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Green Human Resource Management (GHRM), Work-Life Dynamics, And Employee Environmental Behavior

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Abstract

Purpose - The present study delves into the connection between GHRM (Green Human Resource Management) influences employee environmental behaviour (EEB) plus its impact on employees' work-life balance.

Design/Methodology/Approach– Drawing from a thorough analysis of literature on GHRM and EEB, we put forth a theoretical model. This model, which examines both direct and indirect impacts of GHRM on EEB, was evaluated using survey data from 350 professionals in Leadership in Energy and Environmental Design (LEED)-officially recognized firms along with processed using the Structural Equation Modeling (SEM) approach.

Findings – Research findings clearly showcase further work-life acts as a key mediator influencing how GHRM affects EEB. The implications drawn emphasize the urgency to integrate green training, reward employees through Geen Pay and Reward for eco-friendly endeavors in their working life and foster an energy efficient workspace to enhance overall workplace satisfaction.

Research limitations/implications – It's crucial to remember that this research utilized a cross-sectional design, which restricts the capability to infer causality. The study was also geographically confined to four buildings in India, which might not accurately reflect the population as a whole of LEED-certified buildings or other countries. The reliance on self-report data can introduce biases such as social desirability. Future studies could benefit from a longitudinal design and the inclusion of more objective measures of employee environmental behaviour.

Practical implications – Work-life balance is emphasised by green human resource management (GHRM), which has a favourable effect on employees' environmental behaviour (EEB). It is recommended that companies incorporate green training with development, implement a green pay and reward system, and design energy efficient workspaces in order to improve employee work life and employee environmental conscious behaviour. The implementation of flexible work arrangements and the consideration of cultural aspects are expected to enhance the worldwide influence of GHRM on EEB.

Originality/value – This research offers originality by studying the connection concerning GHRM (Green Human Resource Management), work-life balance, on employees' environmental behavior (EEB). It contributes a unique perspective by highlighting work-life balance as a pivotal mediator, providing practical insights for organizations. The study's value is underscored by acknowledging limitations and suggesting avenues for future research, guiding further investigations in this emerging field.

Keywords Green human resource management and its practices; working life & personal life; work life balance; employee environmental behaviour.

1. Introduction

Environmental worries are growing, so businesses have to put green projects at the top of their list of priorities (Zhou & Jin, 2023; Afsar & Umrani, 2020). In the past, companies didn't always think about the environment first; they only did when they were forced to by the government rules. But in the past few years, companies have become more responsible for the environment (Ahmed et al.,2021; Ali Ababneh et al., 2021; Tu et al., 2023), which shows a change from just

following the rules to actively managing the environment (Naz et al., 2021).At their core, green projects are plans and actions that aim to protect the environment. These can include everything from finding new ways to use energy that doesn't come from fossil fuels to encouraging new ways to protect the environment (Opatha and Arulrajah, 2014, p. 2). Vikram and Vidhya Lakshmi (2023) say that green projects are when companies come up with plans for taking care of the environment. Researchers (Qadri et al., 2022; Labella-Fernández, 2021) agree that these kinds of green policies are not only good for the environment, but they can also improve the culture, performance, and public image of an organisation (Zhou & Jin, 2023; Jackson et al., 2012).The call for greening businesses is not just limited to production or marketing but permeates all functional areas, notably Human Resource Management (HRM). Unlike other domains where green initiatives have been more established, Green HRM is an emerging frontier. The crux lies in combining environmental management with HRM, the department entrusted with an organization's most valuable asset - its human capital (Yusoff et al., 2019). Recognizing this, researchers advocate for HR practices that align with environmental sustainability (Lu et al., 2023; Renwick et al., 2013; Jackson et al., 2011). However, the success of such practices hinges upon the active involvement of employees both professionally and personally (Lu et al., 2023; Kuo et al., 2022; Renwick, 2008). Research like Dumont et al. (2017) underscore that employee engagement in green initiatives positively impacts their overall environmental attitudes and behaviors.

This sets the stage for our hypotheses, specifically H2a and H3a, proposing a positive correlation between GHRM with its influence on employees' work and personal lives. Beyond that, for businesses to spearhead environmental innovations, they must instill environmental awareness among employees and incentivize green behaviors through rewards and training programs (Gull & Idrees, 2022; Renwick, 2008).

The present study offers empirical evidence linking GHRM to enhanced employee environmental behaviour (EEB). By shedding light on the determinants that stress the importance of EEB, this research enriches existing literature. Furthermore, by exploring the mediating role of work plus personal life balance in relation to EEB, the study delves deeper into the mechanisms governing EEB.

