Green human resource management and employee pro-environmental behaviors: The role of individual green value

Khai The Nguyen[1], Phuong Ngoc Duy Nguyen[2,3*], Cuong Quoc Tran[1], Truc Thi Thanh Do[4]

[1]Ho Chi Minh City Open University, Ho Chi Minh City, Vietnam
[2]International University, Ho Chi Minh City, Viet Nam
[3]Vietnam National University, Ho Chi Minh City, Vietnam
[4]Vietnam Aviation Academy, Ho Chi Minh City, Vietnam
[*]Corresponding author: nndphuong@hcmiu.edu.vn

ARTICLE INFO	ABSTRACT
	This quantitative study is aimed at exploring the effect of Green Human Resource Management (GHRM) practices on employee Pro-Environmental Behaviors (PEB). Our conceptual model was developed based on the Ability, Motivation, and Opportunity (AMO) framework and the Attitude-Behavior-Context theory (ABC). Our model was tested using data from 696 full-time medical staff working in Vietnamese hospitals. In order to fully understand how GHRM practices, Green knowledge sharing, individual green value, and employee pro-environmental behaviors are related, structural equation modeling is combined with necessary condition analysis. The results indicate that (a) green training and involvement (GRS), green recruitment (GTI), and green performance management and compensation (GPC) positively impact GKS, and (b) GKS is positively related to PEB. The findings also demonstrate that the individual green value plays a moderating role in the connection between GRS, GTI, GPC, and GKS. A discussion is included on how practices within GHRM can stimulate employees to exhibit GKS and PEB, as well as the implications for GHRM theory and practice.

1. Introduction

The continuous degradation of the environment has caused natural disasters throughout the world. The combination of environmental and HRM techniques has led to the development of Green Human Resource Management (GHRM) approaches. By fostering pro-environmental attitudes, convictions, and actions in staff members, GHRM enhances an organization's green performance (Tang, Chen, Jiang, Paillé, & Jia, 2018). GHRM supports workers in establishing a green workplace by fostering the development of green skills, encouraging them to work on projects with restrictions on green elements, and offering green chances. Eco-friendly pay and reward systems, along with performance monitoring, can encourage workers to take on environmental initiatives (Pellegrini, Rizzi, & Frey, 2018). Organizations can use GHRM to increase employees' awareness of the environment or achieve a green environment in their institutions and industries (Younis & Hussain, 2023). According to Shoaib, Nawal, Zámečník, Korsakienė, and Rehman (2022); Yeşiltaş, Gürlek, and Kenar (2022), GHRM practices encourage pro-environmental behavior in the workforce. Additionally, an organization's personnel and conduct influence the organization's ability to meet green organizational objectives (Francoeur,

Paillé, Yuriev, & Boiral, 2021). Research on the Pro-Environmental Behavior (PEB) of workers is lacking despite its critical significance in addressing the growing environmental concerns of the world and adhering to environmental management requirements (Ahmad, 2013). GHRM practices and PEB, Green Knowledge Sharing (GKS), and Individual Green Value (IGV) have been directly linked, according to research that has already been conducted (Ahmad, Mamun, Masukujjaman, Makhbul, & Ali, 2023; Talab, Ghasemi, Sadeh, & Sabegh, 2023) and verified. To fully comprehend the mechanism behind GHRM's ability to promote pro-environmental behavior, more research is required (Dumont, Shen, & Deng, 2017).

Hospitals, being resource-intensive establishments, consume vast amounts of natural resources, including electricity, water, food, and construction materials, to provide high-quality healthcare while ensuring hygiene. However, by deploying simple, smart, and sustainable measures, hospitals can greatly reduce their carbon footprint. This vision can be achieved by improving the hospital design, minimizing waste and its disposal, using natural light and ventilation as much as possible, and using inverter-based air conditioners and ventilation systems. In this context, the Covid-19 pandemic slowed down the greening process of nosocomial environments. Waste management requires a multifactorial approach to deal with medical waste management, even considering the climate change that the world is experiencing. Education of health personnel and managers, regulation by governmental institutions, creation of an "environmental greening team", and awareness of stakeholders and policymakers are some of the measures needed for the greening of healthcare facilities.

Furthermore, industrialized Western countries have been the focus of the majority of the research that has been done on GHRM and pro-environmental behavior (Jabbour et al., 2019; Yeşiltaş et al., 2022). Research in poor nations is still in its early stages, nevertheless (Farrukh, Ansari, Raza, Wu, & Wang, 2022). Recognizing the paucity of research on GHRM, Renwick, Redman, and Maguire (2013) offer strategies for GHRM to support environmental sustainability in Asia's most vulnerable nations. Although adopting sustainable practices is not required of businesses in Vietnam, all businesses do so out of a duty to their stakeholders (Roscoe, Subramanian, Jabbour, & Chong, 2019). Furthermore, GHRM, GKS, and employees' pro-environmental behavior have all been explained by the Ability-Motivation-Opportunity AMO model (Roscoe et al., 2019). The relationship between an individual's green values and pro-environmental conduct has been examined using the ABC theory (Dumont et al., 2017). The attitudes and knowledge of employees have a significant influence on how GHRM is implemented in the company, according to Guerci, Longoni, and Luzzini (2016); Stahl, Brewster, Collings, and Hajro (2019). For this reason, employee PEB expression in the company is highly dependent on the degree of employee awareness of GHRM in the company and knowledge of practice. Nonetheless, the study disregarded the pro-environmental behavior and moderation within these components, as well as the classified GRHM ideas such as green recruiting, green training, green compensation, etc.

