

Research Article

Dual-Channel Effect of Job Insecurity on Knowledge Workers' Innovative Behavior

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Received 12 March 2022; Revised 11 April 2022; Accepted 25 April 2022; Published 17 May 2022

Academic Editor: Jiafu Su

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Job insecurity reflects the desire and expectation of organizational managers for employees' exhibition of innovative behavior. Ubiquitous and inevitable, it has gradually become a concern psychological problem for job survival and stability. As a key driver of innovation, employee innovation depends heavily on knowledge workers, who are best able to spot problems and identify and capture opportunities. Based upon the transactional theory of stress and coping (TTSC), this paper discusses the influencing mechanism of knowledge workers' job insecurity and innovative behavior in enterprises, emphatically analyzes the mediating effects of two coping strategies, i.e., proactive work behavior and working withdrawal behavior, and verifies the moderating effect of organizational climate for innovation. With the data from 665 questionnaires of enterprise knowledge workers, this paper shows that job insecurity can influence knowledge workers' innovative behavior either positively through proactive work behavior or negatively through working withdrawal behavior, thus forming a dual-channel effect model of influencing their innovative behavior, and that organizational climate for innovation has a moderating effect on the relationship between job insecurity and proactive work behavior/working withdrawal behavior. The organizational innovation climate played a moderating role between job insecurity and proactive work behavior and work withdrawal behavior and detected the value of the boundary where the organizational innovation climate played a mediating role.

1. Introduction

With the launch of "Made in China 2025" and Germany's "Industry 4.0" strategy, intelligentization has promoted a new round of technological and industrial revolution. Every business and even individuals are faced with "uncertainty, complexity, and ambiguity." With a view to taking the lead in market competition, enterprises have to adopt reform measures and competitive mechanisms such as "competition for posts," "lowest place elimination series," "layoff mechanism," and "996 work schedule." Heightened uncertainty in the employment environment leads to the increased employment risks for employees. As employment tensions rise, so does concern among employees about the future loss of work itself or important features, making more and more employees feel insecure at work, and then have a sense of insecurity about the viability of the job [1].

Meanwhile, the outbreak of COVID-19 has swept over 200 countries and regions, affecting more than 7 billion people. The world has faced a grave crisis and severe test, which has once again increased the uncertainty in the working environment of enterprises and aggravated the job insecurity of employees. Job insecurity has gradually become one of the important stressors in today's work [2] and a common psychological problem in the workplace.

Technological changes, market changes, and the on-and-off pandemic have exposed the enterprises to many uncertainties and problems. Enterprises have also realized that only by developing innovative products or services and constantly maintaining innovative vitality can they survive in the complex market competition [3]. Innovation is mainly driven by employees in an enterprise [4], where knowledge workers are best able to find problems and identify and capture opportunities [5]. Therefore, having a group of

proactive and innovative workers has become the key to improve the innovation capability of enterprises. So far, the research on individual innovation has basically focused on effective interaction [6, 7], positive atmosphere [8], proactive leadership [9, 10] and other supportive and stable factors. However, little attention is paid to negative factors that are not conducive to innovation [11]. Research suggests that it is of equal importance to identify and eliminate negative factors in the workplace that discourage innovation [12]. Studies have found that job insecurity will have a negative impact on employees' job satisfaction [13], physical and mental health [14], risk tolerance [15], and civic behavior [16], among others. Meanwhile, some scholars analyze that job insecurity has a certain negative impact on innovative behavior [17]. Job insecurity is understood as a hindrance situation, and it is proposed to eliminate employees' perceived insecurity at work [18]. Other studies, however, have not found such relationship [19]. This also implies that the relationship between job insecurity and employee innovative behavior is uncertain. Existing studies on the impact of job insecurity on employee innovative behavior are to be improved. There is still no consensus on the relationship between the two and ways to influence the latter [20, 21]. More theories are required to explore and explain the relationship between them from more perspectives [22].

To sum up, this paper contributes to the following two: first, based on the TTSC, proactive work behavior and working withdrawal behavior are introduced as positive and negative coping styles, respectively, in an effort to explain the dual-channel effect of job insecurity on knowledge workers' innovative behaviors. Second, this paper argues that the high or low organizational climate for innovation affects the coping styles of knowledge workers in case of perceived job insecurity and thus constructs a two-path moderated mediation model. With this model, the influencing mechanism and boundary conditions of job insecurity on knowledge workers' innovative behaviors are analyzed systematically to help business managers better understand the effects of job insecurity requirements and take advantage of job insecurity to enhance the innovative behavior of enterprises.

