INTERNATIONAL JOURNAL OF SCIENCE ARTS AND COMMERCE

The Influence of Environmental Complexity on Individual Counterproductive Work Behavior

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Abstract:

In recent years, there are more and more counterproductive work behavior (CWB) in enterprises, which cause great damage to enterprises and even cause bankruptcy of enterprises. How to avoid the occurrence and diffusion of counterproductive work behavior has become the focus of many scholars and entrepreneurs. This paper reviews relevant literature, clarifies the concept of research variables, and explores a moderated mediation model that takes environmental complexity as independent variable, work resources and personal resources as mediating variable, moral identity as moderating variable, and counterproductive work behavior as dependent variable. Data were collected through questionnaires and analyzed by SPSS, Smart-PLS and other software. This paper enriched the antecedent and consequence variables of counterproductive work behavior and found a new theoretical perspective and explanation mechanism for subsequent research on counterproductive work behavior. Based on the above conclusions, this paper calls on entrepreneurs to pay attention to counterproductive work behavior and puts forward suggestions for enterprise development.

Key words: Environmental complexity; Counterproductive work behavior; Conservation of Resource theory.

1 Introduction

Counterproductive Work Behavior (CWB) refers to any intentional behavior by an organization member that may or has been potentially harmful or substantially harmful to the legitimate interests of the organization and other members of the organization, regardless of whether or not it violates norms. In recent years, counterproductive work behavior in the workplace have caused great damage to enterprises and even bankruptcy (e.g. Van Zyl & De Bruin, 2018; Wurthmann, 2019). At present, employees often complain about the company, use public funds to reimburse personal consumption, passive cooperation with colleagues and other counterproductive work behavior abound (Song et al., 2021). At the same time, negative work behaviors of employees in daily work, such as cheating, absenteeism, theft and corruption, are likely to be imitated and spread, resulting in the spread of the group. Once

group counterproductive work behavior is formed, it will be difficult to alleviate and curb, how to avoid the emergence of group counterproductive work behavior is becoming a major challenge for organizational behavior management.

The antecedent variables of counterproductive work behavior have been shown to come from many factors at the environmental level. In recent years, the outbreak of COVID-19 and frequent trade wars have aggravated the uncertainty of the organization's environment and brought great challenges to the management of employee behavior. Environmental complexity is the degree to which individuals in an organization need multiple roles, skills and knowledge fields to complete their work, and combine the diversity of various factors of customers, organizations and external environments (Neil & Rose, 2006; Schmitz & Ganesan, 2014). Complex and demanding work can lead to negative and negative behavioral and psychological consequences (Schmitz & Ganesan, 2014). Existing studies have proved that job role ambiguity (Schmitz & Ganesan, 2014), workplace conflict (Ingram, 2004), and personal negative emotions (Leischnig, Ivens, & Henneberg, 2015) are all consequences of environmental complexity. All of these have been shown to cause counterproductive work behavior (Yang & Diefendorff, 2009; Fida, et al., 2015).

This study will focus on the impact of environmental complexity on individuals' work behavior. Based on conservation of resource theory (COR), this study will explore the impact of internal and external organizational complexity on individuals' counterproductive work behavior and its potential influence mechanism, and explore possible boundary conditions.

2 Theory and Hypothesis

2.1 Environmental complexity and CWB

Existing studies show that environmental complexity can affect counterproductive work behavior of organizational members (Yang, Diefendorff, 2009; Fida et al.,2015). Complexity is an immature concept, and the division of complexity dimension has not reached a unified opinion. Olalekan et al. (2018) divide complexity into internal complexity and external complexity in their study. Internal complexity refers to the degree to which information (including policies, rules, etc.), decisions, and behaviors of colleagues (e.g., managers, supervisors, peers) must be responded to (Neill & Rose, 2006; Schmitz & Ganesan, 2014); External complexity refers to the degree of heterogeneity and lack of structure in the external environment, and may result from different customer expectations of product specifications, delivery times, and cross-site coordination (Jones et al., 2005).

