

The Influence of Creativity-Relevant Skill on Creativity —— A Moderated Mediation Model

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Abstract

Employee creativity is very important for enhancing enterprise innovation ability to seize the opportunity in fierce competition. Based on the componential theory of creativity, this paper explores the influence of creativity-relevant skills on creativity through the transmission mechanism with Chinese characteristics. It has been found that creativity-relevant skills promote creativity has a dual path by enhancing creativity role identification and weakening mental transformation costs. At the same time, creative job requirement not only significantly regulate the positive and negative relationship between creativity role identity, mental transformation costs and creativity, but also significantly moderated the mediating effect of creativity-relevant skills on creativity through creative role identity and mental transformation costs. Managers should clarify the mechanism and focus on improving their creativity-relevant skills, so as to enhance their overall innovation capability.

Keywords: creativity-relevant skills; creativity role identity; mental transformation costs; creative job requirement; creativity

1. Introduction

The thought-provoking "Needham Problem" and "Qian Xuesen's Question" point directly at the weakness of China's innovation. Why did the Chinese nation, inheriting the splendid civilization of 5000 years, gradually degenerate into a desert of innovation in modern times? Based on the unique cultural background of China, the cultural gene of the novel is that the individual has a strong sense of "self" and is apt to stick to his own opinions when things happen. And it is difficult to change the rigid cognitive model and raise the cost of mental transformation. At the same time, under the influence of Confucian culture for a long time, it is difficult to produce self-identity by being modest, introverted, superstitious, self-servile and conservative. So what is the impact of creativity-relevant skills in the components of creativity on employee creativity, based on the specific situation in China, compared with Western research? Meanwhile, under the background of "mass entrepreneurship, mass innovation" advocating innovation-driven, this paper leads into the creativity role identity; mental transformation costs and creative job requirement, trying to explore that under the influence of creative job requirement, how creativity-relevant skill influence employee creativity through the two variables of creativity role identity and mental transformation cost in the specific cultural background of China. And what is the direction and effect of the impact?

Starting from the above questions and combining with the local situation in China, this study explores the impact of creativity components—— creativity-relevant skill on employee creativity, and the impact mechanism through the mediation of creative role identity and mental transformation cost on creativity and the regulation mechanism of creative job requirement.

2. Theoretical background and research hypothesis.

Amabile, a prominent scholar, proposed the componential theory of creativity in 1983, which holds that it is essential for any creative activity to have four key components: three components within the individual : domain-relevant skill, creativity- relevant skill, and task motivation and a component outside the individual, the social environment.

The theory emphasizes the synergistic effect of individual skill factors, motivation factors and situational factors on employee creativity. It is believed that the higher the level of individual factors is, the higher the level of creativity is; the more favorable the situational factors are, the better the level of creativity is; and the stronger the synergy among the factors, the higher the impact on the level of employee creativity is. In other words, if an employee has solid professional skills or domain-relevant skills, a high level of creative work ability, and a strong momentum of spontaneous hard work, plus strong contexts, such as organizational support for innovation, cultural atmosphere and concepts that encourage innovation, then the employee's creativity will reach a higher level.

Over the years, scholars at home and abroad have done a lot of research about this. The research area is from the psychology field to the organizational behavior field and the focus also shifts from the individual perspective to the environmental perspective to the two-way perspective between individuals and organizations and their interaction. Based on the composition theory of creativity, scholars at home and abroad have done a lot of research on the impact of creativity, but the object of study is mostly Westerners. According to the conclusion of the predecessors Rogers (1954) that "creativity is a function of individual characteristics and environment", it is not difficult to imagine that the results of the study will inevitably has significant differences in the context of Chinese

culture with Western culture.

2.1. The relationship between creativity-relevant skill and creativity

Creativity-relevant skill, also known as creativity-related processes, include cognitive styles, divergent thinking, risk-taking and unique perspectives of personality traits, and creative work styles and skills. Therefore, creativity-relevant skill, on the one hand, are deeply rooted in the stable personality traits of individuals, on the other hand, can be learned and acquired through some creative activities.