2. Literature Review and Hypotheses Development

TTSC is a subjective appraisal of stress from the perspective of interaction. It expounds the subjective process and important role of cognitive appraisal and coping response [23] and is often applied to study the individual differences in response to stress [24]. There is no difference between positive and negative. The difference between challenge and hindrance stress is the product of subjective cognitive appraisal. Different cognitive appraisals prompt individuals to adopt different coping styles and strategies [25]. In an environment of uncertainty, employees tend to adopt the negative coping style when they have appraised the current situation as damage or threat; when the situation is appraised as a challenge, employees are more willing to adopt the positive coping style [25]. It is essentially a process in which individuals

adjust to the management objectives set by the organization. Different coping strategies are bound to produce different behavioral outcomes, so it is an important strategy to cope with stress [26]. In conclusion, when the employees feel insecure in the workplace, the cognitive appraisal of stress will influence the employees to adopt different coping strategies and thus have different effects on innovative behavior.

2.1. Impact of Job Insecurity on Employee Innovative Behavior: The Mediating Effect of Proactive Work Behavior. The stress of job insecurity is a peculiar phenomenon in business [27]. Job insecurity is pervasive and inevitable [28]. Research shows that organizational environment is an important situational factor to stimulate the proactive work behavior [29]. People tend to be slack in a comfortable environment, while job insecurity from the outside can moderate such slack, and thus the stress from job insecurity is not always negative. According to the TTSC, the duality of stress implies that challenge stressors will stimulate individuals to take positive coping strategies while hindrance stressors are consuming internal resources [25]. Job insecurity may also be a positive stimulus, which plays a positive role in stimulating and maintaining employees' enthusiasm and effort [30]. Meantime, individuals are more willing to adopt the positive coping style, put in more efforts, and perform better when they believe the availability of greater external benefits in dealing with job insecurity [31], thereby facilitating more proactive behaviors.

Proactive work behavior is a behavior committed to improving the internal working environment of an organization, characterized by spontaneity, foresight, and change [32]. Proactive work behavior is generally positive for the organization [7]. In addition, by exhibiting proactive work behavior, employees can usually have access to more opportunities for career advancement [33]. Parker [34] has proposed that proactive work behavior is committed to changing and improving the working environment within an organization, such as improving workflow [35], offering constructive suggestions [36], putting forward new ideas, and actively implementing them [37]. Therefore, proactive work behavior is a positive work behavior, which is beneficial to improve employees' work performance and promote their innovative behavior.

To sum up, based on the TTSC, this paper holds that employees will make a positive appraisal of themselves when they identify job insecurity as a challenge stressor. This appraisal will motivate employees to engage in more proactive work behaviors, thus improving their innovative behavior. Based on the above analysis, the following hypotheses are proposed.

Hypothesis 1. (H1+): job insecurity positively influences proactive work behavior.

Hypothesis 2. (H3+): proactive work behavior positively influences employee innovative behavior.

Hypothesis 3. (H5+): proactive work behavior has a mediating effect on the relationship between job insecurity and employees' innovative behavior.

2.2. Impact of Job Insecurity on Employee Innovative Behavior: The Mediating Effect of Working Withdrawal Behavior. While perceiving a threat to the ongoing safety of job, employees will rely more on routine solutions and reduce the sharing of knowledge and other resources in order to avoid risks and failures and achieve the purpose of self-protection, thus producing working withdrawal behavior to some extent [38]. In this situation, employees will have greater psychological stress in the face of work pressure [39]. For example, the threat of losing one's job can trigger frustration, anger, and pain, inducing emotional exhaustion [40]. In the context of stress response, working withdrawal behavior is the counterproductive work behavior of employees to instinctively protect themselves and deliberately avoid group or specific situational tasks [41]. The working withdrawal behavior is manifested by being late, leaving early, absenteeism, gossiping during working hours, and turnover intention [42]. Withdrawal can help individuals avoid further pain as a way of distancing themselves from harm [43].

While exhibiting working withdrawal behavior, employees are less committed to their jobs (such as resources and energy), so that it is difficult for them to perfect work tasks, thus reducing the innovative behavior [44]. In addition, job insecurity often causes employees to violate and resist organizational management, thus undermining the employee innovative behavior [45]. Wei and Si [46] note that news of layoffs trigger emotional exhaustion among employees, which in turn weakens the employee innovative behavior. Job insecurity is the factor to trigger working withdrawal behavior [46]. Working withdrawal behavior will have a negative impact on employees' innovation [47].

In conclusion, based on the TTSC, this paper finds that when employees identify job insecurity as a hindrance stressor, such negative cognitive appraisal will prime their motivation to protect themselves, so that employees may avoid the threat by holding back, ultimately not conducive to the innovative behavior. Based on the above analysis, the following hypotheses are proposed:

Hypothesis 4. (H2+): job insecurity positively influences working withdrawal behavior.

Hypothesis 5. (H4-): working withdrawal behavior negatively influences employee innovative behavior.

Hypothesis 6. (H6+): working withdrawal behavior has a mediating effect on the relationship between job insecurity and employee innovative behavior.