On the basis of previous studies, complexity is divided into internal complexity and external complexity. As for internal complexity, previous studies have shown that internal complexity makes the workflow more complex and leads to more difficult work (Ledingham et al., 2013; Toman, 2015). As for the external complexity of the organization, based on PEST theory, the influence on individual work behavior is explored from the aspects of politics, economy, society and technology. The plan of "delaying retirement" mentioned during the two sessions in 2020 has been confirmed by some scholars that the increase of elderly labor force will indeed reduce the employment rate of young people (Zhang Yi et al., 2017), which will

trigger the anxiety of unemployment and increase the probability of negative behaviors. Chraif, M et al. (2011) proved through empirical studies that economic crisis is positively correlated with perceived stress and workload, and negatively correlated with physical health, mental health and job satisfaction, which are all predictors of counterproductive work behaviors. In addition, it is found that the economic crisis will have different effects on different items of counterproductive work behavior, such as absence, unplanned rest time negative correlation, and theft positive correlation. Therefore, the operant definition of European and American encircling of China chosen in this study may predict negative employee behavior. The outbreak of COVID-19 in 2019 has brought serious negative impacts to all countries. Scholars have found that COVID-19 has triggered job insecurity among employees, and perceived job insecurity has led to increased organizational deviant behavior among employees (Lin, W., et al.,2021). In the information age, the speed of technological upgrading inevitably raises the requirements on employees. With the increase of role pressure on employees (Tarafdar, M., et al.,2007), role overload is prone to occur, which leads to the change of employees' work behaviors.

Therefore, both internal complexity and external complexity of the organization will have an impact on employees' counterproductive work behavior. Thus, the hypothesis is proposed:

H1: Environment complexity, including external complexity and internal complexity of the organization, affects the CWB of organization members.

H1a: Internal organizational complexity has an impact on employees' counterproductive work behavior.

H1b: Delayed retirement policy has an impact on employees' counterproductive work behavior.

H1c: The encirclement of European and American has an impact on employees' counterproductive work behavior.

H1d: The recurrence of COVID-19 has an impact on employees' counterproductive work behavior.

H1e: Technical intrusion has an impact on employees' counterproductive work behavior.

2.2 The mediating role of work resources and personal resources

Changes in environmental complexity will lead to changes in individuals' perceived stress. As for the internal complexity of an organization, the higher the internal complexity of an organization is, the more complex the process is, the higher the perceived pressure of employees will be (Schmitz, C., & Ganesan, S., 2014). As for the external complexity of the organization, the Ministry of Human Resources and Social Security will introduce a "delayed retirement plan" in 2017, and it will be mentioned again in the two sessions in 2020. This means that young and middle-aged workers are older after retirement, which causes retirement anxiety and increases employees' perceived pressure. Studies have proved that retirement anxiety is significantly positively correlated with work withdrawal behavior (Hu

Lihong, 2016). The economic crisis has been mentioned more than once in terms of its impact on CWB. Chraif, m. (2011), through empirical study proves that the economic crisis and perceived stress, workload, and physical health, mental health and job satisfaction negatively correlated, the reasons for this phenomenon may be so afraid to lose employees more competitive on the job, and also hope to be able to not obey the rules of the organization to gain some personal resources. In this study, the encircling of China by Europe and America is taken as the operational definition of economy. In 2019, the spread of COVID-19 attracted worldwide attention and caused irreparable losses to countries around the world. Trougakos (2020) confirmed that COVID-19 caused anxiety among employees, which would lead to emotional suppression of employees. Under psychological pressure, the increase of individuals' perceived pressure may lead to negative behaviors. The continuous upgrading of technology has raised the requirements on employees and increased their role pressure (Tarafdar, M., Tu, Q., & Ragu-Nathan, R. N. S., 2007), which leads to the increase of employees' perceived pressure and thus affects the change of employees' behavior.

According to the COR theory, when individuals feel pressure, they will use their own resources to resist pressure. Therefore, the change of environmental complexity will lead to the loss of personal resources. As for the work resources, the change of the complexity of the environment sometimes causes the loss of enterprise resources, and the working conditions provided by enterprises are more difficult (Psychogios, Szamosi., &Brewster, 2015), and the work resources obtained by employees are reduced. When companies are struggling with the negative impact of environmental complexity, employees' perception of job autonomy will also be significantly reduced, and their perception of work social support will be weakened. As for personal resources, the change of environmental complexity makes the familiarity and predictability of the environment in which individuals live decrease, and some employees may suffer from depression due to their complex environment. Such depressed psychological state is also a manifestation of the weakening of self-efficacy and organization-based self-esteem in their personal resources. Hence the decline in personal resources.

According to COR theory, when individuals perceive their own resource loss, they will take certain behaviors to regain and retain valuable resources, and CWB is a behavior that can regain resources (Kelloway et a1). , 2010). Therefore, in the face of environmental complexity changes, individuals will suffer loss of resources, in order to recover resources, individuals will adopt CWB. Therefore, work resources and personal resources play a mediating role in the impact of environmental complexity on employee CWB. Thus, the hypothesis is proposed:

H2: Work resources and personal resources play a mediating role in the impact of environmental complexity on employees' counterproductive work behavior.

H2a: Internal organizational complexity will affect employee counterproductive behavior through personal resources.

H2b: Delayed retirement policy will affect employee counterproductive behavior through personal resources.

