

The Effect of Psychological Factors on Individual Innovation Performance-Mediating Role of Proactive Behavior and Moderating Role of Organizational Support

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Abstract

The personal innovation of scientific and technological personnel not only provides the fundamental power for the innovation of enterprises, but also lays a solid foundation for the innovation of enterprises. Through 1050 questionnaires, this paper empirically analyzes the mechanism of individual psychological contract and psychological capital on employee's proactive behavior and innovation performance. The results show that individual psychological contract and psychological capital factors have significant positive correlation with individual proactive behavior and innovation performance. Proactive behavior mediates the relationship between individual psychological contract, psychological capital factor and individual innovation performance. Organizational support plays a moderating role in the relationship between individual psychological contract, psychological capital factor and proactive behavior and innovation performance.

Keywords: *Psychological contract, Psychological capital, Proactive behavior, Innovation performance, Organizational support*

I . Introduction

With the in-depth development of Internet technology and economic globalization, the business environment of enterprises is increasingly dynamic and changeable, and innovation has become a necessary means and an important way for enterprises to grow and obtain sustainable competitive advantages [1]. The personal innovation of employees not only provides the fundamental driving force for the innovation of the enterprise, but also lays a solid foundation for the innovation of the enterprise [2]. The proactive behaviour of employees is closely related to innovation [3] and is an important driving factor for innovation [4]. Reasonable development and management of it can provide effective ways to stimulate employees' positive energy and break through innovation dilemmas [5]. However, proactive behaviours are risky behaviours for individuals. What are the internal psychological factors that encourage individual employees to implement such risky inputs? What is the relationship between proactive behaviours and innovation performance? How can organizations effectively stimulate and support employees The proactive behaviours of guiding employees are still in short supply and need to be clarified.

This topic will take scientific and technological personnel engaged in R&D in high-tech enterprises in the Guangdong-Hong Kong-Macao Greater Bay Area as the research object, explore the mechanism of individual psychological factors and organizational support on proactive behaviour and individual innovation performance, and construct an individual psychological factor and organizational support An empirical research framework for the comprehensive influence of proactive behaviours of technology employees and the relationship between proactive behaviours and individual innovation performance. It is expected to provide new knowledge for the development of proactive behaviour theory, and on this basis, provide practical reference for business managers to stimulate proactive behaviour and improve individual innovation performance.

II. Literature review and theoretical assumptions

A.Psychological factors of scientific and technological personnel and individual innovation performance

Amabile (1983) believes that individual innovation performance "refers to the useful and novel ideas put forward by employees for the problems they encounter at work in the process of work" [6]. Janssen (2000) believes that individual innovation performance is mainly through the generation, introduction and implementation of new ideas

[7]. Han Yi believes that innovation performance can be discussed and studied from innovation willingness, innovation action and innovation promotion [8]. Pieterse pointed out that the innovation performance of employees is generated by a series of processes such as problem identification, generation of new ideas, planning and expansion of new ideas [9]. Yu Weina et al. (2015) proposed that employee innovation performance refers to novel and useful ideas, products, processes, services or methods generated in the process of interaction between employees and organizations [10]. To sum up, we believe that individual innovation performance is the result of the innovative ideas put forward and implemented by individual employees to improve enterprise performance.

Innovation performance is an externalization process that may occur after the external environment acts on individual employees through selective perception [11]. When the psychological needs of employees are met, it may be easier to promote the improvement of innovation performance. Therefore, it is very important to understand the role of psychological factors of enterprise employees. This topic mainly studies the psychological contract and psychological capital of individual employees.

Psychological contract was put forward by Argyris in the 1960s [12]. Different scholars have different understanding of psychological contract. Levinson (1962) and others believe that "psychological contract is the expectation of each other that the organization and employees have agreed in advance in the employment relationship [13]. Schein (1965) believes that psychological contract is "the expectation not written between each member of the organization working at any time and different supervisors and other members of the organization" [14]. Kotter (1973) believes that psychological contract is "an implicit contract with specific expected pay and expected return between individuals and organizations" [15]. Dunahee et al. (1974) believe that psychological contract is "a psychological agreement between two parties that connects employees and organizations" [16]. The above scholars define the psychological contract between the organization and employees. Other scholars, such as Rousseau (1989), believe that psychological contract is "employees' expectation of mutual responsibilities and obligations between their employers" [17]. Turnley (2004) and others believe that "psychological contract is composed of employees' cognition of the obligations that the organization should perform for them and their cognition of the obligations that they should perform for the company" [18]. These scholars only look at the psychological contract with the organization from the perspective of individual employees, which is also the perspective of this study.

