Coaching Leadership and Employees’ Deviant Innovation Behavior: Mediation and Chain Mediation of Interational Justice and Organizational Identification

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Purpose: Previous studies are based on social exchange theory to explore the influence of leadership style on employees’ deviant innovation behavior. However, deviant innovation is risky, not supported by the organization, and is expected to benefit the long-term development of the organization. The key to the problem lies in how to guide employees to think and solve problems from the perspective of the organization, instead of just relying on material or spiritual exchange and return. Therefore, the purpose of this study was to analyze the relationship between coaching leadership, interactional justice, organizational identification and employees’ deviant innovation from the perspective of changing cognition.

Methods: This work surveyed employees in 26 Chinese enterprises in more than 10 regions. Questionnaires were distributed to 450 employees, the first round of survey mainly investigated demographic information of employees and coaching leadership style of supervisors, and the second round of survey mainly investigated employees’ organizational identification, interactional justice, and deviant innovation behavior. By tracking and matching, 340 valid questionnaires were finally obtained. Spss 22.0 was used to describe all the study variables; Mplus 7.0 is used to carry out a confirmatory factor analysis and a multi-path regression model.

Results: According to self-categorization theory, the results demonstrated that coaching leadership can directly or indirectly promote employees’ deviant innovation behavior through the dual-path intermediary and chain intermediary of interactional fairness and organizational identification.

Conclusion: Under the open situation created by coaching leadership, coaching leaders will interact and communicate sincerely with employees, and employees’ cognition will change. The original “I” of employees will be transformed into “big self” with organizational membership, which will guide employees to show behaviors beneficial to the organization. Therefore, interactional justice and organizational identification can play a key role of the influence of coaching leadership on employees’ deviant innovation behavior.

Keywords: coaching leadership, deviant innovation behavior, interactional justice, organizational identification

Introduction

Successful implementation of creative ideas within an organization is called innovation. In order to avoid the rejection of “immature” creative ideas, they will choose not to let the organization know in advance. This kind of hidden innovation behavior is called deviant innovation behavior. Generally speaking, employees’ deviant innovation mainly includes two situations: “before managers know” and “after managers know”. Augsdorfer mainly defines the former, he holds that deviant innovation is an innovation behavior spontaneously carried out by grass-roots employees, not formally supported by the organization, not informed to the management, and expected to benefit the organization; and Mainemelis mainly defines the latter, describes deviant innovation as the behavior of employees insisting on innovation against the management’s order to stop developing new ideas. These two forms all reflect that although employees are...
not supported by the organization, they still have strong initiative and spontaneity, and a firm willingness to implement and act. In China, Wang et al.\(^4\) called the former “To feign action in one place and to make the real move in another” and defined the latter as “A general at the front may even refuse an emperor’s order”. Under the increasing competitive organizational environment, the benefits of deviant innovation to the long-term development of the organization are obvious to all.\(^4\)–\(^7\) and appear more and more frequently in the practice of enterprise innovation management,\(^8\) and it has aroused the widespread concern of managers and scholars at home and abroad.

Previous studies have focused on the influence of leadership style on employees’ deviant innovation behavior. At present, most of the researches based on social exchange theory found that positive leadership style on employees’ deviant innovation behavior has positive effects,\(^9,10\) there are also studies based on conservation of resources theory to explore the positive and negative effects of positive and negative leadership styles.\(^11,12\) So, are there any other mechanisms of influence other than motivations based on gratitude and feedback or resource support and constraints? According to the definition of deviant innovation, we can find that employees who engage in this kind of behavior do not want leaders or organizations to know beforehand, and the original intention of this kind of behavior is not to reward beforehand, but to do it sincerely for the organization, so it depends more on the initiative and spontaneity of employees, rather than simply relying on the material or spiritual exchange and return. Then are this initiative and spontaneity related to employees’ cognition of the formation of “self in the organization” after the role of leadership style? Therefore, this study is dedicated to exploring the influence mechanism behind deviant innovation behavior from the perspective of changing employees’ cognition, based on self-categorization theory.

In the Chinese situation, there is a saying in Sun Tzu’s Art of War: “Regard your soldiers as your children, and they will follow you into the deepest valleys; Look on them as your own beloved sons, and they will stand by you even unto death”. In recent years, coaching leadership has been increasingly concerned and valued by academic circles, it is considered that it can change employees’ cognition adopting the way of guidance.\(^13\) On the one hand, coaching leaders play the role of “coach” in enterprises,\(^14\) treat soldiers as infants, have the responsibility to educate employees, change their concepts and stimulate their potential, which we call “Establishing mentoring relationship”. On the other hand, coaching leaders have four structural elements: authorization, interactive communication, encouragement and inspiration, support and help employees develop,\(^15\) love and protect his subordinates, treat them as beloved sons, and provide them with hope and stage, we call them “Making kinship”. It starts the automatic and spontaneous mechanism for employees to change from “leaders let me do” to “I want to do”.\(^16\) This is a change of individual cognitive style. The “I” in an organization is different from the original “self”, but the “I” is socialized by the organization will lead individuals to make behaviors loyal to the organization, which can be explained by self-categorization theory. Just as the Chinese Confucian “Xiao Jing” advocates: “With a son who will dispute him, a father will not fall into unrighteousness. So when there is unrighteousness, then the son must not refrain from disputing his father and the subordinate must not refrain from disputing his lord”. That is to say, “Xiao” demands and requires that the son not blindly obey the father, when “ministers” practices this obligation, he needs to consider various objective conditions to judge whether he wants to be “loyal”. So, whether before or after the leaders know, Chinese employees will make objective analysis according to the actual situation, have a ruler in their hearts, calmly measure what is best for the company, do not go against the leaders, blindly follow or shirk, and will choose to proceed silently more wisely before the innovation succeeds. Therefore, this study focuses on the influence of coaching leadership on employees’ deviant innovation behavior under the good atmosphere of “Establishing mentoring relationship and Making kinship”.