H2c: The encirclement of European and American will affect employee counterproductive behavior through personal resources.

H2d: The recurrence of COVID-19 will affect employee counterproductive behavior through personal resources.

H2e: Technology intrusion will affect employee counterproductive behavior through personal resources.

H2f: Internal organizational complexity will affect employee counterproductive behavior through work resources.

H2g: Delayed retirement policy will affect employee counterproductive behavior through work resources.

H2h: The encirclement of European and American will affect employee counterproductive behavior through work resources.

H2i: The recurrence of COVID-19 will affect employee counterproductive behavior through work resources.

H2j: Technology intrusion will affect employee counterproductive behavior through work resources.

2.3 The moderating role of moral identity

The concept of moral identity was first proposed by Blasi (1983), who pointed out that moral identity is the influence of the social moral code system on individuals, reflecting individuals' recognition and acceptance of moral quality, and is the driving force of moral behavior. In the follow-up study, moral identity is regarded as a kind of individual difference, which is the psychological need of individuals to make themselves consistent with moral behavior. Aquino & Reed (2002) divided moral identity into symbolization dimension and internalization dimension. The internalized dimension represents the importance of moral norms in self-concept and is an internal dimension corresponding to the "inner self" in self-worth. Symbolization is an external dimension, which refers to the extent to which moral norms are reflected to the external environment or other individuals. Studies have proved that internalized dimension can predict human moral behavior more effectively. When Damon et al. (2004) analyzed the relationship between moral identity and individual behavior in their research, they pointed out that moral identity is a self-regulation mechanism, and more importantly, a concept of "what kind of values DO I want to be". Aquino et al. (2009) show that proposing moral identity is a cognitive model of moral traits and moral self held by individuals. Zeng Xiaoqiang (2011) pointed out in his research that moral identity is an individual's evaluation of his own virtue and can stimulate moral behavior. Ashforth et al. (2016) believe that moral identity, as a cognitive model of right and wrong judgment rooted in individual hearts, is a key psychological mechanism to transform individual cognition into moral behavior. Watts and Buckley (2017) point out that moral identity plays an important role in understanding individual moral behavior based on the self-regulation mechanism of

moral behavior. Zhang Fawang and Liao Jianqiao (2017) proposed that when individuals violate their internal moral norms and standards, moral punishment and condemnation will occur in their heart, and these psychological pressures urge them to behave in accordance with their internal moral standards. Individuals have internal codes of ethics and moral standards and compare their actions to them. Individuals with strong moral identity believe that moral values are critical to defining their personal identity, so they usually exhibit more prosocial behaviors (Weaver, 2006; Winterich, 2013) For example, green consumption behavior and donation behavior. Wang Xingchao and Yang Jiping (2013) found through empirical research that moral identity can regulate the relationship between moral disengagement and prosocial behavior. Cheng Qi et al. (2016) found that moral identity positively predicted prosocial behavior through investigation and research on a large number of middle school students.

To sum up, moral identity is the self-acceptance of morality and the driving force of moral behavior. Moral identity reflects an individual's acceptance or recognition of moral events or behaviors, which has a certain buffer effect on individual's moral cognition judgment and behavior. Even if the work resources and personal resources of members are damaged due to the complexity of the environment, individuals with high moral identity are less likely to implement CWB. Moral identity may modulate the relationship between resources and CWB. Thus, the hypothesis is proposed:

H3: Moral identity moderates the impact of environmental complexity on employee CWB through work resources and personal resources.

H3a: Moral identity plays a moderating role in the impact of internal organizational complexity on employees' CWB through work resources and personal resources.

H3b: Moral identity plays a moderating role in the influence of delayed retirement policy on employees' CWB through work resources and personal resources.

H3c: Moral identity plays a moderating role in the influence of the encirclement of European and American on employees' CWB through work resources and personal resources.

H3d: Moral identity plays a moderating role in the influence of the recurrence of COVID-19 on employees' CWB through work resources and personal resources.

H3e: Moral identity plays a moderating role in the influence of technology intrusion on employees' CWB through work resources and personal resources.