Zhang Shiju (2008) divided psychological contract into transaction contract, relationship contract and development contract [19]. Xue rongna et al. (2016) pointed out that material incentive in transaction contract, employee promotion in relationship contract and emotional appeal are the psychological contract factors affecting employee performance [20]. Wang Shuqiao et al. (2016) empirically believe that the performance of psychological contract has a significant positive impact on performance [21].

Seligman believes that the psychological factors leading to individual positive behavior can be placed in the category of capital. His view broadens researchers' thinking and stimulates the discussion of psychological capital [22]. Luthans' definition of psychological capital is widely accepted. Luthans (2005) pointed out that "psychological capital is the core psychological element of an individual's general enthusiasm, expressed as a psychological state that meets the standards of positive organizational behavior" [23]. In 2007, Luthans revised the definition of psychological capital to "a psychological state of self-efficacy, hope, tenacity and optimism displayed by an individual in the process of growth and development" [24]. Sweetman (2011) and other empirical studies pointed out that the overall and all dimensions of psychological capital have a significant positive impact on innovation performance [25]. Wu Qingsong et al. (2011) believe that the positive psychological state of employees will have a positive impact on the innovation performance of enterprises [26]; Zhang Hongru et al. (2014) found that employees' psychological capital not only positively affects employees' work performance and innovation performance, but also promotes the impact of corporate culture on employees' work performance and innovation performance [27]. Shen Wei (2015) found that psychological capital has a positive effect on innovation performance, and knowledge acquisition plays an intermediary effect between psychological capital and innovation performance [28]. Xu Liping (2016) took Tu youyo as the research object and found that psychological capital has positive significance on innovation performance by using grounded theory [29].

Based on the above analysis, we believe that the psychological contract and psychological capital factors of scientific and technological personnel can positively predict the individual innovation performance of employees, so we make the following assumptions:

H1: there is a significant positive correlation between psychological factors of scientific and technological personnel and innovation performance.

H1a: there is a significant positive correlation between psychological contract and innovation performance.

H1b: there is a significant positive correlation between psychological capital and innovation performance.

B. Individual proactive behavior and innovation performance

Different scholars have different views on the definition of proactive behavior, such as "proactive behavior is an employee's self-initiated, expected and proactive work behavior" [30], "it is an employee's intentional behavior that is future-oriented and tries to change their situation" [31], "it is a self-initiated and proactive work behavior" [32], "it is an employee's spontaneous, expected behaviors aimed at changing or improving one's own situation or situation" [33], "are employees' internal stability tendency that can affect environmental changes, can actively complete their work, and are willing to change the environment in time without environmental constraints" [34], "refers to spontaneous, future-oriented and change-oriented predictive behaviors aimed at improving the environment or individual self" [35], etc. Based on the above views, we believe that proactive behavior is a future-oriented and spontaneous change behavior of individual employees. Frese (2008) believes that proactive behavior can have a key impact on individual innovation performance. If an individual can exercise autonomy at work, he will be more willing to try new ideas and his innovation performance is more likely to be improved [36].

Based on the above analysis, we believe that proactive behavior can positively predict employees' individual innovation performance, so we make the following assumptions:

H2: proactive behavior is significantly positively correlated with individual innovation performance.

C. Psychological factors and proactive behavior of scientific and technological personnel

Hou et al. (2012) believe that employees' psychological contract is in good condition, which can stimulate them to actively invest more, so as to stimulate individual innovation behavior [37], coordinate the mutual needs between organizations and individuals [38], enhance employees' ability to predict events in the future organizational environment [39], and develop the value hidden in positive psychology. Enhance employees' pressure resistance, promote innovation to become the internal requirement of enterprise employees, reserve positive psychological energy for enterprise employees, increase employees' self-confidence and obtain more achievements at work [40]. Li Wanming et al. (2016) believe that psychological contract can make employees think their work is full of meaning or feel good about themselves, so that employees will actively assume more responsibilities, stimulate inspiration and obtain new ideas in continuous exploration and enterprising [41]. Dong Yuan et al. (2016) confirmed that psychological capital is a positive psychological state. The dimensions of self-confidence, hope, optimism and resilience of psychological capital will generate internal incentives for employees and enable them to experience positive internal emotions [42].

