How Institutional Pressure Affects Organizational Citizenship Behavior for the Environment: The Moderated Mediation Effect of Green Management Practice

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Abstract: The processes of sustainable development, environmental management, and green performance are inseparable from people’s active participation, and organizational citizenship behavior for the environment (OCBE) has a significant function in promoting that process. We construct a moderated mediating effect model of green management practice by introducing institutional pressure and green emotion into the formation mechanism of OCBE based on neo-institutionalism theory and the theory of planned behavior. Taking matched employees of cross-regional organizations as a sample, we conducted a longitudinal tracking questionnaire survey. The results show a positive correlation between institutional pressure and OCBE, mediated by green emotion. Additionally, the paper discovered that green management practice moderated the relationships between institutional pressure and OCBE, green emotion and OCBE, and institutional pressure and green emotion. Furthermore, green management practice also moderates the strength of the mediating effect of green emotion between institutional pressure and OCBE. The findings provide some guidance for promoting organizational sustainable development and achieving organizational green transformation.

Keywords: institutional pressure; green emotion; green management practice; organizational citizenship behavior for the environment; sustainable development

1. Introduction

Nowadays, researchers and environmental policy makers agree that the causes of environmental deterioration, such as resource shortage, increased pollution, and biodiversity loss, are deeply rooted in human behavior [1]. With the increasing public concern for environmental protection and government pressure, environmental management has become an important consideration for corporations [2]. Although the constraints of rigid rules and regulations will increase the organization’s environmental protection performance to a certain extent, the active participation of employees in environmental protection regulations is still insufficient [3]. As employees are the primary factor in the management system [4], the organizational sustainable development inevitably needs their active involvement and interactive support. Therefore, the concept of Organizational Citizenship Behavior for the Environment (OCBE) has been proposed. Scholars began to pay attention to this special organizational citizenship behavior in the process of environmental protection [5]. According to Elisha et al., the key success factor for organization “greening” is employee’s OCBE [6]. However, scholars’ research on OCBE are still in the exploratory stage at present, and the causes and consequences are worth discussing.

For the antecedents of OCBE, long-distance predictive variables (such as organizational context) play a significant role in its research [7]. Prior studies have found that when organizational support can be felt and recognized by employees, the organizational
citizenship behavior will significantly change [8], and employees’ self-recognition and responsibility for environmental behaviors can also help to achieve the goal of increasing employees’ OCBE [9]. Homburg and Stolber found that when the environmental problems faced by organizations are exposed and gradually noticed, employees tend to show more environmental behaviors in the workplace [10]. From the perspective of neo-institutionalism theory, the temporary surrender of external pressure accounts for a large proportion of the causes for environmental protection commitments [11,12]. Scholarly attention has been drawn to depicting environmental protection behavior and exploring its antecedents. Yet, previous studies on employees’ green behavior or OCBE mostly focused on leadership types, ignoring the influence of external conditions, such as institutional pressure [13]. Therefore, the impact of institutional pressure on OCBE needs further exploration and discussion.

The theory of planned behavior indicated that the individual attitude continues in their behaviors, while the behavior is often not in the category of impulsive behavior but the result of the individual’s deliberate planning [14]. Greaves et al. found that employees will take environmental protection actions after thinking. When they think, they are influenced by the emotional attitude. In other words, the OCBE of employee will be affected by emotional factors [15]. Lülfs and Hahn showed that direct motivation variables (such as emotional attitudes) are able to predict OCBE more accurately [7]. Furthermore, emotion is a necessary and insufficient condition for behavior [12]. Organizational social responsibility may impact on employees’ OCBE, while the social responsibility is perceived by employees [16]. Moreover, green passion mediates the relationship between green human resource management and OCBE [17]. Therefore, whether there is a relationship between emotional factors (especially those related to environmental protection) and employees’ OCBE needs further research.

With the in-depth research of sustainable development, green operation, and environmental management in academia, some new strategic choices, such as green marketing and green human resource management have gradually emerged [18]. Some studies have found that the emergence of OCBE is catalyzed by organization’s concerns and attitudes [6]. Sometimes, employee-perceived organizational support and organizational commitments are related to the environmental practices by organizations [19]. That is to say, with the increase of environmental management practice in organizations, employees will feel increasing organizational support and organizational commitments [19]. Meanwhile, the obligation is also an important factor in promoting the employee OCBE [20]. As long as the organizational atmosphere shows a pro-environmental trend, employees will give full play to their talent for imitating learning and for taking the initiative to do environmental protection behaviors. The increase of environmental protection behaviors will make the environmental protection atmosphere stronger [12]. Prior empirical research also found that the more positive an organization’s environmental protection attitude, the better the performance of employees’ OCBE [21]. Due to the joint effect of organizations’ negative environment protection attitude and employees’ righteousness, employees use more environmental protection behaviors to make up for environmental damage [22]. Mohammad et al. found that green practices positively enhance OCBE. Green practices, such as training and development, employee participation, and performance management, are significantly related to OCBE [17]. Therefore, it is necessary to conduct a more in-depth exploration on how the green practice of the organization affects the employee’s OCBE.