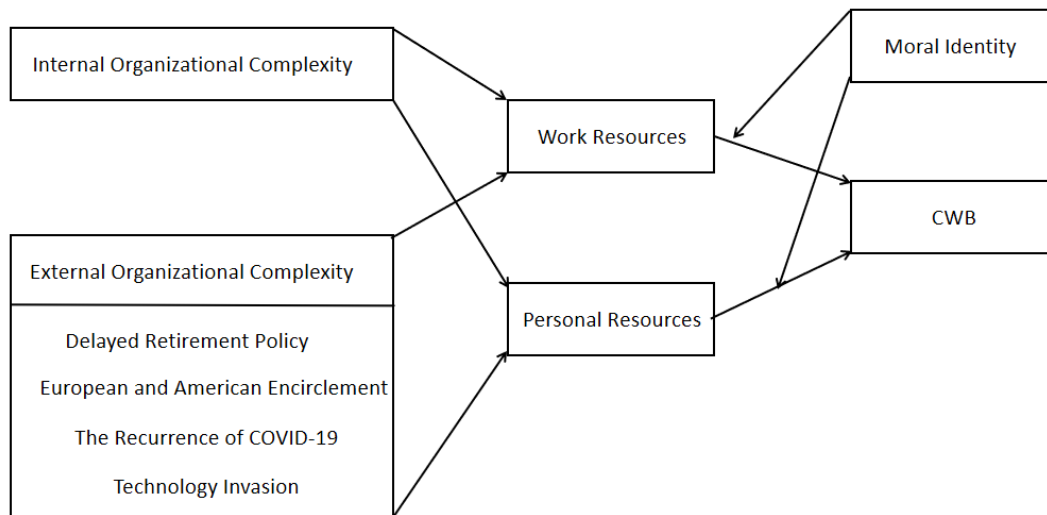The theoretical framework of this study is shown in the figure below:

Figure 1: Research model diagram

3 Research Design

3.1 Research Sample

This study was carried out through field research, with a total of 265 questionnaires collected from 9 textile and garment companies in Shaoxing, Zhejiang Province. After the questionnaire was recovered, the quality of the questionnaire was checked, and the samples with many missing data, obvious failure in reverse test, consistent answers to questions or obvious regularity were removed. Finally, 202 valid questionnaires were obtained, with an effective rate of 76.2%. Among them, 53.9 percent were female and 46.1 percent were male. In terms of age, 3.9% were 20 years old and below, 41% were 21 to 30 years old, 31.6% were 31 to 40 years old, and 23.2% were 41 and above. In terms of jobs, general staff accounted for 81.6%, grassroots managers for 11.8% and middle managers for 6.4%.

3.2 Measurement of variables

(1) Counterproductive work behavior scale

Refer to the scale of counterproductive work behavior developed by Liu Wenbin and Jing Runtian et al. (2010) for Chinese scenes according to the particularity of Chinese cultural situations, including the scale of work laziness, corporate political behavior, malfeasance and abuse of power, embezzlement and usurpation of ink and hostile destructive behavior, with a total of 30 questions. This scale fits the actual workplace situation in China and is widely recognized by Chinese scholars. Liket 7 scale was used in this study, "1" = strongly disagree; "7" = strongly agree.

(2) Environmental complexity scale

In this study, environment complexity is divided into internal complexity and external complexity. Internal organizational complexity refers to the scale for measuring internal

organizational complexity prepared by Schmitz and Ganesan et al. (2014), with 5 questions in total. Liket 7 scale was used in this study, "1" = strongly disagree; "7" = strongly agree.

Based on PEST theory and from the perspectives of politics, economy, society and technology, the organization external complexity selects recent typical events to form four groups of questions. The extracted questions are required to meet the interpretation of the connotation of this variable and measure the actual impact of events on employees as a measure of environmental change. Five graduate students will discuss the event and item design, give suggestions on the language expression of the item, and invite an expert in the field of organizational behavior to design the final item. According to the results of exploratory factor analysis, the explained variances were all greater than 50%. Politically, this study chose "Delayed Retirement Policy"(DRP) to measure; In terms of economy, this study chooses "European and American Encirclement"(EAE) to measure; In terms of society, this study chose "The Recurrence of COVID-19"(TRC) for measurement; In terms of technology, this study referred to the scale prepared by Tarafdar, M et al. (2007), and considered the need to simplify the setting of field questionnaire questions. Four questions were selected for measurement according to the pre-test data. Liket 7 scale was used in this study, "1" = strongly disagree; "7" = strongly agree.

(3) Work and personal resources scale

Duan Lusheng (2008) evaluated work resource loss and personal resource loss with 5 items in each of the resource scale, with a total of 10 items. The scale is derived from Pierce et al. (1989), Scheier et al. (1994), Schwarzer et al. (1995) and Hobfoll (2002). Although a complete resource scale has been used in some studies, it contains many items. Thus, consistent with previous researchers (e.g., Deroon-Cassini, St. Aubin, Valvano, Hastings, & Horn, 2009), a subset of the scale was selected in this study. Liket 7 scale was used in this study, "1" = strongly disagree; "7" = strongly agree.

(4) Moral Identity scale

Aquino & Reed's (1999) scale of moral identity was used as reference in this study. There are two dimensions in the scale, including 5 items in the symbolic dimension and 5 items in the implicit dimension, including two reverse scoring questions. Liket 7 scale was used in this study, "1" = strongly disagree; "7" = strongly agree.

