’ s, 6 = PhD, 7 = postdoc), and team size (number of team members). We controlled for these variables because past research indicates that leaders’ demographic characteristics influence their cognitive styles, values, and decision-making (Hambrick & Mason, 1984), which subsequently affect subordinates’ perceptions, attitudes, and behaviors. Additionally, leaders’ personal characteristics such as gender, age, and knowledge level influence team member creativity (e.g., Solongo, Lee, Kang, Kim, & Kim, 2015), while team size affects member interaction and team performance (Leenders, van Engelen, & Kratzer, 2003).

2.3 Analytical Strategy

First, we conducted confirmatory factor analysis (CFA) to examine discriminant validity among variables. Second, to ensure that individually measured variables could be appropriately aggregated to the team level, we examined relevant aggregation indices. Finally, we constructed a path analysis model in Mplus 7.0 to test hypotheses. Independent variables and control variables were mean-centered to reduce multicollinearity issues (Aiken, West, & Reno, 1991). Since data came from four companies, we also controlled for company differences in the analysis.

3.1 Confirmatory Factor Analysis

Since humble leader behavior, team cognitive diversity, feedback communication, and deep communication were all evaluated by the same team members, we used CFA to examine discriminant validity among these measures. The theoretical model was a four-factor model (humble leader behavior, team cognitive diversity, feedback communication, deep communication). We then constructed four alternative models: three-factor model 1 (humble leader behavior, team cog-

nitive diversity, feedback communication + deep communication), three-factor model 2 (humble leader behavior + team cognitive diversity, feedback communication, deep communication), two-factor model (humble leader behavior + team cognitive diversity, feedback communication + deep communication), and single-factor model (all variables combined). Comparison of alternative models with the theoretical model (Table 1) showed that the four-factor model had the best fit ($\chi^2 = 428.16$, $p < 0.001$, GFI = 0.93, TLI = 0.94, RMSEA = 0.08), superior to all alternative models, thus demonstrating discriminant validity among research variables.

3.2 Data Aggregation Analysis

In our research model, humble leader behavior, team cognitive diversity, feedback communication, and deep communication were aggregated from individual-level measurements to the team level, requiring examination of aggregation appropriateness. We calculated ICC1, ICC2, and mean rwg(j) for scale items. Results showed: humble leader behavior (ICC1 = 0.22, ICC2 = 0.56, rwg(j) = 0.94), team cognitive diversity (ICC1 = 0.38, ICC2 = 0.74, rwg(j) = 0.85), feedback communication (ICC1 = 0.35, ICC2 = 0.71, rwg(j) = 0.92), and deep communication (ICC1 = 0.27, ICC2 = 0.63, rwg(j) = 0.92). According to previous research, ICC(1) and ICC(2) should exceed 0.05 and 0.50, respectively (James, 1982), and rwg(j) should exceed 0.70 (James, Demaree, & Wolf, 1984). Therefore, all variables met aggregation criteria (Duan, Shi, & Ling, 2017) and were suitable for team-level analysis.

3.3 Descriptive Statistics and Correlation Analysis

Table 2 presents means, standard deviations, and correlations among research variables. Results show that humble leader behavior is significantly positively correlated with deep communication ($r = 0.51$, $p < 0.01$), feedback communication ($r = 0.51$, $p < 0.01$), and team creativity ($r = 0.30$, $p < 0.01$). Both deep communication ($r = 0.47$, $p < 0.01$) and feedback communication ($r = 0.48$, $p < 0.01$) are also significantly positively correlated with team creativity. These results align with expectations and provide preliminary support for research hypotheses.

3.4 Main Effect Analysis

Hypothesis 1 proposed that humble leader behavior is positively related to team creativity. After controlling for leader gender, age, education level, and team size, the regression coefficient of humble leader behavior on team creativity was

significant ($\beta = 0.29, p < 0.01$), supporting Hypothesis 1. To test the subsequent hypotheses regarding dual-path mediation and moderated mediation, we constructed an integrated path model for hypothesis testing, with path coefficients shown in Figure 2 [Figure 2: see original paper].