As pointed out in the Analects of Confucius of Chinese Confucianism: “A ruler in employing his ministers should be guided solely by the prescriptions of ritual. Ministers in serving their ruler, solely by devotion to his cause.” Therefore, based on the self-categorization theory, this study holds that employees’ insistence on implementing hiding innovative ideas beneficial to the organization is inseparable from employees’ association their own organizational membership with self-concept. Among them, 1) This connection belongs to a kind of self-categorization of employees. The core of the cognitive process of self-categorization theory is depersonalization, it is a process in which individuals redefine themselves cognitively, that is, from individual unique natures to shared social categorization membership, from “I” to “we”.\(^17\) And organizational identification can realize this connection.\(^18\) Organizational identification is a key psychological state reflecting the potential relationship between employees and organizations, which involves employees’ feeling
of belonging to the organization. When employees have a deeper recognition and understanding of the organization’s long-term goals and prospects, they will stick to their innovative behavior even if the leaders are expected to disagree. 2) The formation of employees’ self-concept requires sincere interaction and open communication between leaders and employees. Interactional fairness has been paid more attention in the background of Oriental culture, it includes a good attitude in communication between superiors and subordinates and the ability to clearly interpret information related to decision-making. Coaching leaders pay attention to information interaction with employees, which is conducive to enhancing employees’ sense of Interactional fairness. Interactional fairness is considered that it can enhance employees’ enthusiasm for work, can better predict individual work behavior. 3) Organizational identification also needs to be based on sincere communication and interaction. Related research also shows that, coaching leaders focus on shortening the psychological distance between them through positive interaction, can improve the relationship between employees and organizations, so fair atmosphere will increase perception of identity, and then encourage employees to engage in innovative behavior. In view of this, interactional justice and organizational identification may act as a separate intermediary and chain intermediary between coaching leadership and employee deviant innovation.

Therefore, based on the self-categorization theory, this study constructs a multi-path model of coaching leadership style and employees’ deviant innovation from the perspective of changing employees’ cognition. It further tests whether coaching leadership can really exert its leadership effectiveness in the context of high power distance in China, and studies the formation mechanism of deviant innovation in the context of China. Simultaneously, the self-categorization theory is helpful to explain the self in the organization, which can explain how employees perceive and behave towards the organization to a certain extent. It provides an appropriate research perspective for a comprehensive and in-depth understanding of the complex relationship between leadership style and employees’ deviant innovation behavior.

Theoretical Background and Hypotheses
The Influence of Coaching Leadership on Employees’ Deviant Innovation Behavior
There are four key factors to judge whether it is deviant innovation behavior: individual initiation, lack of formal support from the organization, usually unknown to the top managers, and expectations conducive to the improvement of organizational performance. It emphasizes the spontaneity of employees to break organizational rules. In fact, every individual has the ability to solve problems and complete tasks, and “guidance” plays a key role, excessive supervision will hinder employees’ innovative behavior. Coaching leaders pay attention to the way of “teaching people to fish”, improve the mental model of employees, maximize the potential of employees, encourage employees to set work goals for future growth, make employees form organizational membership with the responsibility of helping organizations improve working conditions, and constantly guide employees’ perception and behavior.

This process is the change from “I” to “we”, which embodies the depersonalization that self-categorization theory always emphasizes. Through the guidance of coaching leaders, employees can clearly realize the value of completing additional innovative tasks to the organization and become group members who have the ability and willingness to struggle for the organization, thus linking self-worth realization with organizational development, and linking organizational membership with self-concept. Because innovation is risky, employees often choose not to let their leaders or organizations know before they succeed. Of course, employees also know that even if they are discovered by their leaders, they will not be severely blamed, because coaching leaders create a situation that tolerates mistakes. Therefore, under the guidance of coaching leadership, employees have sufficient ability and strong willingness to devote time and energy to organizational development, it is a kind of silent dedication that does not care about personal advantages and disadvantages, is unobtrusive and unpretentious, it does not work for fame and fortune, but only for the realization of self-worth and the effectiveness of the organization. After strengthening the value of innovative behavior to the organization, employees often choose to hide their innovative ideas in order to focus on trying them without distraction and interference. Therefore, this study proposes:

H1: Coaching leadership will promote employees’ deviant innovation behavior.
The Mediating Role of Interactional Justice

Greenberg\(^\text{22}\) believes that interactional justice consists of interpersonal justice and information justice. On the one hand, coaching leaders play a unique role in “open communication and sincere psychological interaction, so that employees can have a clearer understanding of important decisions and information of the organization”, which is helpful to enhance employees’ sense of interactional justice.\(^\text{24}\) It is beneficial for employees to form their identity and cognition of being treated fairly.

