A Study of Challenge Stressor that Facilitates Employee's Innovative Behavior

A Moderated Mediation Analysis in the Taiwanese Service Industry

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Abstract

In today's turbulent business environment, employees' innovative behavior contributes significantly to the ongoing successful developments and ever-increasing competitive demands of organizations. According to social exchange perspective of stress transactional theory, supporting one's challenge stressor (CS) is a critical reason why many people innovate. Although motivation also play important mediating roles in CS-innovation relationship, research on examining a moderated mediation analysis of the effect of CS on employees' innovative behavior remains limited. Therefore, drawing on stress transactional theory, expanded theory of components innovation, and two componential model of motivational climate, the study explores the path effects of CS on employees' innovative behavior: a moderating role of group motivational climate. HLM analysis of the study, dyadic sample of 430 employees and 108 group leaders of five services industries in Taiwan, revealed that the CS positively predicted employees' innovative behavior and employees' organizational justice fully mediated the positive effect of CS on innovative behaviors. Furthermore, cross-level interactional analysis results showed that group performance motivational climate (GPC) moderated the effect of stage 1 (CS → organizational justice), group mastery motivational climate (GMC) moderated the effect of stage 2 (organizational justice → innovative behaviors), respectively. Results also showed that the effect of stage 2 was moderated by GMC, but GPC had no significant moderating effect of stage 2. Collectively these results suggest that organizational justice had the most positive indirect effect when moderator GPC of stage 1 and moderator GMC of stage 2 were high. Finally, the study concludes with a discussion of theoretical and managerial implications.

Keywords: Stressor, organizational justice, motivational climate, innovative behavior

Introduction

In today's uncertain and complex economic environment, employee's innovative behavior is a fundamental requirement for organizational success and competitiveness (Montani, Courcy, & Vandenberghe, 2017). While facing the fast-growing industries, the performance of employee's innovative behavior is also highly relevant to organizational effectiveness and survival (Jain, 2015; Kang, Solomon, & Choi, 2015). "Innovative behavior" is a process in which employees seeks, build, execute, and

successfully achieve their ideas for new techniques, processes, and skills in a useful product or service (Scott & Bruce, 1994). According to one meta-analysis suggest different types of job stressors have different prediction effects on the indicators of employee's innovative behavior (Byron, Khazanchi, & Nazarian, 2010). Cavanaugh et al. (2000) showed that job demands can be divided into challenge stressors (CS) and hindrance stressors (HS). The CS effect is more complex than the HS effect (Sacramento et al., 2013; Zhang, et al., 2014). Therefore, this study focuses on CS and exploring its relationship with employee's innovative behavior.

According to the social exchange theory, interpersonal interaction between "applying and accepting" is carried out based on the long-term return and trust. CS is built on the basis of such social exchanges. Research (e.g. Crane & Searle, 2016; Zhang et al., 2014) showed that there is a positive correlation between CS and employee performance. As Amabile and Pratt (2016) point out that engaging in meaningful work every day plays an important role in the process of employee's innovative performance. Therefore, the first purpose of this study verifies "the positive effect of CS on employee's innovative behavior (CS → innovative behavior)".

Importantly, this study further explores the mediating mechanism of CS → innovative behavior and the moderating variables of this mediating mechanism. After the meta-analysis of scholars (Byron, Khazanchi, & Nazarian, 2010), the research shows that it's suggested that the direction of the future research is to explore the intermediate mechanism of CS → innovative behavior and conditional variables. In other words, to understand why CS can positively predict employee's innovative behavior and clarify when the process mechanism will be important, at least it is still necessary to fill the next two research gaps.

In the first point of the research gaps, the CS → innovative behavior is mediated by organizational justice? This study is based on the principle of reciprocity in the social exchange of stress transaction theory (Gouldner, 1960). When employees face high CS, they will return the organization with the innovative behavior. In order to have better performance, employees expect to induce motivation to work hardy. In summary, the second purpose of this study is to integrate stress transaction theory (Lazarus & Folkman, 1984) and organizational justice theory (Greenberg, 1986) to explore whether organizational justice will mediate the relationship between CS and employee's innovative behavior.

