Differential Effects of Work Stress on Constructive and Defensive Voice

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Abstract

Prior research has predominantly examined the key antecedents, formation mechanisms, and contextual factors of voice behavior from the perspective of its constructive intention characteristics, yet has paid limited attention to the instrumental purposes of voice behavior. Based on Conservation of Resources theory, this study develops a moderated mediation model to explore the mechanisms and boundary conditions through which job stress influences employees' constructive voice and defensive voice. Through a two-wave survey of 386 employees in a construction enterprise, the results indicate that job stress is positively related to defensive voice and negatively related to constructive voice, with ego depletion serving as a mediator; furthermore, leader openness positively moderates the negative relationship between ego depletion and constructive voice, and positively moderates the indirect effect of job stress on constructive voice via ego depletion.

Full Text

The Divergent Effects of Work Stress on Constructive and Defensive Voice: A Cross-Level Moderated Mediation Model

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1. Introduction

As environmental uncertainty intensifies, it becomes increasingly difficult for managers to avoid organizational decision-making errors based solely on their own information. Many managers have gradually recognized that employees' work-related opinions and suggestions can continuously optimize and improve organizational systems, reduce organizational risks, and enhance organizational effectiveness through iterative processes. Consequently, employee voice has become a focal concern for management practitioners in recent years, as exemplified by Alibaba inviting brand enterprises to contribute suggestions for improving service quality and Huawei promoting and rewarding employees who speak candidly. Simultaneously, given the importance of voice behavior, researchers have thoroughly investigated its antecedents, mechanisms, and boundary conditions (Burris, Detert, & Chiaburu, 2008; Liang, Farh, & Farh, 2012; Weiss, Kolbe, Grote, Spahn, & Grande, 2018; Zhou & George, 2001). Particularly in high-work-pressure organizations such as hospitals and construction companies, where substantial work stress exists (Hammer et al., 2016; Kelloway, Nielsen, & Dimoff, 2017), the mechanisms underlying employee voice become more complex, making voice behavior in such contexts a hot topic among scholars in recent years (Conchie, Taylor, & Donald, 2012; Nembhard & Edmondson, 2006; Tucker & Turner, 2015).

Notably, several critical issues remain unresolved in voice research. First, previous studies have inadequately examined the instrumental purpose of voice behavior. Current research predominantly approaches voice from the perspective of constructive intention (e.g., Frese, Teng, & Wijnen, 1999; Van Dyne & LePine, 1998), neglecting the angle of voice as a means to balance resources. In high-work-pressure organizations, where employees must expend substantial resources to cope with work demands and consequently experience significant ego depletion, employees may utilize voice as a strategy to maintain or expand personal work resources (Boddewyn & Brewer, 1994; Ng & Feldman, 2012). Second, prior research has not sufficiently explored the relationship between work pressure and the content of voice. In high-work-pressure settings, varying levels of work pressure lead to different resource conservation and acquisition motives, resulting in distinct voice content. Some individuals, seeking to prevent further resource loss that could impair personal performance, advocate for defensive measures to avoid further deterioration of the work environment. Others, aiming to expand work resources to achieve higher personal performance, call for innovative measures to optimize the work environment. Third, existing research lacks investigation into the distinct mechanisms and boundary conditions for different types of voice behavior. Because employees' voice purposes and expressed content differ, the underlying mechanisms and boundary conditions may also vary substantially. Scholars have thus called for more nuanced examinations of the mechanisms and boundary conditions that generate different voice content (Li, Liao, Tangirala, & Firth, 2017; Maynes & Podsakoff, 2014).