2.3. Moderating Effect of Organizational Climate for Innovation. An important factor for an organization to achieve innovation is to encourage and support innovation [48]. From a subjective perspective, this paper interprets

organizational climate for innovation as employees' perception of recognition, support, and encouragement of innovation in the working environment [49], including colleague relations, leadership support, resource support, and organizational support. O'Driscoll and Randall [50] believe that organizational support perceivers are more likely to care about and contribute to the development of the organization. Having highly perceived the organizational climate for innovation, employees tend to meet organizational expectations through proactive behaviors [51]. In this case, perception tends to be more of a challenge for employees, which clarifies their direction of efforts. Otherwise, employees may think that the organization is demanding and be more likely to think of the perception as a hindrance and respond to the organization through working withdrawal behavior. Besides, organizations with a strong climate for innovation will attach great importance to learning and provide necessary material resources for employees [52]. Organizations with a strong climate for innovation will offer employees a relaxed and positive working environment and give them psychological resources to minimize their psychological cost and risk perception [48]. At the same time, the efficiency of the team's knowledge sharing can be improved [53]. Employees tend to have positive feelings when they perceive the work environment as positive and believe that stress on the job enhances potential earnings and will be more motivated to work [54]. This positive perception will raise employees' willingness to work proactively, and they will prefer positive actions to gain more resources and get rid of job threats. In the meantime, employees with job insecurity will also be threatened with the loss of resources. Sufficient resources allow employees to deal with job insecurity proactively [55] and serve as a prerequisite for proactive work behavior. With sufficient resources, employees can take the initiative to improve their competitiveness and meet the organization's expectations, thus improving employment relations and gaining continuing benefits from employment.

While perceiving a high organizational climate for innovation, employees are more willing to work hard to turn stress into motivation, overcome difficulties and challenges at work through proactive behaviors, and achieve changes. Similarly, while perceiving a low organizational climate for innovation, employees are reluctant to engage in proactive work behavior and often adopt working withdrawal behavior to cope with job insecurity. In conclusion, this paper suggests that the higher perceived level of organizational climate for innovation has a positive moderating effect on the relationship between job insecurity and proactive work behavior, and the lower perceived level of organizational climate for innovation negatively moderates the relationship between job insecurity and working withdrawal behavior. Further, it puts forward the following hypotheses:

Hypothesis 7. (H7a): organizational climate for innovation positively moderates the impact of job insecurity on proactive work behavior, i.e., the higher the perceived level of organizational climate for innovation, the stronger the impact of job insecurity on proactive work behavior.

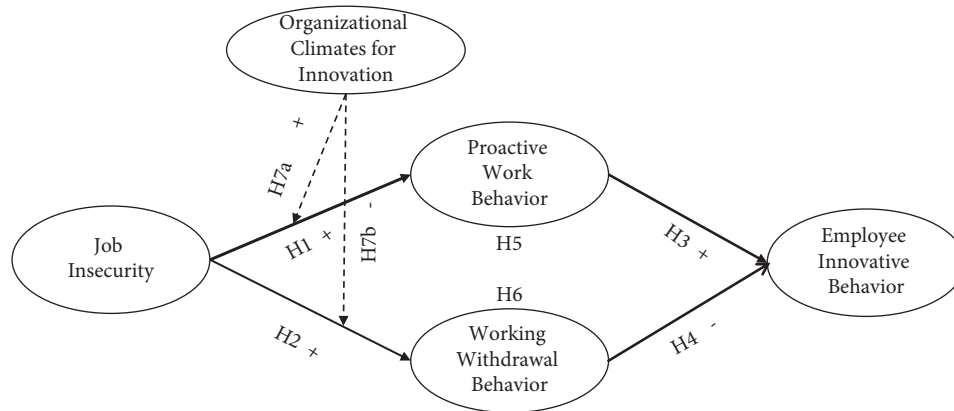


FIGURE 1: Theoretical model.

TABLE 1: Basic sample description.

Items	Categories	N	%	Items	Categories	N	%
Gender	Male	338	50.83	Marriage	Single	248	37.29
	Female	327	49.17		Married	344	51.73
	—	—	—		Divorced	73	10.98
Age	20–28	152	22.86	Education	Junior college	120	18.05
	29–35	263	39.55		Undergraduate	232	34.89
	36–45	177	26.62		Postgraduate	271	40.75
	>45	73	10.98		PhD	42	6.32

Hypothesis 8. (H7b): organizational climate for innovation negatively moderates the impact of job insecurity on working withdrawal behavior, i.e., the higher the perceived level of organizational climate for innovation, the weaker the impact of job insecurity on working withdrawal behavior.

The theoretical model is shown in Figure 1.

3. Research Design

3.1. Samples and Data Collection. The research samples are mainly from production and service enterprises in Zhejiang, Jiangsu, and Jiangxi provinces. All respondents are promised in this paper that the questionnaire will only be used for scientific research only, without any disclosure of personal information. Besides, there are questions whether the enterprise has implemented the “lowest place elimination series,” “competition for posts,” “layoff mechanism,” “996 work schedule,” and other incentive measures. If not, jump to the end, thereby ensuring the authenticity of the sampling situation and respondents. A total of 201 predictive questionnaires were handed out, of which 159 were valid, with an effective recovery of 79.1%. A total of 684 formal questionnaires were handed out, of which 665 were valid, with an effective recovery of 97.22%.

