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## Green Human Resource Management and Employee Green Behavior: The Mediating Role of Environmental Commitment

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**Abstract:** The growing emphasis on environmental sustainability has encouraged organizations to integrate green principles into their human resource management practices. This study aims to examine the effect of Green Human Resource Management (GHRM) on Employee Green Behavior (EGB), with Environmental Commitment serving as a mediating variable. Drawing on Social Exchange Theory and the Ability–Motivation–Opportunity (AMO) framework, this research proposes that environmentally oriented HR practices can foster employees' commitment to environmental values, which in turn encourages pro-environmental behavior in the workplace. A quantitative research design was employed using a survey method. Data were collected from 320 employees working in manufacturing and service organizations. The measurement model and structural relationships were analyzed using Partial Least Squares–Structural Equation Modeling (PLS-SEM). The results indicate that GHRM practices have a significant positive effect on Employee Green Behavior. Furthermore, Environmental Commitment was found to have a significant positive impact on Employee Green Behavior and partially mediates the relationship between GHRM and Employee Green Behavior. These findings contribute to the green HRM literature by empirically validating the mediating role of Environmental Commitment in explaining how GHRM influences employee behavior. From a practical perspective, the study highlights the importance of embedding environmental values within HR policies such as green recruitment, green training, and green performance management to strengthen employees' environmental commitment and promote sustainable behavior. This research offers valuable insights for managers seeking to enhance organizational sustainability through human resource strategies, particularly in emerging economy contexts.

**Keyword:** Green Human Resource Management, Employee Green Behavior, Environmental Commitment, Sustainability, Human Resource Management

### INTRODUCTION

Environmental sustainability has become a critical global issue as environmental degradation, climate change, and resource depletion continue to intensify. Reports from the United Nations Environment Programme indicate that global greenhouse gas emissions

remain at historically high levels despite international agreements aimed at mitigating climate change (UNEP, 2023). As a result, organizations are increasingly expected to balance economic objectives with environmental responsibility. In this context, Human Resource Management (HRM) is no longer viewed solely as an administrative function but as a strategic mechanism capable of shaping employee attitudes and behaviors toward sustainability (Jackson et al., 2011).

Green Human Resource Management (GHRM) refers to the systematic integration of environmental objectives into HR policies and practices, including recruitment, training, performance appraisal, and reward systems (Renwick et al., 2013). Prior research suggests that GHRM plays a pivotal role in embedding environmental values within organizational culture and encouraging employees to actively participate in sustainability initiatives. Organizations that adopt green-oriented HR practices tend to demonstrate stronger environmental performance, as employees perceive such practices as a genuine organizational commitment to sustainability (Ren et al., 2018).

Employee Green Behavior (EGB) encompasses both mandatory and voluntary actions undertaken by employees that contribute to environmental sustainability within the workplace, such as conserving energy, reducing waste, recycling, and supporting environmentally responsible decision-making (Ones & Dilchert, 2012). Empirical studies indicate that employee behavior is a decisive factor in determining organizational environmental outcomes, often exerting a greater influence than technological investments alone (Norton et al., 2015). Consequently, understanding how organizational practices stimulate employee green behavior has become a key research agenda in the sustainability and HRM literature.

Despite the growing interest in GHRM and EGB, existing studies largely focus on direct relationships, offering limited insight into the psychological mechanisms that explain how GHRM translates into actual green behavior. Scholars argue that without examining mediating variables, the explanatory power of GHRM models remains incomplete (Pham et al., 2019). One such mechanism is Environmental Commitment, defined as the extent to which employees internalize environmental values and feel emotionally and morally attached to environmental goals promoted by their organization (Raineri & Paillé, 2016).

Social Exchange Theory provides a useful lens for explaining this mechanism. According to Blau (1964), employees tend to reciprocate organizational support with positive attitudes and behaviors. When organizations implement environmentally responsible HR practices, employees may interpret these actions as signals of organizational care for environmental sustainability, which fosters a sense of obligation and commitment toward environmental objectives. This heightened environmental commitment, in turn, encourages employees to engage in green behavior beyond formal job requirements (Paillé et al., 2014).