This study investigates whether, how, and under what conditions work pressure

influences voice behavior. Our research offers three primary theoretical contributions. First, by proposing and testing the differential effects of work pressure on voice behavior, we examine employee voice from an instrumental perspective. In high-work-pressure organizations, some employees, aiming to improve work performance, tend to express ideas about improving work systems and business processes, whereas others, fearing that environmental changes may reduce performance, tend to express opposition to changes in organizational policies, procedures, and work practices. Second, by introducing conservation of resources theory, we delineate the mechanisms through which work pressure affects voice content. As a theory describing individuals' behavioral strategy choices under different resource conditions, conservation of resources theory effectively explains how individuals in high-work-pressure organizations select different behavioral strategies to achieve resource conservation or expansion (Halbesleben, 2006) and has been widely used to explain individual behavioral pattern differences in stressful work environments (Brotheridge & Lee, 2002; Grandey & Cropanzano, 1999; Halbesleben, 2006; Hobfoll, 1989). Finally, responding to scholars' calls to investigate the mechanisms and boundary conditions for different voice behaviors (Li, Liao, Tangirala, & Firth, 2017; Maynes & Podsakoff, 2014), we test leader openness as a moderator of work pressure' s effects while constructing a mediated model in which work pressure influences constructive and defensive voice through ego depletion, thereby providing valuable insights for managers seeking to stimulate employee voice.

Voice behavior, defined as expressing work-related opinions or suggestions (Van Dyne, Ang, & Botero, 2003), has attracted extensive scholarly attention since its introduction to organizational behavior research (e.g., Burris, Detert, & Chiaburu, 2008). Current research generally considers voice behavior as extra-role behavior (e.g., Grant & Ashford, 2008), characterized by constructive intention (e.g., LePine & Van Dyne, 1998; Morrison, 2011) and challenge to the status quo (e.g., Detert & Burris, 2007; Edmondson, 1999). As research has progressed, Liang, Farh, and Farh (2012) proposed a behavioral structure distinguishing between promotive and prohibitive voice based on voice content. However, subsequent scholars have argued that voice is not necessarily intended to improve organizational conditions or driven by altruistic or pro-organizational considerations. Instead, voice may reflect individuals' self-interested calculations and personal purposes. For instance, Maynes and Podsakoff (2014) defined voice as "individual discretionary behavior aimed at influencing the work environment" and introduced the concepts of constructive voice and defensive voice. Constructive voice involves expressing viewpoints that promote changes to the work environment, whereas defensive voice involves expressing opposition to changes in organizational policies, procedures, and practices, even when such changes may be necessary. In high-pressure organizations, where work stress is substantial and individuals experience varying degrees of ego depletion, strategies for maintaining and expanding resources differ considerably, making the desire to influence the work environment through voice to achieve individual resource balance particularly strong. This aligns closely with the conceptual connotations

and implicit assumptions of constructive and defensive voice. Therefore, this study focuses on constructive voice and defensive voice.

1.1 Work Pressure and Voice Behavior

In high-work-pressure organizations, employees face multiple goals (e.g., hospital staff must maintain high efficiency while managing emotions; construction workers must complete production tasks efficiently while preventing safety accidents), resulting in significant ego depletion (Hammer et al., 2016; Israel, Baker, Goldenhar, & Heaney, 1996; Kelloway et al., 2017). Consequently, employees have strong incentives to use voice strategies to balance personal resources (e.g., Seibert, Kraimer, & Crant, 2001). According to conservation of resources theory, when work pressure is low and work resources are relatively abundant, employees focus more on optimizing environmental conditions to acquire additional work resources, leading them to engage in constructive voice. Conversely, when work pressure is high and work resources are relatively scarce, employees concentrate more on preventing environmental deterioration to avoid further loss of work resources, prompting them to engage in defensive voice. Thus, low work pressure leads to constructive voice, whereas high work pressure triggers defensive voice. Previous research also suggests that high-pressure individuals voice concerns to prevent further resource loss, while low-pressure individuals engage in voice to acquire more resources (Ng & Feldman, 2012). Therefore:

H1a: Work pressure negatively affects employee constructive voice.
H1b: Work pressure positively affects employee defensive voice.