The official samples were 50.83% male and 49.17% female. In terms of age, 263 employees (39.55%) are aged 29–35, 177 (26.62%) aged 36–45, 152 (22.86%) aged 20–28, and 73 (10.98%) aged over 45. Education: 271 with master’s degree, accounting for 40.75%; 232 with bachelor’s degree, 34.89%; 120 with junior college diploma, 18.05%; and 42 with doctor’s degree, 6.32%. Marriage: 248 single,

accounting for 37.29%; 344 married, 51.73%; and 73 divorced, 10.98%, as shown in Table 1.

3.2. Variable Measurement. In order to ensure the reliability and validity of study samples, mature scales at home and abroad were used. The 5-point Likert scale was used for the measurement items, with 1~5 ranging from “very inconsistent” to “very consistent,” and conversely otherwise. The 7-item scale developed by Hellgren et al. [56] was employed for job insecurity. In this paper, the Cronbach’s α was 0.921. Innovative behavior adopted the 12-item scale in the study by Huang [57], divided into two dimensions: the generation and execution of innovation ideas. In this paper, the Cronbach’s α was 0.936. The 7-item scale developed by Frese [58] was employed for proactive work behavior. In this paper, the Cronbach’s α was 0.961. The 7-item scale developed by Lehman and Simpson [42] was used for reference for working withdrawal behavior, divided into psychological and physical withdrawal behaviors. In this paper, the Cronbach’s α was 0.926. The organizational climate for innovation adopted the 20-item scale perfected by Yuan-dong and Jisheng [59], divided into colleague support, supervisor support, and organizational support. In this paper, the Cronbach’s α was 0.932. Four demographic variables (gender, age, marriage, and education) were used as control variables.

3.3. Model Building. In order to test the relationship between job insecurity, proactive work behavior, working withdrawal behavior, organizational climate for innovation and

knowledge workers' innovative behavior, this paper has built the following empirical model:

$$\begin{aligned}
 (1) \text{ PWB} &= a_0 + a_1 \text{SEX} + a_2 \text{AGE} + a_3 \text{EDU} + a_4 \text{MRG} + a_5 \text{JbI} + \mu_1, \\
 (2) \text{ PWB} &= b_0 + b_1 \text{SEX} + b_2 \text{AGE} + b_3 \text{EDU} + b_4 \text{MRG} + b_5 \text{JbI} + b_6 \text{OCI} + \mu_2, \\
 (3) \text{ PWB} &= c_0 + c_1 \text{SEX} + c_2 \text{AGE} + c_3 \text{EDU} + c_4 \text{MRG} + c_5 \text{JbI} + c_6 \text{OCI} + c_7 \text{JbI} \times \text{OCI} + \mu_3, \\
 (4) \text{ WWB} &= d_0 + d_1 \text{SEX} + d_2 \text{AGE} + d_3 \text{EDU} + d_4 \text{MRG} + d_5 \text{JbI} + \mu_4, \\
 (5) \text{ WWB} &= e_0 + e_1 \text{SEX} + e_2 \text{AGE} + e_3 \text{EDU} + e_4 \text{MRG} + e_5 \text{JbI} + e_6 \text{OCI} + \mu_5, \\
 (6) \text{ WWB} &= f_0 + f_1 \text{SEX} + f_2 \text{AGE} + f_3 \text{EDU} + f_4 \text{MRG} + f_5 \text{JbI} + f_6 \text{OCI} + f_7 \text{JbI} \times \text{OCI} + \mu_6, \\
 (7) \text{ EIB} &= g_0 + g_1 \text{SEX} + g_2 \text{AGE} + g_3 \text{EDU} + g_4 \text{MRG} + g_5 \text{JbI} + \mu_7, \\
 (8) \text{ EIB} &= h_0 + h_1 \text{SEX} + h_2 \text{AGE} + h_3 \text{EDU} + h_4 \text{MRG} + h_5 \text{JbI} + h_6 \text{PWB} + h_7 \text{WWB} + \mu_8, \\
 (9) \text{ EIB} &= i_0 + i_1 \text{SEX} + i_2 \text{AGE} + i_3 \text{EDU} + i_4 \text{MRG} + i_5 \text{JbI} + i_6 \text{PWB} + i_7 \text{WWB} + i_8 \text{OCI} + \mu_9, \\
 (10) \text{ EIB} &= j_0 + j_1 \text{SEX} + j_2 \text{AGE} + j_3 \text{EDU} + j_4 \text{MRG} + j_5 \text{JbI} + j_6 \text{PWB} + j_7 \text{WWB} + j_8 \text{OCI} + j_9 \text{JbI} \times \text{OCI} + j_{10} \text{JbI} \times \text{OCI} + \mu_{10},
 \end{aligned}
 \tag{1}$$

where SEX = gender, AGE = age, EDU = education, and MRG = marriage, all of which are control variables. JbI denotes job insecurity, an independent variable, PWB proactive work behavior, WWB working withdrawal behavior, OCI organizational climate for innovation, and EIB employee innovative behavior.