By extending the path of investigation into more mechanisms, especially the external environmental factors, to activate employees’ OCBE, our research makes a threefold contribution. Our first aim and contribution is to assess how institutional pressure contributes to employees’ OCBE. Although some research has shown that organizational policies do not necessarily positively influence employee behavior [23], Norton et al. affirm the positive role of organizational sustainability policy [24]. Institutional pressure not only drives the adoption of corporate environmental management activities but also employee behaviors [25]. Our second research aim and contribution entails examining the role of green
emotion as a mediator for the link between institutional pressure and OCBE. Through this aim, we expand the research stream that utilizes emotions with green values as a mediation mechanism behind OCBE. Mohammad et al. pointed out that employees’ passions are expected to play a facilitating role and lead to OCBE. The third one is to reveal the moderation effect of green management practice [17]. Green training increases relevant competencies of employees to achieve the organization’s environmental goals [26]. Green performance management practices align employee behavior with environmental goals and motivate them to participate in environmental activities [17]. Green management practice would increase the passion of human resources in overcoming the challenges about sustainability, hence making it a suitable location for the current.

2. Literature Review and Hypotheses Development

2.1. Literature Review

The origin of institutional theory covered the research content of sociology, economics, and other fields, and it emphasized the impact of institutions on organizational behavior and decision-making [27]. Institutional theory is always used to study the impact of external pressure on organizations [28]. At present, scholars adopt the classification of compulsory pressure, normative pressure, and imitation pressure [29]. Compulsory pressure (also called regulatory pressure) is mostly caused by government administrative orders, mandatory requirements, or laws and regulations. The specific requirements of government departments and industry associations for the production and other links of business are important sources of mandatory pressure. Normative pressure mainly stems from values and codes of conduct, which are similar to the expectations of social ethics or norms. Because many organizations exist in the same social network, they tend to imitate successful cases in order to pursue stability or achievement for improving their own competitiveness. In this case, the pressure is the imitation pressure (also known as cognitive pressure) [30]. With the introduction of the new institutionalism theory, the judgment standard of whether an organization can improve its own competitiveness is gradually linked to the needs of external stakeholders [31]. The new institutionalism theory starts from the institutional environment of the organization and believes that organizations in the same environment will produce convergence [32]. Research also showed that institutional pressure has gradually become one of the main driving forces of the proactive green behavior of organizations [33,34].

He et al. defined the green emotion of retail organizations in their research. They believe the appearance of this emotion is related to the perception of the significance of environment protection and resource conservation. It often occurs in the process of environmental protection [35]. So, green emotion can be understood as a perception of resource conservation and environmental protection and a sensitivity to resource waste and environmental pollution. In addition, it is also a kind of emotion or attitude experience produced when implementing environmental protection behaviors [36]. According to Wang, green emotion could be divided into 4 dimensions: pride, guilt, appreciation, and contempt [37]. However, in cognitive behavior theory, attitude has two important dimensions: cognition and emotion [38,39]. The theory showed that there is always a process of “knowledge (cognition)”-“feeling (emotion)”-“action (behavior)” in the process of an individual changing behavior. In terms of emotion, cognition is its antecedent variable [40]. Some individuals will produce certain emotion due to the cognition of external stimuli, and these emotions will further promote the production of behavior. According to previous green emotion researches, environment emotion of an individual can significantly affect the individual’s green behavior [41,42]. Individual guilt (a type of emotion) will significantly affect the individual’s pro-environment behavior [43]. Chinese scholars also pointed out that beliefs (emotions) play an indirect role in the process of cognition affecting behavior [44]. Environment emotion is an attitude experience produced by an individual’s behavior towards resources and environment. If this emotional experience is very strong, the individual will tend to implement green behaviors [45]. Therefore, the degree of an
individual’s emotional experience will have an impact on his/her green behavior, and this emotional experience is generated by whether the individual is able to fulfill the responsibility of environmental protection and resource conservation.

In recent years, due to the deteriorating natural environment, the long-standing conflict between economy and environment has become serious, and with the signs of outbreak [46]. The disposable resources of organizations affect their green strategic choices to some extent [47]. If an organization can implement green management practice, its sufficient resources and ability will be proved [48]. Green management practice is defined as a comprehensive, full-staff, and full-process strategic activity carried out by organizations based on their own conditions and the external environment to reduce environmental pollution, improve the environment, and save resources [49,50]. However, due to the dynamism and the complexity of the decision-making process of corporate green management practice, there are often high uncertainties and potential risks [51]. From the perspective of the organization itself, green management practice is a way to help them to fulfill their social responsibilities and to promote the harmonious development of economy, society, and environment [52]. The reason why organizations implement green management practice is not only because of the various pressures they endure but also for obtaining external support and enhancing their competitive advantages [53]. When organizations implement green management practice, the pre-factor “resources” can be “organized redundancy” [54]. At the same time, corporate performance will also be significantly affected by the moderating role of corporate green management practice [55]. Therefore, how to balance between economic growth and environmental protection needs organizations to seek help within the scope of government capabilities [56].

2.2. Institutional Pressure and OCBE

The concept of OCBE is mainly derived from the combined effect of the importance of environmental behavior [57], the continuous attention of the public and academia to “environmental protection” [43], and the unique initiative of employee behavior [58]. Through thinking about the connotation of employee behavior and long-term exploration of environmental protection issues [3,59], the process by which scholars put forward the concept of OCBE focused on emphasizing the correlation between OCBE and organizational citizenship behavior (OCB) [5,12]. They think OCBE derives from the process of environmental protection. It is a special organizational citizenship behavior. The spontaneous environmental protection behaviors of employees are often not affected by the explicit rewards or requirements of the organization in the workplace. In addition, the promotion of environmental protection projects in the organization is related to the participation of employees who voluntarily assume the responsibility of environmental protection [5]. Usually, the focus of the organization’s OCBE is to achieve green development goals, and the actual purpose of the employee’s OCBE is to save resources and to protect the environment [8].