According to Amabile's (1996) componential theory of creativity Model, creativity-relevant skills mainly refer to the individual's cognitive style, also known as cognitive style, refers to the way a person processes information and integrates it into his existing thinking system (Foxall & Haskins, 1987). Some scholars believe that cognitive style is the core characteristic of employee creativity. This cognitive style reflects a skill in the development and expression of individual creativity, which affects the individual's innovative behavior. People with high cognitive abilities are good at information processing, can adapt to new environments through rapid learning, and better use of previously learned knowledge. Creativity-relevant skills affect employees' creativity and role identity. Individuals with high creativity-relevant skills are open-minded and flexible, good at communication and cooperation, inclined to open, unique, adventurous activities and ways of doing things, easy to emerge innovative ideas. Research shows that innovative individuals have strong self-concept and cognition about whether they are creative (Barron & Harrington, 1981), so individuals with higher creativity-relevant skills also have strong self-concept about whether they are creative or not, and tend to think that they are creative, that is, they are more creative and have high creative role identity, thus more confident to participate in creative work and activities to promote the promotion and Realization of creativity; At the same time, because of the active divergence of thinking and the low degree of cognitive solidification, the mental transformation cost is low, which can effectively apply the existing knowledge and experience to innovative activities flexibly. This type of individual is not easily constrained by stereotypes, shackles and specific cognitive frameworks when considering and dealing with problems. Therefore, it is not possible to get stuck in a mindset and trigger tunnel vision, which is also conducive to the development of creativity. Therefore, the study assumes the following assumptions.

Hypothesis H1a: Creativity-relevant skill are positively correlated with creativity role identity.

Hypothesis H1b: Creativity-relevant skill are negatively correlated with mental transformation cost.

Hypothesis H1c: Creativity role identity plays an intermediary role between creativity related skills and employee creativity.

Hypothesis H1d: Mental transformation cost mediate between creativity-related skills and employee creativity.

2.2. The relationship between creativity role identity and creativity.

The theory of role identity evolved from the theory of symbolic interaction. It was first put forward by McCall and Simmons (1966), and then improved and developed by Burke and Tully (1977) and Stryker (1980). Role identity is an important part of self-concept. Farmer and others applied the role identity theory into the field of creativity, and put forward the concept of creative role identity for the first time, which is used to describe the extent to which employees define themselves as a creative individual. Shamir (1990) proposed in his research that individuals with creative role identity tend to prove themselves through their own behavior and produce good role performance. Therefore, creative role identity is considered to be an important motivating factor to drive individuals to make creative behavior. Since the creativity role identity influences the intrinsic motivation of creativity, so it provides a new perspective for the research process of creativity.

Studies have shown that creative individuals have strong self-concepts and impressions of being creative (Barron & Harrington, 1981). And role identity is often used to predict individual behavior and proven to be effective in predicting it (Burke & Riley, 1995). Based on this, creative role identity has higher validity in predicting employee's creative behavior and creativity, and it can also drive employee's creative activities to achieve self-certification, and then bring good creative performance and promote creativity. Employees with high creative role identity are more likely to think that they are part of organizational innovation, should participate in innovation, so as to promote innovative behavior consciously, and are more willing to devote more time and energy to the practice of realizing innovative ideas. The formation of employees' self-perception and the establishment of employees' self-image contribute to the realization of organizational innovation. The stronger the individual's self-image judgment of innovation, the higher the initiative to participate in innovation, the more sufficient internal motivation from self-proof of initiative to innovate, and then gradually enhance individual creativity. Based on this, the following assumptions are made:

Hypothesis H2: There is a positive correlation between creative role identity and employee creativity, that is, the stronger the creative role identity, the higher the employee creativity.

2.3. The relationship between mental transformation cost and creativity

The mental model, was proposed by Scottish psychologist Kenneth Craik in the 1940s. The mental model refers to the assumptions, images and stories embedded in the individual's heart about itself, others, organizations and the surrounding world at every level. It is deeply limited by habitual thinking, stereotyped thinking and existing knowledge. The transformation of mental model was proposed by the famous management master Peter St. Gill in his book *The Fifth Refinement*. Considering the definition of switching costs proposed by Mike Porter in 1980: the one-time cost of a consumer switching from one product or service provider to another, this study defines the mental transformation cost as follows: an individual's perception of himself, others, and the environment is shifted from existing assumptions to The psychological cost generated by the new form.

The study of mental science also reveals that mental models change from inertia to rigidity and then to solidification in specific periods and stages. Murray & Haubl (2007) studies show that if there is no significant external stimulus, the degree of mental inertia of employees will change exponentially over time, and when a certain threshold is reached, it will also lead to an accelerated decline in creativity. Further, Bowers and Salas (1993) used system simulation to verify that the cost of changing mental mode inertia also increased exponentially over time, which aggravated the difficulty of conversion.