Based on the above analysis, we believe that the psychological contract and psychological capital factors of scientific and technological personnel can positively predict the proactive behavior of individual employees, so we make the following assumptions:

H3: there is a significant positive correlation between psychological factors and proactive behavior of scientific and technological personnel

H3a: there is a significant positive correlation between psychological contract and proactive behavior

H3b: there is a significant positive correlation between psychological capital and proactive behavior

D. Mediating role of proactive behavior

Hou et al. (2012) showed that intrinsic motivation and psychological contract are the most direct antecedents of innovation performance, and psychological contract also indirectly affects innovation performance through the intermediate role of intrinsic motivation [43]. Zhang Hongru (2013) research shows that cultivating and improving psychological capital can enable enterprise employees to meet their competency, autonomy and relationship needs, so as to stimulate internal work motivation and produce innovative performance [44]. Xiong Zhengde et al. (2018) believe that positive psychological capital will promote employees to continuously shape themselves, actively cultivate good psychological quality, enthusiastically and optimistically tap their potential in career development, and constantly pursue self-realization. In this process, innovation has become a derivative of their personal development, thus improving individual innovation performance [45].

Based on the above analysis, we believe that individual psychological contract and psychological capital factors will affect individual innovation performance through the intermediary of individual proactive behavior. Therefore, we make the following assumptions:

H4: proactive behavior plays an intermediary role in the relationship between individual psychological factors and innovation performance

H4a: proactive behavior plays an intermediary role in the relationship between psychological contract and innovation performance

H4b: proactive behavior plays an intermediary role in the relationship between psychological capital and innovation performance

E. Regulatory role of organizational support

Eisenberge (1986) believes that the sense of organizational support refers to "the overall feeling that employees in an organization attach importance to their contributions and care about their welfare" [46]. George (1993) believes that the sense of organizational support refers to "the assurance and confidence that employees can get help from the organization when working effectively and coping with stress situations" [47]. Bell et al. (2002) believe that the sense of organizational support is "employees' overall perception and belief in the recognition of employees by the organization, the recognition process of employees' performance and the corresponding treatment given to them" [48]. Ling Wenyun et al. (2006) believe that "the sense of organizational support is the employees' view of how the organization views their contributions and cares about their interests" [49]. To sum up, we believe that the sense of organizational support is the overall feeling of employees about the organization's help, welfare support and interest concerns. Because the sense of organizational support is to talk about the organization's support for employees from the perspective of employees, which has a direct and due effect on employees, the organizational support in this study refers to the sense of organizational support.

Environmental factors will have an important impact on individual performance [6]. As an important environmental factor of employee innovation, organizational support may play an intervention role in the promotion of individual proactive behavior, innovation performance and innovation performance by individual psychological factors. Mckenny (2013) found that organizational support includes three dimensions: respect (emotional) support, welfare support and instrumental support [50]. Organizational support has a positive impact on employees' work attitude and work performance; Tian Xizhou et al. (2010) believe that if employees can feel the organizational support, they will have a greater sense of responsibility for the tasks assigned by the organization and increase their work input [51]. From the perspective of social exchange theory, employees perceive that organizational support can increase employees' expectations for the results of hard work and give play to the positive impact of the principle of reciprocity on employees' work attitude [52]. The greater the impact on employees' individual psychological contract and psychological capital, employees make behaviors that will be beneficial to the organization out of gratitude [46], that is, the more significant employees' individual proactive behavior may be, and the better the corresponding individual innovation performance may be. Ajzen et al. (1980) pointed out that when employees feel organizational support, they will have the responsibility and obligation to repay the enterprise, and work with higher focus and enthusiasm, which is easier to produce positive behavior and attitude, resulting in higher innovation performance [53].

Based on the above analysis, we believe that organizational support will play a regulatory role in individual psychological contract, psychological capital factors, proactive behavior and individual innovation performance. Therefore, we make the following assumptions:

H5: organizational support plays a regulatory role in the relationship between individual psychological factors and innovation performance.

H5a: organizational support plays a moderating role in the relationship between psychological contract and innovation performance.

H5b: organizational support plays a moderating role in the relationship between psychological capital and innovative performance.

H6: organizational support plays a moderating role in the relationship between proactive behavior and innovation performance.

H7: organizational support plays a regulatory role in the relationship between individual psychological factors and proactive behavior.

H7a: organizational support plays a regulatory role in the relationship between psychological contract and proactive behavior.

H7b: organizational support plays a regulatory role in the relationship between psychological capital and proactive behavior.