In addition, the Ability–Motivation–Opportunity (AMO) framework offers a robust theoretical foundation for linking GHRM to employee behavior. GHRM enhances employees' abilities through green training, strengthens motivation through environmentally linked performance appraisal and rewards, and provides opportunities for participation in environmental initiatives (Appelbaum et al., 2000; Renwick et al., 2013). Through these mechanisms, GHRM is expected to foster stronger environmental commitment, which acts as a psychological bridge between HR practices and observable green behavior.

However, empirical evidence regarding the mediating role of Environmental Commitment remains limited and fragmented, particularly in emerging economy contexts. Most prior studies have been conducted in developed countries, where environmental awareness, regulatory enforcement, and organizational resources are relatively strong (Ren et al., 2018). In contrast, organizations in emerging economies face distinct challenges, including rapid industrialization, institutional constraints, and lower levels of environmental

enforcement, which may alter the effectiveness of GHRM practices. This contextual gap highlights the need for further empirical investigation to test whether existing theoretical models hold across different economic settings.

Responding to recent calls for more theory-driven and mechanism-focused research in sustainable HRM (Tang et al., 2018), this study examines the relationship between Green Human Resource Management and Employee Green Behavior, with Environmental Commitment serving as a mediating variable. By integrating Social Exchange Theory and the AMO framework, this research seeks to provide a more comprehensive explanation of how green HR practices influence employee behavior. The study contributes to the literature by clarifying the psychological pathway linking GHRM and EGB and by offering empirical evidence from an emerging economy context. From a practical perspective, the findings are expected to guide managers in designing HR strategies that strengthen employees' environmental commitment and promote sustainable behavior within organizations.

## **LITERATURE REVIEW**

### **Green Human Resource Management (GHRM)**

Green Human Resource Management (GHRM) has emerged as a strategic approach that integrates environmental management objectives into traditional human resource practices. GHRM encompasses a set of HR policies and practices designed to promote sustainable use of resources and encourage environmentally responsible behavior among employees (Renwick et al., 2013). These practices typically.

From a strategic perspective, GHRM is grounded in the notion that human resources represent a critical organizational capability for achieving sustainable competitive advantage. By embedding environmental values into HR systems, organizations can align employee behavior with sustainability goals and enhance environmental performance (Ren et al., 2018). Empirical studies have demonstrated that organizations implementing GHRM practices are more likely to develop a pro-environmental organizational culture, which serves as a foundation for sustainable business performance (Tang et al., 2018).

The Ability–Motivation–Opportunity (AMO) framework provides a strong theoretical basis for understanding the effectiveness of GHRM. According to this framework, HR practices influence employee performance by enhancing employees' abilities, motivating them to perform, and providing opportunities to contribute (Appelbaum et al., 2000). In the context of GHRM, green training enhances employees' environmental knowledge and skills, green rewards strengthen motivation to engage in eco-friendly behavior, and participative environmental initiatives provide opportunities for employees to contribute to sustainability efforts (Renwick et al., 2013).

### **Employee Green Behavior (EGB)**

Employee Green Behavior (EGB) refers to individual behaviors in the workplace that contribute to environmental sustainability, either as part of formal job requirements or as discretionary actions beyond prescribed roles (Ones & Dilchert, 2012). Such behaviors include conserving energy, reducing waste, recycling, supporting environmental initiatives, and advocating environmentally responsible practices within the organization (Norton et al., 2015).

Research suggests that EGB is a critical determinant of organizational environmental performance, as employee actions directly affect resource consumption and waste generation (Boiral & Paillé, 2012). Unlike technological solutions, which require substantial financial investment, EGB represents a cost-effective and sustainable mechanism for improving environmental outcomes. Consequently, understanding the antecedents of EGB has become a central concern in the sustainability and HRM literature.

Prior studies indicate that organizational factors, particularly HR practices, play a significant role in shaping EGB. Employees are more likely to engage in green behavior when they perceive that their organization values and supports environmental sustainability (Raineri & Paillé, 2016). However, researchers also emphasize that employee behavior cannot be fully explained by formal policies alone, highlighting the importance of psychological and attitudinal factors in translating organizational practices into individual actions (Pham et al., 2019).

### **Environmental Commitment**

Environmental Commitment is defined as an employee's psychological attachment to and identification with environmental values and goals promoted by the organization (Paillé et al., 2014). It reflects the extent to which employees internalize environmental responsibility as part of their work identity and feel morally obligated to support environmental initiatives. Environmental Commitment is considered a specific form of organizational commitment that focuses on environmental sustainability rather than general organizational attachment (Raineri & Paillé, 2016).