(5) Control variables

Gender, age and occupation were measured as control variables.

4. Research Results

4.1 Reliability and validity test

The study conducted data quality tests before examining the path model and mediation effects. Then, confirmatory factor analysis was conducted for each item and factor structure. Items with factor load lower than 0.6 were deleted and confirmatory factor analysis was

conducted again. The factor load of each item met the requirements.

For reliability, Cronbach 'α values of each dimension were greater than the recommended value 0.7, and ranged from 0.70 (TI) to 0.97 (CWB). The combined reliability ranges from 0.83 (TRC) to 0.98 (WR), and the consistent PLS method revises the estimates of the measured structures by using A new reliability coefficient ρA, which ranges from 0.67 (EAE) to 1.40 (TRC) in this study. These prove that the internal consistency of the measurements in this study is good.

Table 1 Results of confirmatory factor analysis

Dimensions	Cronbach'α	ρ_A	Composite reliability	AVE
IOC	0.96	0.97	0.97	0.90
DRP	0.90	0.97	0.94	0.83
EAE	0.83	0.67	0.87	0.69
TRC	0.76	1.40	0.83	0.63
TI	0.70	0.75	0.83	0.63
WR	0.97	0.97	0.98	0.91
PR	0.77	0.80	0.85	0.59
MI	0.85	0.87	0.89	0.63
CWB	0.97	0.97	0.97	0.57

The validity is considered from two aspects: aggregation validity and discriminative validity. (1) Polymerization validity, the judgment criteria of which are generally as follows: The factor load of each project on its corresponding dimension is greater than 0.6, and the average variation extraction (AVE) of each dimension is more than 0.5. In the data of this study, the factor load of all projects on its corresponding dimension is between 0.63 (MI) and 0.97 (WR), all of which are greater than 0.6. AVE ranged from 0.57 (CWB) to 0.91 (WR), all of which were greater than 0.5, indicating good aggregation validity of data in this study. (2) The discriminating validity emphasizes the different degree of measurement between the dimensions. First, the fornell-Larcke method is adopted as the standard, that is, the variation between the dimensions and its own dimensions is greater than the variation between the dimensions and all other dimensions; The Heterotrait- Monotrait (HTMT) shall be less than 0.9. The data in this study met the above two criteria, indicating good discriminative validity.

Table 2 Discriminative validity (Fornell-Larcker criterion)

Dimensions	1	2	3	4	5	6	7	8	9
CWB	0.75								
PR	0.04	0.77							
IOC	0.32	0.12	0.95						
WR	0.27	0.18	0.04	0.95					
DRP	0.28	-0.09	0.13	0.24	0.91				
TI	0.47	0.14	0.19	0.14	0.23	0.79			
TRC	-0.13	-0.25	-0.20	-0.16	-0.01	0.14	0.79		
EAE	-0.02	-0.12	-0.05	-0.10	0.10	0.19	0.47	0.83	
MI	0.20	0.20	0.02	0.23	0.16	0.22	-0.01	-0.03	0.79

The SRMR value in the model estimated in this study is 0.07, less than 0.08, indicating that the model fitting is acceptable, and explains the 0.12 variation of CWB.

Table 3 Discriminant validity (HTMT)

Dimensions	1	2	3	4	5	6	7	8	9
CWB									
PR	0.14								
IOC	0.33	0.14							
WR	0.26	0.21	0.04						
DRP	0.30	0.13	0.12	0.25					
TI	0.57	0.19	0.24	0.15	0.28				
TRC	0.18	0.22	0.19	0.17	0.12	0.20			
EAE	0.11	0.13	0.05	0.10	0.12	0.31	0.69		
MI	0.21	0.28	0.05	0.25	0.19	0.28	0.12	0.18	

4.2 Common method bias

Harmon single factor test was performed on the 9 key variables in the model. The results

showed that there were 12 factors with characteristic roots greater than 1, and the variance explained by the first factor was 15.93%, less than 40%, indicating that the common method bias was within the acceptable range.

4.3 Correlation analysis

Table 4 Correlation analysis table

Variable	M	SD	1	2	3	4	5	6	7	8	9
IOC	3.89	1.49	1								
DRP	4.37	1.42	.13	1							
EAE	5.14	1.36	-.01	.10	1						
TRC	5.45	1.13	-.16*	-.04	.55**	1					
TI	3.41	1.25	.18**	.22**	.23**	.14*	1				
PR	4.99	1.21	.11*	-.08*	-.09	-.17*	.14*	1			
WR	4.60	1.40	.07*	.23**	-.04	-.14*	.12*	.19**	1		
CWB	1.94	0.95	.32**	.28**	-.01	-.15*	.47**	-.16*	.26**	1	
MI	4.59	1.26	.06	.15*	.03	.04	.19**	.21**	.23**	.19**	1

(Note: ***, p <0.001; * *, p < 0.01; *, p < 0.05; The same below)

As can be seen from Table 4, there is no correlation between EAE and CWB, so the relationship between EAE and CWB will not be studied in subsequent studies.

