

# Research on the impact of peer effect on employee creativity under the background of involution

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**Abstract.** Under the background of involution, the impact of peer effect on employee creativity provides ideas and directions for improvement of enterprise innovation. Based on this, this study explores the influence of peer effect on employee creativity and the moderating effect of competitive atmosphere within the organization in the context of involution. Research shows that under the background of involution, the excessive competitive atmosphere regulates the relationship between peer effect and employee creativity, and has a negative regulatory effect on psychological safety; organizations should pay attention to the positive impact of peer effect, and guarantee Employees' sense of psychological safety can further enhance the impact of employees' creativity; employees should correctly deal with the sense of security and pressure brought about by the peer effect to ensure self-efficacy.

**Keywords:** Involution; peer effect; psychological safety; employee creativity.

## 1. Introduction

With the development of the Internet and information technology, competition is becoming increasingly fierce, and the term "involution" is well known. It also triggered people's thinking about the changes in employee creativity under the background of involution. Employees are easily influenced by other individuals, especially peer groups similar to their own age, status, work, etc., which also play a decisive role in the development of enterprises, that is, the peer effect plays an important role in the impact of individual creativity.<sup>[1]</sup>

In today's serious "involvement", the comparison and competition between peers Especially intense, this article explores the relationship between peer effect and employee creativity under the current background of involution, and reveals how interpersonal peer effect and psychological security can promote employee innovation performance in a competitive atmosphere, which will help companies attach importance to employee involution The degree of globalization and the performance role of peer effect.

## 2. Theoretical basis and hypotheses

### 2.1 Peer effect and employee creativity

Peer effect, is an important situation that affects employee creativity. Falk<sup>[2]</sup>verified that there is indeed an influence of peer effect among employees.

Creativity is the law for the survival of enterprises. The stronger the creativity in the organization, the easier it is to help the organization build a competitive advantage and improve innovation performance. Teresa M. Amabile et al. (1996)<sup>[3]</sup> proposed that in order to stimulate creativity, in addition to considering the internal motivation caused by individual characteristics, we should also pay attention to situational factors such as differences at the team and organizational levels. In the hypothesis of social man, it is also believed that individual behavior is easily influenced by others, especially by peer groups. Julianna Pillemer (2012)<sup>[4]</sup> and the differences between peers can cause employees to seek novelty and induce employees' learning behaviors, and strengthen employees' creativity.

In summary, this study believes that comparison and competition among peer groups can affect employee creativity. Therefore, the following research hypotheses are proposed:

Hypothesis 1: The peer effect has a positive effect on employee creativity.

## 2.2 Peer groups and psychological safety

Edmondson AC (1999)<sup>[5]</sup> defines psychological safety as a shared belief that it is safe to take interpersonal risks in a group. The psychological security of the group describes an atmosphere in the group characterized by trust and mutual respect between people. People do not need to bear the psychological pressure of social status, self-image, career and so on, and dare to express and show themselves.

According to the parallel comparison in social comparison theory (Festinger, 1954)<sup>[6]</sup>, individuals tend to compare themselves with objects in similar situations in order to predict the results of their own cognition, attitude or action. MACEY WH (2008)<sup>[7]</sup> believes that mutual communication and help among members of peer groups can improve employees' sense of psychological safety.

By providing a platform for exchanging various information, meeting the needs of members' emotional communication, and improving the positive emotions of individuals with a harmonious interpersonal relationship, Enhance psychological security. Based on this, a hypothesis is put forward:

Hypothesis 2: Peer effect has a positive effect on employees' psychological safety.

## 2.3 Psychological safety and employee creativity

Psychological safety is a safe state of mind shared or felt by group members. It is a kind of psychological guarantee. Consequences" thoughts and impulses. Wang Hui et al. (2020)<sup>[8]</sup> believe that psychological safety is based on a sense of security in a specific organizational atmosphere. They dare to show themselves and express their true thoughts and opinions at work, but they don't have to worry about such behaviors being detrimental to their careers.