The organizational strategic choices and employee behavior patterns may be affected and changed in the implementation process of the organizational institution [27]. Compulsory pressure may strengthen the individual’s environmental awareness and cultivate their environmental behavior habits over time [60]. According to relevant laws, the products or services of an organization must comply with industry regulations [50]. Their employees will also be bound by industry norms and regulations so as to actively guide their behavior [61]. It means that, with the continuous strengthening of employees’ awareness of environmental responsibility, employees will make more environmental protection behaviors in their work and life. Organizations will imitate their competitors or industry leaders, who have succeeded in using environmental protection theme. This is related to the competitiveness of the market economy [62]. As the influence of social identity expands, employees may face increasing pressure. Imitation pressure will stimulate organizational vitality, awake employees’ environmental awareness, and subconsciously cultivate the habit of saving resources and protecting the environment. Industry environment and organizational atmosphere are important sources of pressure. Under heavy pressure, the
behavior patterns and performance of the organization and its employees may change accordingly [63]. From the perspective of neo-institutionalism, the temporary surrender of external pressure accounts for a large proportion of the causes of environmental protection commitments [11], and the relationship between environmental citizenship behavior and institutional pressure has been confirmed [60]. Therefore, institutional pressure does help to increase employees’ environmental behavior, and we propose:

**Hypothesis 1.** There is a positive correlation between institutional pressure and OCBE.

### 2.3. The Mediating Role of Green Emotion

According to the running rule of “stress-performance” (performance includes job performance and emotion), when the individual is under less pressure, the performance value will be lower [64]. With pressure increasing, the performance value will rise, and when pressure exceeds the highest point, the performance value will start to rapidly drop. So, if pressure reaches a certain intensity, the individual will keep high spirits and be in the best state. As a kind of emotional state, green emotion is likely to be influenced by pressure [65]. In addition, the environmental pressure caused by government supervision may first change management’s perception in the process of affecting corporate organizational compliance behavior and then bring changes in the environmental protection emotion of employees [66]. Previous studies have also proven the positive correlation between stress and emotional perception, indicating that institutional pressure may bring emotional changes in employees regarding environmental protection [67].

According to cognitive behavior theory and the “knowledge-emotion-act” model, the progressive relationship between cognition, emotion, and behavior has been verified [68]. So green emotion may definitely affect individual behavior [37]. In addition, it has been proven that emotion occupies a relatively large proportion in the formation of attitude factors. Individual cognition will show differentiated performance due to its changes, and emotion can also contribute to changing individual behavior patterns [69]. Furthermore, the number of environmental protection behaviors show different changes due to the fluctuations of emotional motivation [70]. By comparing the effects of emotion and cognition on environmental protection behavior, it is found that emotional factors have a better impact on performance [71]. Many studies have proven that direct motivation variables (such as emotional attitudes, etc.) can more accurately predict OCBE [7].

In the “emotion-behavior” two-factor model, scholars demonstrated that positive environmental emotion have a positive impact on environmental protection behaviors (such as low-carbon behaviors) [71]. Since cognition and pressure are inseparable, and institutional pressure can affect emotion, green emotion is likely to play an intermediary role. It is affirmed that green emotion plays a mediating role between green cognition and green consumption behavior [36]. Individual guilt has a significant effect on pro-environmental behavior [43]. In addition, the relationship between ecological civilization cognition and ecological civilization behavior is affected by emotion [72], and the intermediary value of green emotion is reflected. Therefore, institutional pressure can change individual’s green emotion by influencing employees’ perceptions of environmental protection or in other ways. Then, we put forward:

**Hypothesis 2.** Green emotion mediates the effect of institutional pressure on OCBE.

### 2.4. The Moderating Role of Green Management Practice

According to the resource-based view, organizations need to develop valuable and unique green resources and capabilities to help them to achieve performance improvements [48]. Under the pressure from systems, organizations must continuously improve their competitive advantages. Implementing green management practice is one of the ways to help organizations meet these requirements [55]. Meanwhile, institutional pressure and
green management practice have an interactive effect [50]. The effective implementation of organizational green measures has also strengthened the influence of institutional pressure on employees’ OCBE. Therefore, green management practice has played a role in expanding this influence. In the research, the figure of management practice can improve organizational environmental performance and employees’ environmental behaviors [19]. An employee’s behavior is manifested through a social psychological mechanism, but different levels of management practice will make the psychological mechanism present a state of differentiation [73]. Thus, we propose the following hypothesis:

**Hypothesis 3.** Green management practice moderates the relationship between institutional pressure and OCBE.

Through the implementation of green management practice, organizations can easily cope with the institutional pressures caused by national laws and regulations, the public’s attention to environmental issues, and industry competition, and also the pressure to establish a corporate image that actively assumes social responsibility [74]. Employees’ work attitudes, behaviors, and reserves of professional knowledge are linked to the policies or projects implemented by their organization [75]. When policies are related to environmental protection issues, this mutual influential close tie will be particularly prominent [8]. Furthermore, the environmental protection measures implemented by an organization are also a great opportunity to help employees to learn about environmental protection, enhance their awareness of environmental protection, and cultivate environmental behavior habits [76]. Organizational green management practice can not only help to improve organizational performance but also improve the overall quality of employees. It is helpful to the promotion of employees’ green emotion [77]. Therefore, we hypothesize that:

**Hypothesis 4.** Green management practice moderates the relationship between institutional pressure and green emotion.

In the formation of environmental behavior, the question of whether emotion and green emotion have a positive impact on environmental behavior remains open [78]. It is inappropriate to exclude emotional factors to study environmental behavior [79]. Organizational green management practice can satisfy the needs of environmental protection groups and individuals who support environmental protection. Its emergence may improve the green emotion of employees [80], which can help to accelerate the process of green emotion and OCBE. Moreover, with the improvement of green management practice, the organizational environmental protection capabilities can be effectively enhanced [55]. In such a way, employees’ awareness and experience of environmental protection can also improve and show more environmental protection behaviors. Therefore, the following hypotheses are offered:

**Hypothesis 5.** Green management practice moderates the relationship between green emotion and OCBE.

2.5. The Moderated Mediation Model

So far, we have analyzed the mediating role of green emotion between institutional pressure and OCBE and the moderating role of green management practice between each relationship of institutional pressure, green emotion, and OCBE. Therefore, a moderated mediating effect model is proposed [81].

**Hypothesis 6.** Green management practice moderates the mediating effect of green emotion in the relationship between institutional pressure and OCBE.

The conceptual model is shown as followed (See Figure 1):
2.5. The Moderated Mediation Model

So far, we have analyzed the mediating role of green emotion between institutional pressure and OCBE of the model. Finally, the effective paired data of 207 employees were collected. The effective questionnaire rate was 73.93%. Among these 207 respondents, nearly two thirds of them were female, accounting for 60.16%. In terms of age, employees aged 21–40 account for the most part (75.3%). Nearly three quarters of respondents had a bachelor degree (74.3%). As for company types, private corporations accounted for the most, accounting for 46.3% and 34.2% respectively. In terms of length of service, employees with 2 years or less and 3–5 years account for a large proportion, accounting for 35.2%. In terms of region, employees from Guangdong provinces in China account for the most, accounting for 46.3% and 34.2% respectively.

3. Methods
3.1. Data Collection and Sample

We used a cluster sampling method, and the data were collected by a questionnaire survey. Participants were recruited from companies in Shanghai, Jiangsu, and Guangdong provinces in China. We collected paired data with different time waves to reduce potential common method bias. We divided the employees in the same team into two groups (A and B) and matched them one by one. The email addresses of employees were obtained by communication with these company’s HR managers. The number of employees selected by each company was limited to less than 10. The survey was carried out in 3-time waves from January 2021 to July 2021. At time 1 (January 2021), we collected 280 employees’ personal information, and employee A completed the questionnaire of the institutional pressure part. At time 2 (April 2021), we sent questionnaires to the email address in the employee roster. The questionnaire sent to employee A is the green management practice part of the model, and the questionnaire sent to employee B is the green emotion part of the model. At time 3 (July 2021), we measured the questionnaires on OCBE of the model. Finally, the effective paired data of 207 employees were collected. The effective questionnaire rate was 73.93%. Among these 207 respondents, nearly two thirds of them were female, accounting for 60.16%. In terms of age, employees aged 21–40 account for the most part (75.3%). Nearly three quarters of respondents had a bachelor degree (74.3%). As for company types, private corporations accounted for the most, accounting for 35.2%. In terms of length of service, employees with 2 years or less and 3–5 years account for a large proportion, accounting for 46.3% and 34.2% respectively.

3.2. Measures

A five-point Likert-type scale ranging from 1 “strongly inconsistent” to 5 “strongly consistent” was used for all measures.

3.2.1. Institutional Pressure

We used the 5-item scale of institutional pressure developed by Li & Ye [31]. An example item includes “Our company’s products must comply with relevant domestic environmental laws and regulations”, “Our company’s products must comply with international environmental protection convention standards”. The Cronbach’s $\alpha$ of 5-items reached 0.87.

3.2.2. Green Emotion

We used the 5-item scale of green emotion developed by Biswas & Roy [82]. Example item includes “I care about whether I use green products”, “I consider whether my actions will affect the environment”. The Cronbach’s $\alpha$ of 5-items reached 0.84.
3.2.3. Green Management Practice
We used the 6-item scale of green management practice developed by Yang et al. [51]. An example item includes “Our company has corresponding environmental protection measures, such as pollution reduction, sewage treatment, and paperless office”, “Our company provides classified trash bins in the office”. The Cronbach’s α of 6-items reached 0.75.

3.2.4. Organizational Citizenship Behavior for the Environment
We used the 9-item scale of OCBE developed by Lamm et al. [8]. An example item includes “I will avoid unnecessary printing to save paper”, “I use my own water cup instead of disposable water cup”. The Cronbach’s α of 9-items reached 0.75.

Please see the Appendix A the complete measurement scales.

3.3. Confirmatory Factor Analysis
The results of confirmatory factor analyses are shown in Table 1. We tested the 2-factor model (IP + OCBE; GE + GMP), 3-factor model (IP + OCBE, GE, GMP and IP, GE + GMP, OCBE), and 4-factor model (IP, GE, GMP, OCBE). By comparing all the indices of each model, we found that the 4-factor model showed a good fit with the data (p < 0.01; χ²/df = 1.20; CFI = 0.96; TLI = 0.95; IFI = 0.96; RMSEA = 0.04).