3.5 Mediation Analysis

Figure 2 shows that humble leader behavior significantly positively predicted both deep communication ($\beta = 0.41, p < 0.01$) and feedback communication ($\beta = 0.42, p < 0.01$). Both deep communication ($\beta = 0.38, p < 0.01$) and feedback communication ($\beta = 0.28, p < 0.01$) significantly positively predicted team creativity. At this point, the direct effect of humble leader behavior on team creativity became non-significant ($\beta = 0.05, ns$), indicating that deep communication and feedback communication fully mediate the positive influence of humble leader behavior on team creativity. We further used Monte Carlo simulation (5,000 replications) to calculate indirect effects for deep communication and feedback communication (Preacher & Selig, 2012). Results showed that the indirect effect of humble leader behavior on team creativity through deep communication was 0.16, with a 95% confidence interval excluding zero (LLCI = 0.05, ULCI = 0.30). The indirect effect through feedback communication was 0.12, also with a 95% confidence interval excluding zero (LLCI = 0.03, ULCI = 0.25). Thus, Hypotheses 2a, 2b, 3a, and 3b were supported.

3.6 Moderation Analysis

Results in Figure 2 show that the interaction term between humble leader behavior and team cognitive diversity significantly positively predicted both deep communication ($\beta = 0.25, p < 0.01$) and feedback communication ($\beta = 0.24, p < 0.01$), indicating that team cognitive diversity moderates the relationships between humble leader behavior and both deep communication and feedback communication. We further illustrated these moderation effects graphically and conducted simple slope tests. As shown in Figure 3 [Figure 3: see original paper], when team cognitive diversity was high (one standard deviation above the mean), humble leader behavior was positively related to deep communication ($\beta = 0.68, p < 0.01$); when team cognitive diversity was low (one standard deviation below the mean), the relationship was positive but non-significant ($\beta = 0.14, ns$). Similarly, Figure 4 [Figure 4: see original paper] shows comparable results for the moderating effect of team cognitive diversity on the relationship between humble leader behavior and feedback communication: when team cognitive diversity was high, humble leader behavior was positively related to feedback communication ($\beta = 0.68, p < 0.01$); when team cognitive diversity was low, the relationship was also non-significant ($\beta = 0.16, ns$).

Monte Carlo test results for the moderated mediation effects are presented in Table 3. For the deep communication path, when team cognitive diversity was high (one standard deviation above the mean), the indirect effect of humble leader behavior on team creativity through deep communication was 0.26 (95% LLCI = 0.13, ULCI = 0.36). When team cognitive diversity was low (one standard deviation below the mean), the indirect effect was 0.05, with the mediation becoming non-significant (95% LLCI = -0.06, ULCI = 0.25). The difference in indirect effects through deep communication between high and low diversity conditions was also significant, with an effect size of 0.21 (95% LLCI = 0.10, ULCI = 0.29). For the feedback communication path, when team cognitive diversity was high, the indirect effect through feedback communication was 0.19 (95% LLCI = 0.07, ULCI = 0.34). When team cognitive diversity was low, the indirect effect was 0.05, also becoming non-significant (95% LLCI = -0.04, ULCI = 0.10). The difference in indirect effects through feedback communication between high and low diversity conditions was likewise significant, with an effect size of 0.15 (95% LLCI = 0.04, ULCI = 0.31). In conclusion, Hypotheses 4a and 4b were supported.

4.1 Research Findings

Based on a team communication perspective, this study examined the influence mechanisms of humble leader behavior on team creativity. Results revealed that humble leader behavior positively influences team creativity through a dual mediation mechanism involving deep communication among team members and feedback communication between team members and leaders. Team cognitive diversity serves as a moderating factor in this process; in teams with high cognitive diversity, the indirect effect of humble leader behavior on team creativity through team communication processes becomes more pronounced. Our study also found that when team cognitive diversity is low, both horizontal deep communication and vertical feedback communication are generally higher than in high diversity contexts. This may be because cognitive similarity facilitates mutual understanding and coordination among members (van Knippenberg, De Dreu, & Homan, 2004), resulting in greater overall team cohesion and higher baseline levels of team communication processes. Overall, by testing a moderated mediation model, this study provides an in-depth analysis of the influence mechanisms and boundary conditions of humble leader behavior on team creativity, contributing to research on humble leader behavior, team creativity, team communication, and team diversity.