Following this introduction, the subsequent sections of this paper will delve into the literature review, research model, and hypotheses. The third section details the adopted methodology, followed by data analysis in the fourth section. The article ends in a discussion regarding the findings along with concluding remarks.

2. Literature Review

2.1 GHRM (Green Human Resource Management)

GHRM, as an evolving field, looks at the integration of eco-friendly practices within human resource management to ensure sustainable resource utilization. This translates to efficiency improvements, reduced wastage, and fostering a more environmentally sensitive organizational attitude (Zhou & Jin, 2023; Aftab et al., 2022; Margaretha and Saragih, 2013).

Definitions of GHRM vary, but most converge on the notion of incorporating sustainability into HRM. For instance, Anwar et al. (2020); and Bhatia & Kumar (2022) underscore its role in shaping organizational policies that advocate for sustainable resource use, ultimately fostering a culture of environmentalism. Opatha and Arulrajah (2014) offer a comprehensive perspective, defining GHRM as the holistic approach of cultivating environmentally conscious employees through green HR policies. This doesn't merely benefit organizations, but also has wider societal and planetary implications.

Historically, the HRM function has been pivotal in driving organizational sustainability. By realigning HRM policies with environmental goals, a culture of sustainability can be established (Zhou & Jin, 2023; Kuo et al., 2022; Cherian and Jacob, 2012). The growing emphasis on Green HRM across various sectors underscores its potential in bolstering employee environmental behaviour (EEB). By championing eco-friendly practices, establishments can diminish their environmental impact, ensuring a further sustainable future (Jackson et al., 2011).

A successful implementation of GHRM often hinges upon a few critical pillars. Key among these are GTD (Green Training and Development), fostering an EEW (Energy Efficient Workspace), plus implementing green-centric reward and recognition systems. Tiwari (2015), CIPD (2012) have underscored these factors as being instrumental in championing GHRM. In this study, these three pillars are treated as representative of the broader GHRM construct. The subsequent sections will delve deeper into examining how GHRM, via these pillars, influences Environmental behaviour through the lens of employee work-life balance.

2.1.1 Green Training, Development, and Learning

Training has always played an integral role in educating employees about standard protocols, technical nuances, and to cultivate skills tailored to these standards. As environmental concerns gain precedence, green training is rapidly becoming indispensable. Different organizations may tailor their green training methodologies differently, paving the way for research that evaluates the effectiveness and challenges of these varied approaches.

Gull & Idrees, (2022) and Pinzone et al., (2019)emphasized the importance of green training in ensuring effective Environmental behaviour (EEB). Such training initiatives not only heighten awareness among employees about environmental concerns but also foster skills essential to tackling these challenges. The effectiveness of green training, as highlighted by Yeşiltaş et al., (2022), serves as bolsters EEB.

Studies by Haldorai et al., (2022); Aftab et al., (2022); Islam et al. (2023); Jabbour et al., (2010) aimed to discern the part HRM plays within championing green practices. They pinpointed training and employee motivation as the paramount human-centric dimensions that catalyze the integration of green practices. Fernandez et al. (2003) also reinforced this perspective, stating that assimilating green practices requires the dual foundation of environmental awareness and procedural knowledge. Their findings further elucidate a direct positive correlation between employee training in green initiatives and enhanced EEB.

Siemens, in Germany, allots a day dedicated to green training for all employees, focusing especially on those handling hazardous substances. Such initiatives, part of their internal training program, led to over 5,000 employee suggestions pertaining to innovative eco-friendly measures. Operators in the UK receive integrated pollution control training from Imperial Chemical Industries, complemented by introductory environmental training for managerial personnel. Several other conglomerates, such as Bristol-Myers Squibb, Albion Group, and Rolls-Royce, have integrated environmental training modules for their employees. Furthermore, a survey by Klynveld Peat Marwick Goerdeler (KPMG)/ Chartered Intitute of Personal and Development (CIPD) revealed that 42% of UK establishments have prioritized green training as a mechanism toward uplift employee performance and curtail environmental degradation (Phillips, 2007)In essence, green training emerges as a pivotal facet of Green HRM, acting as the driving force that augments Environmental Performance.

2.1.2 Green Pay and Reward

Globally, both private plus public sectors are embracing green act with the intent regarding mitigating environmental degradation along with augmenting EEB. With the stakes being elevated, encompassing a company’s survival, reputation, and success, the incorporation of proactive green initiatives becomes imperative from the get-go.

