

# The Double-Edged Impact of Ambidextrous Leadership: A Dual-Path Moderated Mediation Model of Challenge and Hindrance Stress on Work Disengagement

Ke Zhang<sup>1</sup>, Zhaoqi Li<sup>\*</sup>

<sup>1</sup>*School of Management, Kyung Hee University, Seoul, South Korea*

<sup>\*</sup>*College of Business, Gachon University, Seongnam, South Korea*

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## Corresponding Author

Zhaoqi Li

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## Abstract

Grounded in the cognitive transactional theory of stress, this study develops and tests a moderated dual-path mediation model to investigate the dual effects of ambidextrous leadership on employee work disengagement and its underlying mechanisms. Based on three-wave survey data from Chinese enterprises (N=348), the findings reveal that ambidextrous leadership simultaneously increases both challenge and hindrance stress, which, in turn, indirectly influence work disengagement in opposite directions. Specifically, elevated challenge stress alleviates work disengagement, whereas heightened hindrance stress intensifies it. Moreover, leadership behavioral flexibility moderates these relationships, such that when flexibility is high, ambidextrous leadership is more effective in reducing work disengagement through the enhancement of challenge stress. By delineating these distinct stress pathways and their boundary conditions, this study deepens the understanding of how ambidextrous leadership differentially impacts employees and provides valuable managerial implications for organizations.

## 1. Introduction

Amid rapid technological advancements and intensifying competition, organizations encounter unprecedented internal and external complexities, presenting significant challenges to their development and operations. As central figures in organizational management, leaders must navigate conflicting demands and contradictions to maintain operational efficiency (Zhang et al., 2015). Traditional leadership models, which rely on trade-offs or an either-or decision-making approach, have increasingly been deemed insufficient for addressing the intricacies of modern organizational environments and have thus faced growing criticism. In response, ambidextrous leadership has emerged as a compelling alternative, grounded in the principles of "both/and" thinking and "simultaneous integration" (Rosing et al., 2011).

This innovative leadership paradigm emphasizes the dynamic and adaptive balancing of two complementary leadership behaviors, enabling leaders to integrate seemingly opposing management approaches based on organizational contexts (Rosing et al., 2011). Ultimately, ambidextrous leadership facilitates a state of dynamic equilibrium and sustainable organizational synergy (Zacher & Rosing, 2015).

Since its introduction, the concept of ambidextrous leadership has garnered increasing attention in both management practice and academic research. Existing studies predominantly highlight its positive effects, providing empirical evidence of its benefits (Rosing & Zacher, 2023). For instance, ambidextrous leadership has been shown to enhance employees' self-efficacy and ignite their passion for work (Cheng, 2024), thereby fostering creative behavior, improving innovation performance, and promoting employee well-being (Alghamdi, 2018; Jain, 2024). However, from a behavioral perspective, ambidextrous leadership encompasses contradictory and opposing leadership behaviors (Rosing et al., 2011). While it enhances organizational flexibility and fosters innovation, recent studies have also highlighted its potential drawbacks. For example, Keller and Weibler (2015) argue that poorly managing these conflicting behaviors can create cognitive tension for leaders. Similarly, Schreiner (2017) suggests that ambidextrous leadership may heighten employees' work-related stress and anxiety, ultimately diminishing their well-being. Additionally, Wang et al. (2021) find that frequent task-switching associated with ambidextrous leadership can exacerbate job stress and role conflict, thereby impeding employee innovation. Therefore, ambidextrous leadership can have both beneficial and detrimental effects on employees.

Given the dual impact of ambidextrous leadership, a comprehensive understanding of its effects on employees requires a more detailed examination of both its positive and negative influences (Rosing & Zacher, 2023). It is also essential to clarify the boundary conditions under which ambidextrous leadership enhances employee performance and when it may undermine it (Jia et al., 2018). Such an approach not only enhances the systematic understanding of ambidextrous leadership's impact but also provides theoretical insights for optimizing leadership strategies and fostering employee development. However, existing research has several limitations. First, prior studies have predominantly focused on its positive effects while overlooking potential negative consequences, leading to an incomplete understanding of its overall impact (Wang et al., 2021). Second, there is a lack of a systematic theoretical framework to explain why ambidextrous leadership simultaneously produces both positive and negative effects, leaving its underlying mechanisms largely unexplored. Finally, research on the boundary conditions of these dual effects remains limited, failing to fully reveal how different contexts shape the direction and magnitude of ambidextrous leadership's impact (Rosing & Zacher, 2023).