Based on the above assumptions, the empirical research framework is summarized as shown in Figure 1:

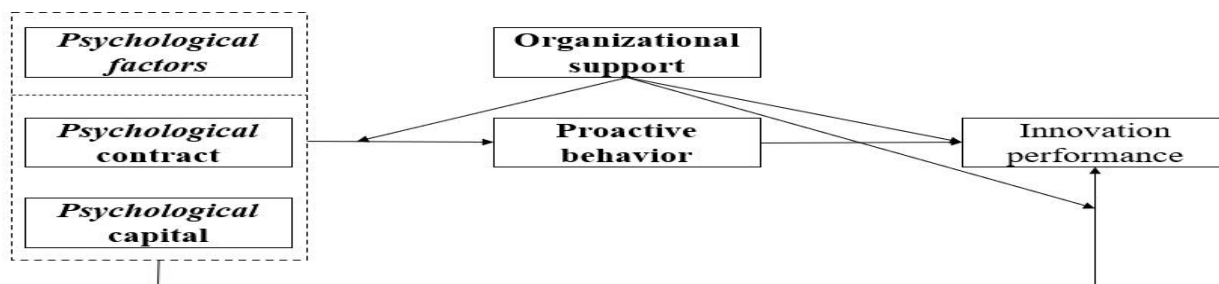


Figure 1 empirical research framework

III. Research and Design

A. Research Sample

We surveyed university teachers and high-tech enterprises in the Guangdong-Hong Kong-Macao Greater Bay Area. We conducted surveys through the “Questionnaire Star” network platform, and sent QR codes to students, friends and acquaintances through WeChat to collect 1,050 answers. The recovery rate was 90. %, the effective rate is 100%.

The demographic characteristics of the final valid sample are shown in Table 1.

Table 1 Demographic Characteristics Of the Sample

Value	Detail	Numb	Percentage of total number of people	variable	Detail	Numb	Percentage of total number of people
Sex	male	550	52.38%	Age	Y≤25	20	1.9%
					25<Y≤35	380	36.19%
	female	500	47.62%		35<Y≤45	500	47.62%
					45<Y	150	14.29%
Education	Specialist	20	1.9%	Length of service	Y≤1	30	2.86%
	Undergraduate	280	26.67%		1<Y≤5	160	15.24%
	Master	690	65.71%		5<Y≤10	210	20.0%
	PHD	60	5.72%		10<Y	650	61.9%

B. Research Tools

On the basis of the existing mature scale, a questionnaire was prepared after appropriate adjustments, and all variables were measured using the Likert 5-point method.

Individual psychological factors. Psychological contract mainly refers to the scale developed by Rousseau (2004) [54] and Li Yuan (2002) [55]. Psychological capital mainly refers to the Psychological Capital Questionnaire (PCQ) developed by Luthans (2007) [56].

Organizational support. Mainly refer to the scale developed by Eisenberger et al. (1986) [46] and Ling Wenyu et al. (2006) [49].

Individual proactive behaviour. Mainly refer to the scale compiled by Parker (2010) [57].

Individual innovation performance. Mainly refer to the scale compiled by Janssen (2004) [58] and Han Yi (2007) [8].

IV. Data Analysis

A. Reliability Analysis

Using Cronbach's a coefficient to test the reliability of the measurement items, it can be seen from Table 2: The value of Cronbach's a coefficient of psychological contract is 0.672, which is greater than 0.6, which indicates that the reliability of the research data is acceptable; psychological capital, organizational support, proactive behaviour, and innovation performance Cronbach's The a coefficient values are 0.829, 0.861, 0.823, 0.881, which are all greater than 0.8, which indicates that the reliability of the research data is of high quality and can be used for further analysis.

Table 2 Cronbach's a Coefficient Test Value

Scale	Cases	Cronbach's Value
Psychological contract	2	0.672
Psychological capital	3	0.829
Organization support	3	0.861
Proactive behaviour	3	0.823
Innovation performance	4	0.881

B. Validity Analysis

The KMO and Bartlett sphericity test were used to verify the validity. From Table 3, it can be seen that the psychological capital KMO value is 0.711, which is greater than 0.7, indicating that the validity is good; the organization support KMO value is 0.696, and the proactive behaviour KMO value is 0.685, which is greater than 0.6, indicating the effectiveness. The degree is acceptable; the KMO value of innovation performance is 0.802, which is greater than 0.8, and the validity is very good. The psychological contract research items are only 2 items, and the KMO value is 0.5 in any case. The Bartlett sphericity test of psychological contract, psychological capital, organizational support, proactive behaviour, and innovation performance all reached the significance level of 0.000, which is suitable for factor analysis, indicating that the validity of the research items is good.