Drawing on Social Exchange Theory, employees develop commitment when they perceive that their organization demonstrates genuine concern for values that they consider important (Blau, 1964). When organizations invest in environmentally responsible HR practices, employees may interpret these actions as signals of organizational support for sustainability, which strengthens their environmental commitment. This commitment, in turn, motivates employees to reciprocate through positive environmental behavior (Paillé et al., 2014).

Empirical research has shown that Environmental Commitment is positively associated with various pro-environmental outcomes, including employee green behavior, environmental citizenship behavior, and voluntary participation in environmental initiatives (Boiral et al., 2015). These findings suggest that Environmental Commitment functions as a critical psychological mechanism linking organizational practices to employee behavior.

### **Green Human Resource Management and Employee Green Behavior**

A growing body of empirical research supports the positive relationship between GHRM and Employee Green Behavior. Studies indicate that green recruitment and training practices increase employees' environmental awareness and competencies, while green performance appraisal and reward systems reinforce the importance of environmental behavior in achieving organizational success (Renwick et al., 2013; Tang et al., 2018). As a result, employees are more likely to engage in green behavior when they perceive that environmental responsibility is embedded within HR systems.

However, scholars argue that the relationship between GHRM and EGB is not purely direct. Without considering mediating variables, such as employee attitudes and commitments, existing models may overestimate the immediate impact of HR practices on behavior (Pham et al., 2019). This has led to increasing calls for research that examines the underlying psychological processes through which GHRM influences EGB.

### **The Mediating Role of Environmental Commitment**

Environmental Commitment has been identified as a key mediator in the relationship between GHRM and Employee Green Behavior. According to the AMO framework, GHRM enhances employees' abilities, motivation, and opportunities to engage in environmentally responsible actions, which fosters stronger environmental commitment (Appelbaum et al., 2000). This commitment then serves as an internal driver that translates organizational practices into consistent green behavior.

Empirical studies provide support for this mediating mechanism. For example, Paillé et al. (2014) found that employees who exhibit higher levels of environmental commitment are more likely to engage in discretionary green behavior. Similarly, Raineri and Paillé (2016) demonstrated that environmentally supportive HR practices strengthen environmental commitment, which in turn promotes employee green behavior. These findings suggest that Environmental Commitment plays a crucial role in explaining how and why GHRM influences employee behavior.

Despite these insights, research on the mediating role of Environmental Commitment remains limited, particularly in emerging economy contexts. Many existing studies are conducted in developed countries, raising questions about the generalizability of findings across different institutional and cultural environments (Ren et al., 2018). Addressing this gap, the present study proposes Environmental Commitment as a mediating variable to provide a more comprehensive understanding of the relationship between Green Human Resource Management and Employee Green Behavior.

## **METHOD**

### **Research Design**

This study employed a quantitative research design using a cross-sectional survey approach to examine the relationship between Green Human Resource Management (GHRM), Environmental Commitment, and Employee Green Behavior (EGB). A quantitative approach was considered appropriate as the objective of this study was to test theoretically derived hypotheses and examine causal relationships among latent constructs (Hair et al., 2019). Survey-based research has been widely used in prior GHRM and sustainability studies due to its effectiveness in capturing employees' perceptions and attitudes toward organizational practices (Renwick et al., 2013; Paillé et al., 2014).

### **Population and Sample**

The population of this study consisted of full-time employees working in manufacturing and service organizations. These sectors were selected because they significantly contribute to environmental impact through resource consumption, waste generation, and operational activities, making them relevant contexts for examining green HRM practices (Norton et al., 2015).

Data were collected using a purposive sampling technique, targeting employees who had worked in their organizations for at least one year. This criterion ensured that respondents had sufficient exposure to organizational HR practices and environmental initiatives, which is critical for accurately assessing perceptions of GHRM and Environmental Commitment (Raineri & Paillé, 2016).

A total of 350 questionnaires were distributed, and 320 valid responses were obtained, yielding a response rate of 91.4 percent. This sample size exceeds the minimum threshold recommended for Partial Least Squares–Structural Equation Modeling (PLS-SEM), which suggests a minimum of 10 times the maximum number of structural paths directed at any construct in the model (Hair et al., 2019). Furthermore, a sample size above 300 is considered adequate for achieving stable parameter estimates and robust statistical power in SEM analysis (Kline, 2016).