Building on existing research, this study develops a systematic theoretical framework to investigate the dual impact of ambidextrous leadership, particularly its influence on employee work disengagement—characterized by psychological and behavioral withdrawal from work. This disengagement may stem from the inherent tension between support and challenge in ambidextrous leadership, which can directly

undermine employee performance and overall organizational effectiveness. To elucidate the underlying mechanisms of this relationship, this study draws on cognitive transactional theory of stress, examining the mediating roles of challenge stress and hindrance stress. Ambidextrous leadership can evoke challenge stress, leading employees to perceive high leadership expectations as opportunities for growth, thereby mitigating work disengagement. Conversely, it may also induce hindrance stress, causing employees to experience task uncertainty and role ambiguity, which in turn heightens work disengagement. Additionally, ambidextrous leadership theory underscores the critical role of leader behavioral flexibility in balancing these conflicting leadership demands, yet empirical research on this aspect remains limited (Rosing & Zacher, 2023). Addressing this gap, this study introduces leader behavioral flexibility as a moderating variable, examining how it shapes the dual impact of ambidextrous leadership on employee work disengagement.

By examining the proposed moderated mediation model, this study makes the following theoretical contributions: (1) It simultaneously explores both the positive and negative effects of ambidextrous leadership on employee disengagement, extending research on its impact, deepening the understanding of its dual effects, and offering a more comprehensive perspective to the field. (2) By incorporating cognitive transactional theory of stress, this study uncovers the mediating roles of challenge and hindrance stress in the relationship between ambidextrous leadership and employee behavior, shedding light on the underlying mechanisms and providing theoretical support for future research. (3) It identifies the moderating role of leadership flexibility, clarifies the boundary conditions of ambidextrous leadership, enriches related theories, and suggests new research directions for its application in different contexts.

## **2. Literature Review**

### **2.1 Ambidextrous Leadership and Employee Stress**

Drawing on social information processing theory and the cognitive transactional theory of stress, leaders—who serve as the primary channel for workplace social cues—play a crucial role in shaping employees' perceptions, evaluations, and responses to stress (Lazarus & Folkman, 1986). Employees' perception of different stress will, in turn, affect employees' psychological well-being and behavioral outcomes (Cavanaugh et al., 2000). Specifically, while challenge stress is demanding, they are perceived as opportunities for growth and are associated with positive work outcomes. In contrast, hindrance stress creates unnecessary obstacles that impede performance. Therefore, it can be speculated that when ambidextrous leadership behaviors are perceived as different types of stress, they may exert distinct influences on employees' work disengagement.

Ambidextrous leadership refers to a leader's ability to balance two distinct yet complementary leadership approaches, alternating between opening and closing behaviors based on evolving task demands (Rosing et al., 2011). Opening behaviors

promote flexibility by encouraging employees to experiment with different methods, take risks, and accept mistakes, thereby fostering exploratory, variance-increasing search behaviors (March, 1991; Rosing et al., 2011). Conversely, closing behaviors emphasize structure through goal monitoring, adherence to rules, and establishing routines, reinforcing variance-reducing production behaviors (March, 1991; Rosing et al., 2011). By dynamically adjusting these behaviors in response to task progress, ambidextrous leaders facilitate follower ambidexterity, enabling employees to integrate both exploration and exploitation (Rosing et al., 2011; Zacher & Rosing, 2015).

On the one hand, from a complementary perspective, the opening and closing leader behaviors in ambidextrous leadership are considered interdependent and mutually reinforcing (Rosing & Zacher, 2023). This dynamic balance not only provides employees with diverse guidance and support but also fosters their potential by introducing challenge stress, ultimately enhancing job performance and creativity. Specifically, opening leadership encourages employees to explore diverse ideas and work approaches while granting them autonomy in decision-making and execution, thereby fulfilling their need for autonomy (Rosing et al., 2011). In turn, this enhances employees' intrinsic motivation (Ouyang et al., 2022) and induces challenge stress. Furthermore, opening leadership alleviates the restrictive effects of closing leadership on employees' work flexibility and self-motivation (Zacher & Rosing, 2015). Conversely, closing leadership plays a crucial role in developing concrete action plans, guiding employees to adhere to work protocols, and providing timely feedback, thereby improving work efficiency and ensuring alignment with organizational objectives (Rosing et al., 2011). Moreover, it effectively counterbalances the uncertainty introduced by opening leadership, freeing employees' psychological resources and further promoting challenge stress.