Table 3 KMO and Bartlett Test Values

		Psychological contract	Psychological capital	Organization support	Proactive behaviour	Innovation performance
KMO		0.500	0.711	0.696	0.685	0.802
Bartlett Sphericity test	Approximate chi-square	32.199	117.702	155.640	120.646	242.078
	df	1	3	3	3	6
	p	0.000	0.000	0.000	0.000	0.000

C. Analysis of Homology Deviation

The homologous deviation (CMV) is analysed by confirmatory factor analysis (CFA), which means that all measurement items (measurement items corresponding to all factors) are placed in one factor and then analysed. If the measurement shows that the fitting indicators of the model, such as the ratio of chi-square degrees of freedom, RMSEA, RMR, CFI, etc., cannot meet the standard, it means that the model is not well fitted, and all measurement items should not belong to the same factor, thus indicating that the data passes Common method deviation CMV test, the data has no homology deviation.

This time put all 15 measurement items into one factor for CFA analysis, and the model fitting indicators are shown in Table 4:

Table 4 CFA Analysis Model Fitting Index

Index	χ^2	df	p	χ^2/df	GFI	RMSEA	RMR	CFI	NFI	NNFI
Judge Standard	-	-	>0.05	<3	>0.9	<0.10	<0.05	>0.9	>0.9	>0.9
Value	457.972	90	0.000	5.089	0.577	0.197	0.101	0.592	0.545	0.524
Other Index	TLI	AGFI	IFI	PGFI	PNFI	SRMR	AIC	BIC		
Judge Level	>0.9	>0.9	>0.9	>0.9	>0.9	<0.1	The smaller the better	The smaller the better		
Value	0.524	0.436	0.599	0.433	0.468	0.138	3240.873	3320.492		

Table 4 shows that the chi-square degree of freedom value is 5.089, which is higher than the standard (<3), and the four index values of GFI, CFI, NFI, and NNFI are all lower than 0.7. The standard value of obvious deviation (greater than 0.9), the RMSEA value is greater than 0.10, the RMR value is greater than 0.05, which also deviates from the standard value. Other indicators such as AGFI, IFI, PGFI, PNFI, etc. are also lower than 0.7, and the severe deviation is greater than the standard of 0.9, which indicates that the quality of model fitting is very poor, which means that the scale data of this study cannot be focused into a factor, namely It shows that there is no homologous deviation problem.

D. Related Analysis

Through the Pearson correlation analysis of each variable, the Pearson correlation coefficient is used to indicate the strength of the correlation relationship to explore the relationship between the two variables. The specific correlation coefficient values are shown in Table 5.

Table 5 Pearson Values Of Research Variables

	Psychological contract	Psychological capital	Organization support	Proactive behaviour	Innovation performance
Psychological contract	1				
Psychological capital	0.481**	1			
Organization support	0.805**	0.465**	1		
Proactive behaviour	0.492**	0.643**	0.596**	1	
Innovation performance	0.415**	0.553**	0.439**	0.749**	1

* $p < 0.05$ ** $p < 0.01$

It can be seen from Table 5 that psychological contract, psychological capital, organizational support, proactive behaviour, and entrepreneurial performance are all positive numbers greater than 0.4, and they are all significant at the 0.01 level, thus indicating the above the five items have a significant positive correlation with each other.

E. Correlation and mediating effect test

Pearson correlation analysis has shown that there is a relationship between the main research variables. On this basis, stepwise regression method is further used to verify the relationship between variables, so as to reveal the causal relationship and influence mechanism between variables.

Model 1 takes psychological contract and psychological capital as independent variables and proactive behavior as dependent variables to verify the relationship between psychological contract and psychological capital on innovative proactive behavior; Model 2 takes psychological contract and psychological capital as independent variables and innovation performance as dependent variables to verify the relationship between psychological contract and psychological capital on innovation performance; After adding proactive behavior to model 2, model 3 still takes innovation performance as the dependent variable to verify the relationship between psychological contract, psychological capital and proactive behavior on innovation performance; Finally, stepwise regression analysis was used to verify the mediating effect of proactive behavior.