### **Measurement Instruments**

All constructs in this study were measured using previously validated scales adapted from prior research to ensure content validity and reliability. Responses were measured using a five-point Likert scale ranging from 1 (“strongly disagree”) to 5 (“strongly agree”), which



is commonly employed in HRM and organizational behavior research (Podsakoff et al., 2003).

1. Green Human Resource Management (GHRM)

GHRM was measured using items adapted from Renwick et al. (2013) and Tang et al. (2018). The scale captures key dimensions of green HR practices, including green recruitment, green training, green performance appraisal, and green reward systems. Sample items include statements such as “My organization integrates environmental criteria into employee training programs” and “Environmental performance is considered in employee performance evaluations.”

2. Environmental Commitment

Environmental Commitment was measured using a scale adapted from Paillé et al. (2014) and Raineri and Paillé (2016). The instrument assesses the extent to which employees feel emotionally and morally committed to environmental goals within their organization. Sample items include “I feel personally committed to my organization’s environmental objectives” and “Protecting the environment is an important part of my role in this organization.”

3. Employee Green Behavior (EGB)

Employee Green Behavior was measured using items adapted from Ones and Dilchert (2012) and Norton et al. (2015). The scale captures both in-role and extra-role green behaviors, such as conserving energy, reducing waste, and supporting environmental initiatives. Sample items include “I make an effort to reduce waste at work” and “I voluntarily engage in environmentally friendly practices at my workplace.”

### Data Collection Procedure

Data collection was conducted over a three-month period. Questionnaires were distributed both electronically and in paper-based format to accommodate organizational preferences and increase response rates. Prior to data collection, respondents were informed about the purpose of the study, and confidentiality and anonymity were assured to minimize social desirability bias and common method variance (Podsakoff et al., 2003).

To further reduce the risk of common method bias, procedural remedies were applied, including assuring respondents that there were no right or wrong answers and randomizing the order of questionnaire items (Podsakoff et al., 2012).

### Data Analysis Technique

Data analysis was conducted using Partial Least Squares–Structural Equation Modeling (PLS-SEM) with SmartPLS software. PLS-SEM was chosen because it is suitable for predictive research, complex models with mediating variables, and data that may not meet strict normality assumptions (Hair et al., 2019). This technique has been widely applied in sustainability and HRM research due to its robustness and flexibility (Tang et al., 2018).

The analysis followed a two-step approach. First, the measurement model was evaluated by assessing indicator reliability, internal consistency reliability, convergent validity, and discriminant validity. Indicator reliability was examined through outer loadings, with values above 0.70 considered acceptable (Hair et al., 2019). Internal consistency reliability was assessed using Cronbach’s alpha and composite reliability, with threshold values above 0.70. Convergent validity was evaluated using Average Variance Extracted (AVE), with values exceeding 0.50 indicating adequate validity.

Second, the structural model was assessed by examining path coefficients, coefficient of determination ( $R^2$ ), effect sizes ( $f^2$ ), and predictive relevance ( $Q^2$ ). The significance of

hypothesized relationships was tested using a bootstrapping procedure with 5,000 resamples, as recommended for mediation analysis in PLS-SEM (Hair et al., 2019). The mediating effect of Environmental Commitment was evaluated by examining the significance of indirect effects, following the procedures suggested by Preacher and Hayes (2008).

### **Ethical Considerations**

Ethical considerations were carefully addressed throughout the research process. Participation in the study was voluntary, and informed consent was obtained from all respondents prior to data collection. Respondents were assured that their responses would be used solely for academic purposes and that individual identities would remain confidential. These procedures are consistent with ethical guidelines for social science research involving human participants (Kline, 2016).

## **RESULT AND DISCUSSION**

### **Results**

#### **Descriptive Statistics**

A total of 320 valid responses were analyzed in this study. The respondents consisted of employees from manufacturing (56.9%) and service organizations (43.1%). The majority of respondents had a tenure of more than three years (62.5%), indicating adequate exposure to organizational HR practices and environmental initiatives. These characteristics suggest that the sample was appropriate for examining perceptions of Green Human Resource Management, Environmental Commitment, and Employee Green Behavior (Raineri & Paillé, 2016).