On the other hand, from a paradoxical perspective, opening and closing leader behaviors are inherently inconsistent and even contradictory (Rosing et al., 2011). The coexistence of these complex and paradoxical behaviors can impose psychological and cognitive burdens on employees, contributing to hindrance stress. Hunter et al. (2017) found that leaders exhibiting ambidextrous leadership behaviors often face heightened role conflict, which depletes their cognitive and emotional resources, ultimately increasing stress and tension. Likewise, employees must allocate additional cognitive resources to interpret and adapt to the contradictory nature of ambidextrous leadership (Floyd & Lane, 2000). Furthermore, Bidmon and Boe-Lillegraven (2020) highlighted that employees must invest additional time, effort, and resources to navigate the multiple role demands imposed by ambidextrous leadership, exacerbating cognitive load and psychological stress. As a result, employees may develop resistance to leadership directives, potentially impairing their job performance. Schreiner (2017) further suggested that ambidextrous leadership can induce employee anxiety and workplace tension, ultimately diminishing overall job well-being. Therefore, by shaping employees' emotional states, ambidextrous leadership may heighten negative emotional experiences, thereby increasing hindrance stress. Overall, we propose that ambidextrous leadership may induce both challenge and hindrance

stress among employees, leading to the following hypothesis:

*Hypothesis 1: Ambidextrous leadership is positively related to employees' (a) challenge stress and (b) hindrance stress.*

## **2.2 The Mediating Effect of Challenge-Hindrance Stress**

The cognitive transactional theory of stress suggests that employees evaluate different types of stress based on the characteristics of their work environment and the availability of personal resources (Lazarus & Folkman, 1986). In the context of ambidextrous leadership, both opening and closing leadership behaviors, along with their interaction, not only shape the work environment but also influence employees' perceptions of resource depletion and their cognitive appraisal of stress. As discussed earlier, ambidextrous leadership can simultaneously heighten both challenge stress and hindrance stress among employees.

When individuals face challenge stress, work demands such as workload and job responsibilities, while depleting resources, also offer potential benefits that compensate for this loss (Cavanaugh et al., 2000). Such stress provides opportunities for skill development, achievement, and career growth, fostering positive work attitudes and proactive behavioral tendencies (Cavanaugh et al., 2000). Moreover, the sense of self-determination associated with challenge stress motivates employees to engage in meaningful tasks that align with their personal and professional goals (Lin et al., 2020). This engagement enhances intrinsic motivation and generates positive emotions such as happiness and satisfaction, reinforcing their psychological connection to work (Boswell et al., 2004). As a result, employees experiencing challenge stress are less likely to exhibit work disengagement, as they find their tasks fulfilling and rewarding. Building upon this premise, we propose the following hypothesis:

*Hypothesis 2: Challenge stress negatively mediates the relationship between ambidextrous leadership and employees' work disengagement.*

In contrast, high hindrance stress can cause employees to develop ambiguous and conflicting perceptions about their work content, methods, and performance outcomes, increasing uncertainty and confusion (Ren et al., 2022). To meet basic job requirements, employees must invest significant effort in coping, which depletes their psychological and physical resources, leading to exhaustion and burnout (Lin et al., 2020). Furthermore, when employees feel that their efforts are unlikely to yield positive outcomes, their motivation and proactiveness decline, gradually reducing their psychological engagement with work (Sawhney & Michel, 2022). Prolonged exposure to such stress may prompt employees to adopt avoidance strategies, such as reducing work investment, weakening emotional bonds with the organization, or even engaging in passive resistance, ultimately leading to psychological or behavioral disengagement. Therefore, hindrance stress not only undermines employees' work experiences and well-being but also weakens their sense of belonging and job

involvement, making it a critical factor in employee disengagement. Therefore, we put up the following hypothesis:

*Hypothesis 3: Hindrance stress positively mediates the relationship between ambidextrous leadership and employees' work disengagement.*

### **2.3 The Moderating Role of Leader Behavioral Flexibility**

Behavioral flexibility refers to an individual's ability to modify actions in response to unforeseen circumstances, encompassing the strategic selection of behaviors and the timely adaptation to evolving situational demands while demonstrating discernment in applying appropriate approaches (Lindberg & Kaiser, 2004). Within the ambidextrous leadership framework, Rosing et al. (2011) underscored the pivotal role of leader behavioral flexibility in navigating diverse situations, adjusting leadership strategies, and fostering employee innovation performance.