Recognizing the pivotal role employees play in advancing these green initiatives, organizations are strategically deploying compensation mechanisms, both monetary and non-monetary, to incentivize and reward eco-conscious actions. However, one might ponder the underlying motivations for an employee to engage in eco-friendly practices. Intrinsically, some might be spurred by personal convictions and the ensuing satisfaction derived from eco-conscious actions. Yet, others might be extrinsically motivated by the economic prospects and tangible rewards that green actions might garner.

Empirical research reinforces this notion. Al-Swidi et al. (2021) found a positive correlation between incentives and Employee Environmental Behaviour (EEB). In the U.S., executive rewards are often linked to their proactive environmental actions (Ari at el., 2020; Haldorai et al., 2022; Shah & Soomro, 2023; Cordeiro and Sarkis, 2008). For instance, DuPont rewards its managers and senior officers monetarily for their green endeavors and performances. Across the Atlantic, European companies like Neste Oil incentivize employees with bonuses to foster green behaviors.

Nonetheless, equitably and transparently appraising environmental behaviors to determine monetary rewards can be intricate (Fernandez et al., 2003). Hence, companies also leverage non-monetary rewards like acknowledgment, vacations, certificates, plus vouchers to honor employees who contribute to environmental milestones.

CIPD/KPMG poll done in the UK revealed that 8% of the companies rewarded employees for eco-conscious behaviors, employing a blend of monetary and non-monetary incentives (Phillips, 2007). Moreover, among myriad Green HRM strategies, Green Pay and Reward (GPR) stands out as an efficacious tool to galvanize employees towards enhanced EEB (Ramus, 2002). There's empirical evidence suggesting a strong proclivity among employees of firms offering GPRs to espouse green practices. For instance, employees proffering green solutions are often incentivized, as seen with Dow Chemical.

Ultimately, these Green Pay and Rewards, especially non-monetary ones such as supervisor endorsements, letters of praise, and acknowledgment plaques, play a pivotal role in nurturing an employee's commitment towards eco-consciousness.

2.1.3 Energy Efficient Workspace

The physical workspace has been gaining attention as an influential factor in an organization's environmental and sustainability efforts. However, the literature on the benefits of energy-efficient workspaces is sparse, even though it has notable implications for employee environmental behaviour, individual health, and overall job satisfaction.

Historical studies have probed into the perceptions and evaluations of green workplace environments by both management and employees. These studies aim to gauge how the incorporation of environmentally friendly elements in the workplace can influence an individual's work experience. Findings from such studies, including those by Abid et al., 2020; Bangwal et al., 2017; plus Forsythe and Wilkinson 2015, suggest that a green workspace can yield psychological benefits, enhance health, and boost job satisfaction. In essence, adopting environmentally conscious practices in the design and operation of workspaces can potentially lead to positive individual and organizational outcomes. The design of the workspace itself plays a pivotal role in how individuals perceive and interact with their environment. Organizations with green infrastructure often radiate messages of innovation, responsibility, and vitality, making them more attractive to employees and stakeholders. The GBCA (Green Building Council Australia - 2013), Alim et al., (2022); Bangwal et al., (2017) corroborate this by highlighting that employees generally express higher levels of satisfaction in workplaces that embrace green design. Such satisfaction translates into a more positive attitude, fostering a stronger commitment to environmental stewardship.

In a more tangible context, green workspaces also seem to enhance EEB and productivity. Research has shown that employees who are content with their energy-efficient workspaces often exhibit better EEB metrics Al-Swidi et al. (2021). This satisfaction with the workspace doesn't just lead to improved individual behaviour but also permeates the broader organizational ethos. As suggested by Dumont et al. (2017), there's a positive correlation between workspace satisfaction and job satisfaction, which subsequently impacts the organization's employee environmental behaviour.

In light of these findings, it's evident that an energy-efficient, green workspace serves as a cornerstone in the realm of GHRM. Recognizing plus fostering the relationship between such a workspace along with employee environmental behaviour could be instrumental for organizations striving for sustainability.

2.2 Green Work-Life

Considering a green work-life delves into merging an individual's professional and personal spheres while prioritizing environmental values, attitudes, and behaviors. This involves establishing a synergistic relationship between sustainable practices in both these spheres.

Traditionally, while addressing the environmental impact of human behavior, the focus was mainly placed on the professional realm. However, as the distinction between work and personal life becomes increasingly blurred, especially in contemporary work scenarios, integrating environmentally friendly behaviors across both domains has gained significance.

Söderholm (2010) emphasized that individuals have unique lifestyles and routines, and these routines influence their environmental footprint. Edwards and Rothbard (2000) further emphasized the intertwined nature of professional and personal domains, suggesting that efforts to promote green behaviors solely in the workspace would be insufficient. This intertwining implies that actions and behaviors in one sphere can easily spill over into the other.