4. Results Analysis

4.1. Common Method Bias Test. CMB test is designed to ensure the scientific nature of research and avoid the influence of single sample source on the increase or decrease of interdimensional correlation. Based on the suggestions of Podsakoff et al. [60] and the experience of Anmin and Lei [61], Harman's single-factor test was employed to make factor analysis on all the 45 items. The unrotated principal component factor analysis was used to extract 10 principal component factors with eigenvalues greater than 1. The cumulative explanatory explained variance was 84.395%, and the explained variance of factor 1 was 25.698%, less than the standard 50%. Therefore, there's no serious common method variance in the data in this paper, and the findings are reliable.

4.2. Confirmatory Factor Analysis. First, CFA was used in this paper to test the discriminant validity of variables, with the results as shown in Table 2. Compared with alternative 4-factor, 3-factor, 2-factor, and single-factor models, the fitting indexes ($\chi^2 = 327.211$, CFI = 0.965, TLI = 0.958, RMSEA = 0.059, SRMR = 0.071) of the 5-factor model (job insecurity, proactive work behavior, working withdrawal behavior, organizational climate for innovation, and employee innovative behavior) were better than those of other models. Arguably, the 5-factor model in this paper features good structural validity among variables. Second, as advised by Fornell and Larcker [62], when the square root of dimension AVE is greater than the correlation coefficient

between AVE and other dimensions, the discriminant validity is available among dimensions. In this paper, the square root of each dimension AVE is greater than the correlation coefficients between other dimensions, so there is good discriminant validity among the dimensions (Table 3).

4.3. Description and Analysis. The mean, standard deviation (SD), and correlation coefficient of each variable are shown in Table 3. Job insecurity had significant positive correlation with proactive work behavior ($\beta = 0.480$, $p < 0.01$), and with working withdrawal behavior ($\beta = 0.173$, $p < 0.01$), which primarily tested Hypotheses 1 and 2. There was a significant positive correlation between proactive work behavior and employee innovative behavior ($\beta = 0.387$, $p < 0.01$) and a significant negative correlation between working withdrawal behavior and employee innovative behavior ($\beta = -0.105$, $p < 0.01$), which primarily tested Hypotheses 3 and 4. organizational climate for innovation had significant positive correlation with proactive work behavior ($\beta = 0.366$, $p < 0.01$) and significant negative correlation with working withdrawal behavior ($\beta = -0.097$, $p < 0.05$), which provided preliminary support for hypothesis testing.

4.4. Hypothesis Testing. This paper uses regression analysis to test the hypothesis. As shown in Table 4, after controlling the demographic variables such as gender and age, job insecurity has a significant positive effect on proactive work behavior in Model 2 ($\beta = 0.475$, $p < 0.01$), so Hypothesis 1 is supported. In Model 4, job insecurity has a significant positive effect on working withdrawal behavior ($\beta = 0.195$, $p < 0.01$), so Hypothesis 2 is supported. In Model 8, working withdrawal behavior has a significant negative effect on employee innovative behavior ($\beta = -0.139$, $p < 0.01$), and proactive work behavior has a significant positive effect on employee innovative behavior ($\beta = 0.191$, $p < 0.01$), so

TABLE 2: Confirmatory factor analysis.

Model	χ^2	df	χ^2 (df)	CFI	TLI	RMSEA	SRMR
Single-factor model	1218.986	104	11.721	0.83	0.804	0.127	0.105
2-factor model	988.762	103	9.6	0.865	0.843	0.114	0.096
3-factor model	678.976	101	6.723	0.912	0.896	0.093	0.08
4-factor model	520.159	100	5.202	0.936	0.923	0.08	0.075
5-factor model	327.211	99	3.305	0.965	0.958	0.059	0.071

Note. $N = 665$, single-factor model: job insecurity + proactive work behavior + working withdrawal behavior + organizational climate for innovation + employee innovative behavior; 2-factor model: job insecurity + proactive work behavior + working withdrawal behavior + organizational climate for innovation, and employee innovative behavior; 3-factor model: job insecurity + proactive work behavior + working withdrawal behavior, organizational climate for innovation, and employee innovative behavior; 4-factor model: job insecurity, proactive work behavior + working withdrawal behavior, organizational climate for innovation, and employee innovative behavior; 5-factor model: job insecurity, proactive work behavior, working withdrawal behavior, organizational climate for innovation, and employee innovative behavior.

TABLE 3: Mean, SD, and correlation coefficient matrix.