1.2 The Mediating Role of Ego Depletion

Ego depletion can mediate the effects of work pressure on different types of voice. Ego depletion refers to the expenditure of limited resources resulting from self-control activities (Baumeister, Bratslavsky, Muraven, & Tice, 1998) and can capture differences in coping strategies among individuals in stressful work environments. When facing heavy work pressure, individuals must continuously adjust themselves to match organizational work requirements to complete tasks, generating substantial ego depletion. Research indicates that when perceiving high work pressure, individuals experience greater ego depletion as they cope with constantly changing environmental demands (Clarkson, Hirt, Jia, & Alexander, 2010; Hagger, Wood, Stiff, & Chatzisarantis, 2010). When perceiving high work pressure, individuals with greater ego depletion are more sensitive to resource loss and have stronger motivation to prevent deterioration of the work status quo, leading them to engage in defensive voice to avoid further resource loss. When perceiving low work pressure, individuals with less ego depletion are more sensitive to resource acquisition and have stronger motivation to change current work conditions, leading them to engage in constructive voice to obtain more resources.

H2a: Ego depletion mediates the relationship between work pressure and con-

structive voice.
H2b: Ego depletion mediates the relationship between work pressure and defensive voice.

1.3 The Cross-Level Moderating Role of Leader Openness

As an important form of work resource (Diestel & Schmidt, 2012; Halbesleben, Neveu, Paustian-Underdahl, & Westman, 2014), leader openness plays a key role in determining whether employees with high or low ego depletion choose constructive or defensive voice. Leaders possess resource allocation authority, and their attitudes toward voice serve as informational cues that influence employees' choices among different behavioral strategies for resource balance. Previous research indicates that high leader openness signals to employees that "their suggestions will be seriously considered and adopted" (Detert & Burris, 2007; Lebel, 2016; Liu et al., 2015), suggesting that employees' goals of maintaining or expanding resources to cope with ego depletion through voice are highly achievable, thereby strengthening the effect of ego depletion on voice behavior. Conversely, low leader openness conveys the message that "employee suggestions will not be valued," implying that employees' goals of maintaining or expanding resources to cope with ego depletion through voice are difficult to achieve, thus weakening the effect of ego depletion on voice behavior. Therefore:

H3a: Leader openness moderates the relationship between employees' ego depletion and constructive voice. Specifically, the higher the leader openness, the stronger the negative relationship between ego depletion and constructive voice; conversely, the weaker the relationship.

H3b: Leader openness moderates the relationship between employees' ego depletion and defensive voice. Specifically, the higher the leader openness, the stronger the positive relationship between ego depletion and defensive voice; conversely, the weaker the relationship.

Leader openness, as an environmental cue, can influence high- and low-pressure individuals' strategic choices for balancing work resources. Specifically, when leader openness is high, low-pressure individuals believe that their goal of expanding resources by optimizing the status quo through constructive voice is achievable and thus engage in constructive voice, such as suggesting the introduction of new equipment or management systems. Meanwhile, high-pressure individuals believe that their goal of preserving resources by preventing status quo deterioration through defensive voice is also achievable and thus engage in defensive voice, such as expressing disagreement with or opposition to introducing new equipment or management systems. Conversely, when leader openness is low, neither constructive nor defensive voice is likely to be accepted by leaders, and employees realize that voice cannot help them achieve their goals of maintaining or expanding work resources, leading them to remain silent about work-related issues. Research shows that when leader openness is high, employees with external threat perceptions believe that the possibility of changing

environmental threats through voice is greater and thus actively engage in voice behavior (Tangirala & Ramanujam, 2012; Lebel, 2016). Additionally, studies indicate that leader openness can strengthen employees' voice intentions and weaken the negative effect of power distance on employee voice (Edmondson, 2003; Detert & Burris, 2007). Therefore:

H4a: Leader openness moderates the indirect relationship between work pressure and constructive voice through ego depletion. Specifically, when leader openness is high, this indirect relationship is relatively strong; conversely, it is weak.

H4b: Leader openness moderates the indirect relationship between work pressure and defensive voice through ego depletion. Specifically, when leader openness is high, this indirect relationship is relatively strong; conversely, it is weak.