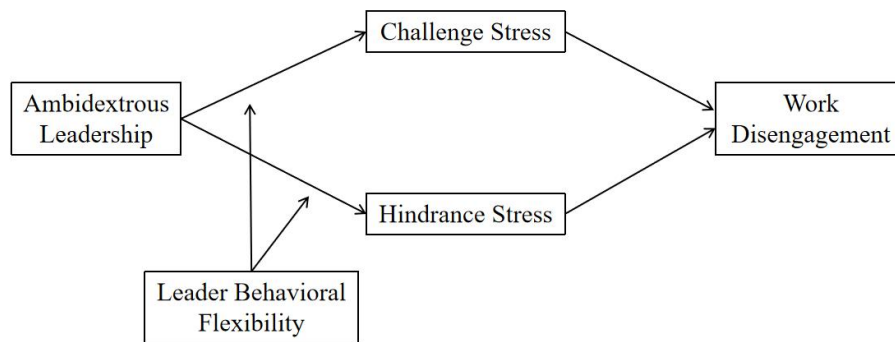
When leaders demonstrate high behavioral flexibility, they can dynamically shift between opening and closing leadership behaviors in response to situational demands (Rosing et al., 2011). This adaptability not only clarifies task expectations for employees but also mitigates uncertainty by providing tailored guidance (Herrmann & Felfe, 2013). As a result, employees are more likely to perceive the demands of ambidextrous leadership as opportunities for growth rather than additional burdens. Such positive cognitive reframing expands employees' cognitive boundaries, enhances their ability to navigate complex situations, and reinforces their self-efficacy. Consequently, it strengthens the impact of challenge stress while attenuating the effect of hindrance stress on work disengagement. Furthermore, flexible leadership fosters effective communication and interaction, ensuring a balance between exploratory and exploitative guidance (Gerlach et al., 2021; Rosing et al., 2011). This, in turn, cultivates employees' trust in and sense of belonging to the organization. When employees perceive adaptive support from their leaders, they are more likely to reframe challenge stress as motivation rather than as a burden, thereby reducing the likelihood of disengagement due to perceived hindrance stress. Therefore, this study puts forth the following hypothesis:

*Hypothesis 4: Leader behavioral flexibility will moderate the negative indirect effect of ambidextrous leadership on work disengagement through challenge stress, such that the indirect effect will be stronger when leader behavioral flexibility is low.*

*Hypothesis 5: Leader behavioral flexibility will moderate the positive indirect effect of ambidextrous leadership on work disengagement through hindrance stress, such that the indirect effect will be stronger when leader behavioral flexibility is low.*

The aforementioned literature primarily investigates the associations analyzed in this study, which are more clearly depicted in the research model below (see Figure 1).

Figure 1. Research Model.



### 3. Methodology

#### 3.1 Participants and Procedures

Data collection was conducted in China using Credamo, a survey platform comparable to Amazon Mechanical Turk that provides professional services for academic and institutional research. Participants received a detailed introduction to the study and were informed that the survey would be administered in three phases, each spaced two weeks apart. They were assured of voluntary participation, anonymity, and confidentiality. In the first phase (Time 1), invitations were sent to 500 private-sector employees, each assigned a unique ID, to collect demographic information and assess their leaders' opening behavior, closing behavior, and behavioral flexibility. The second phase (Time 2) yielded 412 valid responses, in which employees evaluated their challenge and hindrance stress. In the final phase (Time 3), participants who had completed the previous rounds reported their level of work disengagement, resulting in 348 valid responses. Data from all three phases were matched and consolidated, yielding a final response rate of 69.6%.

Among the respondents, 219 (62.9%) were female, while 129 (37.1%) were male. Regarding age distribution, 136 participants (39.1%) were under 30 years old, 173 (49.7%) were between 30 and 39, 31 (8.9%) were between 40 and 49, and 8 (2.3%) were over 50. In terms of educational attainment, 11 employees (3.2%) had a high school diploma or lower, 37 (10.6%) held an associate's degree, 232 (66.7%) had a bachelor's degree, and 68 (19.5%) possessed a graduate degree. With respect to hierarchical positions, the majority were ordinary employees (155, 44.5%), followed by frontline managers (105, 30.2%), middle-level managers (75, 21.6%), and senior-level managers (13, 3.7%). As for tenure with their immediate supervisors, 167 employees (48.0%) had worked together for 1–3 years, while 118 (33.9%) had been working together for 4–7 years.

### 3.2 Measures

This study employs measurement scales derived from well-established constructs validated in previous empirical studies. The Chinese versions were developed through a translation and back-translation process to ensure consistency with the original English scales (Brislin, 1986). Apart from demographic variables, all items were assessed using a 7-point Likert scale, ranging from 1 (strongly disagree) to 7 (strongly agree).

*Ambidextrous leadership.* A 14-item scale developed by Rosing et al. (2011) was utilized to evaluate ambidextrous leadership, with seven items assessing opening behaviors, such as “My supervisor allowing different ways of accomplishing a task,” and demonstrating a Cronbach’s alpha of 0.87. The remaining seven items measured closing behaviors, such as “My supervisor monitoring goals and controls goal attainment,” with a Cronbach’s alpha of 0.93. Following prior ambidexterity research, we operationalized the ambidextrous leadership score by multiplying these two dimensions.