Variable	Mean	SD	JiB	PWB	WWB	EIB	OCI
JiB	3.095	1.148	0.772				
PWB	3.385	1.172	0.480**	0.881			
WWB	3.218	1.087	0.173**	-0.085*	0.804		
EIB	2.712	1.06	0.410**	0.387**	-0.105**	0.789	
OCI	3.244	1.046	0.348**	0.366**	-0.097*	-0.053	0.687

Note. $N = 665$, * $p < 0.05$, ** $p < 0.01$; the diagonal number is the square root of AVE; JiB denotes job insecurity, an independent variable, PWB proactive work behavior, WWB working withdrawal behavior, OCI organizational climate for innovation, and EIB employee innovative behavior.

TABLE 4: Hierarchical regression modeling ($N = 665$).

Variable	PWB			WWB			EIB			
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10
SEX	0.039	0.032	0.017	0.009	0.014	0.033	-0.291**	-0.297**	-0.291**	-0.258**
AGE	0.084	0.093*	0.098*	-0.009	-0.016	-0.022	0.047	0.03	0.012	-0.003
EDU	0.101	0.093	0.114*	-0.063	-0.058	-0.085	0.089	0.061	0.062	0.008
MRG	-0.033	-0.074	-0.083	-0.091	-0.061	-0.05	-0.096	-0.102	-0.051	-0.032
JiB	0.475**	0.401**	0.384**	0.195**	0.247**	0.268**	0.333**	0.270**	0.337**	0.371**
WWB								-0.139**	-0.176**	-0.225**
PWB								0.191**	0.259**	0.299**
OCI		0.257**	0.225**		-0.181**	-0.139**			-0.323**	-0.270**
JiB*OCI			0.118**			-0.155**				-0.264**
R^2	0.242	0.287	0.303	0.036	0.062	0.093	0.192	0.256	0.337	0.427
F value	41.973**	44.182**	40.710**	4.912**	7.273**	9.590**	31.385**	32.253**	41.738**	54.170**
ΔR^2	0.171	0.046	0.015	0.033	0.026	0.031	0.103	0.063	0.082	0.089

Note. SEX = gender, AGE = age, EDU = education, and MRG = marriage, all of which are control variables. JiB denotes job insecurity, an independent variable, PWB proactive work behavior, WWB working withdrawal behavior, OCI organizational climate for innovation, EIB employee innovative behavior, and JiB*OCI is the interaction term of job insecurity and organizational climate for innovation. * indicates $p < 0.05$ and ** indicates $p < 0.01$.

Hypotheses 3 and 4 are supported. Compared with Model 7, it can be found in Model 8 that the regression coefficient of job insecurity has changed from 0.333 to 0.27 ($p < 0.01$), indicating that proactive work behavior and working withdrawal behavior have partial mediating effects on the relationship between job insecurity and employee innovative behavior; thus, Hypotheses 5 and 6 are tenable. In Model 3, the interaction term of organizational climate for innovation and job insecurity has a significant positive effect on proactive work behavior ($\beta = 0.118, p < 0.01$), indicating that the higher the perceived organizational climate for innovation, the stronger the positive effect of job insecurity on proactive work behavior. Therefore, Hypothesis 7 is supported. In

Model 6, the interaction term of organizational climate for innovation and job insecurity has a significant negative effect on working withdrawal behavior ($\beta = -0.155, p < 0.01$), indicating that the higher the perceived organizational climate for innovation, the weaker the positive effect of job insecurity on working withdrawal behavior. Therefore, Hypothesis 8 is supported.

By following the suggestions of Hayes [63], the process plug-in in SPSS was adopted to further clarify the mediating effect of proactive work behavior and working withdrawal behavior. The results are as shown in Table 5. Bootstrap method was used for 5,000 repeated samples with 95% CI. The lower limit, upper limit, and two-tailed significance tests

TABLE 5: Analysis on the mediating effect of proactive work behavior and working withdrawal behavior ($N=665$).

Types	Paths	β	SE	p	Bootstrap (95% CI)	
					LLCI	ULCI
Direct effect	JiB -> EIB	0.263	0.039	0.000	0.187	0.339
Indirect effect	JiB -> WWB -> EIB	-0.115	0.036	0.001	-0.184	-0.045
	JiB -> PWB -> EIB	0.173	0.038	0.000	0.099	0.247

TABLE 6: Test results of moderating effect ($N=665$).

Y	Interaction item	R ² -change	p value	LLCI	ULCI
PWB	JiB*OCI	0.019	0	0.064	0.181
WWB	JiB*OCI	0.035	0	-0.22	-0.096

Note. PWB denotes proactive work behavior, WWB working withdrawal behavior, JiB*OCI is the interaction term of job insecurity and organizational climate for innovation; R²-change is the change in R; LLCI is the lower limit of 95% CI, and ULCI is the upper limit of 95% CI.