The research model is shown in Figure 1 [Figure 1: see original paper].

2. Method

2.1 Research Sample

The data for this study were collected from a real estate construction company in Jiangsu Province. Construction workers must not only efficiently complete assigned production and construction tasks but also guard against safety accidents, resulting in generally high work pressure (Sunindijo & Kamardeen, 2017). Moreover, for such safety-critical organizations, voice is crucial for avoiding organizational problems and improving organizational efficiency (Tucker & Turner, 2015). Based on the match between the research question and the research context, we selected construction workers as our sample. All measurement scales were translated into Chinese using standard translation and back-translation procedures (Brislin, 1980). To eliminate common method bias (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003), we adopted a one-month time-lagged design with leaders evaluating employee voice behavior (Ward, Ravlin, Klaas, Ployhart, & Buchan, 2016) and distributed questionnaires in two stages. Specifically, in the first data collection wave, frontline construction workers reported their work pressure and ego depletion. One month later, in the second wave, the same workers reported their direct leaders' openness, while the leaders reported their team members' defensive and constructive voice behaviors. All variables were measured on a 5-point Likert scale except for leader openness, which used a 6-point Likert scale.

A total of 400 frontline construction workers and their direct supervisors from 50 teams participated in the survey. In the first wave, we distributed 400 employee questionnaires to the 50 teams and received 391 responses (97.7% response rate). In the second wave, we received 389 employee questionnaires and 50 leader questionnaires (97.5% response rate). The final matched sample consisted of 386 employee questionnaires. Participants had an average age of 41.9 years, average tenure of 15.5 years, 91.7% were male, and only 13.1% had received

college-level education or higher.

2.2 Variable Measurement

Work Pressure. We adopted the four-item scale developed by Motowidlo et al. (1986). A sample item is "I feel that my work pressure is high." The scale' s Cronbach' s alpha was 0.86.

Ego Depletion. We used the five-item scale developed by Lin and Johnson (2015). A sample item is "At work, I often feel unable to concentrate." The scale' s Cronbach' s alpha was 0.90.

Constructive Voice. We adopted the five-item scale developed by Maynes and Podsakoff (2014). A sample item is: "He/she made suggestions about how to adopt new ways of doing things." The scale' s Cronbach' s alpha was 0.90.

Defensive Voice. We used the five-item scale developed by Maynes and Podsakoff (2014). A sample item is: "He/she expressed disagreement with innovating existing work methods, even though the new methods might be more effective." The scale' s Cronbach' s alpha was 0.84.

Leader Openness. We adopted the three-item scale originally developed by Detert and Burris (2007) and later adapted by Lebel (2016), which has demonstrated good validity. A sample item is "My team leader will consider my suggestions." The scale' s Cronbach' s alpha was 0.73. Since leader openness is a team-level construct in this study, we aggregated individual employee ratings to the team level. The aggregation statistics showed satisfactory values: average Rwg = 0.84 (> 0.70), ICC(1) = 0.28 (> 0.10), and ICC(2) = 0.74 (> 0.50), indicating adequate aggregation.

2.3 Data Analysis Methods

We first conducted confirmatory factor analysis (CFA) using Mplus 7.0 software (Muthén & Muthén, 2012) to examine the discriminant validity of our measures and to test the main effects of work pressure and the mediating effects of ego depletion. Because our data had a nested structure, we further used R software (http://www.r-project.org/) to conduct Monte Carlo simulations to estimate confidence intervals for the mediation effects, thereby enhancing result reliability (Preacher, Zhang, & Zyphur, 2011; Preacher, Zyphur, & Zhang, 2010). Next, we used Mplus 7.0 to test the cross-level moderating effect of leader openness and plotted the moderation effects based on parameters estimated from hierarchical linear modeling (HLM) (Bryk & Raudenbush, 1992). Finally, we used Mplus 7.0 to test the cross-level moderated mediation effects and further employed R software to conduct Monte Carlo simulations for the confidence intervals of these effects.