*Challenge-hindrane stress.* We utilized the scale developed by Cavanaugh et al. (2000) to assess challenge and hindrance stress. This 11-item scale comprises two dimensions: six items evaluate challenge stress (e.g., “The number of projects and assignments I have is a lot”), while five items assess hindrance stress (e.g., “The inability to clearly understand what is expected of me on the job”). The Cronbach’s alpha coefficients for these dimensions were 0.83 and 0.80, respectively.

*Leader behavioral flexibility.* We used the 8-item scale created by Bhattacharya and colleagues (2005) to assess behavioral flexibility, transitioning the focus from “employee” to “supervisor”. An example item reads “My supervisor changes his/her work habits in response to changes in the competitive environment.”

*Work disengagement.* Work disengagement was assessed using a seven-item scale developed by Demerouti and colleagues (2001). A representative item from the scale is, “It happens more and more often that I talk about my work in a negative way.” The Cronbach’s alpha ( $\alpha$ ) for the scale was 0.92.

*Control variables.* Demographic variables have been shown to potentially influence stress appraisal and work disengagement (Aslam et al., 2018; Decker & Borgen, 1993). Accordingly, this study controlled for key demographic factors, including gender, age, education level, job position, and tenure with the immediate supervisor.

## 4. Results

### 4.1 Confirmatory Factor Analysis

Before testing our hypothesis, we conducted a series of confirmatory factor analyses using Amos to ensure that the key constructs demonstrated sufficient discriminant validity. As shown in Table 1, the proposed six-factor model exhibited a better fit than alternative models, with  $\chi^2/df = 2.017$ , RMSEA = 0.054, CFI = 0.906, TLI = 0.899, and IFI = 0.907. These results confirm that the study variables achieved satisfactory discriminant validity.



Additionally, although this study employs a time-lagged data collection method to mitigate potential threats from common method bias, the possibility of such bias still exists since all data were sourced from the same respondents. Therefore, before testing the hypotheses, it is essential to assess and control for common method bias. Following Harman's (1976) recommendation, an exploratory factor analysis was conducted on all measurement items using unrotated principal component analysis for factor extraction. The results identified six factors, with the first factor accounting for 28.05% of the variance and the cumulative variance explained reaching 64.70%. Given that multiple factors were extracted, the first factor's explanatory power is relatively low, and the cumulative variance explained exceeds the critical threshold of 50%. Thus, we conclude that common method bias is within an acceptable range and is unlikely to significantly affect the hypothesis testing results.

Table. 1 Results of the confirmatory factor analysis

Models	X <sup>2</sup>	df	X <sup>2</sup> /df	CFI	TLI	IFI	RMSEA
Hypothesized six-factor model	1537.282	762	2.017	0.906	0.899	0.907	0.054
Five-factor model (OLB+CLB; LBF; CS; HS; WD)	2758.688	767	3.597	0.759	0.742	0.761	0.087
Four-factor model (OLB+CLB; LBF; CS+HS; WD)	3328.971	771	4.318	0.691	0.671	0.692	0.098
Three-factor model (OLB+CLB+LBF; CS+HS; WD)	3997.131	774	5.164	0.610	0.587	0.612	0.110
Two-factor model (OLB+CLB+LBF+CS+HS; WD)	4221.345	776	5.440	0.583	0.560	0.585	0.113
One-factor model (OLB+CLB+LBF+CS+HS+WD)	5067.845	777	6.522	0.481	0.452	0.484	0.126

**Note(s):** OLB = Opening Leader Behavior, CLB = Closing Leader Behavior, LBF = Leader Behavioral Flexibility, CS = Challenge Stress, HS = Hindrance Stress, WD = Work Disengagement.

## 4.2 Descriptive Statistics and Correlations

A correlation analysis was conducted to examine the relationships among key variables, with the results presented in <Table 2>. The findings indicated that ambidextrous leadership was significantly positively correlated with both challenge stress ( $r = .22$ ,  $p < .01$ ) and hindrance stress ( $r = .21$ ,  $p < .01$ ). Additionally, hindrance stress showed a significant positive correlation with work disengagement ( $r = .60$ ,  $p < .01$ ), while leader behavioral flexibility was negatively correlated with work disengagement ( $r = -.48$ ,  $p < .01$ ). These results provide an initial basis for the subsequent analyses.