In the second point of the research gaps, if organizational justice of motivation has a mediating effect on CS → innovative behavior, then the discussion of the boundary conditions of the aforementioned intermediary effects is an important issue. Since the purpose of this study is based on the social exchange theory and proposes the mediating effect of the motivational factors of organizational justice, then there are two reasons for choosing moderator variables. First, choose the vivid and proximal goals associated with the organization/supervisor's motivation mechanism for CS; second, the variables in departmental level that affect organizational justice during the employee-organization/supervisor relationship exchange process. Therefore, based on the above reasons, this study selects the group motivational climate at the department level as the moderating variable.

Group motivational climate refers to the collective perception of the group members of the department in their motivational climate. The motivational climate includes a group performance motivational climate and a mastery motivational climate (Ames & Archer, 1988). In short, this study uses the group members' collective perception of the group performance motivational climate to represent the group performance motivational climate (GPC), its connotation, such as the department, will encourage employees to compete with each other and emphasize that those with good job performance can get higher rewards. In addition, the group mastery motivational climate (GMC) is a sophisticated motivational climate characterization based on group members' collective perception, and its connotation is as follows. Employees are encouraged to cooperate and exchange knowledge with each other, and employees are expected to exchange the information with each other through reciprocal trust.

With this in mind, will the mediating effect of organizational justice on CS → innovative behavior be moderated by GPC and GMC, respectively? Recent research (e.g. Amabile & Pratt, 2016; Zhang, et al., 2014) shows that research results in this area

are rare. This study is based on the social exchange process of stress transaction theory and organizational justice theory (Colquitt, 2012) and the two componential model of motivational climate (Ames & Archer, 1988) to explore whether GPC and GMC will moderate stage 1 (CS → organizational justice) and stage 2 (organizational justice → innovative behavior), respectively.

To integrate the first and second purposes of this study, this study further explores whether the mediating effects of the aforementioned organizational justice will be different by the high and low boundary conditions of GPC and GMC. Therefore, the third purpose of this study is to further explore whether the mediating effect of organizational justice on the relationship between CS and employee's innovative behavior will be moderated due to the different levels of GPC and GMC.

Literature Review and Research Hypotheses

the Effect of Organizational Justice on the CS innovative behavior

In view of the instability of global stressors that the previous findings, Cavanaugh et al. (2000) divided the stressors into a challenge stressor (thereafter is called CS) and a hindrance stressor (thereafter is called HS) in order to predict the effects of individual job performance respectively. Among them, CS refers to the stressor that employees need to learn or achieve their goals. HS is a stressor of resistance to employee goals or growth, including role conflicts and role ambiguity.

The meta analysis of LePine et al. (2005) found that CS has significant positive predictive effect on job performance. The higher the employee's CS, represents the more challenging the work is, the more the work is highly recognized by the supervisor, and the more actively the employees are to demonstrate the innovative behavior (Vecchio, 1990). This study infers that the higher the employee's CS, the more the principle of reciprocity will be shown up (Blau, 1964; Gouldner, 1960), employees will enhance the motivation to work to achieve their job performance, and give the innovative behavior in return, so the following hypothesis is made,

Hypothesis 1. The higher the employee's challenging stressor, the more positive it will be to demonstrate innovative behavior.

The Effect of Organizational Justice on the CS innovative behavior

The research results of LePine et al. (2016) showed that the challenging appraisal mediates the relationship between CS and employee job performance. This study bases on the principle of reciprocity in social exchange theory (Gouldner, 1960) that employees will return with innovative behavior after they perceive high CS. In order to have better performance, employees have the motivation to work hard, and this motivation includes distributive justice and procedural justice of organizational justice. This study infers that when employees are in high CS, they can get help from the quality of the good employee/organization exchange relationship, pay attention to the organizational justice of high distributive justice and procedural justice, and then enhance their workplace competitiveness in return. The research results showed that the higher the employee distributive justice and procedural justice, the more employees are willing to invest, and the more they are actively demonstrating innovative behavior (Amabile, 1996; Tsai, 2006).