According to several studies, employees who share the organization's green values will exhibit high levels of organizational identification, meaningful work, and positive behaviors (Dumont et al., 2017). Similarly, while GHRM is investigated as the moderating variable between the IGV, the moderating function of GIV in the connections between GHRM and GKS has not been taken into account up to this point. A comprehensive study found that GHRM practices and swaying pro-environmental behaviors are lacking in the healthcare sector. These practices should be studied in another business setting (Yong, Yusliza, & Fawehinmi, 2019). Researchers should examine this phenomenon further to determine other psychological and behavioral factors

underlying the phenomenon in light of the fact that this link has been overlooked (Saeed et al., 2019). The development of moderating roles between GHRM practices and pro-environmental behaviors is recommended in a recent study in order to identify underlying processes (Saeed et al., 2019). A recent study, Ren, Tang, and Jackson (2018) claims that there has been less research on Individual Green Values (IGV) in relation to GHRM practices. Thus, more research on this framework is required. The following questions can be used to summarize or present the gaps in the body of existing literature:

(1) How pro-environmental conduct is predicted by GHRM practices?

(2) Is there a relationship between pro-environmental behavior and GHRM practices that is mediated by GKS?

(3) Is there a moderating effect of green IGV on GHRM practices and GKS?

In order to fill in the gaps in the research and provide answers to the concerns raised above, we first look into how GHRM practices relate to GKS and how GKS and PEB are related in Vietnamese workplaces. First, the study makes a theoretical contribution by applying the Ability-Motivation-Opportunity theory to examine the dynamics of GHRM in PEB. This study contributes to the knowledge base on GHRM by exploring its effects on employee attitudes and behavioral outcomes in the workplace. The second is how GKS interacts with PEB. Ultimately, the connections between GHRM practices and GKS are moderated by IGV's moderating influence. The study considers social norms and contextual constraints as two representatives of contextual factors in this study. Contextual constraints refer to the objective basis and conditions that hinder PEB, such as PEB effort, time, and cost (Xing, Li, & Liao, 2022). As a result, this research will further our understanding of how GHRM, GKS, IGV, and PEB relate to one another and interact using the AMO and ABC theoretical frameworks.

2. Literature review

2.1. Definition

2.1.1. Pro-environmental behaviors

According to Fatoki (2019), PEB includes voluntary or proposed activities that an individual participates in with the goal of protecting the natural environment. PEB includes individual behaviors that contribute to environmental sustainability and can be performed at work or at home (Mesmer-Magnus, Viswesvaran, & Wiernik, 2012). PEB in the workplace can be classified as actions by employees and management aimed at improving the natural environment (Ture & Ganesh, 2018). When environmental protection behaviors are performed by employees at work, these behaviors are also called green behaviors or environmentally friendly employee behaviors. Ones, Wiernik, Dilchert, and Klein (2023) describe employee PEB as the voluntary actions and behaviors that employees engage in to enhance environmental sustainability in the workplace (Roscoe et al., 2019).

2.1.2. Green human resource management practices

Green HRM practices are those that support employees in growing their skills, dedication, and involvement in achieving these objectives as part of an organization's sustainability activities (O'Donohue & Torugsa, 2016). An organization's HRM procedures should be precise and targeted (Shin & Konrad, 2017). Implementing green HRM techniques rather than generic HRM methods will help a business develop its human resources in a way that is consistent with its green goals (Renwick et al., 2013). Green HRM techniques create the resources required for eco-friendly tasks

like recycling and conserving water and paper through selection, training, involvement, and incentives. In the context of GHRM, organizations - (a) recruit employees with green energy competencies, (b) motivate employees through training and development, and (c) create green engagement opportunities for employees (Amrutha & Geetha, 2020; Cabral & Dhar, 2019).

2.1.3. Green knowledge sharing

Yeo and Dopson (2017, p. 42) defined knowledge sharing as "the degree of one's positive emotion toward knowledge sharing." According to Abukhait, Bani-Melhem, and Zeffane (2019, p. 2), knowledge sharing is both a "personal activity of providing or receiving knowledge and a collaborative process of creating new knowledge". Tan (2016) believes that knowledge sharing is not simply about exchanging knowledge with each other but also about helping group members find the knowledge they need through exchange mechanisms. When businesses incorporate environmental protection into their corporate cultures, as a result of green knowledge, all businesses are able to lessen the negative environmental effects of their operations. According to this study (Lin & Chen, 2017), a company's green competitive advantage is essential to achieving sustainable involvement.