Table.2 Descriptive statistics and correlations

Variable	1	2	3	4	5	6	7	8	9	10
1. Gender	1									
2. Age	-.03	1								
3. Education	-.01	-.04	1							
4. Position	.07	.31**	.18**	1						
5. Tenure	.01	.55**	-.04	.35**	1					
6. AL	-.02	.01	.00	.06	.05	1				
7. CS	-.05	.03	.06	.04	-.01	.22**	1			
8. HS	-.03	-.11	.05	-.14*	-.20**	.21**	.26**	1		
9. LBF	-.01	.03	-.10	.15**	.21**	.16**	.05	-.45**	1	
10. WD	-.02	-.07	-.01	-.17**	-.18**	.00	-.01	.60**	-.48**	1
<i>Mean</i>	1.63	1.74	3.03	1.84	2.57	1.44	5.29	3.29	5.78	2.50
<i>SD</i>	0.48	0.71	0.66	0.89	0.78	2.94	1.00	1.21	0.76	1.12

**Note(s):**  $N = 348$ . AL = Ambidextrous Leadership, CS = Challenge Stress, HS = Hindrance Stress, LBF = Leader Behavioral Flexibility, WD = Work Disengagement.

\* $p < 0.05$ , \*\* $p < 0.01$

### 4.3 Hypotheses Test

The results of the regression analyses testing our hypotheses are presented in Table 3. Hypothesis 1 proposed that the interaction effect of leader opening and closing behaviors (ambidextrous leadership) would positively influence employees' challenge and hindrance stress. To test this, we conducted hierarchical regression analyses, first controlling for demographic variables and then adding ambidextrous leadership as an independent variable. As expected, the results showed a significant positive effect of ambidextrous leadership on both challenge stress ( $\beta = 0.08$ ,  $p < 0.001$ ) and hindrance stress ( $\beta = 0.09$ ,  $p < 0.001$ ). This suggests that when employees experience ambidextrous leadership, they may perceive it as both challenge and hindrance stress, which could lead to different behavioral responses. Thus, Hypothesis 1 (a) and 1 (b) were supported.

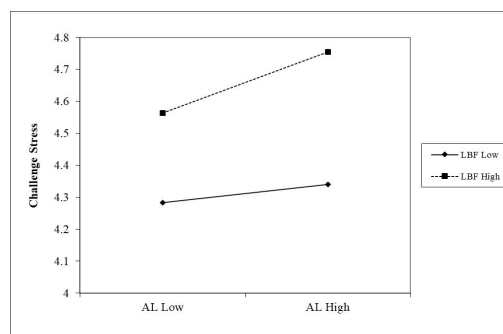
Hypotheses 2 and 3 propose that challenge and hindrance stress mediate the relationship between ambidextrous leadership and employee work disengagement. We first conducted hierarchical regression analyses to test these mediation effects. In the regression model with work disengagement as the dependent variable (Table 3), the regression coefficients of challenge stress ( $\beta = -0.17$ ,  $p < 0.01$ ) and hindrance stress ( $\beta = 0.59$ ,  $p < 0.001$ ) remained significant after controlling for ambidextrous leadership, suggesting their potential mediating roles. To further assess the indirect effects, we conducted a bootstrapping analysis. As shown in Table 4, the indirect effects of challenge and hindrance stress were -0.010 and 0.044, respectively, with 95% confidence intervals excluding zero, indicating statistical significance. Thus, Hypotheses 2 and 3 are supported.

Hypotheses 4 and 5 propose that leader behavioral flexibility moderates the relationship between ambidextrous leadership and employee work disengagement through challenge and hindrance stress. To test these hypotheses, we first examined

whether leader behavioral flexibility moderates the direct relationship between ambidextrous leadership and challenge-hindrance stress. As shown in Table 3, the interaction term between ambidextrous leadership and leader behavioral flexibility had a significant effect on challenge stress ( $\beta = 0.08$ ,  $p < 0.01$ ) but not on hindrance stress ( $\beta = 0.04$ ,  $p > 0.05$ ). Next, we employed the PROCESS macro in SPSS to test the moderated mediation effect. Table 4 indicates that leader behavioral flexibility significantly moderated the indirect effect of ambidextrous leadership on work disengagement via challenge stress (moderated mediation index = -0.012, 95% CI = [-0.025, -0.002], excluding zero), supporting Hypothesis 4. Conversely, the indirect effect of ambidextrous leadership on work disengagement via hindrance stress was not significantly moderated by leader behavioral flexibility (moderated mediation index = 0.012, 95% CI = [-0.025, 0.055], including zero), failing to support Hypothesis 5.

To further investigate the conditional effects, we computed the indirect effects at three levels of leader behavioral flexibility: the mean, one standard deviation above the mean, and one standard deviation below the mean. The results indicate that when leader behavioral flexibility was high, the indirect effect was significantly more negative (indirect effect = -0.014, 95% CI = [-0.029, -0.003]). This suggests that as leader behavioral flexibility increased, ambidextrous leadership became more effective in reducing work disengagement by enhancing challenge stress. These findings provide additional support for Hypothesis 4. Figure 2 visually depicts this moderation effect.