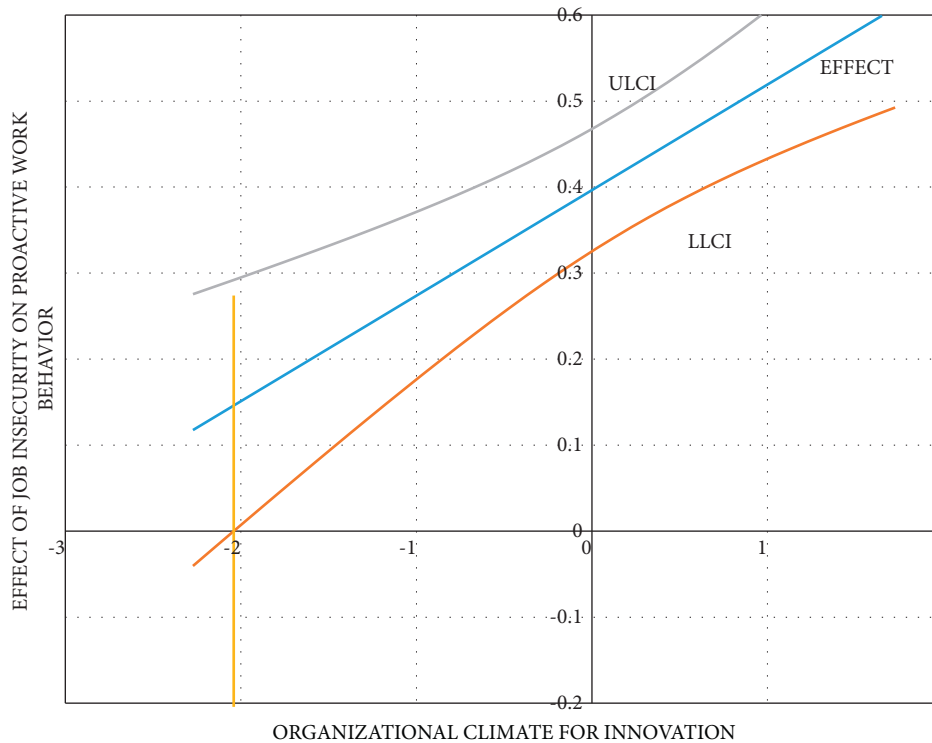


FIGURE 2: Effect of organizational climate for innovation on job insecurity and proactive work behavior.

of the total effect, direct effect, and indirect effect were estimated. The results show that job insecurity has a significant indirect effect on employee innovative behavior through proactive work behavior (indirect effect = 0.173, 95% CI = [0.099, 0.247]), excluding 0; job insecurity has a significant indirect effect on employee innovative behavior through working withdrawal behavior (indirect effect = -0.115, 95% CI = [-0.184, -0.045]), excluding 0. Thus, Hypotheses 5 and 6 are tested again.

To test the moderating effect, the data should be first centralized. Hayes [64] verified that the correlation between interaction terms and independent and moderating

variables could be reduced after data centralization, thus improving the validity of model estimation. In this paper, process plug-in was used for 5,000 repeated samples with 95% CI to test the moderated mediating effect of organizational climate for innovation. Seen from Table 6, in the influence of the interaction term of job insecurity and organizational climate for innovation on proactive work behavior and working withdrawal behavior, the confidence interval does not contain 0, indicating that proactive job behavior and working withdrawal behavior are influenced by the moderating variable (organizational climate for innovation) in the relationship between job insecurity and

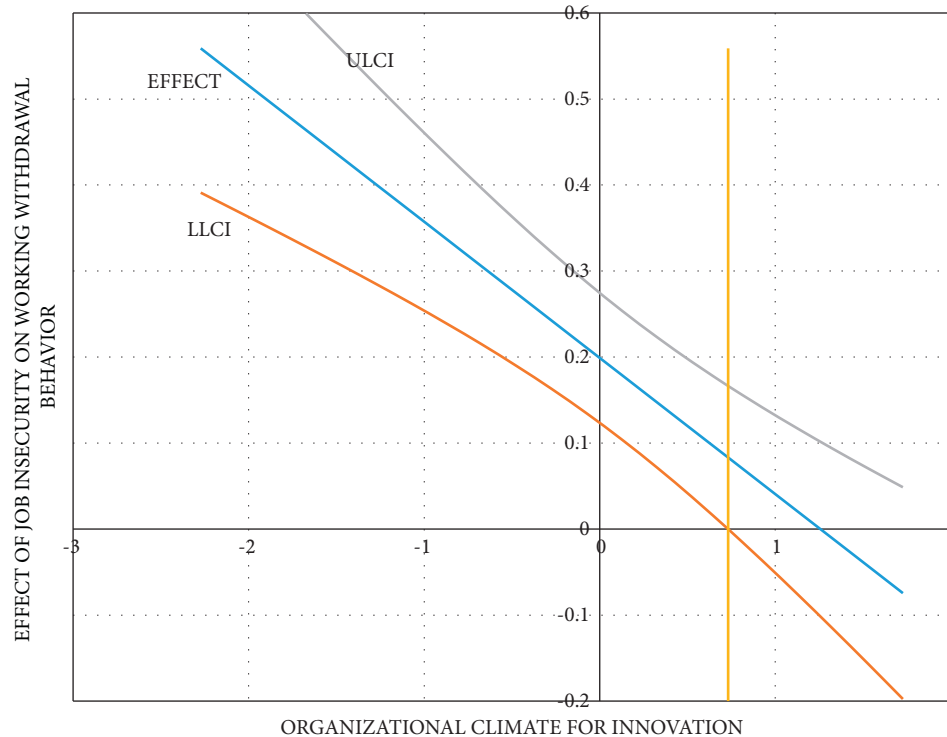


FIGURE 3: Effect of organizational climate for innovation on job insecurity and working withdrawal behavior.

employee innovative behavior. Therefore, there are moderated mediating effects. Hypotheses 5 and 6 are tested.