Consequently, according to the theoretical inference of the principle of reciprocity, this study integrates the theory of stress transactional model (Lazarus & Folkman, 1984) and the theory of organizational justice (Greenberg, 1986), this study explores whether organizational justice has a mediating effect on the relationship between CS and employee innovative behavior. Based on the above inference, this study proposes the following hypothesis:

Hypothesis 2. Organizational justice will mediate the positive relationship between challenging stressor and innovative behavior.

The Moderating Role of Group Motivation Climate

Ames and Archer's (1988) motivational climate is applied to the application on

employees in the workplace to achieve goals, the motivational climate can be divided into two major components, GPC and GMC (c.f. Nerstad, Roberts, & Richardsen, 2013: 2232). GPC is more likely to generate competitions among departments, comparative feedback, public assessment and social comparison, etc. This study infers that the higher the GPC, the higher the CS is perceived by employees, the more likely it is to promote organizational justice. Relatively speaking, when the GPC is low, the higher the CS is perceived by employees, although they face the high challenges of the task, they cannot expect to obtain the return of good rewards from the group, which will reduce their demands of fairness and justice to the organization.

And, in the working situation, GMC describes the positive interaction between interpersonal and colleagues that multiple goals, problem solving, and mutual benefits could be achieved by using reciprocal methods or principles (Chen, Tjosvold, & Liu, 2006) (c.f. Nerstad, Roberts, & Richardsen, 2013: 2233). This study infers that the higher the CS, the higher the employees expect the department to benefit the members fairly, the self-esteem can be guaranteed from the GMC, and the employees are regarded as valuable members of the department that deserve respect, affirmation, and courtesy. This allows employees to express their value, which leads to higher employee CS, even if they do not really get the advice from the organization/supervisor, or participate in the management process, it will make employees feel fair about the decision-making process and the distribution of the organization/supervisor. Relatively speaking, when the GMC is low, as the employee CS is higher, its daily work requirements are highly challenging. But, due to the low cooperation atmosphere of the group, and it is also expected that the available resources of the group are scarce. Employees are more concerned with the organization's distribution justice and procedural justice in this motivational climate, in order to fulfill the resources required for their work tasks. Based on the above inference, this study proposes the following hypotheses:

Hypothesis 3a. The relationship between challenging stressor and organizational justice is moderated by the group performance motivational climate.

Hypothesis 3b. The relationship between challenging stressor and organizational justice is moderated by the group's mastery motivational climate.

Furthermore, when the GPC is high, the employees will not actively respond to the organizational justice of the CS, and a bad exchange relationship quality is formed between the employees and the organization/supervisor, which will make the stage 2 (organizational justice → innovative behavior) less effective. Relatively speaking, when the GPC is low, a good exchange relationship quality is formed between the employees and the organization/supervisor, thereby enhancing the positive effect of the stage 2 (organizational justice→innovative behavior).

In addition, this study inferred that if the higher the GMC, the more it will be through the mutual cooperation and exchange of opinions between the employees, the more employees will receive feedback from the group colleagues to correct and improve the work process, and thus improve the results of the group work and common interests. When GMC is high, employees will also actively demonstrate innovative behaviors in return, and thus enhance the positive effect of stage 2 (organizational justice → innovative behavior). Relatively speaking, when the GMC is low, employees are less likely to respond to the organizational justice of CS, making state 2 (organizational justice → innovative behavior) less effective, So the following hypotheses are made:

Hypothesis 3c. The relationship between organizational justice and innovative behavior is moderated by the group performance motivational climate.

Hypothesis 3d. The relationship between organizational justice and innovative behavior is moderated by the group's mastery motivational climate.

Finally, combining the inferences of hypothesis 1 and hypothesis 2 in this study, and the logical inferences of hypothesis 3a – 3d, in this study, the study proposes the following hypotheses:

Hypothesis 4. When both of the stage 1 moderating variable GPC and the stage 2 moderating variable GMC are high, organizational justice has a significant mediating effect on the relationship between CS and employee innovative behavior.