Figure 2. The Moderating Effect of Leader Behavioral Flexibility.



**Note(s):** AL = Ambidextrous leadership, LBF = Leader Behavioral Flexibility.

Table 3. Results of regression tests

Variables	Challenge Stress				Hindrance Stress				Work Disengagement		
	Model1	Model2	Model3	Model4	Model1	Model2	Model3	Model4	Model1	Model2	Model3
Constant	5.20***	5.11***	4.91***	4.73***	3.89***	3.77***	8.02***	7.92***	3.16***	3.16***	1.79***
Gender	-0.11	-0.10	-0.10	-0.10	-0.04	-0.03	-0.06	-0.06	-0.00	-0.00	-0.00
Age	0.06	0.07	0.08	0.05	0.04	0.06	-0.06	-0.07	0.11	0.12	0.09
Education	0.08	0.08	0.09	0.08	0.11	0.12	0.01	0.01	0.03	0.03	-0.02
Position	0.03	0.02	0.01	0.02	-0.13	-0.15	-0.06	-0.06	-0.18*	-0.18*	-0.09
Tenure	-0.05	-0.07	-0.07	-0.07	-0.28**	-0.29**	-0.12	-0.12	-0.24**	-0.25**	-0.08
AL		0.08***	0.08***	-0.08		0.09***	0.12***	0.04		0.01	-0.04*
LBF			0.03	0.08			-0.75***	-0.72***			
AL*LBF				0.08**				0.04			
CS											-0.17**
HS											0.59***
R <sup>2</sup>	0.01	0.06	0.06	0.09	0.05	0.10	0.30	0.30	0.05	0.05	0.40
ΔR <sup>2</sup>	0.01	0.05***	0.00	0.03**	0.05**	0.05***	0.20***	0.01	0.05**	0.00	0.35***

*Note(s):* N = 348. AL = Ambidextrous leadership, LBF = Leader Behavioral Flexibility, CS = Challenge Stress, HS = Hindrance Stress.

\* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$

Table 4. Bootstrapping results of mediating effects

Indirect effects		Estimates	S.E.	95% CI
AL → CS → WD		-0.010	0.005	[-0.022, -0.002]
AL → HS → WD		0.044	0.015	[0.014, 0.072]
Conditional indirect effects		Estimates	S.E.	95% CI
AL → CS → WD	Index of moderated mediation	-0.012	0.006	[-0.025, -0.002]
	Low LBF (−1 SD)	0.004	0.006	[-0.007, 0.016]
	Average LBF (M)	-0.005	0.004	[-0.015, 0.003]
	High LBF (+1 SD)	-0.014	0.007	[-0.029, -0.003]
	Index of moderated mediation	0.012	0.020	[-0.025, 0.055]
AL → HS → WD	Low LBF (−1 SD)	0.047	0.024	[-0.003, 0.093]
	Average LBF (M)	0.056	0.013	[0.030, 0.083]
	High LBF (+1 SD)	0.066	0.016	[0.035, 0.099]
	Index of moderated mediation	0.012	0.020	[-0.025, 0.055]

**Note(s):**  $N = 348$ . AL = Ambidextrous leadership, CS = Challenge Stress, HS = Hindrance Stress, LBF = Leader Behavioral Flexibility, WD = Work Disengagement. Bootstrap samples = 10,000

## 5. Discussion

This study draws on cognitive transactional theory of stress to examine the dual impact of ambidextrous leadership on employee work disengagement and its boundary conditions. A three-wave empirical analysis reveals that ambidextrous leadership increases both challenge and hindrance stress. While greater challenge stress helps reduce work disengagement, heightened hindrance stress exacerbates it. Moreover, leadership behavioral flexibility moderates the effect of ambidextrous leadership on work disengagement through challenge stress. Specifically, when leadership behavioral flexibility is high, ambidextrous leadership is more effective in mitigating work disengagement by enhancing challenge stress.

### 5.1 Theoretical Contributions

First, this study challenges the assumption that ambidextrous leadership always fosters employee performance (Rosing et al., 2011) by revealing its double-edged effects. By systematically examining both the positive and negative impacts of ambidextrous leadership on employee disengagement, we demonstrate that such leadership behaviors trigger distinct stress perceptions, leading to divergent behavioral responses. Given the inherent tension between opening and closing leadership, their effects depend on employees' cognitive processing. Consequently, ambidextrous leadership can either mitigate or exacerbate employee disengagement. This study advances the understanding of ambidextrous leadership's dual effects and broadens the research perspective in this domain.