3. Results

3.1 Confirmatory Factor Analysis

We used confirmatory factor analysis to examine the discriminant validity of our measures. The CFA results indicated that our measurement model fit the data well (²/df = 1.16, CFI = 0.99, TLI = 0.99, RMSEA = 0.02, SRMR = 0.04) and demonstrated superior fit compared to alternative models (see Table 1).

3.2 Descriptive Statistics

Table 2 presents the means, standard deviations, and correlations among all study variables. The results show that work pressure was significantly correlated with the mediator and outcome variables, providing preliminary support for our theoretical expectations.

3.3 Hypothesis Testing

Hypotheses 1a and 1b proposed negative and positive effects of work pressure on constructive and defensive voice, respectively. Hypotheses 2a and 2b further proposed mediation by ego depletion. As shown in Table 3 , work pressure had significant effects on both constructive voice (= -0.14, p = 0.015) and defensive voice (= 0.11, p = 0.029). Additionally, the indirect effect of work pressure on constructive voice through ego depletion was significant (= -0.06, CI = [-0.090, -0.023]), as was the indirect effect on defensive voice (= 0.03, CI = [0.010, 0.065]). Given the nested nature of our data, we conducted Monte Carlo simulations for these indirect effects. Based on 20,000 samples and 95% confidence intervals, the indirect effect on constructive voice did not include zero (CI = [-0.094, -0.022]), nor did the indirect effect on defensive voice (CI = [0.009, 0.067]). Thus, Hypotheses 1 and 2 received support.

Hypotheses 3a and 3b proposed that leader openness would moderate the relationships between ego depletion and the two voice behaviors. As shown in Table 4 , leader openness negatively moderated the relationship between ego depletion and constructive voice (= -0.35, CI = [-0.640, -0.059]). Specifically, compared to low leader openness (= -0.02, CI = [-0.207, 0.172]), the negative effect of ego depletion on constructive voice was stronger when leader openness was high (= -0.37, CI = [-0.577, -0.157]). However, the positive relationship between ego depletion and defensive voice did not differ significantly between high (= 0.23, CI = [0.059, 0.401]) and low (= 0.24, CI = [0.044, 0.434]) leader openness; that is, the moderating effect of leader openness on the ego depletion-defensive voice relationship was not significant (= -0.01, CI = [-0.270, 0.252]). Therefore, Hypothesis 3a was supported, whereas Hypothesis 3b was rejected.

To visually depict the moderating effect of leader openness on the relationship between ego depletion and constructive voice, we plotted the interaction effect in Figure 2 [Figure 2: see original paper]. Compared to low leader openness, the

negative relationship between ego depletion and constructive voice was stronger when leader openness was high. This suggests that when leader openness is high, employees with low ego depletion have stronger desires to expand resources and exhibit more constructive voice.

Hypothesis 4 proposed that the indirect effects of work pressure on voice behaviors (constructive and defensive) through ego depletion would differ significantly between high and low levels of leader openness. As shown in Table 5 , although the indirect effect of "work pressure → ego depletion → constructive voice" was not significant when leader openness was low (= -0.01, CI = [-0.063, 0.052]), it was significant when leader openness was high (= -0.11, CI = [-0.207, -0.041]), and the difference between high and low leader openness was significant (= -0.10, CI = [-0.201, -0.011]). Meanwhile, although the indirect effect of "work pressure → ego depletion → defensive voice" was significant when leader openness was low (= 0.07, CI = [0.004, 0.141]) and remained significant when leader openness was high (= 0.07, CI = [0.006, 0.134]), the difference between high and low leader openness was not significant (= -0.00, CI = [-0.082, 0.076]).