Table 1. Results of confirmatory factor analysis.

<table>
<thead>
<tr>
<th>Model</th>
<th>χ² (df)</th>
<th>Δχ²(Δdf)</th>
<th>CFI</th>
<th>TLI</th>
<th>IFI</th>
<th>RMSEA</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-factor model</td>
<td>IP, GE, GMP, OCBE</td>
<td>422.63 (353) **</td>
<td>-</td>
<td>0.955</td>
<td>0.945</td>
<td>0.957</td>
</tr>
<tr>
<td>3-factor model</td>
<td>IP + OCBE, GE, GMP</td>
<td>495.95 (355) **</td>
<td>73.32 (2) **</td>
<td>0.914</td>
<td>0.889</td>
<td>0.909</td>
</tr>
<tr>
<td>2-factor model</td>
<td>IP + OCBE, GE + GMP</td>
<td>551.26 (354) **</td>
<td>128.63 (1) **</td>
<td>0.873</td>
<td>0.844</td>
<td>0.879</td>
</tr>
</tbody>
</table>

Note: ** p < 0.01. IP, institutional pressure; GE, green emotion; GMP, green management practice; OCBE, organizational citizenship behavior for the environment.

4. Results

4.1. Preliminary Analyses
Before testing our hypotheses, we conducted a correlation analysis among the variables. The descriptive statistics and correlation matrix are shown in Table 2. Institutional pressure was positively correlated with OCBE (R = 0.44, p < 0.01) and green emotion (R = 0.42, p < 0.01). Green emotion was positively correlated with OCBE (R = 0.30, p < 0.01). Green management practice was positively correlated with institutional pressure (R = 0.46, p < 0.01), green emotion (R = 0.18, p < 0.05), and OCBE (R = 0.48, p < 0.01). These supply a basis for proving Hypotheses 1 and 2.

Table 2. Descriptive statistics and correlations between variables.

<table>
<thead>
<tr>
<th>Variables</th>
<th>M</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.Gender</td>
<td>1.69</td>
<td>0.46</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.Age</td>
<td>2.33</td>
<td>0.79</td>
<td>−0.08</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.Education</td>
<td>1.97</td>
<td>0.55</td>
<td>−0.09</td>
<td>−0.59 **</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.Industry</td>
<td>5.23</td>
<td>2.43</td>
<td>−0.04</td>
<td>−0.17 *</td>
<td>0.02</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.Length of service</td>
<td>1.97</td>
<td>1.26</td>
<td>−0.14 *</td>
<td>0.84 **</td>
<td>−0.52 **</td>
<td>−0.14</td>
<td>1</td>
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<td></td>
<td></td>
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<tr>
<td>6.IP</td>
<td>3.93</td>
<td>0.66</td>
<td>0.09</td>
<td>0.01</td>
<td>−0.09</td>
<td>−0.14 *</td>
<td>0.06</td>
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<td>7.GE</td>
<td>3.89</td>
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<td>0.03</td>
<td>0.05</td>
<td>−0.10</td>
<td>−0.09</td>
<td>0.03</td>
<td>0.42 **</td>
<td>1</td>
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</tr>
<tr>
<td>8.GMP</td>
<td>3.87</td>
<td>0.61</td>
<td>0.06</td>
<td>0.08</td>
<td>0.02</td>
<td>−0.01</td>
<td>0.08</td>
<td>0.46 **</td>
<td>0.18 *</td>
<td>1</td>
</tr>
<tr>
<td>9.OCBE</td>
<td>3.92</td>
<td>0.53</td>
<td>0.05</td>
<td>0.17 **</td>
<td>−0.17 **</td>
<td>−0.04</td>
<td>0.22 **</td>
<td>0.44 **</td>
<td>0.30 **</td>
<td>0.48 **</td>
</tr>
</tbody>
</table>

Note: * p < 0.05; ** p < 0.01. M, mean; SD, standard deviation; IP, institutional pressure; GE, green emotion; GMP, green management practice; OCBE, organizational citizenship behavior for the environment.