Influenced by long-term Chinese cultural thinking, employees tend to be less receptive to change, more resistant, and have four dimensions of performance. Conventional seeking: like and stable status quo; for example, at the beginning of a new project, in order to avoid time-consuming and laborious, employees tend to follow the existing model, avoid changing the status quo more, not to mention creative activities.; Emotional reactions: the sense of discomfort when applied to change, such as pressure perception. Harrison (2003) pointed out that Employees' historical work experience makes them produce powerful mental models. When innovative projects begin, especially in the face of new challenges, strong incentives must be imposed to change existing mental models to change their structure in the process of employee creation. And the pressure and passive sense of discomfort bring by this will strengthen their resistance to change.; Short-term focus - attention to the potential long-term benefits of short-term change; resistance to the potential long-term benefits of change in order to reduce current exploration costs and resource consumption.; Cognitive rigidity: stubborn and unwilling to consider other points of view. Such employees will be more likely to think along the previous train of thought (convergent thinking) thinking, divergent thinking is inhibited within a certain range, individuals cannot easily jump out of this cognitive circle, unwilling to make changes, then the final result is to affect the development of creative activities. Therefore, the following assumptions are made:

Hypothesis H3: The mental transformation cost is negatively related to creativity.

2.4. The moderating effect of creative job requirement on the relationship between intermediary variables and creativity.

Creative job requirement are indicators to measure whether employees can effectively fulfill the prescribed tasks and objectives and meet the established standards of the organization. Studies have shown that innovation originates from ideas (Scott & Bruce, 1994), and that ideas originate from employees and are executed, responded to, and adjusted to reality by employees (Vande Ven, 1986). The Job Requirements- Job Control Model (Karasek, 1979) points out that job requirements undoubtedly bring about job stress, but when job control increases, it reduces the pressure caused by job requirements and stimulates and promotes learning, that is, when job requirements are high and job control is strong, instead, job stress will be reduced and motivate employees to learn and engage in innovative work behaviors. Studies have shown that high working requirements can stimulate the vitality of employees.

This paper has assumed that the creativity role identity promotes the development of creativity, and the mental transformation cost inhibits creativity above. Research shows that employees with high self-identity are in a state of being stimulated and have a strong desire to challenge, and want to prove themselves through action, so as to make them have a positive and active performance, then enhance their work motivation, which is conducive to improving job satisfaction, job performance and creativity. Therefore, this paper argues that creative job requirement can stimulate the desire to challenge of individuals who have creative role identity and then make them invest more time and energy in innovative behavior, relying on their own skills to carry out creative activities and ultimately achieve creative output. Therefore, innovative work requires the enhancement of creative role identity. Therefore, creative job requirement enhances the creativity role identity in promoting creativity development. At the same time, the dual pressures of controlling perception, fulfilling tasks and goals, and achieving performance brought about by the creative job requirement make employees actively change their minds in order to accomplish tasks and goals, thereby weakening the negative impact of mental transformation cost on creativity. Based on this, the following assumptions are made:

Hypothesis H4: Creative job requirement moderate the relationship between creativity role identity and creativity. When the creative job requirement is in low-level, individuals with creative role identity are easier to carry out some innovative work and promote their own creativity.

Hypothesis H5: Creative job requirement moderate the relationship between mental transformation cost and creativity. Under the condition of high level of innovative work, the weakening effect of staff mental transformation cost on creativity will be alleviated.

To sum up, the research model is shown as Figure 1-1.

