

Organizational Green Climate and Employee Green Behavior: A Moderated Mediation Model

Xuedong Liang¹, Biaoshuai Li¹, Qunxi Gong^{1,2}, Sipan Li¹ and Gengxuan Guo^{1*}

¹*Business School, Sichuan University, Chengdu, China*

²*Sichuan Haina Rendong Science and Technology Co. Ltd, Chengdu, China*

Keywords: Green Climate, Employee Green Behavior, Green HRM, Autonomous Motivation.

Abstract: As the sustainable development of the environment continues to deepen and refine today, the green behavior of employees is increasingly being paid attention to. In order to clarify the relationship between organizational green climate and employee green behavior, we construct a theoretical model, using green climate as the antecedent variable, green HRM as the moderating variable, and employee autonomy as the mediating variable, then validates the model by empirical analysis. We obtained conclusion that 1) green climate is positively related to firm employee green behavior; 2) green climate is positively related to employees' autonomy motivation; 3) employees' autonomy motivation mediates the relationship between green climate and employee green behavior; 4) green HRM positively moderates the effect of green climate on autonomy motivation and the mediating role of autonomy motivation.

1 INTRODUCTION

Nowadays, building an environmental and sustainable society has turn into the main trend, the green behaviors of organizations and individuals has gradually become the focus of society. Employees, as participants and implementers of the enterprises' production and related pro-environmental policies (Peng, 2019), their workplace green behaviors have the significance of interacting with the organization to improve the company's environmental performance from the perspective of organizational management; and it also has the effect of constructing environmentally friendly values at the individual level from the perspective of environmental psychology.

Given the important value of employee green behavior, scholars have explored the factors that influence employee green behavior. The existing literature has explored the influence of personal factors (personality traits, emotions, etc.) and leadership style, such as the role of responsibility (Kim, 2017) and green transformational leadership (Graves, 2013). However, the literature on effect of green climate is still to be improved.

About green climate, existing research has focused on its normative role, considering it influence

employees by forming a descriptive norm or examining its impact on task-oriented green behaviors (Norton, 2014). Few research discussed about the role of autonomy in this context. In addition, research on the effect mechanism between green climate and green behavior of employees is relatively scarce, so exploring the mediating role of autonomous motivation between them is required now.

Therefore, this study proposes a theoretical model to describe the relation between green climate, and green behavior, as well as the role of autonomous motivation and green HRM. Through this study, we hope to enrich the theoretical research in the field related to employee green behavior and provide insight into the practice of green management in enterprises.

2 THEORY AND HYPOTHESIS

2.1 Impact of Green Climate on Employee Green Behavior

Green climate refers to the organizational climate created by a series of sustainability policies. Studies have shown that work climate has a strong link to

employees' attitudes and behaviors. In this regard, the presence of environmental protection factors in a organization's work climate is likely to impact employees' perceptions and behaviors of environment protection. The green climate in the workplace consists of two aspects: one is pro-environmental values from organization, and the other is from colleagues. Employees in a green workplace are likely to perceive and accept green ideas from their organization and colleagues, and agree on the value of green behaviors, and thus are more probably to adopt environmental behaviors in their daily work. Therefore, we propose the following hypothesis:

H1: Green climate positively influences employee green behavior.

2.2 The Mediating Role of Autonomy Motivation

Motivation drives employee behavior. According to self-determination theory, autonomous motivation drives individuals to engage in activities that are consistent with their potential selves. Autonomous motivation includes identity motivation and internal motivation. Identity motivation can drive employees to engage in green behaviors by the consistent concept and goals of environmental sustainability, while internal motivation drives employees to engage in green behaviors by stimulating their interests and satisfying their emotional needs. Therefore, employees with higher levels of autonomy motivation are more likely to participate in pro-environmental activities or generate related behaviors actively, consistently, and effectively.

As we mentioned above, organization's green climate can convey and emphasize green values to employees through the culture of organization and attitudes of colleagues. The stronger the green climate, the more frequently and clearly employees are likely to perceive the green values. The more

employees internalize the values, the more meaningful they will perceive environmental activities to be, and the more they may generate the idea of participating in environmental protection. Happiness will be brought by the behavior that is consistent with their values, so they will be more active in the pro-environmental activities. Therefore, we propose the following hypotheses:

H2: Autonomy motivation positively influences employee green behavior.

H3: Green climate positively influences autonomy motivation.

H4: Autonomy motivation mediates between green climate and employee green behavior.