2.1.4. Individual green value

According to Cheema, Afsar, and Javed (2020), when an individual's green values align with those of the organization, successful environmental management can arise. Individual green values are crucial to the involvement of innovative business strategies (Esty & Winston, 2009) as well as innovative corporate growth strategies (Nguyen, Vo, & Vo, 2020). Individuals who exhibit green values demonstrate green behavior; as Chou (2014) points out, green values can influence environmental efficiency as individuals. Consequently, employee green values lead to higher engagement of employees in communal work and pro-environmental engagement at the micro level. Contemporary literature has frequently examined and assessed their conceptual and empirical significance in relation to their impact on environmental performance. This encouraging trend supports the idea of establishing a connection between individual factors of SHRM, such as green values and behaviors, and the overall corporate environmental sustainability performance.

2.2. Research hypotheses

2.2.1. GHRM practices and green knowledge sharing

AMO's component "capabilities" are related to the recruitment techniques used to choose people who have an interest in environmental preservation and cleanliness. According to Amrutha and Geetha (2020), organizations should (a) hire people with green skills, (b) inspire people through involvement and training, and (c) give workers opportunities for green engagement. Employees are motivated by system performance evaluation (Fawehinmi, Yusliza, Kasim, Mohamad, & Halim, 2020). Simultaneously, favorable assessment will inspire them to attain exceptional environmental performance, while unfavorable assessment generates chances for environmentally conscious involvement and enhanced environmental performance.

Green knowledge sharing is the degree to which knowledge workers impart green knowledge to other members (Lin & Chen, 2017). As a result, GHRM is a strong predictor of knowledge sharing among employees (Bhatti, Zakariya, Vrontis, Santoro, & Christofi, 2020). The relationship between information sharing and GHRM practices is examined in the literature. Thus, the thesis suggests that there will be a greater chance of employees sharing environmentally friendly knowledge if they have a favorable opinion of GHRM. As a result, the following hypothesis is put forth:

H1: GHRM practice has a positive impact on GKS

H1a: Green hiring has a positive impact on GKS

H1b: Green training and involvement have a positive impact on GKS

H1c: Green performance management and compensation have a positive impact on GKS

2.2.2. Green knowledge sharing and pro-environmental behaviors

Sharing environmental knowledge creates an organized working atmosphere on environmental protection that facilitates employees' willingness to impart environmental knowledge, and thus, this factor increases engagement. Of employees to own that environmental knowledge by subtly influencing them to create more and better environmental knowledge and spread this element from the individual experience level to the senior level of the organization.

Sharing environmental knowledge allows for the dissemination of environmental knowledge among employees, who are more likely to increase awareness of green behavior. Previous studies have shown that knowledge value is increased during the knowledge-sharing process (Steg & Vlek, 2009). In this sense, environmental knowledge sharing encourages employees to create more new environmental knowledge and improve their original knowledge to a higher quality level, thereby positively orienting their implementation tendency employees' environmental protection behavior. Therefore, the thesis proposes the following hypothesis:

H2: GKS has a positive impact on PEB

2.2.3. The moderating role of individual green value

PEBs are thought to be mostly guided by their own green values (Merlin & Chen, 2022). According to earlier research, green actions are significantly influenced by one's personal green values (Chaudhary, 2019). Accordingly, the primary element influencing corporate environmental management is green values (Islam, Khan, Ahmed, & Mahmood, 2020). In line with the ABC theory, employees will exhibit positive work attitudes and behaviors if their values align with those of the firm. According to this study, GHRM's relationship to employees' organizational green behavior and organizational green identity is mostly determined by their environmental values.

Employees are more likely to act environmentally conscious at work when the work environment supports their green values and when their environmental values align somewhat with the organization's values (Edwards & Shipp, 2007). Because Green Human Resource Management (GHRM) is an organization's embodiment of its environmental values (Chaudhary, 2019; Shen, Dumont, & Deng, 2019), researchers anticipate that employees' green values will have an impact on the relationship between GHRM and green creative behavior. Conversely, green human resource management will have a less beneficial effect on green organizational identity and green knowledge exchange when the amount of environmental value is low. Consequently, this research puts forth the following hypothesis:

H3: IGV has a moderating role in the relationship between GHRM and GKS

H3a: IGV has a moderating role in the relationship between green hiring and GKS

H3b: IGV has a moderating role in the relationship between green training & involvement and GKS

H3c: IGV has a moderating role in the relationship between green performance management & compensation and GKS