With a view to further quantifying the moderating effect, Spiller and Fitzsimons [65] have proposed to use Jonson-Neyman technique to test the moderating interval, so as to determine the moderating level of the moderator variable to the independent and dependent variables. It can be seen from Figure 2 that when the standardized value of knowledge workers to organizational climate for innovation is greater than -2.0407 , the moderating effect is significantly positive, but no moderating effect when the value is less than -2.0407 . Hence, the higher the knowledge workers' perception of organizational climate for innovation, the stronger the effect on proactive work behavior. Similarly, it can be seen from Figure 3 that when the standardized value of knowledge workers to organizational climate for innovation is less than 0.7315 , the moderating effect is significantly negative, but no moderating effect when the value is greater than 0.7315 . Therefore, the lower the knowledge workers' perception of organizational climate for innovation, the stronger the effect on working withdrawal behavior, that is, the higher the perception of organizational climate for innovation, the weaker the effect on working withdrawal behavior. Hypotheses 7 and 8 are thus tested.

5. Conclusions

5.1. Conclusions and Management Implications

(1) Based on the TTSC, this paper has, following the thinking of “employee cognitive appraisal—selection of coping strategy—innovative behavior” under the

perception of job insecurity, expounded the process mechanism of different coping strategies and innovative behaviors arising from differences in individual perceptions of job insecurity and broadened the single perspective that job insecurity has a negative impact and is advocated to be eliminated in the previous research. From the perspective of integration, this paper reveals the internal mechanism of job insecurity and knowledge workers' innovative behavior, i.e., the dual-path mediating effect of proactive work behavior and working withdrawal behavior. Path 1 shows that job insecurity positively influences employees' proactive work behavior and thus improving their innovative behavior, which verifies that job insecurity positively influences the employee innovative behavior [33, 34]. Path 2 shows that job insecurity triggers employees' work withdrawal behavior, thus inhibiting their innovative behavior, which supports the study of employees' negative coping style in the face of job stress [18, 66]. This paper proposes a dual-path effect of job insecurity on employees' innovative behavior from an integrated perspective, explaining why job insecurity enhances or inhibits employees' innovative behavior and providing a new explanation mechanism for the previous two viewpoints. It helps scholars and business management practitioners to understand the function of job insecurity from a balanced and dialectical perspective.

(2) This paper clarifies the moderating mechanism of organizational innovation climate in the relationship

between job insecurity and employee innovative behavior. The results show that high organizational innovation climate enhances the positive relationship between job insecurity and proactive work behavior and stimulates more proactive work behaviors; a high organizational innovation climate enhances the negative relationship between job insecurity and working withdrawal behavior and reduces employees' working withdrawal behavior. The above results verify that the perception of organizational innovation climate as a boundary condition can effectively explain the dual-path effect of job insecurity and answer the question of when job insecurity in companies requires stimulating proactive work behaviors and enhancing employees' innovative behaviors and when it triggers job withdrawal behaviors and reduces employees' innovative behaviors. The results of the study illustrate the important value of organizational innovation climate. The organization should show care and positive feedback to employees, in an effort to improve their perception of organizational innovation climate.

5.2. Future Research. Job insecurity is objective, from an individual perspective only; the empirical study in this paper shows that job insecurity has, as a stressor, influenced the employee innovative behavior through the dual path of proactive work behavior and working withdrawal behavior. We are expected to focus on how job insecurity influences employees physiologically and physically, and how job insecurity is distinguished as challenge and hindrance stressors. Then, the cross-sectional data in the questionnaire survey has certain limitations in analyzing the relationship between job insecurity and employee innovative behavior, whose correlation can be proved, while the analysis of causality has to be further verified by supplementing time series data.

With the TTSC, this paper reveals the effects of job insecurity, the difference of which lies in different behavioral strategies based upon employees' cognitive appraisal. In addition, the impact of job insecurity on individuals is subject to a number of conditions [67]. The future research can focus further on the factors that cause differential effects of job insecurity from multiple perspectives (such as age), so as to help business managers and researchers better understand the effects of job insecurity requirements, take advantage of job insecurity, and make it the driving force to enhance enterprise innovative behavior.

Data Availability

The data used to support the findings of this study are included within the article.

Conflicts of Interest

The authors declare that they have no conflicts of interest regarding the publication of this paper.

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