Employee demographic variables, HS and knowledge hiding variables are considered as control variables. And, while this study examines the hypotheses that the mediating effect is moderated by the GPC and GMC, in addition to the above-mentioned employee-level variables, the control variables also include departmental-level supervisor demographic variables, the number of people of group, GPC and GMC.

Method

Sample and Procedure

We collected data from five enterprises within the Taiwan service corporate. Participants were predominantly single (59.77%), on average were 31.06 years old (SD = 8.48), less than half were man (49.53%), and more than three quarter (74.9%) attended college. On average, the participants had been in their current jobs for 5.17 working years (SD = 5.61). To reduce the problems with sample attrition, we decreased the time lag between the initial data collection from the service industry and the collection of innovative behavior ratings from the direct group leaders (from approximately three weeks around two weeks). In sum, we obtained matched ratings from 108 group leaders for all 430 service employees.

Measures of Employee Level

The challenge stressor scale included six items that tap workload, time pressure, task complexity, and responsibility. The hindrance stressor scale included five items that tap role ambiguity, role and interpersonal conflict, politics, and hassles. Employees were asked to "rate the frequency of these demands in your daily work." Responses were collected which "1" was "never" and "5" was "always." Our organizational justice scale included 10 items, as in Niehoff and Moorman (1993) original publication. We conducted a confirmative factor analysis in which the 10 items were loaded onto their respective first order factors. The scale measuring employee innovative work behavior was adapted from scale proposed by Janssen (2000), which measures employee innovative work behavior using nine items. The direct supervisor evaluate their subordinate by using 7-point scale ranging from 1 (never) to 7 (always). Finally, we also included measures of knowledge hiding (Connelly, Zweig, Webster, & Trougakos, 2012). We measured knowledge hiding with a slightly adapted version of the 12-item scale developed by Connelly et al. (2012). Responses were collected by using 7-point scale ranging from "1" was "strongly disagree" and "7" was "strongly agree." The Cronbach's α for the 12-item scale was .87.

We specified a confirmatory factor analysis with five factors (challenge stressors, hindrance stressors, organizational justice, knowledge hiding, and innovative behavior) as a check on the validity of the measures mentioned above. According to Hu and Bentler's (1999) fit indices, we found that 5-factor model fit the data well (χ^2 = 1970.99, *df* = 1007, RMSEA = .047, GFI = .85, IFI = .92, CFI = .92). These revealed satisfactory discriminant validity for the four constructs.

Measures of Group Level

We applied a measure developed and validated by Nerstad et al. (2013) to measure perceptions of the motivational climate at work. Six items measured employees' perceptions of a mastery climate, whereas eight questions measured employees' perceptions of a performance climate. Responses were collected by using 5-point scale ranging from "1" was "strongly disagree" and "5" was "strongly agree." We tested the within-group agreement for performance motivational climate and mastery motivational climate by computing r_{wg}, obtaining median values of .93 and .95, respectively. The interclass correlation (ICC1) estimate was .44 for performance motivational climate and .23 for mastery motivational climate. Meanwhile, the ICC2 estimate was .76 for performance motivational climate and .54 for mastery motivational climate. Thus, aggregating the responses to the group level was appropriate.

Insert Table 1, 2, & 3 about here.

Results

Table 1 provides the means, standard deviations, reliabilities, and correlations of the measures and variables used in the study. We calculated the interclass correlation for innovative behavior (ICC1 = .31), which indicated the necessity of partitioning its variance at both employee and group levels. Using hierarchical linear modeling (HLM) analyses, we modeled the structural associations among study variables using the integrated approach outlined by Edwards and Lambert (2007), and tested all the proposed relationships simultaneously in an MSEM (Preacher, Zyphur, & Zhang, 2010).