2.3. Proposed research model
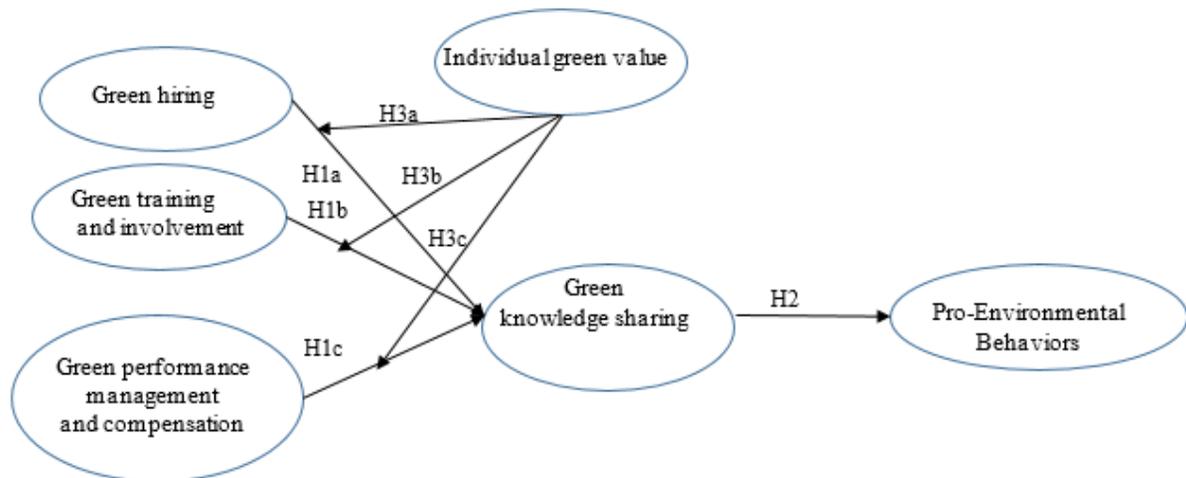
Figure 1. Proposed research model

3. Methodology

3.1. Sampling

The Vietnamese healthcare workforce, includes doctors, nurses, medical technicians, and administrative staff, was the focal point of this study. This study chose this survey object because the healthcare industry holds an important position in the world's largest industries (Zamparas, Kyriakopoulos, Drosos, & Kapsalis, 2021). In addition, this industry contributes to environmental degradation by releasing medical waste, chemicals, plastic, wastewater, and energy. Due to growing environmentalism, organizations are choosing sustainable business practices (Lee, Kim, & Kim, 2018). The dominant characteristic of any environment is the "human factor" (Jabbour et al., 2019).

We used the snowball sampling technique to create our hospital samples for this study. This strategy was selected because it addresses the issue of insufficient contact lists and sampling frames for population inquiries (Dhar, 2016). We first used the snowball sampling strategy to leverage our existing author contacts and reach out to managing directors or deputy directors of ten hospitals in Vietnam. These people then assisted in introducing us to managing directors or deputy directors of additional hospitals, which increased the number of Vietnamese enterprises we could include in the study. As we spoke with the participants over the phone and over email, we assessed if their hospitals met our selection criteria and thoroughly explained our research objectives.

Initiated by the hospital directors, we established contact with their human resource managers, who subsequently provided us with a list of supervisors and introduced us to them through email communications. Those supervisors who expressed willingness to participate took on the responsibility of announcing the surveys within their respective departments, encouraging employee engagement, and forwarding an email containing the employee survey link to their subordinates. A cover letter outlining the study's goals, emphasizing voluntary participation, and assuring participants of the confidentiality and anonymity of their answers was attached to every survey. In line with earlier research (Luu, 2022), a token gift of roughly US$2 was given to participants as an incentive for completing all survey measurements.

3.2. Measures

The questionnaire encompassed three measurement perspectives: Green HRM (green hiring, green training and involvement, and green performance management & compensation), green knowledge sharing, and individual green value. Respondents were provided with

checkboxes corresponding to a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). The reliability of the questionnaire, assessed in accordance with the criteria outlined by Nunnally and Bernstein (1994), exceeded the standard threshold of 0.7, indicating that the questionnaire items exhibited high reliability.

The components of GHRM include (1) Green hiring (GHR), (2) Green Training and Involvement (GTI), and (3) Green performance management and compensation (GPC) measured using the scale of Longoni, Luzzini, and Guerci (2018).

The Green Knowledge Sharing (GKS) was measured using items developed by Wong (2013) with a 6-item scale.

The Green Individual Values (GIV) were measured using items developed by Steg, Dreijerink, and Abrahamse (2005) with an 8-item scale.

The PEB was measured using items developed by Mónus (2021), with 09 items.

Green (1991) suggests that for Exploratory Factor Analysis (EFA), the sample size should adhere to the formula n = 50 + 8m, where m represents the number of observed variables. In the context of this research, the minimum required sample size would be 50 + 8 x 33, resulting in a minimum sample size of 314. However, the study collected a total of 696 valid questionnaire forms for subsequent analysis. To process the data, this study employed SPSS and AMOS software as tools, encompassing tasks such as descriptive statistics, reliability scale assessment, Confirmatory Factor Analysis (CFA), and Structural Equation Modeling (SEM).

