

The Effect of Green Human Resource Management on Employee Green Behavior: The Role of Green Behavior Intention and Green Psychological Climate

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Abstract: Based on the theory of planned behavior, we investigated how green human resource management (GHRM) affects employees' green behavior in resource-based enterprises, and examined the mediating effect of green behavior intention and the moderating effect of green psychological climate. A questionnaire survey was conducted among 260 employees working in resource-based enterprises. The results show that GHRM has a direct positive impact on employees' green behaviors. GHRM can indirectly influence employees' green behavior through green behavior intentions. The green psychological atmosphere moderates the relationship between GHRM and employees' green behavior intentions. When employees perceive a strong green psychological atmosphere, GHRM has a stronger positive impact on their green behavior intention. The theoretical and more specific practical implications of these findings are also discussed.

Keywords: Green Human Resource Management; Employees' Green Behavior; Green Behavior Intention; Green Psychological Climate; Resource-Based Enterprise

1. Introduction

Issues involving resources and the environment are common problems faced by all countries. Since the emergence of the "green" discourse in the 1980s, countries have been vigorously developing green economies. The green economy has received increasing consideration and policy attention since the global financial crisis of 2008. A green economy refers to an economic system that is not only decarbonized and resource-efficient, but also socially inclusive. It is designed to enhance human

welfare and promote social equity, while simultaneously reducing environmental degradation and alleviating ecological constraints [1]. In order to achieve a harmonious and balanced development of social, economic, and ecological benefits, the green management requirements of resource-based enterprises are also constantly improving. Green human resource management (GHRM) practices are instrumental in advancing corporate environmental initiatives and fostering long-term organizational sustainability. People are producers and owners of knowledge; changing people's ideas and stimulating their potential can realize knowledge innovation, and then promote the sustainable development of social and economic development [2]. Employees' perception of green human resource management can have a positive impact on green service innovation [3]. Previous studies have shown that from the perspective of resource conservation theory, green human resource management in enterprises has a double-edged sword effect on employees' green behavior [4]. Employees' green behavior is a workplace-specific environmental behavior [5], and the implementation of an organization's sustainable development strategy, which has attracted increasing attention from scholars [6]. GHRM integrates the concept of pursuing environmental protection and sustainable development into a functional module for human resource management. By enhancing employees' perceptions of GHRM, more green behaviors are generated among employees. Therefore, GHRM plays a crucial role in changing employees' green development ideas and promoting green behaviors for enterprises [7].

According to the theory of planned behavior, behavior intention is typically viewed as a preparatory mental state that reflects an

individual's subjective likelihood or willingness to engage in a specific action. In actual measurements, it is usually expressed as the possibility of a certain behavior occurring [8]. An employee's green behavior intention refers to the self-regulation that employees apply to themselves to behave in an environmentally friendly manner [5]. Many studies have been conducted by scholars from different perspectives. A better understanding of the relationship between green behavior intention and employees' green behavior, especially the significant difference in the relationship strength and direction, is needed [9]. Corporate green behavior is driven by both external and internal stakeholders [10].

Ajzen and Fishbein argue that subjective norms are determined by two variables: normative beliefs and compliance motivation [11]. The stronger an individual's normative beliefs, the greater the perceived social pressure. Wang and Yuan confirmed the mediating role of pro environmental motivation in transformational leadership and employee green behavior, and suggested that companies recruit leaders with environmental awareness and focus on cultivating employees' pro environmental motivation [12]. Human resource management focuses more on green development, and there are more specific practices required to influence employees' behavior and attitudes. The stronger the sense of responsibility and the stronger the control belief of employees, the more likely they are to adopt green behaviors.

Lack of support in the workplace, such as recognition from the organization, leaders' support, or colleagues' assistance, can make it difficult for employees to remain consistent with the expectations of human resource managers. Hence, they cannot comply with the relevant rules and regulations of the GHRM. A green psychological climate refers to employees' perceptions of relevant policies and the environmental climate of an organization's sustainable development [13]. Employees are more likely to accept the GHRM mode when the company has a strong green psychological climate. With a strong perception of green psychological climate, it is easier to conduct GHRM and train employees' green behavior intention, causing employees to adopt green behavior.

On these grounds, we proposed the following hypotheses:

H1: GHRM has a significant positive impact on employees' green behavior.

H2: Employees' green behavior intention has a significant positive impact on employees' green behavior.

H3: GHRM has a significant positive impact on employees' green behavior intention.

H4: Green behavior intention mediates the impact of GHRM on employees' green behavior.

H5: The green psychological climate moderates the influence of GHRM on employees' green behavior intentions.

We summarized our conceptual framework in Figure 1.