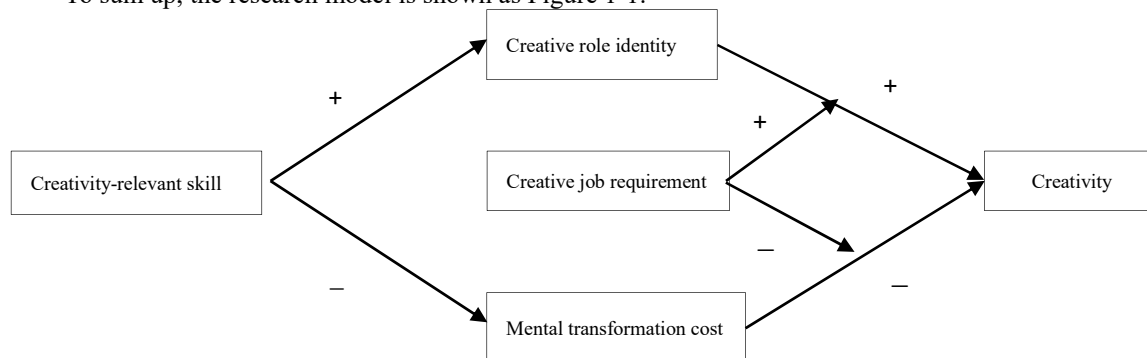


Figure. 1-1 Research model

3. Research and design

3.1. Research object

In this study, the data were obtained by questionnaire survey. A total of 440 questionnaires were collected from employees from Shanghai, Henan, Zhejiang, Jiangsu, Hubei, Beijing, Guangdong and other provinces. The effective recovery rate was 92%. In the effective questionnaires, the proportion of men and women was 44.55% and 55.45% respectively. In the effective questionnaires, the proportion of men and women was 44.55% and 55.45% respectively. Under 20 years old accounted for 0.5%, 20-25 years old accounted for 68.41%, 25-30 years old accounted for 23.41%, 30-40 years old accounted for 5%, 40-50 years old accounted for 2.27%, over 50 years old accounted for 0.5%. Among them, 58.86% of non-title employees, 27.05% of junior and intermediate titles, 10.68% of senior and Vice-Senior titles, 1.59% and 1.82% respectively. 3.18% of the subjects were in senior high school or below, 4.77% of the undergraduates were in junior college, 50% of the undergraduates were in junior college, and 42.05% were in graduate school or above. The number of people working in one year accounted for 52.95%, 33.64% in 1-3 years, 8.64% in 3-7 years, 2.73% in 7-10 years, and about 2% in 10-15 years, 15-20 years, 0.5%, 0.7% and 0.91% respectively.

3.2. Variable measurement

The scale used in this paper is all from the literature published in mainstream foreign journals, and has good reliability and validity.

Creativity-relevant skill. Based on the Kirton Adaptation-Innovation Scale developed by Ella Miron (1976), a cognitive style scale with 12 questions was developed. The scale included three aspects: compliance with group norms, attention to detail and creativity. Each aspect had four items, such as "I adhere to accepted rules in my area of work" and "Good in tasks that require dealing with details". The alpha value of the questionnaire was 0.924.

Creativity role identity. Based on the role identity scale which contains five questions developed by some scholars such as Farmer. The scale was revised according to the actual needs of the study, and two items were eliminated to form a creative role identity scale with three questions. The scale has been adopted by some Chinese scholars such as Liu Wenxing (2010) and Yang Jingzhao (2012). The applicability of the scale in China has been confirmed and its reliability and validity are good. Specific questions such as "I often think about being creative" and "To be a creative employee is an important part of my identity." are also used in this paper. One of the questions is a reverse question, which needs to be scored in reverse. The alpha value of the questionnaire is 0.853.

Mental transformation cost. Using the Cognitive Rigidity Scale developed by Arciniega and Gonzalez (2008) with four questions, one of the four items was contrary to the other three items and required a reverse score. Alpha value is 0.826.

Creative job requirement. The variable was measured with a five-item scale developed by Yuan and Woodman, such as "My job duties include searching for new technologies and techniques" and "I don't have to be innovative to fulfill my job requirements". The alpha value of the questionnaire was 0.878.

Creative. The employee creativity self-rating scale developed by Youndt (2005) was used to measure employee creativity. Including incremental creativity and breakthrough creativity, such as "Innovations that reinforce your existing expertise in prevailing products/services" and "Innovations that make your prevailing product/service lines obsolete" Each part of the 3 questions, a total of 6 items and the alpha value is 0.907.