Studies suggest that the enhancement of psychological safety can improve employee creativity. First of all, psychological security can improve employees' job autonomy and stimulate innovative behavior. Secondly, employees have more energy to think about creative work. Finally, members in high psychological security organizations, such as peer groups, will have more information resources exchange with other members in the group due to the relatively relaxed atmosphere. These exchanges and sharing will help individuals break through the inherent thinking patterns, thus producing more innovative ideas and promoting innovative work. To sum up, the enhancement of psychological security can help improve the creativity of employees, and stimulate stronger creativity. The following hypotheses are proposed:

Hypothesis 3: Psychological safety has a positive effect on employee creativity.

Under the background of involution, the pressure generated by the peer effect makes employees overly worried that their work mistakes will bring a huge blow to their careers. The decline in psychological safety makes employees reduce their work autonomy and enthusiasm for innovation. Negative impact on employee creativity. For this, hypothesize:

Hypothesis 4: Group psychological safety plays a mediating role between peer effect and employee creativity.

## 2.4 The regulating effect of organizational climate

Organizational competitive climate is a perception formed by employees about the compensation, power and status of members within the team according to performance comparisons<sup>[9]</sup>. This study believes that the competitive atmosphere will restrict the positive impact of the peer effect on the creativity of team members.

Under the background of involution, employees are in an over-competitive organizational atmosphere, which will reduce their psychological safety and affect their creativity. According to the clue consistency theory, employees are still more inclined to protect their own resources and interests, which will worsen the relationship between members, repel each other, and reduce their psychological security<sup>[10]</sup>. In the context of involution, however, interpersonal relationships are undermined in this hyper-competitive atmosphere, and employees are aware of an increased risk of

various relationship disruptions at work. According to the clue consistency theory, employees are still more inclined to protect their own resources and interests, which will deteriorate the relationship between members, exclude each other, and lead to a decrease in psychological safety.

Therefore, this study believes that the competitive atmosphere under the background of involution negatively regulates the impact of peer effect on psychological safety. The weaker the excessive competitive atmosphere, the stronger the psychological security obtained by the peer effect through team members, the more significant the impact on employee creativity .

Based on the above analysis, the study proposes the following hypotheses:

Hypothesis 5: The excessively competitive organizational climate negatively regulates the relationship between peer effect and employee creativity, the weaker the competitive atmosphere, the stronger the positive relationship between peer effect and employee creativity .

## 2.5 Research theoretical model construction

Based on the above-mentioned literature and theoretical review, on the basis of hypotheses, a research model of the path mechanism of the peer effect affecting employee creativity ( Fig.1) is constructed.

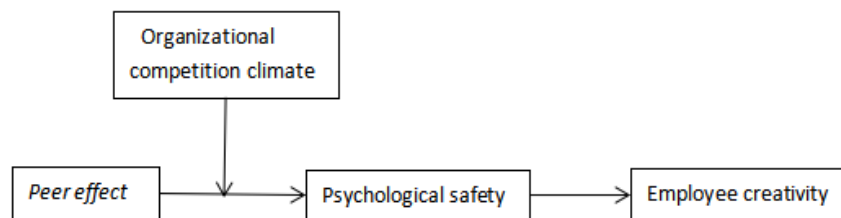


Fig. 1 The theoretical model of this study

## 3. Research design and data collection

### 3.1 Data collection and sample description

Finally, 179 questionnaires were collected and 169 were valid. The effective recovery rate was 94.4%.

### 3.2 Variable measurement

The scales used in this research are all from relatively mature foreign scales. And all the measurement items are adopted 1-5 Likert scale, 1-5 represents from strongly disagree to strongly agree.

Peer influence (PI): According to the study of Gibbons<sup>[11]</sup>, a total of 8 items were formed.

Psychological safety (PS): This study draws on the scale developed by Edmondson (1999)<sup>[5]</sup> and others. PS measures a total of 7 items.

Employee creativity (EC): This study draws on JING ZHOU ( 2001 )<sup>[12]</sup> in the experiment to develop a personal creativity scale, a total of 8 items.