On the other hand, if employees cannot get information about the future development direction of the organization in the process of interacting with their superiors, they are unlikely to engage in deviant innovation behavior with high uncertainty and high risk.\(^\text{3}\) According to the theory of self-categorization, individuals who have advantages in obtaining information and resources will form insider identity perception, which will help promote innovation,\(^\text{39}\) and also help individuals to implement deviant innovation.\(^\text{8}\) Therefore, according to the self-categorization theory, we believe that coaching leadership can make employees respected and obtain important information about the organization so that employees will regard themselves as trusted insiders of the organization, and thus be willing and dare to take risks in deviant innovation. It is therefore assumed that:

H2: Coaching leadership has a positive impact on employees’ deviant innovation behavior through interactional justice.

The Mediating Role of Organizational Identification

Organizational identification is a specific form of social identification, which means that individuals define themselves according to their membership in a specific organization,\(^\text{40}\) which involves employees’ feeling of belonging to the organization and is regarded as a key psychological state reflecting the potential relationship between employees and organizations.\(^\text{19}\) The higher the organizational identification, the more individuals think that the success or failure of the organization is closely related to themselves.\(^\text{41}\) According to the theory of self-categorization, individuals think that the promoted self in the organization is the collective self.\(^\text{42}\) On the one hand, coaching leaders can correct personal goals and make them consistent with organizational goals by encouraging, inducing, and inspiring them,\(^\text{38}\) which may help to enhance employees’ organizational identification.

On the other hand, employees with high organizational identification will think from the perspective of the organization,\(^\text{43}\) and will take the initiative to make behaviors that benefit the organization by various means, including behaviors that may violate social morality\(^\text{44}\) etc. They will also have a dual impact on innovation behavior by being dissatisfied with the status quo and complying with the status quo,\(^\text{45}\) and they are either most willing to innovate or least willing to innovate.\(^\text{46}\) When leaders express their expectations for employees’ innovation, employees’ attention turns to this expectation.\(^\text{45}\) Coaching leaders who assume the role of “coach” in enterprises,\(^\text{14}\) will express the expectation of innovation to employees, such as paying attention to long-term development strategy\(^\text{47}\) and being open to new ideas in the organization,\(^\text{48}\) thus making employees willing to work hard for the long-term goals of the organization and become the most willing to innovate.

Therefore, based on the self-categorization theory, we propose that coaching leadership can make employees combine the success or failure of the organization with the success or failure of the individual, express innovative expectations to employees, make employees identify with and understand their organization, think that they are an important part of the organization, and have more motivation to do meaningful behaviors for the organization without hesitation, regardless of whether the organization officially recognizes it or not. Accordingly, the following assumptions are put forward:

H3: Coaching leadership has an indirect positive impact on employees’ deviant innovation behavior through the mediating role of organizational identification.

The Chain Mediation Effect of Interactional Justice and Organizational Identification

On the one hand, the information communication between the organization and its members is the main reason that affects whether employees accept organizational values and goals.\(^\text{49}\) In particular, the good interaction between leaders
and employees\textsuperscript{50} and the possibility of employee participation\textsuperscript{51} will enhance employees’ organizational identification. On the other hand, employees’ higher perception of justice in interaction makes employees feel more respect in the process of communication with leaders\textsuperscript{52} and makes employees feel their importance in the organization\textsuperscript{53}. High status and feeling respected will also enhance employees’ organizational identification\textsuperscript{54}. Therefore, according to the self-categorization theory, we infer that interactional justice will convey important information to employees, at the same time, make employees feel sincere treatment, make employees proud of their organizational membership, and then enhance their organizational identification. Combine hypotheses H2 and H3 to make hypotheses:

H4: Coaching leadership has a positive impact on employees’ deviant innovation behavior through the mediating variable of interactional justice and organizational identification in turn.