4 Research findings

4.1. Confirmatory factor analysis

In order to examine the discriminatory validity of the main latent variables, such as creativity-relevant skill, creativity role identity, mental transformation cost, creative job requirement and creativity, this study conducted a confirmatory factor analysis on the measured data. The judgment of model quality mainly depends on χ^2/df test, RMSEA (approximate error root mean square), NFI (standard fitting index), TLI (non-norm fitting index) and CFI (comparative fitting index). Comparing the goodness-of-fit of each nested model, the results show that it is in phase with four-factor model ($\chi^2/df = 7.21$, RMSEA = 0.129, NFI = 0.776, TLI = 0.776, CFI = 0.800) and one-factor model (all constructions are combined into one factor: $\chi^2/df = 18.34$, RMSEA = 0.215, NFI = 0.416, TLI = 0.373, CFI = 0.427). The five-factor model ($\chi^2/df = 2.86$, RMSEA = 0.065, NFI = 0.868, TLI = 0.889, CFI = 0.909) fitted the actual data best, indicating that the variables involved in this study have good discriminatory validity.

4.2. Descriptive statistical analysis

Table 4-1 shows the mean, standard deviation, reliability coefficient and correlation coefficient of the main variables. The results showed that creativity-relevant skill were positively correlated with creativity role identity, creative job requirements and creativity ($r = 0.545$, $P < 0.01$; $r = 0.443$, $P < 0.01$; $r = 0.627$, $p < 0.01$), but negatively correlated with mental transformation cost ($r = -0.164$, $p < 0.01$). There was a significant negative correlation between mental transformation cost and creativity ($r = -0.186$, $p < 0.01$), and a significant positive correlation between creativity role identity and creativity ($r = 0.499$, $p < 0.01$).

Table 4-1 mean, standard deviation, reliability coefficient and correlation coefficient of main variables

| Variables | mean | standard deviation | reliability coefficient | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|-----------|------|--------------------|-------------------------|---------|---------|---------|---------|-------|---------|--------|---------|--------|
| 1 | 1.54 | 0.50 | | | | | | | | | | |
| 2 | 2.42 | 0.74 | | -.264** | | | | | | | | |
| 3 | 1.57 | 0.82 | | -.065 | .216** | | | | | | | |
| 4 | 3.26 | 0.73 | | .088 | -.247** | -.129** | | | | | | |
| 5 | 1.69 | 1.07 | | -.227** | .662** | .351** | -.396** | | | | | |
| 6 | 3.85 | 0.60 | 0.924 | -.110* | .101* | .068 | .053 | .057 | | | | |
| 7 | 3.30 | 0.55 | 0.853 | -.197** | .080 | .179** | -.003 | .114* | .545** | | | |
| 8 | 3.84 | 0.42 | 0.826 | .005 | .017 | .015 | -.035 | .025 | -.164** | -.026 | | |
| 9 | 3.34 | 0.65 | 0.907 | -.158** | .007 | .061 | .066 | .018 | .443** | .491** | -.120* | |
| 10 | 3.45 | 0.79 | 0.778 | -.202** | .100* | .103* | .016 | .072 | .627** | .499** | -.186** | .481** |

Notes: 1-sex, 2-age, 3-positional title, 4-educational background, 5-Working life, 6-creativity-related skill, 7-creativity role identity, 8-mental transformation cost, 9-Creative job requirement, 10-creativity.

** for $p < 0.01$, * for $p < 0.05$.

4.3 Hypothesis testing

1. The mediating role of creativity role identity and mental transformation cost. According to the simple method proposed by Kenny & Baron (1986), the hypothesis was verified by hierarchical linear regression analysis. After controlling for the effects of demographic variables such as gender, age, professional title, educational background and length of work on creativity, the results of Table 4-2 show that creativity-related skill are positively correlated with creativity role identity (Model 6, $b = 0.525$, $P < 0.001$), and negatively correlated with mental switching costs (Model 8, $b = 0.167$, $p < 0.01$); Creativity-relevant skill were positively correlated with creativity (model 2, $b = 0.609$, $p < 0.001$), role identity of creativity (model 3, $b = 0.199$, $p < 0.001$) was positively correlated with creativity, and mental transformation cost (model 4, $b = 0.088$, $p < 0.05$) was negatively correlated with creativity. At the same time, after adding intermediary variables (creativity role identity and mental transformation cost), the impact coefficient of creativity-relevant skill on creativity is smaller but still significant, which is in line with the conditions of partial intermediary effect. Above all, suppose 1a, 1b, 1c, 1d, hypothesis 2 and hypothesis 3 are all supported by data.