#### **Measurement Model Assessment**

The measurement model was evaluated to ensure reliability and validity before testing the structural relationships. All indicator loadings exceeded the recommended threshold of 0.70, ranging from 0.712 to 0.891, indicating satisfactory indicator reliability (Hair et al., 2019).

Internal consistency reliability was assessed using Cronbach's alpha and composite reliability (CR). The Cronbach's alpha values ranged from 0.821 to 0.903, while CR values ranged from 0.872 to 0.924, exceeding the recommended minimum value of 0.70 (Kline, 2016). These results confirm that the constructs demonstrated strong internal consistency.

Convergent validity was evaluated using Average Variance Extracted (AVE). The AVE values for GHRM (0.61), Environmental Commitment (0.64), and Employee Green Behavior (0.59) all exceeded the recommended threshold of 0.50, indicating adequate convergent validity (Hair et al., 2019).

Discriminant validity was assessed using the Fornell–Larcker criterion and Heterotrait–Monotrait (HTMT) ratio. The square root of the AVE for each construct was greater than its correlations with other constructs, and all HTMT values were below the conservative threshold of 0.85, confirming discriminant validity (Henseler et al., 2015).

#### **Structural Model Assessment**

The structural model was assessed to test the hypothesized relationships among the constructs. Collinearity diagnostics indicated that all variance inflation factor (VIF) values were below 3.0, suggesting no multicollinearity issues (Hair et al., 2019).

The coefficient of determination ( $R^2$ ) values indicate that GHRM explained 48.6% of the variance in Environmental Commitment, while GHRM and Environmental Commitment jointly explained 57.2% of the variance in Employee Green Behavior. These  $R^2$  values are considered moderate to substantial in behavioral research (Cohen, 1988).

Bootstrapping with 5,000 resamples was conducted to test the significance of the path coefficients. The results show that GHRM had a significant positive effect on Employee Green Behavior ( $\beta = 0.36$ ,  $t = 6.21$ ,  $p < 0.001$ ). In addition, GHRM had a significant positive effect on Environmental Commitment ( $\beta = 0.70$ ,  $t = 14.83$ ,  $p < 0.001$ ). Environmental Commitment also exhibited a significant positive effect on Employee Green Behavior ( $\beta = 0.45$ ,  $t = 7.89$ ,  $p < 0.001$ ).

The mediating effect of Environmental Commitment was examined by assessing the indirect effect of GHRM on Employee Green Behavior. The indirect path was significant ( $\beta = 0.32$ ,  $t = 6.74$ ,  $p < 0.001$ ), while the direct effect remained significant, indicating partial mediation (Preacher & Hayes, 2008). These results support the proposed mediation model.

## Discussion

The findings of this study provide strong empirical support for the role of Green Human Resource Management in promoting Employee Green Behavior. Consistent with prior research, the results demonstrate that organizations implementing environmentally oriented HR practices are more likely to foster green behavior among employees (Renwick et al., 2013; Tang et al., 2018). This finding reinforces the argument that HRM functions as a critical lever for achieving organizational sustainability beyond technological or structural interventions.

The significant relationship between GHRM and Environmental Commitment confirms that green HR practices serve as important signals of organizational values. Drawing on Social Exchange Theory, employees appear to reciprocate organizational investments in environmental sustainability by developing stronger psychological commitment to environmental goals (Blau, 1964; Paillé et al., 2014). This result aligns with earlier studies that emphasize the importance of perceived organizational support in shaping employee attitudes and behaviors (Raineri & Paillé, 2016).

Furthermore, the significant effect of Environmental Commitment on Employee Green Behavior highlights the importance of internalized values in driving sustainable behavior. Employees who feel emotionally and morally committed to environmental objectives are more likely to engage in both in-role and extra-role green behaviors, such as conserving resources and voluntarily supporting environmental initiatives. This finding supports previous empirical evidence suggesting that attitudinal variables play a crucial role in translating organizational policies into actual behavior (Boiral et al., 2015; Norton et al., 2015).

The mediation analysis provides a more nuanced understanding of the GHRM–EGB relationship. The partial mediating role of Environmental Commitment indicates that while GHRM directly influences employee green behavior, a substantial portion of this effect operates through employees' environmental commitment. This finding extends prior research by empirically validating Environmental Commitment as a key psychological mechanism linking HR practices to employee behavior, responding to recent calls for mechanism-focused research in sustainable HRM (Pham et al., 2019).