4.2. Hypothesis Testing
Firstly, Model 4 (a simple moderation model) in the PROCESS was used to test the mediation role of green emotion on the relationship between institutional pressure and...
OCBE. As demonstrated in Table 3, after controlling for gender, grade, education, industry and length of service, institutional pressure positively predicted green emotion ($\beta = 0.55$, $p < 0.01$). Green emotion positively predicted OCBE ($\beta = 0.14$, $p < 0.05$). Institutional pressure positively predicted OCBE ($\beta = 0.35$, $p < 0.01$). Thus, Hypothesis 1 is supported. Institutional pressure can remain predict OCBE when both institutional pressure and green emotion were entered into the regression equation, although the significance has decreased. Therefore, green emotion has a partial mediating function in the relationship between institutional pressure and OCBE. In addition, the Sobel test and Bootstrap test were used to further test the mediation effect. The results show that $z = 4.122$ ($p < 0.01$) is obtained through the Sobel test, and the 95% confidence interval is [0.065, 0.198], excluding zero. The sampling frequency of the is set to 5000, and the result shows that the 99% confidence interval is [0.051, 0.227], which does not contain zero. Thus, Hypothesis 2 is supported.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Model 1 (Criterion: GE)</th>
<th>Model 2 (Criterion: OCBE)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$\beta$</td>
<td>se</td>
</tr>
<tr>
<td>Constant</td>
<td>$−0.08$</td>
<td>0.63</td>
</tr>
<tr>
<td>Gender</td>
<td>$−0.09$</td>
<td>0.14</td>
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<tr>
<td>Age</td>
<td>0.16</td>
<td>0.16</td>
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<tr>
<td>Education</td>
<td>0.01</td>
<td>0.15</td>
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<tr>
<td>Industry</td>
<td>$−0.01$</td>
<td>0.03</td>
</tr>
<tr>
<td>Length of service</td>
<td>$−0.11$</td>
<td>0.09</td>
</tr>
<tr>
<td>IP</td>
<td>0.55</td>
<td>0.08</td>
</tr>
<tr>
<td>GE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GMP × IP</td>
<td>$−0.13$</td>
<td>0.08</td>
</tr>
<tr>
<td>GMP × GE</td>
<td>0.21</td>
<td>0.06</td>
</tr>
<tr>
<td>R²</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: *** $p < 0.001$. se, standard error; IP, institutional pressure; GE, green emotion; GMP, green management practice; OCBE, organizational citizenship behavior for the environment.

Secondly, we used Model 1 (a simple moderation model) in the PROCESS. The moderation effect of green management practice was tested. As shown in Table 3, after inputting green management practice into the model, the interaction between green management practice and institutional pressure became a predictor of green emotion (GMP × IP: $\beta = 0.21$, $t = 3.55$, $p < 0.01$). The interaction also turned a predictor of OCBE (IP × PES: $\beta = 0.21$, $t = 3.57$, $p < 0.01$). It indicates that green management practice moderated the relationship between institutional pressure and green emotion (Model 1 in Table 3) and the relationship between institutional pressure and OCBE (Model 2 in Table 3). After inputting green management practice into the model, the interaction between green management practice and green emotion became a predictor of OCBE (GMP × GE: $\beta = 0.13$, $t = 2.23$, $p < 0.05$). It indicates that green management practice moderated the relationship between green emotion and OCBE (Model 2 in Table 3). These results demonstrated that the relation between institutional pressure and green emotion, the relationship between institutional pressure and OCBE, and the relation between green emotion and OCBE were moderated by mindfulness. Furthermore, in order to more intuitively understand the interaction effects of green management practice at different levels (i.e., one standard deviation above or below the mean level), we carried out simple slope analysis (see Figures 2–4). Thus, Hypotheses 3, 4, and 5 are supported.
sure on OCBE in-groups with low and high level of green management practice. The results indicated that by increasing the level of green management practice, the association between institutional pressure and OCBE will be strengthened. Under a low level of green management practice, the effect value is 0.00, the lower limit is $-0.06$, and the upper limit is 0.16, including zero. Under a high level of green management practice, the effect value is 0.21, the lower limit is 0.07, and the upper limit is 0.38, which does not contain zero. Therefore, under different green management practice conditions, one effect value is significant and the other is not significant, which indicates that there is a moderated mediation effect. Thus, Hypothesis 6 is supported.

Table 3. Mediation and moderation effect analysis of the relationship between IP and OCBE.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Model 1 (Criterion: GE)</th>
<th>Model 2 (Criterion: OCBE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>$-0.08$, 0.63</td>
<td>$-0.13$, 0.90</td>
</tr>
<tr>
<td>Gender</td>
<td>$-0.09$, 0.14</td>
<td>$-0.68$, 0.50, 0.01, 0.12</td>
</tr>
<tr>
<td>Age</td>
<td>0.16, 0.16</td>
<td>1.04, 0.30</td>
</tr>
<tr>
<td>Education</td>
<td>0.01, 0.15</td>
<td>0.07, 0.95</td>
</tr>
<tr>
<td>Industry</td>
<td>$-0.01$, 0.03</td>
<td>$-0.35$, 0.73, 0.01, 0.02</td>
</tr>
<tr>
<td>Length of service</td>
<td>$-0.11$, 0.09</td>
<td>$-1.13$, 0.26, 0.13, 0.08</td>
</tr>
<tr>
<td>IP</td>
<td>0.55, 0.08</td>
<td>6.77, 0.00, 0.35, 0.08</td>
</tr>
<tr>
<td>GE</td>
<td>0.14, 0.07</td>
<td>2.06, 0.04, 0.13, 0.07</td>
</tr>
<tr>
<td>GMP</td>
<td>$-0.13$, 0.08</td>
<td>$-1.65$, 0.10, 0.18, 0.07</td>
</tr>
<tr>
<td>GMP × IP</td>
<td>0.21, 0.06</td>
<td>3.55, 0.00, 0.21, 0.06</td>
</tr>
<tr>
<td>GMP × GE</td>
<td>0.13, 0.06</td>
<td>2.23, 0.03, 0.13, 0.06</td>
</tr>
</tbody>
</table>

R²: 0.23, 0.44, F: 7.39 ***, 15.17 ***

Note: *** $p < 0.001$. se, standard error; IP, institutional pressure; GE, green emotion; GMP, green management practice; OCBE, organizational citizenship behavior for the environment.