4. Result

4.1. Statistics

Table 1

Descriptive statistics

n = 696		Frequency	%
Gender	Nam	438	62.93
	Nữ	258	37.07
Age	< 25	126	18.10
	25 - 35	350	50.29
	36 - 45	172	24.71
	> 46	48	6.90
Education	Vocational school	179	25.72
	Bachelor degree	280	40.23
	Master or PhD	237	34.05
Position	Doctor	149	21.41
	Nursing	345	49.57
	Medical technician	68	9.77
	Pharmacist	35	5.03
	Other staff	99	14.22

4.2. Descriptive statistic

Cronbach's Alpha is considered a conservative measure of internal consistency and is less favored when compared to alternative reliability measures. In Table 2, it can be observed that all item loadings surpass the recommended threshold of 0.60, in line with the guidelines of Chin, Peterson, and Brown (2008).

Furthermore, the estimated values for both Cronbach's Alpha and composite reliability indicate a substantial degree of variability in the latent construct attributable to construct indicators, exceeding the recommended threshold of 0.7. Similarly, the overall variation in indicators due to the construct, as measured by the average variance extracted, also surpasses the recommended threshold of 0.5, in accordance with the criteria set by Hair, Black, and Babin (2010).

Table 2

Measure items, factor loadings, and reliability

Construct	Items	AVE	CR	CA	Factor loadings
Green hiring	Employee selection based on environmental criteria	.545	.946	.857	.615
	Employee attraction through environmental commitment				.586
	We use green employer branding to attract green employees				.568
Green training and involvement	Environmental training for employees	.547	.879	.891	.836
	Environmental training for managers				.812
	Job descriptions, including environmental responsibilities				.806
	Employee involvement in environmental issues				.779
Green performance management and compensation	Environmental goals for managers	.558	.858	.886	.796
	Managers' evaluation includes environmental performance				.787
	Employees' evaluation includes environmental performance				.761
	Non-monetary incentives for environmental performance				.754
	Variable compensation based on environmental performance				.695
Green knowledge sharing	I always share green knowledge obtained from newspapers, magazines, journals, television, and other sources	.573	.878	.897	.840
	I enjoy sharing environment-friendly knowledge with my colleagues				.824

Construct	Items	AVE	CR	CA	Factor loadings
	In my organization, people share expertise from work experience with each other				.801
	Sharing my knowledge with colleagues is pleasurable				.794
	I believe that knowledge sharing can benefit all parties involved				.751
Individual green values	I feel morally obliged to save energy, regardless of what others do	.569	.808	.929	.822
	I feel guilty when I waste energy				.804
	I feel morally obliged to use green instead of regular electricity				.795
	People like me should do everything they can to reduce energy use				.792
	If I were to buy a new washing machine, I would feel morally obliged to buy an energy-efficient one				.784
	I do not feel guilty at all when I buy vegetables and fruit from distant countries				.776
	I feel obliged to bear the environment and nature in mind in my daily behaviour				.769
	I would be a better person if I saved energy				.765
PEB	I would help raise money to protect nature	.577	.750	.916	.757
	If I ever have extra money, I will give some to help protect nature				.757
	I try to tell others that nature is important				.756
	I like to go on trips to places like forests away from cities				.755
	I would like to sit by a pond and watch dragonflies				.753
	I like the quiet of nature				.744
	To save energy in the winter, I make sure the heat in my room is not on too high				.724

Note: AVE: Average Variance Extracted; CA: Cronbach's Alpha; CR: Composite Reliability

To assess collinearity, it is essential to examine the correlation matrix for correlation coefficients exceeding 0.6. Preliminary correlation analysis in this study revealed the highest correlation coefficient to be 0.597, observed between GPC and PEB. Conversely, the lowest correlation coefficient, at 0.020, was found between GCA and IGV (Table 3).
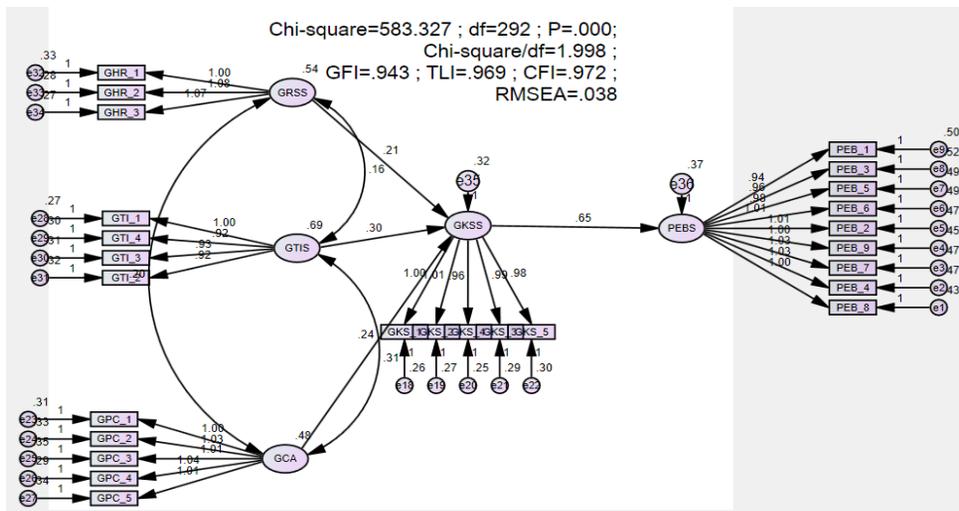
Table 3