We further conducted Monte Carlo simulations for the confidence intervals of these moderated mediation effects. The results showed that when team leader openness was low (one standard deviation below the mean), the indirect effect of work pressure on constructive voice was not significant (CI = [-0.057, 0.096]); when leader openness was high (one standard deviation above the mean), the indirect effect was significant (CI = [-0.232, -0.052]); and the difference between high and low leader openness was significant (CI = [-0.306, -0.024]). Using the same method, we found that the indirect effect of "work pressure → ego depletion → defensive voice" was significant when leader openness was low (CI = [0.004, 0.156]) and when it was high (CI = [0.000, 0.148]), but the difference between high and low leader openness was not significant (CI = [-0.119, 0.114]). Thus, Hypothesis 4a was supported, whereas Hypothesis 4b was rejected.

4. Discussion

4.1 Discussion of Findings

Through a two-wave survey of a construction enterprise, we found that: (1) work pressure promotes defensive voice while inhibiting constructive voice; (2) ego depletion fully mediates both relationships; (3) leader openness positively moderates the relationship between ego depletion and constructive voice but has no significant effect on the relationship between ego depletion and defensive voice; and (4) the indirect effect of "work pressure → ego depletion → constructive voice" is positively moderated by leader openness, whereas leader openness does not significantly influence the indirect effect of "work pressure → ego depletion → defensive voice." Our study offers three main theoretical contributions and practical implications.

First, by introducing conservation of resources theory to voice behavior research, we reveal the instrumental intention underlying individual voice behavior. Pre-

vious theoretical research, whether based on voice behavior' s extra-role characteristics (e.g., social exchange theory perspective, Liang, 2014; organizational identification theory perspective, e.g., Yu & Zhao, 2013; psychological ownership model perspective, Avey, Wernsing, & Palanski, 2012; Zhou & Long, 2012), its challenge-to-status-quo characteristics (e.g., social learning theory perspective, Brown, Treviño, & Harrison, 2005; theory of planned behavior perspective, Liang et al., 2012; Ng, Van Dyne, & Ang, 2019; Li, Ling, & Liu, 2009; Wei & Zhang, 2010; information processing theory perspective, Liu et al., 2015; power' s approach-inhibition theory perspective, Morrison, See, & Pan, 2015), or its constructive characteristics (e.g., self-efficacy model perspective, Duan & Wei, 2012; Wang & Duan, 2015), has treated voice behavior as constructively intended without empirically examining its instrumental purpose. Although some studies suggest that voice behavior can enhance personal status (McClean, Martin, Emich, & Woodruff, 2018; Weiss & Morrison, 2019) and may be used by employees as a means to obtain personal benefits (Boddewyn & Brewer, 1994; Farrell & Petersen, 1982; Ng & Feldman, 2012), relevant empirical investigations are scarce. In this study, based on conservation of resources theory, we introduce ego depletion as a mediator of the effect of work pressure on employee voice behavior and use this variable to explain that employee voice is a tool for individuals to balance personal resources and achieve personal goals, thereby deepening research on the mechanisms underlying voice behavior.

Second, this study introduces the concepts of constructive voice and defensive voice based on previous scholars' perspectives and further explores the differential effects of employee work pressure on these two types of voice behavior. Some researchers have argued that control—a source of work pressure (e.g., Steptoe & Appels, 1989)—has a curvilinear relationship with voice behavior. Specifically, when job control is low, employees express work-related ideas to prevent status quo deterioration; when job control is high, employees also make suggestions to improve current performance (Tangirala & Ramanujam, 2008). Ng and Feldman (2012) also proposed that stress factors may have both promoting and inhibiting effects on employee voice behavior. We argue that under different work pressures, employees experience varying degrees of ego depletion, have different voice purposes, and thus necessarily exhibit substantially different voice content. Although scholars have recently called for research exploring the mechanisms underlying different voice behaviors based on voice content, such empirical studies remain quite limited (Li et al., 2017; Morrison, 2014). Our study finds that work pressure promotes defensive voice while simultaneously inhibiting constructive voice. These conclusions not only partially explain why the curvilinear relationship between work pressure and voice behavior has not been verified in previous research (Ng & Feldman, 2012) but also enrich theoretical research that explores voice behavior mechanisms based on content.