Methods
Sample and Procedures
When judging leaders, individuals will construct a cognitive model with characteristics of identifying leaders based on long-term memory and facts\textsuperscript{55}. And considering that employees’ deviant innovation behavior has strong concealment, this study draws lessons from previous studies and adopts the method of individual self-reporting to understand the actual situation. This study is from the perspective of employees’ perception to investigate the impact of employee perceived leadership style on employees’ deviant innovation, so the coaching leadership style questionnaire is also evaluated by employees. At the same time, because time separation is a method to reduce the bias of common methods\textsuperscript{56}, this study uses tracing to collect data to verify the causal relationship between variables. Theoretically speaking, tracking research at different time points can better investigate the implementation effect of coaching leadership style. Since innovation can be carried out in all walks of life, in this study, more than 10 cities in China, including central China (Zhengzhou City, Henan Province; Nanchang City, Jiangxi Province), northern China (Beijing; Chifeng City, Inner Mongolia Autonomous Region), western China (Ningxia; Kunming City, Yunnan Province) and eastern China (Shanghai; Fuzhou City, Fujian Province; Guangzhou and Shenzhen City, Guangdong Province), were investigated. One or more enterprises were investigated in each province and city. Finally, this study investigates 26 enterprises in more than 10 regions, among which state-owned enterprises account for 15.4% (4), private enterprises account for 50% (13), Sino-foreign joint ventures account for 15.4% (4) and other types 19.2% (5).

In this survey, two rounds of questionnaires were distributed to the same employee at different time points, and the researchers’ alumni, previous graduates of their universities, and human resources managers of school-enterprise cooperation units were contacted as the survey contacts. When the contact person is required to share the questionnaire chain in the two rounds of questionnaires, the contact person clearly explains to the filling person that the survey will only be used for academic research, and no data results will be disclosed to the outside world except researchers. These procedures are consistent with the recommendations of Podsakoff et al\textsuperscript{56} to reduce the bias of common methods. In the process of filling out the questionnaire, the employees can ask their questions directly to the researcher or contact person, and then the employees can fill them out and submit them by themselves.

Because the effect of coaching leadership needs a certain amount of time to show, this study adopts the method of longitudinal follow-up investigation, putting independent variables into the first round of questionnaire survey, and putting intermediary variables and result variables into the second round of the questionnaire survey, with an interval of three months. Considering that the total number of independent variables, intermediary variables and result variables is 27, under normal circumstances, it is more appropriate for the sample size of the questionnaire to be 5–10 times the total number of questions. And considering that there may be mismatched invalid questionnaires in the data collection process of the two rounds of questionnaires, we finally distributed as many questionnaires as possible in the first round of questionnaires. In the first round, 450 employee questionnaires were distributed, which involved the demographic information of employees and coaching leadership style of superiors (filled out by employees), and 382 questionnaires were effectively recovered (the effective rate was 84.9%). Three months later, 382 questionnaires were distributed in the second round, which involved employees’ organizational identification, interactional justice, and deviant innovation behavior (the employees who filled out the questionnaires in the previous round continued to fill them out). After
screening, tracking and matching, and eliminating some missing data, and finally, 340 valid questionnaires were obtained (the effective rate was 89%).

Among the 340 samples obtained, 52% (176) were males and 48% (164) were females. In terms of age, 21–30 years old accounted for 72.4% (246 people), 31–40 years old accounted for 22.3% (76 people), and the rest accounted for 5.3% (18 people). The proportion of education level in college, undergraduate, master’s degree and doctor’s degree or above was 20.6% (70), 45.3% (154), 12.1% (41) and 0.88% (3) respectively, and the rest was below college degree. 49.1% (167 people) had served in the organization for less than 3 years, 31.8% (108 people) had served for less than 5 years, and 19.1% (65 people) had served for 5 years or more.

Measures
Because the questionnaire covered more cities and adopted follow-up research, the distribution and recovery cycle of the questionnaire was half a year. All the scales were Likert’s five-point scale, with 1 indicating very disagreement and 5 indicating very agreement. After the questionnaire was collected, before using the scale for hypothesis testing, a confirmatory factor analysis of a single variable was carried out, we finally quoted some items from the questionnaire, to ensure that the CR (the composite reliability) of each variable was above the acceptable critical value of 0.6, AVE (the average variance extraction) was above the acceptable critical value of 0.5, and the further factors load were all above 0.6 (As shown in Table 1). It can be seen from the Estimate that the factor loading of each item is greater than 0.6. And the model fitting degree of a single variable met the recommended standards, such as Chi-square/degree of freedom < 3, RMSEA < 0.08, CFI > 0.9, TLI > 0.9, among them, variable CL’s Chi-square/degree of freedom=2.867, RMSEA =0.078, CFI =0.990, TLI=0.969; variable DI, OI, and IF’s Chi-square/degree of freedom are all 0, RMSEA are all 0, CFI are all 1, TLI are all 1.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Item</th>
<th>Parameter Significance Statistics</th>
<th>CR</th>
<th>AVE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Estimate</td>
<td>S.E.</td>
<td>Est./S.E.</td>
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<tr>
<td>CL</td>
<td>CL1</td>
<td>0.675</td>
<td>0.037</td>
<td>18.243</td>
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<td></td>
<td>CL7</td>
<td>0.671</td>
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<td>18.135</td>
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<td></td>
<td>CL9</td>
<td>0.813</td>
<td>0.030</td>
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<td></td>
<td>CL11</td>
<td>0.747</td>
<td>0.033</td>
<td>22.636</td>
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<tr>
<td>DI</td>
<td>DI1</td>
<td>0.893</td>
<td>0.035</td>
<td>25.514</td>
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<tr>
<td></td>
<td>DI3</td>
<td>0.722</td>
<td>0.037</td>
<td>19.489</td>
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<td></td>
<td>DI5</td>
<td>0.651</td>
<td>0.039</td>
<td>16.692</td>
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<tr>
<td>OI</td>
<td>OI1</td>
<td>0.794</td>
<td>0.034</td>
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<td></td>
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<td>OI5</td>
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<td>0.035</td>
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<tr>
<td>IF</td>
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<td>0.896</td>
<td>0.017</td>
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<td></td>
<td>IF2</td>
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<td>0.014</td>
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<td></td>
<td>IF4</td>
<td>0.751</td>
<td>0.026</td>
<td>28.885</td>
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</table>