Results of instrument validity test

	Mean	SD	Pearson Correlation Value					
			1	**2**	**3**	**4**	**5**	**6**
GHR	2.9215	.830	1					
GTI	3.0356	.830	.231**	1				
GPC	2.7043	.753	.338**	.480**	1			
GKS	2.6968	.750	.329**	.457**	.421**	1		
IGV	3.2349	.863	.025*	.051*	.020*	.280**	1	
PEB	2.9879	.798	.373**	.497**	.597**	.524**	.255**	1

4.3. Structural Equation Modeling (SEM)

In accordance with the procedures detailed by Anderson and Gerbing (1988), our initial step involved testing the measurement model and presenting the coefficient of confirmation analysis (CFA) results, as shown in Table 2. Moreover, the coefficient reliability (Cronbach's Alpha) for all constructs surpassed the 0.70 threshold, and the Composite Reliability (CR) ranged from 0.70 to 0.90, confirming the internal consistency and convergent validity of the instrument (Moss, McFarland, Ngu, & Kijowska, 2007).

As indicated in Table 2, revealed that all construct indicators exhibited factor loadings that fell within acceptable ranges. Additionally, the estimated Average Variance Extracted (AVE) exceeded the threshold of 0.50. In the process of conducting Structural Equation Modeling (SEM) testing, the study followed a stage akin to assessing the model's fit, much like the evaluation of a factor measurement model. In the Confirmatory Factor Analysis (CFA) results, the following fit indicators were examined: Chi-square/df = 1.998, which is less than the recommended threshold of 3. The p-value was 0.000, significantly lower than the significance level of 0.05 (5%). RMSEA = 0.038, which falls below the threshold of 0.08. GFI = 0.943, exceeding the acceptable value of 0.8. CFI = 0.972, surpassing the recommended threshold of 0.9. TLI = 0.969, also exceeding the threshold of 0.9. Based on these fit indicators, it can be concluded that the proposed model exhibited a strong level of consistency with the observed data (Figure 2).

Figure 2. SEM model

The reliability of the estimates of the impact level between factors in the model is also presented in detail in Table 4. Accordingly, all p-values are very small (less than 0.05). In other words, the reliability of the estimates is all higher than 95%. Confirm the certainty and reliability of the research results used to conclude the hypotheses.

Table 4

The result of analyzing the SEM model

			Estimate	Estimate Standardized	S.E.	C.R.	P	Hypothesis
GRS	--->	GKS	.193	.173	.037	5.255	***	Accepted
GTI	--->	GKS	.300	.326	.039	7.724	***	Accepted
GCA	--->	GKS	.232	.220	.046	4.986	***	Accepted
GKS	--->	PEB	.650	.173	.046	14.182	***	Accepted

Note: * $p < 0.001$, ** $p < 0.005$

The analysis results of Table 4 show that the estimated results of the main parameters in the model are all statistically significant ($p < 0.05$). The weights of the unstandardized and standardized estimates all have a (+) sign and are statistically significant, proving that the effects are consistent with the proposed research hypotheses.

Among the relationships between factors in the model, the strongest level of impact is the influence of GKS on environmental protection behavior. This relationship carries a standardized estimate of 0.650. Meanwhile, although the relationship is statistically significant, the lowest level of impact belongs to the pair of green recruitment and GKS variables. The relationship between these two factors is shown by a standardized impact coefficient of only 0.193.

Thus, although the level of impact between factors is highly differentiated and different, and the standardized estimated difference in the weakest and strongest relationships is also quite high (0.193 and 0.650), the SEM analysis results show that the influence of the factors on each other according to the proposed research model is completely statistically significant. In other words, the study has enough statistical basis to confirm that hypotheses H1a, H1b, H1c (H1), and H2 are all accepted.

To test Hypothesis H2, it is hypothesized that GKS is positively related to PEB. The results in Table 4 show that the regression coefficient of GKS to PEB is positive and significant ($\beta = 0.650$; $p < 0.001$), so H2 is accepted.

Hypothesis testing shows that the hypotheses that the study has set are qualified to accept and confirms the positive relationship between the factors proposed and included in the SEM model. In other words, the research has achieved the goal of determining the influence and relationship between factors on the work results of workers, specifically nurses, in the research context.