Table 4-2 Hierarchical regression analysis of the influence mechanism of creativity-relevant skill on creativity

| | Creativity | | | | creativity role identity | | mental transformation cost | |
|----------------------------|------------|------------|-----------|---------|--------------------------|------------|----------------------------|----------|
| | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 | Model 6 | Model 7 | Model 8 |
| 1. Control variable | | | | | | | | |
| Sex | -.190 | -.134 | -.107 | -.134 | -.185 | -.137 | .012 | -.003 |
| Age | .056 | .000 | .015 | .002 | -.027 | -.075 | .005 | .021 |
| positional title | .092 | .058 | .032 | .059 | .160 | .130 | .007 | .017 |
| educational background | .051 | -.002 | -.002 | -.003 | .048 | .003 | -.030 | -.016 |
| Working life | -.020 | -.014 | -.026 | -.013 | .053 | .058 | .009 | .008 |
| 2. independent variable | | | | | | | | |
| creativity-relevant skill | | .609*** | .505*** | .595*** | | .525*** | | -.167** |
| 3. Mediator variable | | | | | | | | |
| creativity role identity | | | .199*** | | | | | |
| mental transformation cost | | | | -.088* | | | | |
| R2 | .053 | .414 | .440 | .422 | .069 | .337 | .002 | .029 |
| Δ R2 | .053*** | .361*** | .026*** | .008* | .069*** | .268*** | .002 | .027** |
| F | 4.838*** | 266.918*** | 20.352*** | 5.634* | 6.418*** | 175.431*** | .136 | 12.088** |

Notes: *** for $p < 0.001$, ** for $p < 0.01$, * for $p < 0.05$.

2. Moderating effect of creative job requirement. In this paper, SPSS22.0 was used to test the moderating effect of creative job requirement by means of hierarchical regression analysis and conditional indirect effect test. In order to reduce the multicollinearity among variables in the regression equation, we standardized the related variables in the analysis of this part (Table 4-3).

Firstly, there was a significant positive correlation between creativity role identity and creativity, and creative job requirement played a significant negative moderating role (model 12, $\beta = 1.036$, $p < 0.001$). For the significant negative correlation between mental transformation cost and creativity, the creative job requirement played a significant negative moderating role (model 15, $\beta = 0.474$, $p < 0.1$). In order to judge the adjustment effect more intuitively and clearly, this paper divides the samples into two groups according to the mean value of creative job requirement plus or minus one standard deviation, and draws the adjustment effect diagram under the high-level creative job requirement and low-level creative job requirement. As shown in figures 4-1 and 4-2.

Table 4-3 Hierarchical regression results of moderating mechanism of creative job requirement

Notes: *** for $p < 0.001$, ** for $p < 0.01$, * for $p < 0.05$, + for $p < 0.1$.

| variable | creativity | | | | | | | |
|--------------------------------|------------|------------|-----------|-----------|-----------|------------|----------|--|
| | Model 9 | Model 10 | Model 11 | Model 12 | Model 13 | Model 14 | Model 15 | |
| 1. Control variable | | | | | | | | |
| Sex | -.190 | -.102* | -0.078+ | -0.072+ | -0.188*** | -0.114** | -0.109* | |
| Age | .056 | 0.069 | 0.078 | 0.075 | 0.057 | 0.076 | 0.074 | |
| positional title | .092 | 0.016 | 0.020 | 0.043 | 0.094+ | 0.065 | 0.068 | |
| educational background | .051 | 0.028 | 0.009 | -0.002 | 0.045 | 0.009 | 0.009 | |
| Working life | -.020 | -0.045 | -0.044 | -0.038 | -0.018 | -0.028 | -0.029 | |
| 2. independent variable | | | | | | | | |
| 2.1 creativity role identity | | 0.476*** | 0.329*** | 0.858*** | | | | |
| 2.2 mental transformation cost | | | | | -0.185*** | -0.133* | 0.182 | |
| 3. moderator variable | | | | | | | | |
| 3.1 creative job requirement | | | 0.305*** | 0.959*** | | 0.443*** | 0.083*** | |
| 2.1 * 3.1 | | | | -1.036*** | | | | |
| 2.2 * 3.1 | | | | | | | -0.474+ | |
| R2 | 0.053 | 0.264 | 0.334 | 0.356 | 0.087 | 0.273 | 0.278 | |
| Δ R2 | 0.053*** | 0.211*** | 0.07*** | 0.022*** | 0.034*** | 0.186*** | 0.005+ | |
| F | 4.838*** | 124.348*** | 45.239*** | 15.026*** | 16.180*** | 110.583*** | 3.165+ | |