4.2 Research Implications

First, research on humble leader behavior is emerging, yet empirical studies in this area remain limited. Few studies have examined the influence of humble

leader behavior on team creativity at the team level and its underlying mechanisms. This study exploratorily investigates this issue, establishing a team communication-based model of humble leader behavior's influence on team creativity and examining the boundary conditions of its effectiveness, thereby enriching our understanding of humble leader behavior. Additionally, for the team creativity literature, previous research has focused on how "top-down" leadership styles such as charismatic and transformational leadership positively affect team creativity (e.g., Shin & Zhou, 2003). This study demonstrates that "bottom-up," low-profile leadership that focuses on employee strengths and acknowledges self-limitations—humble leader behavior—also positively influences team creativity. This aligns with previous research on the positive effects of participative leadership (Rossberger & Krause, 2015), offering new insights into the generation of team creativity.

Second, this study enriches research on team communication. Team communication is both commonplace in organizations and a critical team process, with effective communication recognized as a key factor influencing team creativity. Previous team communication research has examined positive versus negative communication from a content perspective (Laczniak, Decario, & Ramaswami, 2001), surface-level versus deep-level communication from a depth perspective (Loo & Thorpe, 2002), and timely versus delayed communication from a temporal perspective (den Otter & Emmitt, 2007). This study introduces a communication direction perspective, focusing on horizontal communication among team members and vertical communication between members and leaders. These two types of team communication have distinct antecedents and independent mechanisms affecting team outcomes. Although previous literature has examined these communication mechanisms separately (e.g., de Stobbeleir, Ashford, & Buyens, 2011), few have simultaneously tested their antecedents and outcomes. This study demonstrates that both horizontal and vertical communication serve as important mechanisms linking leadership and team outcomes, with humble leader behavior simultaneously promoting both communication processes, which in turn facilitate team creativity, thereby expanding team communication research.

Third, this study contributes to team diversity research. Previous studies in this domain have primarily focused on demographic diversity such as age, gender, and ethnicity (e.g., Campbell & Mínguez-Vera, 2008). However, in reality, even team members with similar backgrounds may exhibit significant differences in cognitive approaches. Differentiated cognition provides rich sources and materials for team communication processes and team creativity but can also easily cause conflicts among members (Jehn, Northcraft, & Neale, 1999). Thus, how to leverage its positive aspects while overcoming its negative effects represents an important research question. Scholars (e.g., Wang et al., 2016) have called for research on managing cognitively diverse teams. This study responds to this call by finding that humble leader behavior helps capitalize on the information value-added and decision-making diversification advantages of team cognitive diversity while reducing potential conflicts and 隔阂 among members, ultimately

promoting team creativity.

Finally, the findings also have important practical implications. The trait of humility has been esteemed in traditional Chinese culture since ancient times and aligns with the domain of moral leadership. This study demonstrates that even in today' s information-rich, highly competitive business environment, humble leader behavior remains effective. Managers can learn and apply this leadership approach in practice to enhance team innovation capability. This study also highlights that team communication processes constitute important factors affecting team creativity, and both deep communication among team members and feedback communication between leaders and members should command managers' attention. Managers should consider how to enhance these two communication approaches to promote team creativity. Our research also provides insights for managing diverse teams. With the ongoing generational transition in contemporary society and the widespread development of the internet, differences in employees' cognitive approaches within organizations are becoming increasingly prominent. Faced with the impact of cognitive diversity, leaders can adopt humble leader behavior to promote more intellectual collisions and innovative inspiration through effective communication, reduce conflicts and divisions caused by diverse teams, and pool individual efforts to form collective wisdom.

4.3 Research Limitations and Future Directions

This study has several limitations. First, our research sample is based on the Chinese context. While this provides more reliable and valid guidance for Chinese enterprises, it is also constrained by traditional Chinese culture' s inherent recognition of humility. Future research could examine the influence of humble leader behavior on team creativity across different cultures, such as testing our conclusions in individualistic cultures. Second, this study measured horizontal deep communication and vertical feedback communication through questionnaire surveys, and measurement approaches could be further improved—for instance, using diary methods or internal company records to capture actual team communication situations, thereby measuring deep communication and feedback communication more accurately. Finally, this study employed cross-sectional data, neglecting temporal effects on results and making it difficult to examine the changing process through which humble leader behavior influences team creativity. Future research could adopt longitudinal time-series designs to more precisely and accurately explore causal relationships among variables.

5 Conclusion

This study finds that humble leader behavior represents an important factor influencing team creativity. This influence is realized through team internal communication processes—specifically, humble leader behavior positively affects team creativity through horizontal deep communication among team members and vertical feedback communication between members and leaders. Moreover, this influence mechanism is moderated by team cognitive diversity; in contexts of high team cognitive diversity, the indirect effect of humble leader behavior on team creativity is more pronounced.

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