Notes: Est, estimate; S.E, standard error; AVE, the average variance extraction; CR, the composite reliability.
Abbreviations: CL, coaching leadership; OI, organizational identification; IF, interactional justice; DI, employees’ deviant innovation behavior (the same below).
Coaching leadership. We measure it using Anderson’s 12 item scale. After the questionnaire was collected, through confirmatory factor analysis of a single variable, finally, we quoted the topics “My boss helps my personal development”, “My boss will let all subordinates participate in decision-making”, “My boss will seriously and responsibly provide me with feedback information on work”, and “As long as it is a good idea, no matter who puts forward it, my boss is willing to adopt it” for an empirical test. The composite reliability is 0.818.

Employees’ deviant innovation behavior. The deviant innovation scale developed by Criscuolo et al is adopted, which includes 5 items. After the questionnaire is collected, through confirmatory factor analysis of a single variable, finally, the topic “I can flexibly arrange work tasks based on the work plan, to explore new, potential and valuable business opportunities” is quoted, “I like to think about some new ideas in addition to my main work” and “I take the initiative to spend time to carry out some unofficial projects to enrich future official projects” for empirical tests, with the composite reliability of 0.803.

Interactional justice. The interactional justice scale comes from Schminke, Cropanzano, and Rupp, which contains 4 items. After the questionnaire was collected, through confirmatory factor analysis of a single variable, the questions “Is the respect I get fair”, “Is the communication method used when my superiors speak to me fair” and “Is the amount of information I get fair when I want to know something” were finally cited for empirical tests, with the composite reliability of 0.905.

Organizational identification. The organizational identification scale uses Mael and Ashforth’s 6-item scale. After the questionnaire was collected, through confirmatory factor analysis of a single variable, the items “When others praise the organization, they feel that they are praising themselves”, “I care about others’ views on the organization” and “the success of the organization is my success” were finally quoted for an empirical test, with the composite reliability of 0.803.

Control Variables. Previous studies have shown that demographic variables such as employees’ gender, age, educational background, length of service and position have a significant impact on employees’ deviant innovation behavior. Therefore, this study takes employee gender (“male” = 1, “female” = 2), age (“under 20 years old” = 1, “21–30 years old” = 2, “31–40 years old” = 3, “41–50 years old” = 4, “over 50 years old” = 5), educational background (“high school or technical secondary school and below” = 1, “junior college” = 2, “undergraduate” = 3, “master” = 4, “doctor and above” = 5), tenure in the organization (“1 year and below” = 1, “2 years” = 2, “3 years” = 3, “4 years” = 4, “5 years and above” = 5) as control variables.

**Results**

**Preliminary Analysis**

Since each variable is self-assessed by employees, compared with Amos and Lisrel, Mplus has a ready-made syntax, which can deal with multi-mediated models. It can deal with regression mixed models and factor mixed models better, and has more powerful functions and higher reliability and validity. At present, Mplus is widely used in hypothesis testing of regression analysis. Mplus 7.0 is used to carry out confirmatory factor analysis to evaluate the differential validity of these variables. It can be seen from Table 2 that our hypothetical four-factor model (ie coaching leadership, organizational identification, interactional justice, and deviant innovation) shows a good fitting degree ($\chi^2$/df = 2.67,

<table>
<thead>
<tr>
<th>Model</th>
<th>df</th>
<th>$\chi^2$/df</th>
<th>CFI</th>
<th>TLI</th>
<th>RMSEA</th>
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<tr>
<td>Four-factor model (CL, OI, IF, DI)</td>
<td>59</td>
<td>2.67</td>
<td>0.96</td>
<td>0.90</td>
<td>0.070</td>
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<tr>
<td>Three-factor model (CL, OI + IF, DI)</td>
<td>62</td>
<td>6.51</td>
<td>0.86</td>
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<tr>
<td>Two-factor model (CL + OI + IF, DI)</td>
<td>64</td>
<td>7.76</td>
<td>0.83</td>
<td>0.79</td>
<td>0.141</td>
</tr>
<tr>
<td>Single factor model (CL + OI + IF + DI)</td>
<td>65</td>
<td>9.31</td>
<td>0.79</td>
<td>0.74</td>
<td>0.156</td>
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</table>

*Note: $\chi^2$, DF, CFI, TLI, RMSEA respectively represent Chi-square, degree of freedom, comparative fit index, Tucker-Lewis index, root mean square error of approximation.*
RMSEA = 0.070, CFI = 0.96, TLI = 0.90), and is superior to other alternative models, which proves the discrimination validity among the research variables.