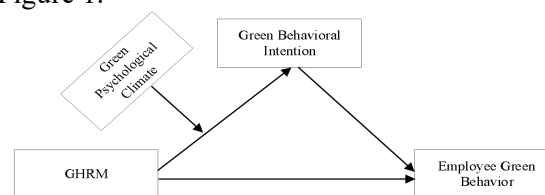


Figure 1. Theoretical Model

2. Methods

2.1 Sample and Data Collection

At a time of rapid economic development, resource consumption is also increasing. In order to achieve a harmonious and balanced development of social, economic, and ecological benefits, the green management requirements of resource-based enterprises are also constantly improving. The purpose of this study is to explore the impact of GHRM on the green behavior of employees in resource-based enterprises. Therefore, the research objects were employees working in resource-based enterprises. According to the national economy industry classification, resource-based enterprises are defined as enterprises which exploit mineral resources and provide minerals and primary commodities in the market. These enterprises include coal mining and dressing, crude petroleum and natural gas extraction, and other mining industries.

In this study, 300 questionnaires were distributed to resource-based enterprises. A total of 260 valid questionnaires were collected, rendering the effective rate of the questionnaire 91%. The collected data reflect the characteristics of the sample. Males accounted for 69.6% of the total participants. In terms of age, participants aged between 28 and 49 years old accounted for 63.9% of the sample in total, indicating that the majority of the participants

in this survey were born in the 1970s and 1980s. With regards to educational background, those who had not obtained a bachelor's degree accounted for 50.4% of the sample, those with a bachelor's degree accounted for 34.6%, and those with a master's degree or doctorate accounted for 15%. Regarding types of enterprises, state-owned enterprises and private enterprises accounted for 46.9% and 48.1% of the sample, respectively. In terms of job position, participants in managerial positions accounted for 42.7%, those in technical positions made up 24.2%, and those in service positions 31.5%. Other positions accounted for 1.5% of the sample. Regarding job tenure, 46.9% of employees had worked for 10 years or more, and 22.7% had worked for 5-10 years.

2.2 Measures

Combined with the research purpose and research content, this study takes GHRM as the independent variable, employee green behavior as the dependent variable, green behavior intention as the mediating variable, and green psychological climate as the moderating variable.

Green human resource management (GHRM)
Based on the definition of GHRM, this study adopted the 6-item scale from Dumont to measure GHRM. Participants evaluated statements about the GHRM of their company.

Green behavior intention

This study adopted a 3-item scale on green behavior intention from Norton et al. [7] which was developed based on Ajzen's planned behavior theory. Participants evaluated their own green behavior intention.

Green psychological climate

This study adopted the 8-item scale on green psychological climate from Norton et al. [7] Participants evaluated their perception of the company's green psychological climate.

Employees' green behavior

This study adopted the 6-item scale on employees' green behavior from Bissing-Olson et al. [9] Participants evaluated their own green behavior.

3. Results

3.1 Testing Common Method Bias

It is necessary to use a procedural method to control common method bias and to use statistical methods to test it. In this study, the

largest common factor had an eigenvalue of 13.791 prior to rotation, accounting for 47.554% of the total variance. No single factor was found to explain the majority of covariance between the independent and dependent variables, suggesting that common method bias was not a serious concern in this research.

3.2 Reliability and Validity Testing

Cronbach's α , composite reliability (CR), and average variance extracted (AVE) are shown in Table 1. The Cronbach's α values were 0.954, 0.933, 0.889, and 0.943 for the GHRM scale, the green psychological climate scale, the green behavior intention scale, and the employees' green behavior scale, respectively. All variables were greater than 0.7, and the CR value was higher than 0.600, indicating good internal consistency. The AVE value of each variable was greater than 0.500, indicating that each variable had high validity.

Table 1. The Result of Reliability and Validity Testing

Variables	Items	Cronbach's α	CR	AVE
GHRM	6	0.954	0.954	0.775
GPC	8	0.933	0.934	0.570
GBI	3	0.889	0.891	0.732
EGB	6	0.943	0.944	0.736

Note: GHRM means green human resource management, GPC means green psychological climate, GBI means green behavior intention, EGB means employee green behavior. The same below.

3.3 Descriptive Statistical and Correlation Analysis

The descriptive statistics and correlation analysis results of GHRM, green psychological climate, green behavior intention, and employees' green behavior are shown in Table 2. According to the correlation coefficient, GHRM was significantly positively correlated with green psychological climate ($r=0.718$, $p<0.001$), employees' green behavior intention ($r=0.548$, $p<0.001$), and employees' green behavior ($r=0.728$, $p<0.001$). Green psychological climate was significantly positively correlated with employees' green behavior intention ($r=0.661$, $p<0.001$) and employees' green behavior ($r=0.755$, $p<0.001$). In addition, employees' green behavior intention was significantly positively related to employees' green behavior ($r=0.694$, $p<0.001$). These results preliminarily verified the research

hypotheses and further regression analysis was performed.