Third, this study proposes and tests the cross-level moderating effect of leader openness. Previous research indicates that leader openness can enhance employees' psychological safety and stimulate voice behavior (Detert & Burris, 2007). Our findings extend this perspective to some extent. We discovered

that leader openness strengthens the negative relationship between ego depletion and constructive voice and the indirect effect of "work pressure → ego depletion → constructive voice." However, the effect of work pressure on defensive voice is not influenced by leader openness. We believe this may be related to the high-work-pressure organizational context, where employees treat defensive voice as an important way to relieve psychological stress, suppressing the role of leader openness. Previous research also shows that when work pressure is high, employees express opinions to reduce psychological pressure (Iacovides, Fountoulakis, Kaprinis, & Kaprinis, 2003; Williams et al., 2001). Therefore, our study reveals that the contextual effect of leader openness on employee voice is a relatively complex psychological process, extending research on the situational mechanisms through which leader openness influences employee voice formation.

4.2 Limitations and Future Directions

This study has several limitations. First, we hypothesized that leader openness would significantly strengthen the relationship between ego depletion and defensive voice and enhance the indirect effect of work pressure on defensive voice, but neither hypothesis was supported. We speculate that high-pressure individuals may engage in defensive voice to help relieve psychological stress. In high-risk industries, employees must invest considerable work energy to achieve dual goals of improving production efficiency and maintaining workplace safety and reliability. In healthcare, employees must guard against work errors while managing their emotions, facing high psychological pressure with limited outlets. Under such circumstances, high-pressure individuals express their opinions to reduce psychological stress, regardless of whether supervisors will adopt their suggestions (Iacovides et al., 2003; Williams et al., 2001). However, this study did not control for this potential motive of using voice to relieve psychological stress. Future research could explore this issue more deeply by controlling for this purpose, such as by asking employees to report their level of motivation to reduce self-psychological pressure through voice during measurement.

Second, although we argue that in high-work-pressure organizations, differences in work pressure lead to varying degrees of ego depletion, prompting employees to adopt different strategies (defensive voice or constructive voice) to cope with ego depletion, the survey research design cannot establish causality. Based on conservation of resources theory, we propose that different levels of ego depletion lead to substantial differences in individuals' sensitivity to rewards and threats. For example, when work resources are relatively abundant, individuals are more sensitive to potential resource acquisition and have strong desires and goals to expand work resources; when work resources are relatively scarce, individuals are more sensitive to potential resource loss and have strong motivation and appeals to preserve and maintain resources. However, this study did not use experimental or quasi-experimental methods to verify this explanatory mechanism. Future research could adopt experimental or quasi-experimental designs to continue exploring this mechanism, such as using psychological measures of

implicit motivation to assess differences in voice motives among individuals in experiments and then testing whether pressure levels affect the choice of different voice behaviors through different voice motives.

Finally, although we consider leader openness as a contextual factor of significant importance for employee voice behavior, multiple mechanisms exist through which leaders influence employee voice. Future research could explore other possible mechanisms of leader influence on employee voice behavior. Previous studies have shown that when employees perceive low interpersonal risk, they exhibit voice behavior (Detert & Burris, 2007; Edmondson, 1999; Liu et al., 2015). Meanwhile, research indicates that positive leader-member relationships (Smidts, Pruyn, & Van Riel, 2001) and trust can also enhance employees' psychological safety and stimulate voice behavior. Therefore, future research could verify the moderating effects of different contextual factors on "work pressure → ego depletion → voice behavior," such as leader-member exchange relationships and employees' trust in leaders, thereby enriching current voice behavior research.

5. Conclusion

The results of this study indicate that: (1) work pressure has a significant inhibiting effect on constructive voice and a significant promoting effect on defensive voice; (2) ego depletion fully mediates the relationships between work pressure and both constructive and defensive voice; and (3) leader openness moderates the relationship between ego depletion and constructive voice as well as the indirect effect of "work pressure → ego depletion → constructive voice." These relationships and effects are stronger when leader openness is higher.

Note: Figure translations are in progress. See original paper for figures.