4.4 Hypothesis testing

SPSS23.0 was used to test the direct effect of environmental complexity on counterproductive work behavior, and hypothesis H1 was tested. According to the regression results in the following table, after controlling for gender and age variables, Internal Organizational Complexity had a significant positive impact on CWB (B=0.16, p <0.001),

Delayed Retirement Policy had a significant positive impact on CWB (B=0.12, p <0.001), and The Recurrence of COVID-19 had no significant impact on CWB. Technical Intrusion had a significant positive effect on CWB (B=0.29, p <0.001). Therefore, support for hypothetical H1a, hypothetical H1b, hypothetical H1e, and hypothetical H1d is rejected.

Table 5 Regression results of IOC on CWB

	CWB	
Variable	M1	M2
Constant	2.19*** （0.29）	1.57*** （0.33）
Gender	-0.57*** （0.13）	-0.49*** （0.12）
Age	0.23*** （0.07）	0.19*** （0.07）
IOC		0.16*** （0.04）
R^2	0.14	0.20
$\triangle R^2$	0.13	0.19
F	16.35***	16.35***

	CWB	
Variable	M1	M2
Constant	2.19*** （0.29）	1.57*** （0.33）
Gender	-0.57*** （0.13）	-0.49*** （0.12）
Age	0.23*** （0.07）	0.19*** （0.07）
IOC		0.16*** （0.04）
R^2	0.14	0.20
$\triangle R^2$	0.13	0.19

F	16.35***	16.35***

Table 6 Regression results of DRP on CWB

	CWB	
Variable	M1	M2
Constant	2.19*** （0.29)	1.49*** (0.40)
Gender	-0.57*** （0.13)	-0.44*** (0.13)
Age	0.23*** （0.07)	0.22*** (0.07)
DRP		0.12*** (0.05)
R^2	0.14	0.17
$\triangle R^2$	0.13	0.16

F	16.35***	13.38

Table 7 Regression results of TRC on CWB

	CWB	
Variable	M1	M2
Constant	2.19*** （0.29）	2.27*** （0.43）
Gender	-0.57*** （0.13）	-0.57*** （0.13）
Age	0.23*** （0.07）	0.23*** （0.07）
TRC		-0.15 （0.06）
R^2	0.14	0.14
$\triangle R^2$	0.13	0.13
F	16.35***	0.07

Table 8 Regression results of TI on CWB

	CWB	
Variable	M1	M2
Constant	2.19*** （0.29）	0.99*** （0.33）
Gender	-0.57*** （0.13）	-0.34*** （0.12）
Age	0.23*** （0.07）	0.17** （0.07）
TI		0.29*** （0.05）
R^2	0.14	0.27
$\triangle R^2$	0.13	0.26
F	16.35***	36.20***

In this study, a moderated mediation analysis was performed using the SPSS PROCESS plug-in (Hayes, 2013) to generate bias corrected regression estimates and confidence intervals for BootStrapped (n=5000) to test mediations (hypothesis 2) and moderated mediations

(hypothesis 3). Specifically, in order to test the mediation hypothesis of the study, model 4 of PROCESS is used.

For the path of internal organizational complexity → personal resources →CWB, see Model 1 and Model 3 in the following Table 9. In model 1, there is no significant relationship between internal organizational complexity and personal resources. In model 3, there is no significant relationship between personal resources and CWB. In the indirect influence path of internal organizational complexity on CWB through personal resources, 95% confidence interval is [-0.012, 0.005]. The results show that the mediating role of personal resources does not hold, assuming H2a is rejected.

For the path of internal organizational complexity → work resources →CWB, see Model 2 and Model 4 in Table 9. In Model 2, there is no significant relationship between internal organizational complexity and work resources. In model 4, there was a significant negative correlation between work resources and CWB (B=-0.12, $p < 0.01$). In the indirect influence path of internal organizational complexity on CWB through work resources, 95% confidence interval is [-0.02, 0.02]. The results show that the mediating role of working resources is not valid, assuming that H2f is rejected.