Hypotheses Tests

Table 2 and Table 3 summarize the results from HLM analyses. The results show that there was an significant association between challenge stressors and employee innovative behavior (γ_{80} = .26, standard error = .103, T-ratio = 2.47, *df* = 107, $p < .05$). Thus, Hypothesis 1 was supported. We used the coefficient estimates (Table 2) to compute simple effects that in turn allowed us to examine the mediating effects. To examine indirect effects through organizational justice, which speak to Hypotheses 2, we calculated the mediating effect equals the product of the first stage (i.e., challenge stressors →organizational justice) and second stage (i.e., organizational justice → innovative behavior), .22 × .15 = .033. To confirm the mediating effect we also conducted the Sobel test (Sobel, 1982), and we found a significant value, Z = 1.805, one-tailed test p = .035. Thus, Hypothesis 2 was also supported.

Moderation Effect of the Motivational Climate on CS → Organizational Justice.

Model 2 of Table 3 suggest that the positive effect of challenge stressors on organizational justice is moderated by group performance motivational climate (γ_{81} = .40, $p < .01$). Simple slopes indicate that, the challenge stressors had more of a positive impact on organizational justice when group performance motivational climate was high (γ = .34, $p < .05$) rather than low (γ = -.08, $p > .05$). Thus, Hypothesis 3a was supported. Model 2 of Table 3 also suggest that the positive effect of challenge stressors on organizational justice is moderated by group mastery motivational climate (γ_{82} = -.42, $p < .05$). Simple slopes indicate that, the challenge stressors had more of a positive impact on organizational justice when group mastery motivational climate was low (γ = .294, $p < .05$) rather than high (γ = -.03, $p > .05$). Thus, Hypothesis 3b was also supported.

Moderation Effect of the Motivational Climate on Organizational Justice → Innovative Behavior

Model 4 of Table 3 suggest that the positive effect of organizational justice on innovative behavior is not moderated by group performance motivational climate (γ_{91} = -.22, *n.s.*). Thus, Hypothesis 3c was not supported. Model 4 of Table 3 suggest that the positive effect of organizational justice on innovative behavior is moderated by group mastery motivational climate (γ_{92} = .42, $p < .05$). Simple slopes indicate that, the organizational justice had a positive impact on innovative behavior when group mastery motivational climate was high (γ = .30) rather than low (γ = -.02, $p > .05$). Thus, Hypothesis 3d was supported.

Moderated Mediation Effects

Taking the product of simple effects at high or low values (one standard deviation above or below the mean) of motivational climate, we calculated the conditional indirect effects for testing moderated mediation (Muller, Judd, & Yzerbyt, 2005). When group performance motivational climate was high at first stage (i.e., CS → organizational justice) and group mastery motivational climate was high at second stage (i.e., organizational justice → innovative behavior), the overall indirect effect (i.e., CS → organizational justice → innovative behavior) power is 10.34% (.34 × .304). In contrast, when group performance motivational climate was low at first stage and group mastery motivational climate was low at second stage, the overall indirect effect power is nearly 0 (-.034 × .03). Thus, Hypothesis 4 was supported.

Discussion

Our research has several important implications. This research found that there is a positive relationship between CS and innovative behaviors. Therefore, in addition to

reaffirming the principle of reciprocity in transactional theory of stress (Gouldner, 1960) and the research perspective on the process of innovative behaviors (Kanter, 1988; Scott & Bruce, 1994), The main effect also echoed the findings of scholars (Adler & Koch, 2017; Antwi, et al., 2019, Sacramento, et al., 2013; Widmer, et al., 2012; Zhang, et al., 2014). In theory, the mediating effect of this research verifies the reciprocity principle of the transactional theory of stress, confirming that CS → organizational justice → innovative behavior. This new discovery supports the principle of reciprocity in social exchange in the transactional theory of stress (Lazarus & Folkman, 1984). Meanwhile, it also echoes Zhang et al. (2014) 's hypothetical logical derivation of CS and the research findings of LePine et al. (2016).This research also finds that the highest effect of the mediating effect that moderated by motivation climate comes from the effects of GPC and GMC on the different stages, specifically, when the effect of high GPC on the stage 1 (CS → organizational justice) and high GMC on the stage 2 (Organizational justice → innovative behavior) will produce the most ideal mediating effects of CS → organizational justice → innovative behavior. Therefore, compared with the results of Zhang et al. (2014), it can be said that it is a new academic progress in terms of the total verification power of the research model. That is, the individual's behavior does not exist independently and invariably, but is the result of continuous interaction between the individual and the scenario they face.