From a theoretical perspective, the integration of Social Exchange Theory and the AMO framework offers a robust explanation of how GHRM influences employee behavior. GHRM enhances employees' abilities through green training, strengthens motivation through environmentally linked performance evaluation and rewards, and provides opportunities for participation in environmental initiatives. These mechanisms collectively foster environmental commitment, which serves as a motivational driver for green behavior (Appelbaum et al., 2000; Renwick et al., 2013).

Importantly, the findings contribute to the limited body of research conducted in emerging economy contexts. While previous studies have predominantly focused on developed countries, this study demonstrates that GHRM and Environmental Commitment



remain salient predictors of Employee Green Behavior in environments characterized by different institutional and regulatory conditions (Ren et al., 2018). This suggests that green HR practices can be effective even in contexts where formal environmental enforcement may be relatively weak, provided that organizations embed sustainability into their HR systems.

Overall, the results underscore the strategic importance of aligning HR practices with environmental objectives to achieve sustainable organizational outcomes. Rather than relying solely on formal policies or technological solutions, organizations should focus on cultivating employee commitment to environmental values, as committed employees are more likely to engage in consistent and voluntary green behavior.

## **Implications**

### **Theoretical Implications**

This study offers several important theoretical contributions to the literature on Green Human Resource Management and sustainable organizational behavior. First, the findings extend existing GHRM research by empirically confirming that Green Human Resource Management is not merely a set of symbolic or administrative practices, but a strategic mechanism that significantly influences employee-level environmental behavior. While previous studies have established a direct relationship between GHRM and Employee Green Behavior (Renwick et al., 2013; Tang et al., 2018), this study advances the literature by elucidating the underlying psychological process through which this relationship operates.

Second, the study contributes to theory by validating Environmental Commitment as a key mediating variable between GHRM and Employee Green Behavior. Consistent with Social Exchange Theory, the results demonstrate that employees respond to environmentally supportive HR practices by developing stronger commitment to environmental values, which in turn motivates pro-environmental behavior (Blau, 1964; Paillé et al., 2014). This finding addresses prior calls for mechanism-based research that moves beyond direct-effect models and provides a more comprehensive explanation of how HR practices influence employee behavior (Pham et al., 2019).

Third, this research strengthens the application of the Ability–Motivation–Opportunity (AMO) framework in the context of environmental sustainability. By demonstrating that GHRM enhances employee abilities, motivation, and opportunities related to environmental responsibility, the study empirically supports the relevance of AMO theory for explaining environmentally oriented employee behavior (Appelbaum et al., 2000; Renwick et al., 2013). This contributes to the broader HRM literature by positioning sustainability as an integral outcome of high-performance work systems rather than a peripheral organizational concern.

Finally, the study enriches the growing body of research conducted in emerging economy contexts. Much of the existing GHRM literature is dominated by evidence from developed countries, raising concerns about contextual generalizability (Ren et al., 2018). By providing empirical support from an emerging economy setting, this study demonstrates that the theoretical relationships proposed by Social Exchange Theory and the AMO framework remain robust across different institutional environments. This finding encourages future researchers to further explore contextual moderators, such as regulatory strength or cultural values, in sustainable HRM research.

### **Managerial Implications**

From a managerial perspective, the findings of this study provide actionable insights for organizations seeking to enhance environmental sustainability through human resource strategies. First, managers should recognize that employee green behavior does not emerge spontaneously; rather, it is shaped by deliberate and consistent HR practices that signal organizational commitment to environmental sustainability. Integrating environmental

criteria into recruitment, training, performance appraisal, and reward systems can effectively encourage employees to engage in environmentally responsible behavior (Renwick et al., 2013).

Second, the mediating role of Environmental Commitment highlights the importance of fostering employees' internalization of environmental values rather than relying solely on formal rules or compliance mechanisms. Managers should design HR interventions that emphasize the meaningfulness of environmental initiatives and align them with employees' personal values. For example, green training programs should not only focus on technical skills but also communicate the broader environmental purpose and long-term impact of sustainable practices (Raineri & Paillé, 2016).