Table 6 proactive behavior mediation effect model

	Model 1	Model 2	Model 3
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	Proactive behavior	Innovation performance	Innovation performance
Psychological capital	0.452 (6.297**)	0.385 (4.772**)	0.080 (1.038)
psychological contract	0.182 (3.010**)	0.142 (2.093*)	0.019 (0.339)
Proactive behavior			0.676 (7.404**)
R^2	0.473	0.352	0.586
Adjust R^2	0.441	0.313	0.556
F value	$F(6, 98)=14.689, p=0.000$	$F(6, 98)=8.883, p=0.000$	$F(7, 97)=19.628, p=0.000$
* $p < 0.05$ ** $p < 0.01$, the value outside the bracket is the regression coefficient b value, and the value inside the bracket is the T value			

It can be seen from model 2 in Table 6 that the regression coefficient of psychological contract and proactive performance is 0.142, the T value is 2.093, and it is significant at the level of 0.05, indicating that psychological contract has a significant positive impact on entrepreneurial performance. Therefore, it is assumed that H1a: there is a significant positive correlation between psychological contract and innovation performance; The regression coefficient value of psychological capital and innovation performance is 0.385, t value is 4.772, and it is significant at the level of 0.01, indicating that psychological capital has a significant positive impact on innovation performance. Therefore, assuming that H1b: significant positive correlation between psychological capital and innovation performance is established, then H1: significant positive correlation between individual psychological factors and innovation performance must also be established.

It can be seen from table 6 and model 3 that after adding proactive behavior to model 2, the change of F value is significant ($P < 0.05$), which means that the addition of proactive behavior has explanatory significance to the model. In addition, the R-square value increases from 0.352 to 0.586, which means that proactive behavior can have 23.4% explanation for innovation performance. Specifically, the regression coefficient of proactive behavior is 0.676 and shows significance ($t = 7.404, P = 0.000 < 0.01$), which means that proactive behavior will have a significant positive impact on innovation performance. Therefore, it is assumed that H2: proactive behavior has a significant positive correlation with innovation performance.

It can be seen from model 1 in Table 6 that the regression coefficient of psychological contract and proactive behavior is 0.182, the T value is 3.010, and it is significant at the level of 0.01, indicating that psychological contract has a significant positive impact on creative proactive behavior, so it is assumed that H3a: there is a significant positive correlation between psychological contract and proactive behavior; The regression coefficient of psychological capital and proactive behavior is 0.452, T value is 6.297, and it is significant at the level of 0.01, indicating that psychological capital has a significant positive impact on creative proactive behavior. Therefore, assuming that H3b: the significant positive correlation between psychological capital and proactive behavior is established, H3: the

significant positive correlation between individual psychological factors and proactive behavior must also be established.

It can also be seen from table 6 and model 3 that after adding proactive behavior to model 2, although proactive behavior will have a significant positive impact on innovation performance, the regression coefficient of psychological contract becomes 0.019, the T value is 0.339, which is not significant at 0.05, indicating that psychological contract no longer has a positive impact on innovation performance; The regression coefficient of psychological capital becomes 0.080, the T value is 1.038, and it is not significant at 0.05, indicating that psychological capital no longer positively affects innovation performance, which can prove that proactive behavior plays a complete intermediary role in the relationship between psychological contract, psychological capital and innovation performance. Therefore, assuming that H4a: Creative proactive behavior plays an intermediary role in the relationship between psychological contract and innovation performance and H4b: Creative proactive behavior plays an intermediary role in the relationship between psychological capital and innovation performance, then H4: proactive behavior plays an intermediary role in the relationship between individual psychological factors and innovation performance.

F. Regulatory effect test

a. Test the moderating effect of organizational support between individual psychological factors and innovation performance

It can be seen from table 7 that the independent variables of model 4 are psychological contract, psychological capital, and the dependent variable is innovation performance; In model 5, the regulatory variable organizational support is added on the basis of model 4, in model 6, the product term of psychological contract and organizational support is added on the basis of model 5, and in Model 7, the product term of psychological capital and organizational support is added on the basis of model 5.

Table 7 moderating effect model of organizational support between individual psychological factors and innovation performance

	Model 4	Model 5	Model 6	Model 7
Psychological capital	0.385 (4.772**)	0.361 (4.448**)	0.339 (4.324**)	0.372 (4.795**)
psychological contract	0.142 (2.093*)	0.009 (0.085)	0.016 (0.166)	0.000 (0.002)
Organizational support		0.186 (1.724)	0.211 (2.028*)	0.181 (1.757)
Psychological contract * organizational support			0.161 (2.941**)	
Psychological capital * organizational support				0.267 (3.225**)
R^2	0.352	0.372	0.423	0.433
Adjust R^2	0.313	0.326	0.375	0.386

	Model 4	Model 5	Model 6	Model 7
F value	$F(6, 98)=8.883,$ $p=0.000$	$F(7, 97)=8.192,$ $p=0.000$	$F(8, 96)=8.814,$ $p=0.000$	$F(8, 96)=9.163,$ $p=0.000$
ΔR^2	0.352	0.019	0.052	0.061
ΔF value	$F(6, 98)=8.883,$ $p=0.000$	$F(1, 97)=2.973,$ $p=0.088$	$F(1, 96)=8.647,$ $p=0.004$	$F(1, 96)=10.400,$ $p=0.002$
Dependent variable: Innovation Performance				
* $p < 0.05$ ** $p < 0.01$ the value outside the bracket is the value of regression coefficient b, and the value inside the bracket is the value of T.				