Second, drawing on cognitive transactional stress theory, this study elucidates the mediating roles of challenge and hindrance stress in the relationship between ambidextrous leadership and employee behavior, further clarifying its underlying mechanisms. While prior research acknowledges the dual effects of ambidextrous leadership (Wang et al., 2021), a systematic theoretical framework explaining its

influence remains lacking. By distinguishing the differential impacts of challenge and hindrance stress, this study explains how ambidextrous leadership shapes employee behavior through varied stress perceptions, addressing a key theoretical gap. Additionally, we extend the application of transactional stress theory to ambidextrous leadership contexts and develop a more structured analytical framework, providing a theoretical foundation for future research on its applicability across different organizational settings.

Third, this study identifies the moderating role of leader behavioral flexibility, delineating the boundary conditions of ambidextrous leadership's impact on employee disengagement. Although ambidextrous leadership theory highlights the importance of leader behavioral flexibility, it has not been empirically examined in sufficient depth (Rosing & Zacher, 2023). Our findings indicate that in contexts of high leader behavioral flexibility, ambidextrous leadership reduces employee disengagement by enhancing challenge stress, thereby reinforcing the positive effects of ambidextrous leadership. This insight deepens the understanding of leadership flexibility within ambidextrous leadership contexts, expands the theoretical boundaries of ambidextrous leadership, and offers new perspectives for future research on its contextual mechanisms.

## **5.2 Practical Implications**

This study has important practical implications. First, managers and organizations need to recognize that ambidextrous leadership is not inherently beneficial but has both facilitating and constraining effects. While it can enhance employees' challenge stress and promote active engagement, it may also increase hindrance stress, which can lead to disengagement. Therefore, managers should develop a nuanced understanding of ambidextrous leadership by acknowledging both its complementary nature and inherent tensions and adopting targeted management strategies accordingly. Specifically, while fostering innovation, exploration, and autonomy, ambidextrous leaders should establish clear goals, refine feedback mechanisms, and provide necessary resources to strengthen employees' positive perception of challenge stress and maximize its beneficial effects. At the same time, they should reduce hindrance stress by minimizing task conflicts, improving communication clarity, optimizing work conditions, and avoiding excessive control to prevent disengagement. Furthermore, organizations can enhance managers' situational adaptability through leadership development programs that equip them to adjust their approach flexibly based on employees' needs, balance opening and closing behaviors, and ultimately drive both organizational performance and employee development.

Second, based on this study's findings, ambidextrous leadership increases both challenge and hindrance stress. Therefore, managers should enhance communication, listen to employees' needs, and provide encouragement and guidance to help employees perceive stress as a challenge for growth rather than an uncontrollable or overwhelming burden. HR can support this by offering training, psychological assistance, and stress-monitoring mechanisms to strengthen employees' stress management skills and intervene promptly to prevent disengagement due to excessive

pressure. At the organizational level, optimizing performance evaluation, fostering an open work environment, and providing flexible work arrangements and learning resources can help employees maintain motivation and adaptability in high-challenge settings.

Third, our findings underscore the pivotal role of leader behavioral flexibility in enhancing the effectiveness of ambidextrous leadership. To achieve this, managers must dynamically transition between opening and closing behaviors, balancing autonomy and control to foster both engagement and compliance in response to situational demands and employee needs. Moreover, they should cultivate a keen awareness of organizational contexts and employee reactions, discerning when to adopt an opening approach to stimulate motivation and when to implement a closing approach to reinforce structure and discipline. At the organizational level, enhancing leaders' adaptability is crucial for navigating an increasingly dynamic work environment. By offering leadership development programs, personalized coaching, and promoting a culture of continuous learning, organizations can strengthen leaders' capacity to adjust their behaviors effectively, maximizing the benefits of ambidextrous leadership while mitigating potential drawbacks.

### **5.3 Limitations and Future Directions**

Although this study provides meaningful theoretical and practical contributions, it has certain limitations. First, despite efforts to reduce common method bias by collecting anonymous data at three separate two-week intervals and conducting diagnostic tests, its potential impact remains due to reliance on self-reported information from a single participant. Future research could address this issue by incorporating data from both leaders and employees or using experimental designs. Second, since the dataset consists only of employees from various Chinese organizations, the generalizability of the findings may be limited. To determine whether the observed patterns apply in different settings, future studies should collect data from more diverse organizational and cultural contexts. Finally, our study focused on the moderating role of leader behavioral flexibility but did not explore other potential boundary conditions that may influence the effectiveness of ambidextrous leadership, such as organizational culture, team characteristics, or individual differences among employees. Future research could incorporate additional contextual factors to provide a more comprehensive understanding of the scope and mechanisms of ambidextrous leadership.

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