Third, organizations should provide employees with opportunities to actively participate in environmental initiatives, such as sustainability teams, green suggestion systems, or employee-led environmental projects. Such initiatives enhance employees' sense of ownership and commitment, thereby increasing the likelihood of sustained green behavior beyond formal job requirements (Boiral et al., 2015). This participatory approach aligns with the AMO framework by strengthening the opportunity dimension of employee performance (Appelbaum et al., 2000).

Fourth, the findings suggest that linking environmental performance to appraisal and reward systems can serve as a powerful motivational tool. When employees perceive that environmentally responsible behavior is recognized and valued by the organization, they are more likely to integrate such behavior into their daily work routines (Tang et al., 2018). However, managers should ensure that these systems are perceived as fair and authentic to avoid skepticism or perceptions of greenwashing.

Finally, the study offers important implications for organizations operating in emerging economies. Even in contexts where environmental regulations may be less stringent, organizations can proactively promote sustainability by leveraging HR practices to build employee commitment to environmental goals. This internal, values-based approach may be particularly effective in overcoming institutional constraints and fostering long-term sustainable behavior within organizations (Ren et al., 2018).

## CONCLUSION

This study set out to examine the relationship between Green Human Resource Management and Employee Green Behavior, with Environmental Commitment serving as a mediating variable. Drawing on Social Exchange Theory and the Ability–Motivation–Opportunity (AMO) framework, the findings provide robust empirical evidence that GHRM significantly enhances employee green behavior both directly and indirectly through environmental commitment.

The results demonstrate that organizations implementing environmentally oriented HR practices are more likely to foster employees' psychological commitment to environmental values, which in turn encourages consistent and voluntary green behavior in the workplace. This finding reinforces prior research emphasizing the strategic role of HRM in achieving organizational sustainability and extends the literature by clarifying the psychological mechanism through which GHRM influences employee behavior (Renwick et al., 2013; Paillé et al., 2014).

Moreover, the partial mediating role of Environmental Commitment suggests that while formal HR practices are important, their effectiveness is substantially enhanced when employees internalize environmental values. This highlights the importance of moving beyond compliance-based approaches toward values-driven HR strategies that promote long-term sustainable behavior. Overall, this study contributes to the growing body of sustainable HRM research by integrating theoretical perspectives and providing empirical evidence from

an emerging economy context, thereby enhancing the generalizability of existing models (Ren et al., 2018).

### Limitations

Despite its contributions, this study is subject to several limitations that should be acknowledged. First, the use of a cross-sectional research design limits the ability to draw causal inferences among the variables. Although the theoretical framework suggests directional relationships, longitudinal research designs would provide stronger evidence regarding causality and the dynamic nature of employee commitment and behavior over time (Podsakoff et al., 2012).

Second, data were collected using self-reported measures, which may introduce common method bias and social desirability bias. While procedural remedies were implemented to mitigate these issues, future studies could incorporate multi-source data, such as supervisor ratings or objective environmental performance indicators, to enhance measurement validity (Podsakoff et al., 2003).

Third, the study focused on employees from manufacturing and service sectors, which may limit the generalizability of the findings to other organizational contexts, such as public sector organizations or small informal enterprises. Differences in organizational structure, regulatory environments, and resource availability may influence the effectiveness of GHRM practices and employee responses.

### Future Research Directions

Building on the limitations of this study, several avenues for future research are recommended. First, future studies should adopt longitudinal or experimental research designs to examine how GHRM practices and Environmental Commitment evolve over time and how these changes affect employee green behavior. Such approaches would provide deeper insights into the sustainability of behavioral outcomes (Paillé et al., 2014).

Second, future research could explore additional mediating and moderating variables to further unpack the GHRM–EGB relationship. Variables such as green psychological climate, perceived organizational support, leadership style, or environmental knowledge may offer valuable insights into boundary conditions and alternative explanatory mechanisms (Norton et al., 2015; Tang et al., 2018).

Third, comparative cross-country studies would be particularly valuable in assessing the influence of institutional, cultural, and regulatory differences on the effectiveness of GHRM practices. Such studies could enhance the external validity of sustainable HRM theories and provide practical guidance for multinational organizations operating across diverse contexts (Ren et al., 2018).

Finally, future research may consider integrating objective environmental performance indicators, such as energy consumption, waste reduction, or carbon emissions, with employee-level data. This multi-level approach would strengthen the linkage between HR practices, employee behavior, and tangible environmental outcomes, thereby advancing both theory and practice in sustainable human resource management.

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