Hypothesis Testing
In this study, Spss 22.0 was used to describe all the study variables. Table 3 shows the mean, standard deviation, correlation coefficient, and internal consistency coefficient of the study variables. From this, we can find the relationship between the control variables and each variable. Organizational tenure is positively correlated with coaching leadership. Age, organizational tenure, and organizational identification are positively correlated. Age, education level, and organizational tenure are positively correlated with interactional justice. Gender, age, and organizational tenure are positively correlated with employees’ deviant innovation.

Figure 1 shows a multi-path regression model of the influence of coaching leadership on employees’ deviant innovation behavior. Coaching leadership positively predict employee interactional justice (β=0.659, P<0.000) and employee organizational identification (β=0.681, P=0.000), employee interactional justice positively predicts employee deviant innovation behavior (β=0.601, P<0.000), employee organizational identification positively predicts employee deviant innovation behavior (β=0.619, P=0.000), and coaching leaders also directly positively influence employee deviant innovation behavior (β=0.526, P<0.000). Therefore, Hypothesis 1 is supported.

In further analysis, we control the control variables that have a significant influence on the research variables. To test the mediating effect, we refer to the method of Preacher, Zyphur, and Zhang using Monte Carlo’s repeated sampling method to construct a 95% confidence interval (using the Mplus 7.0 program), and construct the confidence interval of mediating effects. As can be seen from Table 4, Interactional Justice 0.303 (95% CI [0.166, 0.510]) and Organizational Identification 0.515 (95% CI [0.205, 0.965]) completely mediated the relationship between coaching leadership and employees’ deviant innovation behavior, supporting hypotheses 2 and 3. Interactional justice and organizational identification have a chain mediating effect of 0.060 (95% CI [0.002, 0.164]) on coaching leadership and employees’ deviant innovation behavior, which supports Hypothesis 4. The research results provide support for dual-path mediation and chain mediation models.

Discussion
Theoretical Implications
First, for the existing academic research, it seems that it does not fully explain the influence mechanism of the situation with high fault tolerance and high openness created by leadership style on employees’ deviant innovation behavior. Existing research shows that positive leadership style is an important factor to promote employees’ deviant innovation.

Table 3 Mean, Standard Deviation, and Correlation Coefficient of Variables (N=340)

<table>
<thead>
<tr>
<th>Variable</th>
<th>M</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
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<td>2age</td>
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<td>0.588</td>
<td>–0.099</td>
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<td>3edu</td>
<td>2.51</td>
<td>0.985</td>
<td>0.093</td>
<td>0.283**</td>
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<tr>
<td>4term</td>
<td>2.66</td>
<td>1.563</td>
<td>–0.189*</td>
<td>0.233**</td>
<td>–0.182**</td>
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<td>5CL</td>
<td>3.81</td>
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<td>0.030</td>
<td>0.040</td>
<td>0.155**</td>
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<td>6OI</td>
<td>3.86</td>
<td>0.703</td>
<td>–0.113*</td>
<td>0.082</td>
<td>0.044</td>
<td>0.168**</td>
<td>0.674**</td>
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<td>0.816</td>
<td>–0.088</td>
<td>0.182**</td>
<td>0.116*</td>
<td>0.120*</td>
<td>0.636**</td>
<td>0.580**</td>
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<tr>
<td>8DI</td>
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<td>0.694</td>
<td>–0.137*</td>
<td>0.114*</td>
<td>0.053</td>
<td>0.143**</td>
<td>0.505*</td>
<td>0.612**</td>
<td>0.592**</td>
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Note: *p<0.05, **p<0.01 (the same below).
Abbreviations: sex, gender; edu, education level; term, term of officer (the same below); M, mean; SD, standard deviation.
behavior. For example, authentic leadership through organizational self-esteem and constructive responsibility cognition, humble leadership through superior-subordinate relationship and psychological privilege, ambidextrous leadership through responsibility perception induce employees’ deviant innovation behavior. Coaching leadership, as a leadership style that pays attention to “guiding”, “leading” and “tolerating mistakes”, can promote the generation of employees’ proactive behaviors, such as in-role behavior, career management behavior, organizational citizenship behavior, innovation behavior. The essence of deviant innovation is also innovation, which is different from innovation in the concealment of its behavior. Wang et al inferred leaders’ tolerance for mistakes and the working atmosphere that encourages innovation and autonomy are important driving factors for deviant innovation behavior. The focus of coaching leadership is to change the mental model of employees through guidance, encouragement and empowerment, so that employees can realize the significance of innovation to organizational development, and let employees find innovative solutions to problems independently, not just the perception of responsibility and privilege. This is similar to the old Chinese saying that “it is better to teach people to fish than to give them a fish”. So through the exchange of decision-making information and respectful interpersonal interaction, coaching leaders can achieve the goal and dream link between employees and organizations, and stimulate employees to pursue self-realization to improve the motivation of organizational efficiency. This study studies the coaching leadership under the background of Chinese culture and finds that coaching leadership in western cultural background also has certain applicability in the Chinese situation. To a certain extent, this study also tests the theoretical inference of Wang et al.