Table 9 Mediating effect test Results 1

	PR	WR	CWB	
	M1	M2	M3	M4
Constant	4.07*** (0.46)	4.62*** (0.53)	1.67*** (0.39)	0.94* (0.38)
Gender	0.04 (0.17)	-0.31 (0.20)	-0.49*** (0.12)	-0.45*** (0.12)
Age	0.21* (0.10)	0.12 (0.12)	0.19** (0.17)	0.17* (0.07)
IOC	-0.07 (0.06)	-0.03 (0.07)	0.16*** (0.04)	0.15*** (0.04)
PR			-0.03 (0.05)	
WR				-0.12** (0.04)
F	2.31*	1.47	12.29***	15.34***
R^2	0.18	0.22	0.20	0.24

For the path of delayed retirement policy → personal resources →CWB, see Model 1 and

Model 3 in the Table 10. In model 1, there is no significant relationship between delayed retirement policy and personal resources. In model 3, there is no significant relationship between personal resources and CWB. In the indirect impact path of delayed retirement policy on CWB through personal resources, 95% confidence interval is [-0.01, 0.01]. The results show that the mediating role of personal resources is not valid, assuming that H2b is rejected.

For the path of delayed retirement policy → work resources →CWB, see Models 2 and 4 in the table below. In model 2, delayed retirement has a significant negative correlation with work resources (B=-0.21, p < 0.01). In model 4, there was a significant negative correlation between work resources and CWB (B=-0.12, p < 0.01). In the indirect impact path of delayed retirement policy on CWB through work resources, 95% confidence interval is [0.01, 0.06]. The results show that work resources mediate the positive relationship between delayed retirement policy and CWB, supporting hypothesis H2g.

Table 10 Mediating effect test Results 2

	PR	WR	CWB	
	M1	M2	M3	M4
Constant	4.07*** (0.46)	3.53*** (0.62)	1.67*** (0.39)	1.06* （0.38）
Gender	0.04 （0.17）	-0.10 （0.21）	-0.49*** (0.12)	-0.43** （0.13）
Age	0.21* （0.10）	0.11 （0.11）	0.19** （0.17）	0.21** （0.07）
DRP	-0.07 （0.06）	-0.21** (0.07)	0.16*** (0.04)	0.09** （0.04）
PR			-0.03 （0.05）	
WR				-0.12** （0.04）
F	2.31*	4.12**	12.29***	12.26***
R^2	0.18	0.06	0.20	0.20

For the path of technological intrusion → personal resources →CWB, see Model 1 and Model 3 in the Table 11. In model 1, there is a significant negative correlation between technological intrusion and personal resources (B=-0.12, p < 0.05). In model 3, there is no significant relationship between personal resources and CWB. In the indirect impact path of technological intrusion on CWB through personal resources, 95% confidence interval is [-

0.03, 0.01]. The results show that the mediating role of personal resources is not valid, assuming that H2e is rejected.

For the path of technical intrusion → work resources →CWB, see models 2 and 4 in the table below. In model 2, there is a significant negative correlation between technological intrusion and work resources (B=-0.09, p < 0.01). In model 4, there was a significant negative correlation between work resources and CWB (B=-0.12, p < 0.01). In the indirect impact path of technology intrusion on CWB through work resources, 95% confidence interval is [-0.01, 0.03]. The results show that the mediating role of working resources is not valid, assuming that H2j is rejected.

Table 11 Mediating effect test Results 3

	PR	WR	CWB	
	M1	M2	M3	M4
Constant	3.83*** (0.49)	4.36*** (0.57)	1.17** (0.38)	0.46 (0.37)
Gender	0.11 (0.18)	-0.25 (0.21)	-0.34** (0.12)	-0.31** (0.12)
Age	0.21* (0.10)	0.11 (0.12)	0.18** (0.07)	0.16* (0.07)
TI	-0.12* (0.07)	-0.09** (0.07)	0.30*** (0.05)	0.28*** (0.05)
PR			-0.05 (0.05)	
WR				-0.12** (0.04)
F	2.89*	1.83	18.89***	21.61***
R^2	0.04	0.03	0.28	0.31

Since work resources mediate the positive relationship between delayed retirement and CWB, the moderating mediating effect of hypothesis 3 is then verified, that is, H3b. Model 14 of PROCESS is adopted in this study. Specific results are shown in the table below. In the following model 2, the interaction terms of work resources and moral identity had significant effects on CWB (B=0.06, p < 0.1, 95%CI[-0.01, 0.12]). However, considering that the confidence interval contains 0, the moderating effect of moral identity is not established. Suppose H3b is rejected.