Organizational competition climate (OCC). This study adopts the scale of organizational competitive climate, a total of 5 items.<sup>[13]</sup>

Control variables: Referring to previous studies, this paper uses employee gender, age, industry type, and the nature of enterprise ownership as control variables.

### 3.3 Research methods

This study mainly uses AMOS23.0 to test the discriminant validity of all variables, uses SPSS23.0 software to conduct descriptive analysis of each variable, Scale reliability analysis and related hierarchical analysis.

## 4. Data analysis and results

### 4.1 Descriptive statistics and reliability test of each variable

From the result, it can be concluded that peer effect is positively correlated with employee creativity ( $r = 0.286, p < 0.01$ ), peer effect is positively correlated with psychological security ( $r=0.137, p<0.01$ ), psychological security is positively correlated with employee creativity ( $r = 0.128, p < 0.01$ ), which provides preliminary evidence for the hypothesis of this paper.

### 4.2 Confirmatory factor analysis

In this paper, confirmatory factor analysis is used to test the discriminant validity of the variables using AMOS23.0. Firstly, confirmatory factor analysis was carried out on the benchmark model (4-factor model) of peer effect, psychological safety, employee creativity, and organizational competitive atmosphere, and then 3-factor, 2-factor, and 1-factor models were constructed to verify the fit of each theoretical model. Some results are shown in Table 1. It can be seen from Table 3 that the 4-factor model has better fit than other competing models. Therefore, the 4-factor model assumed in this paper has better discriminant validity.

**Table 1** Results of confirmatory factor analysis

Model	Factors	$\chi^2$	df	RMSEA	TLI	CFI
4-factor model	PI;PS;OCC;EC	942.650	428	0.049	0.902	0.909
3-factor model	PI+PS;OCC;EC	1660.911	431	0.076	0.767	0.784
2-factor model	PI+PS+OCC;EC	1866.914	433	0.082	0.729	0.748
1-factor model	PI+PS+OCC+EC	2621.050	434	0.101	0.588	0.615

### 4.3 Hypothesis test

#### 4.3.1. Main effect and mediation effect test

Model 2 is found that the peer effect has a significant positive impact on employee creativity ( $\beta=0.310, p<0.001$ ). Model 5 found that the peer effect had a significant positive impact on employees' psychological safety ( $\beta=0.156, p<0.01$ ), assuming that H2 was verified. Model 3 found that the impact of psychological safety on employee creativity was significantly positive ( $\beta= 0.379, p < 0.001$ ), and H3 was verified.

**Table2** Regression analysis results

Variable	Employee Creativity			Employee Creativity		
	Model 1	Model 2	Model3	Model 4	Model 5	Model 6
Intercept	2.996** *	2.236***	1.335***	2.766** *	2.381** *	2.095** *
PE		0.310***	0.251***		0.156**	0.157**
PS			0.379***			
OCC						- 0.141**
PE × OCC						-0.001*

In order to further verify the mediating effect of psychological safety between peer effect and employee creativity, peer effect, employee creativity and psychological safety are successively selected into the Bootstrap analysis process. The test results show that psychological safety plays a mediating role.

#### 4.3.2. Moderating effect test

In order to verify the moderating effect of hypothetical competitive climate, this study uses hierarchical regression analysis to test the moderating effect of excessive competitive climate in the organization between peer effect and psychological security. Excessive competitive climate plays a negative moderating role between peer effect and psychological security.

## 5. Summary

The study found that: (1)Peer effect has a significant positive impact on employee creativity, and peer group serves as a reference for individuals to seek identity and emotional belonging.(2)Psychological safety plays a mediating role in the relationship between peer effect and employee creativity. Peer effect will bring employees psychological safety. In the peer group, employees do not need to spend a lot of time and experience to maintain interpersonal relationships, which will put more energy into creative work and improve employees' creativity.(3)When employees feel that the competitive atmosphere within the organization is too strong, the positive relationship between peer effect and employees' psychological safety will be weakened, thus reducing the impact of peer effect on employee creativity through psychological safety.

Enterprise managers can create a good atmosphere to stimulate the contribution of employees, share innovative ideas or ideas among groups, and then promote the generation of innovative ideas.

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