2.3 The Moderating Role of Green HRM

Green HRM is business organizations use their HRM departments to effectively implement environmental sustainability policies. Organizations that implement a higher degree of green HRM are able to make it easier for employees to feel and integrate into the organizational green climate, thus stimulating employees' environmental awareness and triggering their autonomous motivation so that they will perceive green behaviors as valuable and meaningful, proactive, and self-determined behaviors. In addition, the organization's implementation of green HRM puts forward a series of environmental protection measures in action and also clarifies its environmental attitudes in thought, which will have a subtle influence on employees' green-related attitudes and behaviors. Therefore, we propose the following hypotheses:

H5: Green HRM positively moderates the relationship between green climate and autonomous motivation.

H6: The green HRM positively moderates the indirect effect of green climate on employee green behavior through autonomy motivation.

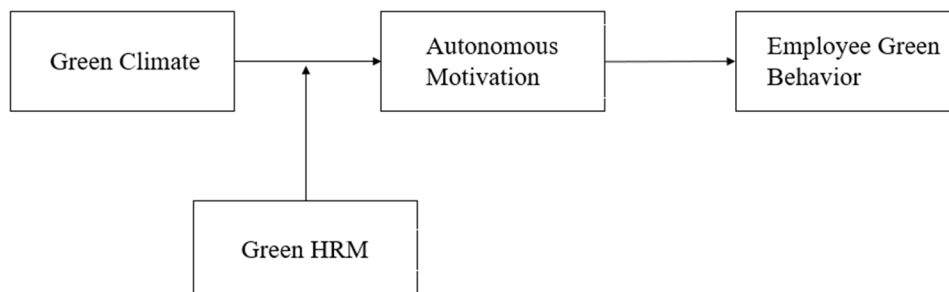


Figure 1: Theoretical framework.

3 METHODS AND MATERIALS

3.1 Sample and Procedure

This study used a questionnaire survey to collect data from employees of an enterprise in Chengdu, China. We contacted the HRM department of the company and distributed and collected the questionnaire with their cooperation. To minimize the negative impact on the environment, an online questionnaire was used as the main method. The average length of time to fill out the questionnaire was 5 minutes. After screening out the questionnaires that took less than 2 minutes to answer and contained a large number of consecutive identical options, 349 valid questionnaires were obtained for data analysis.

3.2 Measures

The measurement scales used in this study are all derived from the maturity scales in the past literature. The scale items are all on a 5-point Likert scale, measuring the following variables:

Green climate: we used the scale developed by Norton et al. (Norton, 2014), including 8 items such as "Our company is concerned with becoming more environmentally friendly", Cronbach's α coefficient is 0.91.

Autonomy motivation: the scale developed by Graves et al. (Graves, 2013). was used, including "I would engage in green behaviors at work because it allows me to achieve goals I consider important" and six other questions, Cronbach's α coefficient is 0.94.

Employee green behavior: the scale developed by Kim et al. (Kim, 2017) was used, which is close to the

actual office workplace and includes six items such as "avoiding unnecessary printing to save papers", with a Cronbach's α coefficient of 0.82.

Green HRM: The scale used by Dumont et al. (Dumont, 2017) was adopted, including 6 questions such as "My company provides employees with green training to promote green values". The Cronbach's α coefficient is 0.79.

4 HYPOTHESIS TESTING

In order to test the effect of green climate on employee green behavior, the mediating role of autonomy motivation, and the mediating role of green HRM, we used SPSS 24.0 to perform a stepwise regression analysis on the collected data. During the testing process, the Process macro plug-in developed by Hayes et al. (Hayes, 2013) was used for Bootstrap robustness test.

First, the main effect test, i.e., the effect of green climate on employee green behavior. Model 4 is a regression model of the control variables (gender, age, and education) on employee green behavior. Model 5 is a regression model of employee green behavior after adding the independent variable (green climate). In model 5, green climate has a significant positive effect on employee green behavior ($\beta=0.33$, $p<0.01$), so hypothesis 1 is supported.

Second, the mediating effect test, i.e., the mediating effect of green HRM between green climate and employee green behavior. In model 2, green climate has a significant positive effect on employee autonomy motivation ($\beta=0.571$, $p<0.01$),

Table 1: Regression test of Autonomy motivation and Employee Green Behavior (N=349).