It can be seen from model 6 in Table 7 that the F value of model 5 to model 6 changes significantly ($P = 0.004 < 0.01$), and the interaction item between psychological contract and organizational support shows significant ($t = 2.941, P = 0.004 < 0.01$), which means that when psychological contract affects innovation performance, the influence range of adjustment variable organizational support is significantly different at different levels. Therefore, it is assumed that H5a: organizational support plays a regulatory role in the relationship between psychological contract and innovation performance.

It can be seen from table 7 that the F value from model 5 to model 7 changes significantly ($P = 0.002 < 0.01$), and the interaction between psychological capital and organizational support shows significant ($t = 3.225, P = 0.002 < 0.01$). It means that when psychological capital affects proactive behavior, the moderating variable organizational support has significant differences at different levels. Therefore, it is assumed that H5b: organizational support plays a moderating role in the relationship between psychological capital and innovative performance, so it is also assumed that organizational support plays a moderating role in the relationship between individual psychological factors and innovative performance.

b. Test the moderating effect of organizational support between individual proactive behavior and innovation performance

It can be seen from table 8 that model 8 independent variable proactive behavior and dependent variable innovation performance; Model 9 adds the regulatory variable organization support on the basis of model 8, and model 10 adds the product term of interaction term, proactive behavior and organization support on the basis of model 9.

Table 8 moderating effect model of organizational support between individual proactive behavior and innovation performance

	Model 8	Model 9	Model 10
Proactive behavior	0.749 (11.258**)	0.752 (8.930**)	0.753 (8.913**)
Organizational support		-0.003 (-0.053)	-0.010 (-0.147)
Proactive behavior * organizational support			0.043 (0.584)

	Model 8	Model 9	Model 10
R^2	0.580	0.580	0.582
Adjust R^2	0.559	0.554	0.551
F value	$F(5, 99)=27.356$, $p=0.000$	$F(6, 98)=22.567$, $p=0.000$	$F(7, 97)=19.262$, $p=0.000$
ΔR^2	0.580	0.000	0.001
ΔF value	$F(5, 99)=27.356$, $p=0.000$	$F(1, 98)=0.003$, $p=0.958$	$F(1, 97)=0.341$, $p=0.560$
Dependent variable: Innovation Performance			
* $p < 0.05$ ** $p < 0.01$ the value outside the bracket is the value of regression coefficient b, and the value inside the bracket is the value of T			

It can be seen from table 8 model 10 that the change of F value from model 9 to model 10 is not significant ($P = 0.560 > 0.05$), and the interaction between psychological contract and organizational support is not significant ($t = 0.584$, $P = 0.560 > 0.05$); From the comparison between model 8 and model 10, it can be seen that when proactive behavior has an impact on innovation performance, the adjustment variable organizational support has the same impact range at different levels. Therefore, it is assumed that H6: organizational support plays a regulatory role in the relationship between proactive behavior and innovation performance.

c. Test the moderating effect of organizational support between individual psychological factors and proactive behavior

It can be seen from table 9 that the independent variables of model 11 are psychological contract, psychological capital and dependent variable proactive behavior; Model 12 adds the regulatory variable organizational support on the basis of model 11, model 13 adds the product term of interaction term, psychological contract and organizational support on the basis of Model 12, and model 14 adds the product term of interaction term, psychological capital and organizational support on the basis of Model 12.

Table 9 moderating effect model of organizational support between individual psychological factors and proactive behavior

	Model 11	Model 12	Model 13	Model 14
Psychological capital	0.452 (6.297**)	0.406 (5.961**)	0.386 (5.925**)	0.414 (6.284**)
psychological contract	0.182 (3.010**)	-0.073 (-0.843)	-0.065 (-0.798)	-0.079 (-0.947)
Organizational support		0.354 (3.916**)	0.378 (4.378**)	0.351 (4.010**)
Psychological contract * organizational support			0.152 (3.339**)	
Psychological capital * organizational support				0.197 (2.798**)
R^2	0.473	0.545	0.593	0.580
Adjust R^2	0.441	0.513	0.559	0.545