Finally, the study at least have two research limitations. First, this research is based on employee self-report surveys to collect data on predictive variables at the employee level, although scholars often use such research methods (e.g. Scott & Bruce, 1994), these data are subjective responses of the subject, so there may be problems with common method variance. This is a limitation of this research. Second, the mediating effect test in this research found that the "relationship between CS and employees' innovative behavior" will be achieved through the mediating effect of organizational justice, but these predictive variables can collectively explain the variation in innovative behavior among employees is 34.55%. Therefore, there may be other intermediary analysis models that explain a higher percentage of innovative behaviors.

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TABLE 1
Means, Standard Deviations, and Intercorrelations among Study Variables

Variables[b]	Mean	SD	1	2	3	4	5	6	7	8	9
Individual-Level Variables											
1. Innovative Behavior	4.55	.89	(.94)								
2. Challenge Stressors	3.82	.53	.21***	(.70)							
3. Organizational Justice	4.31	.82	.13**	.11*	(.93)						
4. Hindrance Stressors	2.64	.74	-.05	.01	-.37***	(.72)					
5. Knowledge Hiding	2.88	.79	-.08	-.26***	-.13**	.34***	(.87)				
6. Gender	.49	.50	-.09	-.04	.09	-.12*	-.01				
7. Marital Status	.40	.49	.09	.06	-.15**	.17***	.03	-.04			
8. Age	31.06	8.48	.02	.04	-.18**	.14**	-.01	-.12*	.59***		
9. Education	15.15	2.01	.22***	.17***	.01	.01	-.09	-.01	-.10*	-.10*	
10. Tenure	5.17	5.61	-.05	.01	-.20***	.15**	.01	-.16**	.42***	.68***	-.23***
Group-Level Variables											
11. Performance Motivational Climate	3.40	.52	(.92)								
12. Mastery Motivational Climate	3.80	.39	(.87)								

Note: Individual-level n = 430. Group-level N = 108.
Alpha coefficients appear on the diagonal in parentheses. Performance motivational climate would be significantly associated with mastery motivational climate (r = .24, p < .05).
*p < .05. **p < .01. ***p < .001.

TABLE 2
HLM Results for the Mediation Effect of Organizational Justice on CS-Innovative Behaviors Relationships

Predictors [a]	Organizational Justice		Innovative Behavior			
	Regression Model [b]		Regression Model [b]			
	Model 1	Model 2	Model 1	Model 2	Model 3	Model 4
Constant γ_{00}	4.30***	4.32***	4.55***	4.50***	4.52***	4.52***
Gender γ_{10}		-.01		-.09	-.12	-.10
Marriage γ_{20}		-.05		.20*	.23*	.19*
Age γ_{30}		.01		-.01	-.01	-.01
Education γ_{40}		-.02		.08***	.09***	.08***
Working Years γ_{50}		-.02		.01	.01	.01
Hindrance Stressors γ_{60}		-.39***		-.11	-.01	-.02
Knowledge Hiding γ_{70}		-.01		.02	-.03	-.01
Challenge Stressors γ_{80}		.22**		.26*		.18
Organizational Justice γ_{90}					.19**	.15*
Individual-Level Variance (σ^2)	.50	.32	.55	.44	.41	.36
Change in Variance ($\triangle\sigma^2$)		.18		.11	.14	.19
Proportion of Explained Variance		36.00%		20.00%	24.45%	34.55%
Group-Level Variance (τ)	.17***	.13***	.25***	.16	.19	.16

Note: Individual-level n = 430. Group-level N = 108. HLM, hierarchical linear modeling; CS, challenge stressors.
[a]$\triangle\sigma^2$ of Model 2 is the σ^2 difference between Model 2 and null Model 1. $\triangle\sigma^2$ of Model 3 is the σ^2 difference between Model 3 and null Model 1. $\triangle\sigma^2$ of Model 4 is the σ^2 difference between Model 4 and null Model 1.
[b]The reported values are unstandardized regression coefficients.
*p < .05. **p < .01. ***p < .001.