Figure 2. The moderating effect of green management practice on the relationship between institutional pressure and green emotion.

Figure 3. The moderating effect of green management practice on the relationship between institutional pressure and OCBE.

Thirdly, we employed Model 59 in the PROCESS (Model 59 moderates the mediation model, which is consistent with the hypothetical model in this research) to test the moderated mediation model. The results indicated that by increasing the level of green management practice, the association between institutional pressure and OCBE will be strengthened. Under a low level of green management practice, the effect value is 0.00, the lower limit is $-0.06$, and the upper limit is 0.16, including zero. Under a high level of green management practice, the effect value is 0.21, the lower limit is 0.07, and the upper limit is 0.38, which does not contain zero. Therefore, under different green management practice conditions, one effect value is significant and the other is not significant, which indicates that there is a moderated mediation effect. Thus, Hypothesis 6 is supported.
Figure 4. The moderating effect of green management practice on the relationship between green emotion and OCBE.

Table 4. Bootstrap Test with Moderated Mediation Effect.

<table>
<thead>
<tr>
<th>Types</th>
<th>Index</th>
<th>Effect</th>
<th>BootSE</th>
<th>Boot 95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Low</td>
</tr>
<tr>
<td>Moderated mediation</td>
<td>Eff1 (GMP = M − 1SD)</td>
<td>0.00</td>
<td>0.05</td>
<td>−0.06</td>
</tr>
<tr>
<td></td>
<td>Eff1 (GMP = M)</td>
<td>0.08</td>
<td>0.05</td>
<td>0.01</td>
</tr>
<tr>
<td></td>
<td>Eff1 (GMP = M + 1SD)</td>
<td>0.21</td>
<td>0.08</td>
<td>0.07</td>
</tr>
<tr>
<td>Moderated mediation effect</td>
<td>Eff2-Eff1</td>
<td>0.07</td>
<td>0.04</td>
<td>0.00</td>
</tr>
<tr>
<td>comparison</td>
<td>Eff3-Eff1</td>
<td>0.20</td>
<td>0.10</td>
<td>−0.01</td>
</tr>
<tr>
<td></td>
<td>Eff3-Eff2</td>
<td>0.13</td>
<td>0.07</td>
<td>−0.02</td>
</tr>
</tbody>
</table>

Bootstrap sample = 5000. SE = standard error; CI = confidence interval. The CI value is the confidence interval after correcting the deviation.

5. Discussion

5.1. Theoretical Implantations

The first strength of this research is that it imparts new insights into mechanisms behind OCBE. It contributes to the sustainable development of corporations. OCBE is of more concern to academics than the green behavior in which employees participate alone because the employees’ active environmental protection behavior makes green values widely spread, contributing to the corporation’s green strategy [79]. By paying attention to the participation of institutional pressure, we explored the precedent of OCBE to improve the current knowledge. It makes practical contributions to future sustainable development. The increasingly serious environmental problems make people grow emphasis on environmental protection behavior. During the continuous in-depth research of environmental protection, scholars have been trying to find the key factors that influence people’s environmental protection behavior. According to the development of the times, they continued to expand new research directions. The similar research proved that there is a close connection between environmental citizenship behavior and institutional pressure [60]. Compared with it, we explored other variables between institutional pressure and OCBE. Our research content is more abundant.

The second strength of this research relates to the mediating variables in the mechanism of OCBE. We confirmed the partial mediating of green emotion. It is beneficial to promote the further research of the mediating effect of green emotion. At present, some studies have focused on the relationship between cognition, emotion, and behavior, and
confirmed the mediating role of emotion [64,67]. However, subject to the cognitive behavior system, green emotion is only regarded as a mediator variable between cognition and behavior [36]. We introduced green emotion as an intermediary variable into the mechanism of institutional pressure and OCBE, and replaced the antecedents with institutional pressure. It not only supplements the mediation value of green emotion but also helps to deeply explore the relationship between institutional pressure and OCBE and enriches the research results of environmental protection.

The last strength of this research revolves around verification of the three-stage adjustment. We confirmed the moderating role of green management practice. Because of the continuous extension of green development, many new management methods have emerged in academic circles. However, scholars only pay attention to its influencing factors [52] and mediating role [55], paying less attention to other values. Our findings emphasize the three-stage regulation of green management practice. We regard it as a moderator variable, discuss its regulating function, and broaden the application field of green management practice.

5.2. Practical Implications

Due to the significant relationship between institutional pressure and OCBE, environmental protection policies (such as “waste sorting” policy) can significantly increase employees’ environmental protection behaviors. If the organization exerts moderate compulsory pressure on employees, it can better help the organization to realize green transformation and adapt to the development requirements of the new era more quickly. When environmental protection regulations are promulgated within the company, publicity and training will be used to stimulate employees’ environmental awareness, mobilize employees’ emotional changes, and render the green atmosphere in the workplace. It is conducive to a substantial increase in employees’ green behavior. In addition, organizations need to implement green management practice to cultivate employees’ environmental awareness, to build a green and sustainable organizational culture, and to maintain a strong environmental protection atmosphere. It is helpful to further enhance the overall image by changing the image of employees.