Variables	Autonomy motivation			Employee green behavior			
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Gender	0.191**	0.139**	0.138**	-0.084	-0.115*	-0.145**	-0.14**
Age	0.039	0.083	0.082	-0.065	-0.038	-0.077	-0.054
Education	0.268**	0.161**	0.143**	0.036	-0.026	-0.051	-0.923
Green climate		0.571**	0.595**		0.33**		0.224**
Autonomy motivation						0.054**	0.186**
GHRM			0.012				
Green climate*GHRM			0.104*				
R ²	0.087	0.394	0.403	0.015	0.117	0.107	0.138
ΔR^2	0.079	0.387	0.393	0.006	0.107	0.096	0.125
F	10.955**	55.81**	38.549**	1.713	11.327**	10.206**	10.892**

Note: * indicates significant correlation at the 0.05 level (two-tailed).

** indicates significant correlation at the 0.01 level (two-tailed)

Table 2: Tests of mediating effects with moderation (N=349).

Degree of adjustment variable	Conditional Indirect Effect				Moderated Mediator		
	Estimate	Boot SE	BC 95% CI	INDEX	S.E.	BC 95% CI	
Low GHRM	0.1011	0.0428	0.0186	0.1881			
Medium GHRM	0.1102	0.0462	0.02004	0.2035	0.0137	0.0001	0.0362
High GHRM	0.1236	0.0523	0.0203	0.2298			

Note: This study uses bootstrap for random sampling 5000 times.

so hypothesis 3 is supported; in model 6, employee autonomy motivation has a significant positive effect on employee green behavior ($\beta=0.054$, $p<0.01$), so hypothesis 2 is supported; after adding the mediating variable (autonomy motivation), the effect of green climate on employee green behavior ($\beta=0.224$, $p<0.01$) in model 7 remains significant, and employee autonomy motivation also has a significant positive effect on employee green behavior ($\beta=0.186$, $p<0.01$). Therefore, hypothesis 4 was supported.

Third, the moderating effect test, i.e., the moderating effect of green HRM between green climate and employee autonomy motivation. In Model 3, after adding the moderating variable (green HRM), green climate still has a significant positive effect on employee autonomy motivation ($\beta=0.595$, $p<0.01$). Also, after the interaction of green climate and green HRM, it shows a significant positive effect on employee autonomy motivation ($\beta=0.104$, $p<0.05$), so hypothesis 5 is supported.

Also, the point estimate of the mediating effect with moderation is 0.0137 and a 95% confidence interval of [0.0001, 0.0362], excluding zero. That means, as the value of green HRM changes from one standard deviation below the mean to one standard deviation above the mean of the rubric, the mediating role of employee autonomy motivation increases significantly, thus hypothesis 6 is supported.

5 DISCUSSION

5.1 Theoretical Implications

The study improves the influence mechanisms affecting employee green behavior and provides an empirical evidence of self-determination theory in employee psychology and behavior research. Besides, by exploring the moderating role of green HRM, it provides a theoretical basis for how green policies can guide and promote employee green behaviors, and provides new perspectives for exploring environmentally sustainable development strategies at the micro level.

5.2 Practical Implications

Since green climate can have a positive impact on employee green behavior, companies could participate in building an pro-environmental culture and team climate, so that employees can be influenced in daily work. In addition, as the moderating effects of green HRM are verified, companies could adopt appropriate recruitment strategies to attract employees who share the same environmental values as the organization.

5.3 Limitations and Future Research

Due to reality factors, this study still has some limitations. Firstly, this study only used employees' self-assessment. Self-evaluation from a single source may affect the authenticity and accuracy of the data. Future research can use multi-source data, such as evaluation of leaders and colleagues.

Secondly, Autonomous motivation is not the only path for employees to produce green behavior, the motivation that drives employees to show environmental behaviors in the workplace may also include factors such as employees' impression management motivation, which can be explored in future studies.

6 CONCLUSION

This study obtained the following conclusions: first, green climate can positively influence employee green behavior; second, autonomy motivation can positively influence employee green behavior; third, autonomy motivation shows a mediating role in the influence of green climate on employee green behavior; fourth, green HRM can positively moderate the influence of green behavior and enhance the mediating role of autonomy motivation. Therefore, we suggest that organizations could work on the development of an environmentally friendly society by building the green climate, and suggest that future research could explore other mechanisms

that affect employee green behavior.

ACKNOWLEDGEMENTS

This paper was supported by the National Natural Science Foundation of China (Grant No.71902128) and the Department of Science and Technology of Sichuan Province Fund (Grant No.2021JDRC0002).

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