Table 12 Moderated mediating effect test

	WR	CWB
	M1	M2
Constant	3.53*** （0.62）	1.91** （0.82）
Gender	-0.09 （0.21）	-0.43** （0.13）
Age	0.11 （0.11）	0.18* （0.07）
DRP	-0.21** （0.07）	-0.09* （0.05）
WR		-0.15 （0.16）
MI		-0.16 （0.15）
WR*MI		0.06※ （0.03）
F	4.12**	9.26***
R^2	0.06	0.22

5 Conclusion

5.1 Theoretical Significance

In terms of research content, this paper puts forward two aspects of environmental complexity by combing relevant literature. Based on PEST theory, external environmental complexity is divided into four dimensions to measure, which complements previous theoretical studies on environmental complexity. At the same time, from the research of the internal and external environment complexity on employees' counterproductive work behavior, this paper finds that environment complexity does affect employees' counterproductive work behavior for reference and further research. This paper expands the application of COR theory in organizational behavior. In the past, the application of resource conservation theory is mainly applied at the psychological and internal levels of individuals. Combining with the real situation, this paper proposes and verifies two kinds of resources closely related to organizations and employees.

From the research model, this paper verifies a new mechanism based on COR theory, and proves that the process of employee behavior may be for the purpose of resource recovery or retention, and resources play a mediating role. The research model of this study can be applied to other researches on employee behavior in organizations, such as out-of-role behavior, innovative behavior, etc.

5.2 Management Enlightenment

With the advent of the information age, there are more and more types and degrees of employee counterproductive work behaviors, which will inevitably have a negative impact on enterprises. At present, enterprises pay more and more attention to employees' work performance. This paper explores from the perspective of environmental complexity and combines the theory of resource conservation to provide some directions for reducing employees' counterproductive work behavior.

First, note the strength of the internal and external complexity of the organization. Enhanced environmental complexity requirements employees involved in the broader field of knowledge, with colleagues, customers more dimensions, such as higher technical index, enterprise managers should be actively pay attention to the strength of the enterprise environment complexity, from the organization's external, pay attention to the external environment change on the influence of cognitive employees, to avoid losses from resources and the production staff. From the organization's external, this paper suggest that managers should pay attention to the change of external environment, including economic, political, may cause substantial impact of events in the employee, the external environment change will not only affect the organization, will also affect employees, pay attention to staff's mood changes, reduce the possibility of employees counterproductive work behavior occurs. From the inside of the organization, we simplify unnecessary processes with optimized thinking and arrange employees in appropriate positions to achieve a win-win situation between the enterprise and employees. From inside the organization, this article suggested that enterprise managers should be aware, the process must be for a purpose, in order to achieve a certain purpose is more convenient, lower cost, faster, because if the process makes some purpose to meet obstacles, it is necessary to analyze whether the process has the value of existence under or if they need further adjustment. Excessive process is terrible. It is a big factor in creating bureaucracy, even in the first place. It is suggested that managers often reflect on the working process and constantly improve it to form a good atmosphere in the company, which is ultimately conducive to process optimization and performance improvement of the whole company.

In addition, pay attention to the occurrence probability of counterproductive work behavior. Managers should give feedback in time when employees have mood fluctuations, find corresponding employees for two-way communication, and put forward targeted solutions after knowing the situation. When the reverse production behavior, according to the specific situation of the employee to investigate the corresponding responsibility, timely curb the further deterioration of the reverse production behavior, do a good job in the aftermath of the work, at the same time from the management mechanism, organizational environment and staff leadership to think and summarize, effectively prevent similar reverse production behavior from happening again.

5.3 Research limitations and future prospects

(1) Limitations

There are limitations to the source of samples. Most of the subjects in study 1 were from manufacturing enterprises, so their representativeness was limited. In addition, due to the particularity of this industry, the general culture of employees is not high, and there may be problems in understanding the questionnaire, leading to the deviation of data results.

Most of the questionnaires adopted foreign mature scales, some of which were developed earlier, but the actual situation is advancing with The Times, so the content of the scale needs to be updated. In addition, cultural differences at home and abroad will also have an impact on the measurement of the questionnaire.

Social desirability is not avoided. Although the research institute has sufficient control over the validity of the questionnaire, the module of counterproductive work behavior adopts the form of self-evaluation, which cannot avoid the subjects' "covering up" for their negative behavior. The subjects' answers tend to make themselves more consistent with the social recognition, that is, lying about the extent of counterproductive work behavior.

(2) Future research

Explore the boundary conditions of the effect of environment complexity on employee counterproductive work behavior. The moderating effect of moral identity in this study is not established, and possible boundary conditions can be further explored in future studies.

For the industry of the subject, data should be collected in multiple fields and at multiple levels to expand the sample size, so as to enhance the accuracy and applicability of research conclusions.

This paper designed the questionnaire based on the scale made by frontier scholars. Due to the large number of variables and questions, the accuracy of the data was reduced. If possible, we should carry out surveys and interviews to prepare a more scientific scale.

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