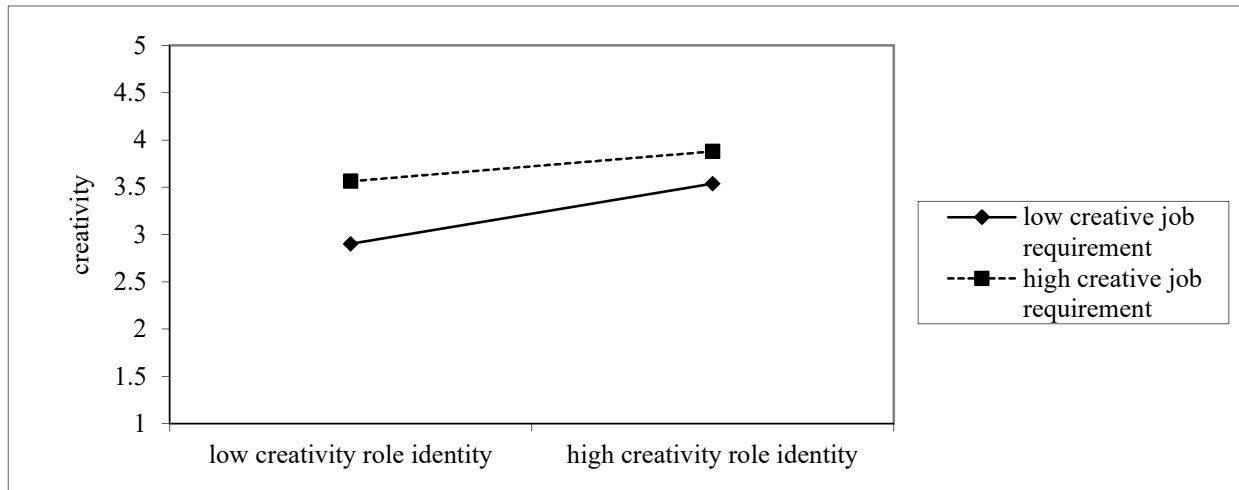


Figure 4-1. The moderating effect of creative job requirement on the relationship between creativity role identity and creativity.

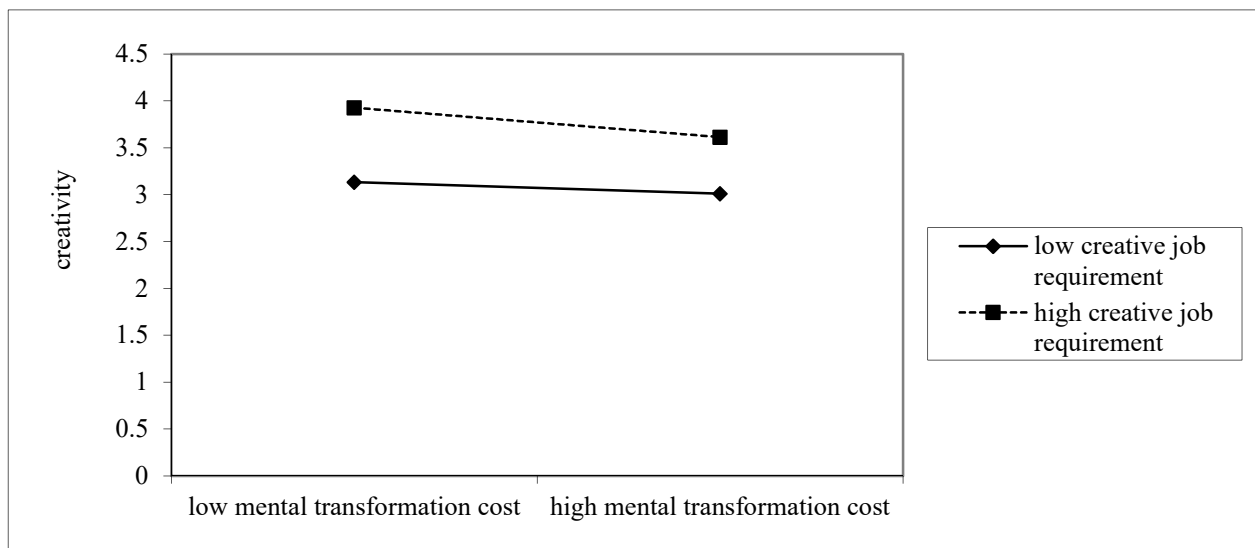


Figure 4-2. The moderating effect of creative job requirement on the relationship between mental transformation cost and creativity.