Secondly, based on self-categorization theory, this study answers how and when coaching leadership can improve employees’ deviant innovation behavior. Because deviant innovation behavior has the characteristics of not explicitly stipulated and not supported by the organization, we do not know whether the Chinese employees who are due to face will choose “deviant innovation” under the consideration that the leaders do not support or fear that the leaders do not support it. This paper discusses what kind of intermediary mechanism coaching leadership promotes employees’ deviant

Table 4 Bootstrap Test of Significance of Main Effect Values

<table>
<thead>
<tr>
<th>Number</th>
<th>Path</th>
<th>B</th>
<th>SE</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mediating effect 1</td>
<td>Coaching Leadership-&gt; Interactional Justice-&gt; Employees’ Deviant Innovation Behavior</td>
<td>0.303</td>
<td>0.087</td>
<td>0.166 - 0.510</td>
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<tr>
<td>Mediating effect 2</td>
<td>Coaching Leadership-&gt; Organizational Identification-&gt; Employees’ Deviant Innovation Behavior</td>
<td>0.515</td>
<td>0.205</td>
<td>0.205 - 0.965</td>
</tr>
<tr>
<td>Chain mediating effect</td>
<td>Coaching Leadership-&gt; Interactional Justice-&gt; Organizational Identification-&gt; Employees’ Deviant Innovation Behavior</td>
<td>0.060</td>
<td>0.042</td>
<td>0.002 - 0.164</td>
</tr>
</tbody>
</table>

Note: B is the effective value, and SE is the standard error. This table reports non-standardized coefficients.
innovation behaviors, which is helpful to answer employees’ psychological and behavioral reaction mechanism from the Chinese situation. According to the research, coaching leaders treat employees with courtesy, which will make employees get the necessary information and feel respected in the interpersonal interaction with leaders, increase employees’ sense of justice in interaction, and make employees a deeper understanding of the organization, the “big self” identity of employees in the organization will emerge, further guide employees’ perception and behavior. In this situation, employees will redefine themselves cognitively, bind themselves closely with the organization, realize the transformation from “I” to “we”, and increase employees’ sense of organizational identification so that employees can think about problems from the perspective of the organization and make behaviors beneficial to the organization, regardless of whether the organization formally approves or explicitly supports them. This discussion will help to clarify the essence of the influence of coaching leadership on subordinates’ innovative behavior in the Chinese context.

Finally, this work has extended the theory of self-categorization theory. This study points out that according to the definition of deviant innovation, the key to the problem lies in how to change employees’ cognition, instead of relying solely on material or spiritual exchange and return. Therefore, this is different from most previous studies based on social exchange theory or resource conservation theory, to a certain extent, it provides a perspective on how to change employees’ cognition, and examines the formation mechanism of employees’ deviant innovation behaviors. Based on the employee’s point of view, this study proposes that the employee who engages in this kind of behavior does not want to let the leader or the organization know beforehand, and the original intention of this kind of behavior is not to reward beforehand, but only to sincerely do it for the organization without reward. Therefore, it is closely related to the organizational identity of employees, and employees do not have this strong organizational identity at first, which requires the guidance and sincere communication of leaders to achieve this cognitive change. So, whether employees get the internal information of the organization and are treated sincerely by the leaders is not only beneficial for employees to know the development direction of the organization but also beneficial for employees to combine their organizational membership with their self-concept in cognition, which will make employees more motivated to do meaningful behaviors for the organization without hesitation. Through the change of cognition, the employees show behavior beneficial to the organization, which increases the explanatory power of self-categorization theory to a certain extent.

Implications for Practice
Under the organizational environment of “the plan can’t keep up with the change”, when the employees and the leaders disagree, the smart employees do not have to argue with the leaders, and carefully examine whether their actions are actually beneficial to the company, so as to truly achieve “loyalty”. As an enterprise, it should be clear that no matter how employees choose, whether they can produce positive results is the key. For innovation activities, there are not only two extremes of “success” and “failure”. “Failure” is a trial and error process, which also contains the value. There is a “gray space” between the two polar axes, which needs to be grasped artistically by enterprises.

First, coaching leaders should give full play to their coaching skills, not only creating a fertile environment for employees’ growth, but also creating awareness and perception for employees’ growth, and stimulating employees’ potential through inspiring guidance methods. Coaching leaders should make full use of the opportunity to communicate with employees, provide sufficient information or explanation to employees on a certain decision or procedure, let employees think that leaders are sincere and trustworthy, meet the needs of employees’ interactional justice, and give them more information resources.

Second, coaching leaders guide employees to pay attention to the long-term development of the organization through psychological interaction with employees, so that employees can deeply understand the vision, mission and values of the organization, establish personal goals consistent with organizational goals, and consider problems from the perspective of the organization, thus forming organizational identification.