4.4. Moderation analysis

The moderation hypothesis was evaluated by inserting the interaction variables into the regression equation in the second phase, in accordance with Aiken and West (1991) recommended methodology. The multiplicative term between GRS and IGV (Table 5) has the lowest regression coefficient (β GHR $\times$ GIV $= 0.126$, $t = 3.6630$, $p < 0.05$), and the multiplicative term between GTI and IGV has a significant beta coefficient (β GTI $\times$ IGV $= 0.244$, $t = 7.6876$; $p < 0.05$). The multiplicative effect of GCA and GIV has the greatest regression coefficient (β GPC $\times$ IGV $= .266$, $t = 8.340$; $p = .05$). The findings validate H3a, H3b, and H3c.

Table 5

Result of analyzing the moderation

	Estimate	SE	t	p
GHR x IGV	.126**	.0344	3.6630	.0000
GTI x IGV	.244**	.0317	7.6876	.0000
GPC x IGV	.266**	.0319	8.3404	.0000
R^2	.1976			
ADJ R^2	.0156			
F	13.4177			

The regulatory effects of IGV are presented graphically (Figures 3-5). Figure 3 depicts the interaction of recruitment strategies with employee green knowledge sharing. When employees have high IGV, recruitment strategies lead to higher levels of employees practicing GKS. Conversely, when employees have lower IGV. Furthermore, as the recruitment strategy increases from low to high, higher levels of GKS are evidenced when participation levels are high compared to lower levels of participation.
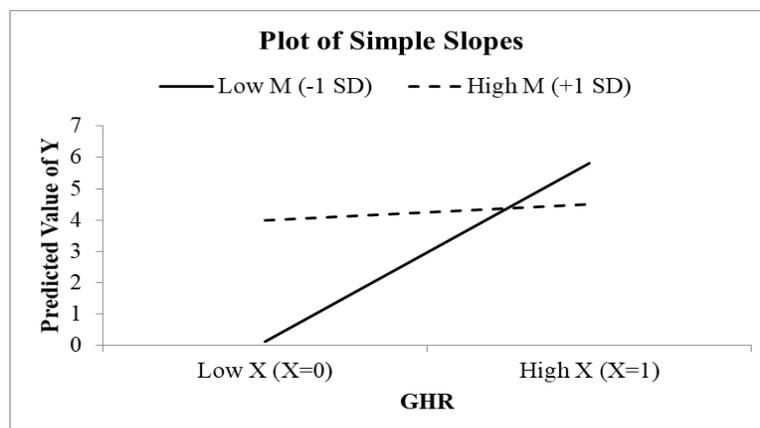

Figure 3. The moderating role of IGV in the relationship between GHR and GKS

Figure 4 shows the impact of IGV on the relationship between green training and participation and green knowledge sharing of employees. Higher levels of green personal value result in higher GKS when compared to low IGV. This result supports H3b.
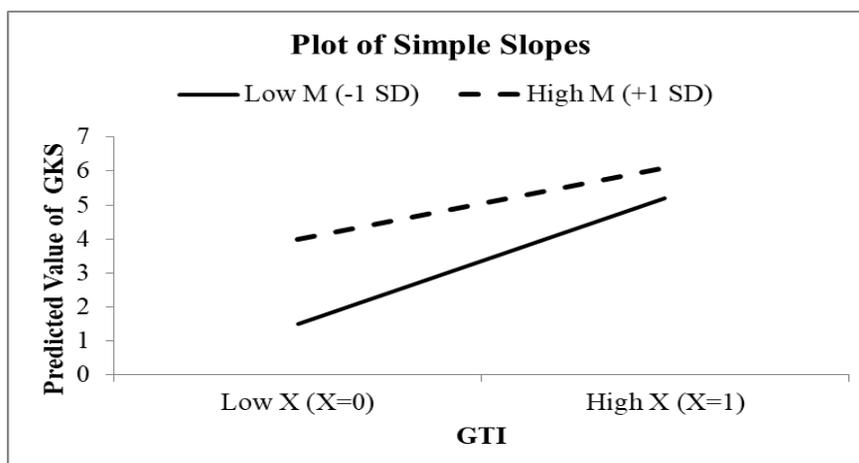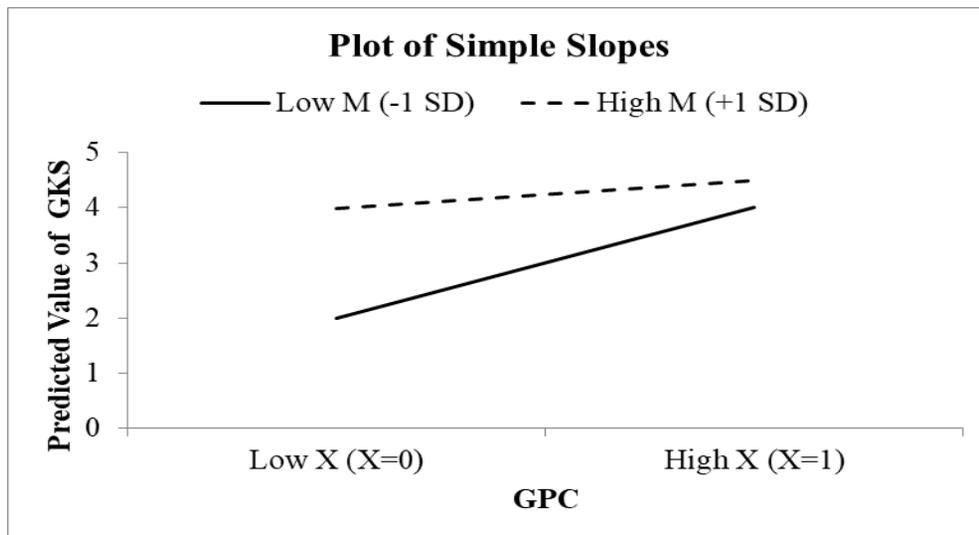