Furthermore, this study used the indirect effect test to analyze the difference of conditional indirect effects of employee creativity-relevant skill on creativity by dividing the sample into two groups: high-level and low-level creative job requirement according to the mean deviation of creative job requirement(Hays,2016) . The results show that creative job requirement have moderating effects on the indirect effect of creativity-relevant skill on creativity through creativity role identity, and are different at different levels of creative job requirement. The "conditional indirect effect" was significant at low levels of creative job requirement (effect value = 0.1419, $P < 0.05$), but not at high levels of it (effect value = 0.0129, n.s.). It shows that employees with creativity-relevant skill are more likely to promote the development of creativity and the production of creative results through the generation of self-creativity role identity under the lower level of creative job requirement. In summary, Hypothesis 4 is supported by data.

At the same time, the creative job requirement also has a moderating effect on the indirect impact of creativity-relevant skill on creativity through mental transformation cost, and the moderating effect varies with the level of creative job requirement: The indirect effect of creativity-relevant skill on creativity by employee mental transformation cost was not significant (effect value = 0.0062, n.s.) under the condition of low-level creative job requirement, while significant (effect value = 0.0298, $p < 0.05$) under the condition of high-level creative job requirement. This shows that under the pressure of high-level creative job requirement, employees are more likely to switch their mental models to fulfill creative tasks or achieve relevant creative requirements, thus mitigating the negative impact of mental transformation cost on employee creativity. In summary, Hypothesis 5 is supported by data.

5. Conclusion and discussion

5.1 Conclusion

By collecting sample data in Chinese context and analyzing them, this study explores the effects of creativity-relevant skill on creativity, especially the mediating effect of creativity role identity and mental transformation cost, and the moderating effect of creative job requirement in the composition of creativity. The results show that creativity-relevant skill weaken the inhibitory effect of mental transformation costs on creativity, and enhance the positive impact of creative role identity on creativity. This also confirms Amabile's theory that creativity-relevant skill is positively promoting creativity in the Chinese context, too.

This study also finds that the impairment and enhancement of creativity by mental transformation cost and creative role identity are influenced by creative job requirement, and the effects under different level of creative job requirement are also different. This is due to the different levels of creative job requirement brought about by the control of the intensity is also different, control and autonomy like the seesaw on both ends, the decline of each other, to varying degrees affect or even change employee behavior. With the continuous improvement of creative job requirement, the positive effect of employee's self-creativity role identity on creativity has been weakened and inhibited, while the effect of mental transformation cost on creativity has been strengthened.

5.2 Research significance

Theoretical significance. Since creativity entered the research field of vision, a large number of scholars have studied and explored it. The research perspective is diverse and the system is gradually mature. The research object also covers individuals, groups, organizations and so on. However, most of the research focuses on the relationship between intrinsic motivation and creativity, while little attention has been paid to the relationship between individual skills and creativity, and little empirical research has been done on it. This study is based on this to explore the relationship between individual creativity-relevant skill and creativity. At the same time, combined with the unique cultural background of China, employee modesty dare not take the lead, and easy to be conservative and stubborn characteristics of the introduction of creative role identity and mental transformation costs as intermediary variables. And Combined with the traditional "master system", the creative job requirement is introduced as the moderating variable to explore how the creativity-relevant skill of individual employees affect their creativity through the mediating variables of creativity role identity and mental transformation cost, and what changes will take place under the moderation of creative job requirement. Therefore, this study is helpful to understand the classical componential theory of creativity more deeply, and at the same time effectively combine it with China's national conditions, laying a certain foundation for future generations to conduct relevant theoretical research.

Practical enlightenment. Firstly, it is helpful for enterprise leaders to understand the relevant mechanism effectively, and then to select talents effectively in the talent selection process; in the training section, we should design the relevant content more pertinently, and give the right remedy to the staff. In the talent incentive section, we should use the corresponding incentive mechanism to create the corresponding working environment to stimulate the creativity of the staff more effectively and improve the creative contribution of the staff to the company. Secondly, for employees themselves, help them fully understand themselves, recognize their advantages and disadvantages, so as to find out the missing and improve themselves, know how to better stimulate their work potential and motivation, effectively complete the task, enhance spontaneous work passion and enthusiasm.

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