	Model 11	Model 12	Model 13	Model 14
<i>F</i> value	<i>F</i> (6, 98)=14. 689, <i>p</i> =0. 000	<i>F</i> (7, 97)=16. 624, <i>p</i> =0. 000	<i>F</i> (8, 96)=17. 461, <i>p</i> =0. 000	<i>F</i> (8, 96)=16. 549, <i>p</i> =0. 000
ΔR^2	0. 473	0. 072	0. 047	0. 034
ΔF value	<i>F</i> (6, 98)=14. 689, <i>p</i> =0. 000	<i>F</i> (1, 97)=15. 339, <i>p</i> =0. 000	<i>F</i> (1, 96)=11. 149, <i>p</i> =0. 001	<i>F</i> (1, 96)=7. 830, <i>p</i> =0. 006
Dependent variable: proactive behavior				
* <i>p</i> <0. 05 ** <i>p</i> <0. 01 the value outside the bracket is the value of regression coefficient b, and the value inside the bracket is the value of T				

It can be seen from table 9 and model 13 that the F value from model 12 to model 13 changes significantly ($P = 0.001 < 0.01$), and the interaction items between psychological contract and organizational support show significant ($t = 3.339, P = 0.001 < 0.01$), which means that when psychological contract affects proactive behavior, the influence range of regulatory variable organizational support is significantly different at different levels, Therefore, it is assumed that H7a: organizational support plays a regulatory role in the relationship between psychological contract and proactive behavior.

It can be seen from table 9 model 14 that the F value from model 12 to model 14 changes significantly ($P = 0.006 < 0.01$), and the interaction item between psychological capital and organizational support shows significant ($t = 2.798, P = 0.006 < 0.01$). It means that when psychological capital affects proactive behavior, the influence range of regulatory variable organizational support is significantly different at different levels. Therefore, assuming H7b: organizational support plays a regulatory role in the relationship between psychological capital and innovative proactive behavior, it is also true that H7: organizational support plays a regulatory role in the relationship between individual psychological factors and proactive behavior.

V. Research Conclusions and Enlightenment

A. Research Conclusion

Angle innovation. Previous studies have considered the effects of psychological contract and psychological capital on individual innovation performance and proactive behaviour in a single dimension. This research innovatively integrates psychological contract and psychological capital, so that the effect of psychological factors on individual proactive behaviour and innovation performance can be considered from a higher level and broader perspective.

It is confirmed that psychological contract and psychological capital have a significant positive correlation with individual proactive behaviour and innovation performance. Proactive behaviour and individual innovation performance are significantly and positively correlated. This research verifies the importance of psychological contract and psychological capital to individual proactive behaviour and innovation performance, and explores the significance of employees as the subject of innovation, using their own proactive behaviour to proactively create higher individual innovation performance and achieve corporate performance, thereby expanding the related research of individuals in innovation.

It is proved that proactive behaviour plays an intermediary role between individual psychological contract, psychological capital factors and individual innovation performance, and organizational support plays a moderating role in the relationship between individual psychological contract, psychological capital factors and proactive behaviour, and innovation performance. This deepens the research on the impact of individual employees' proactive behaviours, and also broadens the path for companies to improve their individual innovation performance.

B. Management Enlightenment

Through research, the following enlightenment has been provided for practical management:

Enterprises can use psychological contract and psychological capital to stimulate employees' proactive behaviour and enhance individual innovation performance. Enterprise managers hide the positive psychology of technology employees through psychological contracts and psychological capital development, making innovation their internal requirements, so as to achieve the stimulation of individual proactive behaviour of employees and the improvement of individual innovation performance.

Enterprises can achieve employee proactive behaviour stimulation and individual innovation performance enhancement by providing organizational support. Companies can provide organizational support to individual employees in a variety of ways, so that employees feel the organization's care, support, and help to them, thereby inspiring employees' proactive behaviour, and ultimately motivating employees to take the initiative to improve their individual innovation performance.

3. Enterprises can achieve the improvement of individual innovation performance by stimulating employees' proactive behaviour. Through this research, it can be seen that corporate employees have proactive behaviours in the improvement of innovation performance. They are not purely passive. Therefore, if companies want to improve individual innovation performance, the key is to stimulate employees' proactive behaviours, and then they can actually improve individual innovation performance. Realize the improvement of organizational performance.

C. Research Limitations and Prospects

The questionnaires of this study are collected at the same time. Future research should adopt a combination of horizontal and vertical to reduce the possibility of deviation from the same source method and enhance persuasiveness.

This study only considers the effects of psychological factors and organizational support on proactive behaviour and innovation performance. More factors, such as job characteristics, should be added in future research to make the analysis more comprehensive and detailed.

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