TABLE 3
HLM Results for OJ and Innovative Behaviors: the Moderation and Moderated Mediation Effects

Predictors [a]	Innovative Behavior		Organizational Justice		Innovative Behavior		Innovative Behavior	
	Regression Model 1 [b]		Regression Model 2 [b]		Regression Model 3 [b]		Regression Model 4 [b]	
	Estimate	SE	Estimate	SE	Estimate	SE	Estimate	SE
Constant γ_{00}	4.38***	.19	4.21***	.15	4.43***	.21	4.33***	.20
Group-level variable								
Group Size γ_{01}	.03	.04	.04	.03	.01	.04	.04	.04
Gender of Supervisor γ_{02}	-.15	.09	-.15*	.07	-.08	.10	-.12	.09
Marriage of Supervisor γ_{03}	.13	.11	.01	.08	.12	.12	.16	.11
Age of Supervisor γ_{04}	-.01	.01	.01	.01	-.01	.01	-.01	.01
Education of Supervisor γ_{05}	-.03	.03	.02	.02	-.02	.03	-.04	.02
Working Years of Supervisor γ_{06}	-.01	.01	-.02**	.01	.01	.01	-.01	.01
GPC γ_{07}	.21^{+}	.11	.01	.08	.33**	.12	.30*	.12
GMC γ_{08}	.47**	.15	.59**	.12	.39*	.15	.31*	.15
Individual-Level Variable								
Gender γ_{10}	-.11	.08	.02	.06	-.14*	.07	-.15*	.07
Marriage γ_{20}	.19	.11	-.06	.08	.20*	.10	.18	.10
Age γ_{30}	-.00	.01	.01	.01	.01	.01	-.01	.01
Education γ_{40}	.10***	.02	-.01	.02	.10***	.02	.10***	.02
Working Years γ_{50}	-.01	.01	-.02	.01	.01	.01	.01	.01
Hindrance Stressors γ_{60}	-.06	.06	-.30***	.07	.01	.06	.02	.06
Knowledge Hiding γ_{70}	.01	.06	.01	.06	-.01	.06	-.01	.06
Challenge Stressors (CS) γ_{80}	.20^{+}	.10	.13^{+}	.07	.15*	.07	.15	.09
Organizational Justice (OJ) γ_{90}							.14^{+}	.07
Cross-Level Interaction Effects Variable								
CS x GPC γ_{81}	-.18	.26	.40**	.11			-.37	.20
CS x GMC γ_{82}	.15	.28	-.42*	.17			.12	.29
OJ x GPC γ_{91}					-.19	.13	-.22	.14
OJ x GMC γ_{92}					.32	.19	.42*	.18
Individual-Level Variance (σ^2)	.43		.32		.42		.35	
Change in Variance ($\triangle\sigma^2$)	.12		.18		.13		.20	
Proportion of Explained Variance	21.82%		36.00%		23.64%		36.36%	
Group-Level Variance (τ)	.12		.06**		.16		.13	

Note: Individual-level n = 430. Unit-level N = 108. HLM, hierarchical linear modeling; GPC, group performance motivational climate; GMC, group mastery motivational climate; CS, challenge stressors.; OJ, organizational justice; SE, standard error.

[a] $\triangle\sigma^2$ of Model 1 is the σ^2 difference between Model 1 and null Model. $\triangle\sigma^2$ of Model 2 is the σ^2 difference between Model 2 and null Model. $\triangle\sigma^2$ of Model 3 is the σ^2 difference between Model 3 and null Model. $\triangle\sigma^2$ of Model 4 is the σ^2 difference between Model 4 and null Model.

[b] The reported estimate values are unstandardized regression coefficients. SE represents standard error.

$^{+}p < .06$. $*p < .05$. $**p < .01$. $***p < .001$.