Firstly, organizations need to clarify their own development needs and goals, and to formulate reasonable rules and regulations. The organizational environmental protection regulation is not only a constraint for employees, but also a way to improve their work efficiency, accuracy, and effectiveness. However, the specific implementations of rules and regulations need to be established on the basis of a broad recognition by management and employees. The difficulty of practical operation cannot be ignored. Therefore, before the formal promulgation of environmental protection regulations, organizations should set a trial period for testing the regulations in order to be better adapted by employees so that they can ensure the stability of employees’ emotions and avoid extreme rebellious psychology. Although the pressure can prompt employees to show more environmental behaviors, everything should follow the principle of moderation, otherwise it will only bring disadvantages.

Secondly, it is necessary to establish a fair, just, and open supervision, reward, and punishment mechanism, under the principle of transparent operation. Once the regulations are promulgated, it is necessary to build a corresponding department to supervise their implementation. The establishment of fair supervision and a reward and punishment mechanism is also to balance potential conflicts within the organization. The mechanism pays less attention to the employees’ levels and strengthens the trust of employees in the organization. Moreover, rewards could be distributed to employees when they adhere to the company’s regulations, which helps in improving their sense of faith. The introduction of the reward mechanism will not only help to maintain the high green mood of employees and improve the overall quality of employees but also help them to maintain their work enthusiasm.
Lastly, persisting in the diversified development of green management practice projects is needed. If only one or two green management measures or short-term measures are implemented, it is difficult to achieve the expected green transformation. In order to maintain the strong environmental protection atmosphere within the organization, green measures should be characterized of diversity and high durability. Therefore, organizations need to implement corresponding green measures in research and development, production, and marketing to help them to achieve the goals of protecting the environment, fulfilling social responsibilities, saving resources and accessing sustainable development. The richer the green initiatives, the more likely the organization’s high level of green management practice will be maintained for a long term. It in turn increases the number of employees’ environmental behaviors, thereby enhancing the company’s green transformation capabilities.

5.3. Conclusions, Limitations and Future Research Directions

In response to the call of Zhang and Liu [12], we have proven the influence of the external environment on environmental protection behavior and its importance to a sustainable future through empirical research. The current research makes an innovative contribution to the understanding of the relationship between institutional pressure and OCBE because it emphasizes the mediating role of green emotion and the moderating role of green management practice. Namely, institutional pressure can improve employees’ ability to engage in protecting the environment by promoting their green emotion. Under the background of green management practice, employees’ OCBE can increase.

This research certainly has some limitations. First, our research object is the employees of the whole industry. If employees in specific industries, such as those more closely related to environmental regulations, are investigated, the results may be different. Future research can consider investigating different industries to explore the behavior mechanism that affects OCBE. Second, green management practice is tested as a moderating variable. However, it is not the only valuable variable. Employees with a high sense of responsibility and moral reflection may tend to take environmentally friendly behaviors [79]. Future research should consider other mediating variables, such as organizational culture [83] and moral identity [84]. Third, although China has some common characteristics with other countries and regions, it also shows some institutional differences [80]. In the future, cross-cultural comparative analysis should be made on the impact of institutional pressure on OCBE.

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Conflicts of Interest: The authors declare no competing interest.
## Appendix A. Questionnaire Items

<table>
<thead>
<tr>
<th>Construct</th>
<th>Measuring Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Institutional pressure (IP) ([31])</td>
<td>IP1 Our company’s products are subject to legal environmental protection regulations. IP2 Our company’s products must comply with international environmental protection convention standards. IP3 Our company’s production is subject to international environmental standards. IP4 The government provides subsidies for companies to implement environmental protection measures. IP5 Government grants tax relief for companies implementing green measures. IP6 The government’s promotion of environmental protection has a positive impact on the company. IP7 Our company’s customers require products to meet environmental standards. IP8 Our company’s customers value the green concept of products. IP9 Our company establishes a good market image through the green products. IP10 Our company has a considerable market share through the green concept of our products.</td>
</tr>
<tr>
<td>Green emotion (GE) ([82])</td>
<td>GE1 It is important to me that the products I use don’t harm the environment. GE2 I consider the potential environmental impact of my actions when making many of my consumption decisions. GE3 I am concerned about wasting the resources of our planet. GE4 I would describe myself as environmentally responsible. GE5 I am willing to be inconvenienced in order to take environmentally sustainable actions.</td>
</tr>
<tr>
<td>Green management practice (GMP) ([51])</td>
<td>GMP1 I proactively protect the environment, such as reducing pollution and carbon emissions. GMP2 I take the initiative to eliminate harmful factors in the workplace. GMP3 I can use resources wisely and responsibly. GMP4 I consciously minimize raw material inputs. GMP5 I take the initiative to recycle my own products. GMP6 I respect the laws of nature.</td>
</tr>
<tr>
<td>Organizational citizenship behavior for the environment (OCBE) ([8])</td>
<td>OCBE1 I am a person who prints double-sided. OCBE2 I am a person who uses a reusable coffee cup instead of a paper cup. OCBE3 I am a person who uses stairs instead of elevators between adjacent floors. OCBE4 I am a person who turns off lights when leaving my office for any reason. OCBE5 I am a person who powers down all desk electronics at the end of the day. OCBE6 I am a person who sets the air conditioner to a suitable temperature. OCBE7 I am a partner who works with other colleagues to improve the environmental sustainability of an organization. OCBE8 I am a person who advises superiors on ways to improve organizational environmental practices. OCBE9 I am a person who tries to help others learn how to improve the environmental sustainability of their organization.</td>
</tr>
</tbody>
</table>

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