Table 2. Descriptive Statistical and Correlation Analysis

Variables	GHRM	GPC	EGBI	EGB
GHRM	1			
GPC	0.718***	1		
GBI	0.548***	0.661***	1	
EGB	0.728***	0.755***	0.694***	1
M	4.006	4.246	4.328	4.190
SD	0.906	0.590	0.566	0.628

Note: *** $p < 0.001$. M means Mean, SD means Standard Deviation.

3.4 Hypothesis Testing

We used the hierarchical regression analysis method for hypothesis testing. The results are presented in Table 3. In Model 1, GHRM had a significant positive impact on employees' green behaviors ($\beta = 0.425$, $t = 8.031$, $p < 0.001$). Thus, Hypothesis 1 was verified. In Model 2, GHRM had a significant positive impact on employees' green behavioral intentions ($\beta = 0.224$, $t = 3.508$, $p < 0.01$). Thus, Hypothesis 3 was verified. According to Model 1, the interaction term coefficient of green psychological climate and

GHRM was significant ($\beta = 0.175$, $t = 4.177$, $p < 0.001$). This indicates that green psychological climate moderated the influence of GHRM on employees' green behavior intentions. The ΔR^2 of the moderating effect was 0.006, which explains the extra 0.6% variation that increases the explanation rate from 69.2% to 69.8%. In Model 3, employees' green behavior intention had a significant positive impact on employees' green behavior ($\beta = 0.263$, $t = 5.345$, $p < 0.001$). This indicates the establishment of a moderate effect model with a mediating variable. At the same time, the interaction term coefficient of green psychological climate and GHRM was significant ($\beta = 0.097$, $t = 2.288$, $p < 0.05$). This indicates that the moderator variable has a partial mediating effect. In other words, employees' green behavior intention has a partial mediating effect on the influence of GHRM on employees' green behavior. Hypotheses 2 and 4, then, are verified. To more intuitively explain the moderating effect of green psychological climate on the influence of GHRM on employees' green behavior intention, this study adopted the simple slope chart method for further analysis.

Table 3. Result of Hypothesis Testing

	Model (criterion: EGB)		Model 2 (criterion: GBI)		Model 3 (criterion: EGB)	
	β	t	β	t	β	t
GHRM	0.425	8.031***	0.224	3.508**	0.366	6.090***
GPC	0.533	9.968***	0.641	9.940***	0.365	2.288***
GPC×GHRM	0.175	4.177***	0.296	5.863***	0.097	2.288*
GBI					0.263	5.345***
R square	0.665		0.513		0.698	
Adjusted R square	0.661		0.507		0.694	
F	169.034***		89.913		147.574***	

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

The cross trend of the two lines is clear in Figure 2, indicating that the moderating effect was significant. Specifically, compared with the low green psychological climate, the influence of GHRM on employees' green behavioral intention was more pronounced with a high psychological climate. This is consistent with Hypothesis 5. Thus, Hypothesis 5 stands verified.

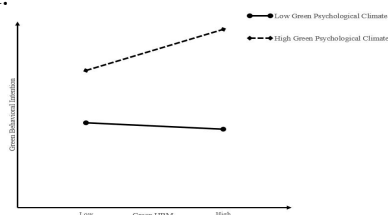
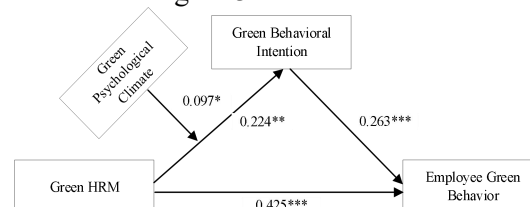


Figure 2. The Simple Slope Chart of Moderating Effect

In summary, the results of the hypothesis test are shown in Figure 3.



Note: * $p < 0.05$, *** $p < 0.001$.

Figure 3. Results of Hypotheses Tests

4. Conclusions

Although this paper obtains relevant second-hand data using literature research methods, the primary data for this study were collected through a questionnaire-based survey, and quantitative and qualitative analyses were

carried out using various data analysis methods; the data results were relatively reliable. However, in the study of individual behavior, researchers often regard experimental methods as a more powerful tool for uncovering deeper insights into behavioral patterns. In the future, with sufficient manpower and material resources, experimental research methods could be used to further verify hypotheses and explore the impact mechanism. Additionally, this study only explores the impact mechanism of employees' green behavior based on the theory of planned behavior. In order to explore more influential factors on employees' green behavior, future research could be conducted based on other theoretical perspectives.

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