Finally, coaching leadership should create an open atmosphere that can stimulate employees’ potential, tolerate mistakes and encourage innovation. Ultimately, it will be beneficial to improve the innovative behavior of employees in the organization.
Limitations and Future Directions

First, We can further explore the unfavorable situations that hinder employees’ deviant innovation. In practice, in fact, the organizational situation created by leaders can be divided into two types according to the degree of openness. In addition to the situation of high fault tolerance, high openness and high care that coaching leaders can create, there are also situations with low fault tolerance, low openness and low care. In the context of low fault tolerance, low openness and low care, most employees think I do my job honestly, and just make no mistakes, I feel that I have no obligation to do things outside my work, such as innovation. For the deviant innovation carried out without telling the leader, If I succeed, the leader or organization may reward me. If it fails, the leader will quarrel with me, and there will be such worries. Moreover, it will not help my salary and development, so I will not do this deviant innovative behavior. Therefore, from practice, it can be inferred that the situation of low fault tolerance rate and low openness is not conducive to employees’ deviant innovation behavior. However, the existing studies pay less attention to the obstacles. Because it is of practical value to dig out the situational factors that hinder employees’ deviant innovation in organizations from a theoretical perspective, it is necessary to further explore the obstacles of unfavorable situational factors to employees’ deviant innovation behavior in theory.

Second, It can further explore the internal reasons why employees choose deviant ways to innovate. This may be related to individual characteristics, leadership or team member characteristics, leader-member relationship, team-member relationship, task characteristics, resource allocation mechanism and so on. For the resource allocation mechanism, the current study found that Agile leaders, who have the ability to learn quickly and cope with change, give employees enough resources, which will guide employees to engage in compliant innovative behavior, thus reducing bootlegging behavior. Then, will there be different answers for Chinese employees? In view of the way Chinese employees choose innovation, we preliminarily infer that it may be related to resources (for the atmosphere created by supportive leaders, they may not need to inform the leaders and have already obtained resources related to innovation; for unsupported leaders, they may worry that they may not get relevant resources even if the leaders know it), the risk of innovation (even if it is supported, the risk still exists) and Chinese employees individual characteristics (such as love face-saving, do not want to be interchanged and do not like to speak out), etc. So it is considered that when Chinese employees must obtain the necessities resources through a formal application, it is more likely that they may choose an open innovation way. When Chinese employees have obtained the necessary resources for innovation before let others know, they may choose to carry out innovation silently before it succeeds, so as not to worry about the psychological burden caused by the failure. This needs to be further tested by future research.

Finally, It is necessary to deeply explore whether leaders at all levels are sincerely willing to support employee innovation by scholars who pay attention to deviant innovation in the Chinese context. Generally speaking, when employees have innovative ideas, they are worried that they may encounter such responses as “the company has many policy restrictions!” “There is no budget to support your ideas!” “the top won’t approve”, so employees’ inner worries may be the internal reasons that eventually lead to employees’ choice of deviant innovation. As Pan, president of Antai, said, the middle managers in the company are the killers of enterprise innovation, grass-roots employees are the source of innovation, because although middle-level cadres are the most important backbone of the company, they are often the most feudal and afraid of change. They may worry that young people may come up with new ideas and replace their positions, which will easily lead to the psychology of “it is good for me to have ideas, but others don’t need them”. So in this case, whether the direct superiors met by employees are really willing to create a good atmosphere to promote deviant innovation behavior needs further discussion. At the same time, how the top management should do to prevent the strangelong of creativity is also worthy of further empirical research.

Conclusion

Based on the self-categorization theory, from the perspective of changing employees’ cognition, this study holds that employees’ insistence on concealing and implementing innovative ideas beneficial to the organization is inseparable from employees’ connection between their organizational membership and self-concept, and the realization of employees’ self-worth and organizational development. The realization of this process, on the one hand, requires the exchange of internal information and interpersonal interaction, on the other hand, requires employees to identify with their own organization
and think that they are an important part of the organization. At the same time, the identity of the organization needs to be based on sincere communication and interaction. Based on this logic, this study examines the relationship between coaching leadership style and employees’ deviant innovation and verifies a two-path mediating model, the chain mediation model of interactional justice and organizational identification, which are closely related to employees’ cognition. We hope that the findings of this study will help researchers and practitioners better understand why employees’ deviant innovation behaviors emerge in large numbers in some organizations, however, it is rare in other organizations, and what are the factors and intermediate mechanisms that play a key role in stimulating employees’ deviant innovation behavior, which is helpful for further research on deviant innovation behavior.

**Ethical Statement**

The study was conducted in accordance with the Declaration of Helsinki. Before commencing the data collection, the study was approved by the Institute of Management Science at Zhengzhou Shengda University. According to our research design, the study did not violate any legal regulations or standard ethical guidelines. We introduced our research purpose, goals, and plans to each participant and got their consent. Additionally, we emphasized that all the participants could reject any questions or withdraw from the study at any time. Lastly, their anonymity and confidentiality were assured.

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**Disclosure**

The authors report no conflicts of interest in this work.

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