Figure 4. The moderating role of IGV in the relationship between GTI and GKS

Figure 5 shows the moderating role of IGV in the relationship between green performance management and appraisal and GKS of employees. In all of these numbers, higher IGV are associated with higher levels of GKS. Furthermore, as green performance management and appraisal move from low to high, the relationship between green compensation and evaluation and GKS is enhanced when IGV is at a high level.

Figure 5. The moderating role of IGV in the relationship between GPC and GKS

4.5. Discussion

Our model illustrates the ways in which GHRM influences the behavior of individual employees, particularly with regard to how it influences the exchange of green knowledge and pro-environmental practices. The results of this study align with the findings of AMO and current research (Khan, Shams, Khan, Akbar, & Niazi, 2022). GHRM is a technique that firms can implement to raise employee understanding of environmental protection through information sharing.

The present research demonstrates how GHRM promotes employees' environmental protection behavior by encouraging the exchange of green knowledge. Employees see a direct link between their behavior and the organization's expectations when GHRM instills in them a concern for adopting sustainable methods to meet the organization's ecological goals. Employee engagement with the company will increase as a result of this alignment. The study highlights how crucial it is to consider how the firm controls employee behavior. Additionally, the study showed that when workers believe that GHRM is a part of the organization's green goals and policies, they may execute green activities and profit from knowledge exchange in an informative way.

5. Conclusion

5.1. Theoretical and practical implications

The adoption of a green perspective is necessary in order to differentiate and enhance the HRM concept, as well as to integrate environmental management concerns within the framework of organizational sustainability. The company can then use these arguments to support its adoption of a GHRM policy in the context of sustainability. By concentrating on environmental management challenges, GHRM can draw researchers' attention and improve the role of employees. HRM will, therefore, be advantageous to the company and its workers, as well as to social sustainability both inside and beyond the company. The study provides more evidence for

the beneficial effects of green information exchange on employees' GHRM and environmentally conscious behavior.

These findings also suggest some measures for managers. When top management is driven to implement GHRM, they can create and nurture internal capabilities to further improve environmental performance (Singh, Giudice, Chierici, & Graziano, 2020). If an organization seeks sustainability as an organizational goal, it must engage the human resources department by applying GHRM at a strategic level and implementing corresponding practices to ensure environmental protection behavior at the employee level. Therefore, employees are more likely to experience greater clarity regarding how they are expected to interact with each other and, therefore, to identify more and better implement their PEB.

Organizations cannot accomplish their environmental management objectives without the help of green personnel, as stated by Lopes, Scavarda, Hofmeister, Thomé, and Vaccaro (2017) about organizational sustainability. Employees who are eager to take on green obligations and have strong personal green values might, therefore, provide a competitive advantage to companies that engage in environmental conservation. The results demonstrate the significance of GHRM in helping staff members comprehend the expectations and behaviors of their business, as well as their effects, and to feel more connected to PEB and green knowledge exchange. All staff members must be involved in this transition, from high management to GHRM implementation. Thus, GHRM policies ought to acknowledge senior management backing and environmental commitment.

5.2. Limitations and future research

This study contains limits of its own, just like any other applied research. Firstly, future research in this field might use panel or pooled data to solve this issue, as the cross-sectional data used are not ideal for demonstrating causation.

Second, the sample is limited to healthcare workers in Vietnam, so the ability to generalize the results to other cities, industries, and countries with different economic and socio-cultural contexts may be limited. Therefore, future studies should consider conducting their research in specific contexts to better understand the results and investigate possible variations.

Third, all measures were evaluated by employees or management, which may lead to self-response bias. To address this issue, future studies could collect data from multiple raters, such as both employees and employers.

Finally, the current study used a cross-sectional design, limiting the ability to draw causal inferences. Therefore, future studies could adopt a longitudinal research design to investigate changes in the relationship over time. Furthermore, combining both qualitative and quantitative data can provide a more comprehensive understanding of the relationships examined.

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