Muster and Schrader (2011) have been pivotal in highlighting that true environmental sustainability can only be realized if green practices are integrated seamlessly into both work and personal spheres. They propose that to genuinely foster a green environment, it's essential to weave green HRM practices into both the work and personal domains. Their perspective underscores the belief that one cannot compartmentalize environmentally-friendly behaviors to just the workspace; it should be a lifestyle choice.

However, while the conceptual framework by Muster and Schrader (2011) paints a compelling picture of a holistic approach to environmental responsibility, empirical data supporting the theory remain sparse. This presents a potential area of research, especially to gauge the tangible impact of GHRM practices on both work plus personal life, and in turn, on employee environmental behaviour.

By aligning and promoting green behaviors across both domains, not only is there a potential for enhanced commitment towards the environment, but there's also a potential for a marked improvement in overall employee environmental behaviour. The hypotheses, H2b and H3b, proposed in this section emphasize this correlation and pave the way for further empirical exploration.

2.3 Employee Environmental Behaviour

Employee environmental behaviour is inherently prosocial (Chou, 2014). From a practical standpoint, incorporating green practices into daily work routines should encompass both in-role and extra-role green behavior (Ramus & Killmer, 2007), as both contribute to organizational outcomes by fostering value creation. The categorization of behavior as either extra-or in-role base on organizational expectations plus norms (Paillé & Boiral, 2013). Certain job roles explicitly necessitate green behavior, such as preventing environmental hazards in accordance with policies and regulations. Extra-role green behavior, however, is more subtle and could involve suggestions to enhance environmental performance, like turning off computers and lights when not in use (Paillé & Boiral, 2013). Despite both in-role and extra-role green behaviors being crucial for achieving organizational green objectives (Norton et al., 2014), they may have distinct antecedents due to differences in employees' discretionary control over when and how these behaviors are exhibited in the workplace (Hoffman & Dilchert, 2012).

2.4 Linking Green HRM and Employee Environmental Behaviour

The tangible representation of an organization's commitment to safeguarding the environment is encapsulated in its employee environmental behaviour (EEB). It's evident that the infusion of green practices, especially when synchronized with Human Resource Management (HRM), can amplify the efficacy of EEB (Al-Swidi et al., 2021). This amalgamation of GHRM along with environmental management has garnered attention for its potential in achieving environmental objectives.

Pioneers like Dumont et al. (2017) have underlined the impact of actively engaging employees in GHRM practices, leading to enhanced environmental behaviour. Their findings reiterate the pivotal role that employees play in advancing and implementing green strategies, further emphasizing that a workplace fostering GHRM inherently propels superior environmental outcomes (Aftab et al., 2022;Suba et al., 2020; Khandekar & Sharma, 2005). Echoing this, studies by Ercantan & Eyupoglu, 2022 emphasize the indispensable role of employees in sculpting and advancing green initiatives leading to heightened EEB.

Contemporary research concurs that the adoption of green HRM practices can have a cascading positive impact on EEB. By facilitating such practices, organizations not only underscore their commitment to sustainability but also strategically position themselves for improved environmental outcomes (Lu et al., 2023;Vázquez-Brust et al., 2022; Renwick et al., 2013). This implies that HRM practices, when designed with a green lens, can galvanize employees to champion environmental objectives, thereby boosting the organization's environmental performance (Ercantan & Eyupoglu, 2022).

An effective HR structure is the key, urging HR professionals to champion green policies and foster a culture that prioritizes the environment. The CIPD (Chartered Institute of Personnel and Development) emphasizes the essence of empowering employees, allowing them to brainstorm and drive environmental management initiatives, a move that bolsters green initiatives (CIPD, 2007a, 2007b). Further, by advancing transparent environmental reporting — encompassing policy statements, tangible targets, impact assessments, energy efficiency metrics, and more — organizations can motivate both managers and employees to embed green HRM practices (Davies and Smith, 2007).

In summary, a synchronized approach that integrates green HRM practices with an organization's overarching environmental objectives can pave the way for enhanced environmental behaviour. As demonstrated by the process model of green HRM, there's a reciprocal relationship wherein HRM's green endeavors amplify an organization's EEB, and a robust EEB can further bolster the efficacy of green HRM (Ercantan & Eyupoglu, 2022; Arulrajah & Opatha, 2016).

2.5 The Role of HR

Managers looking after human resources can play various roles in the realm of Employee Environmental Behaviour (EEB). Based on the intensity of their approach to environmental issues, we can categorize HR managers into distinct roles as depicted in Figure A.

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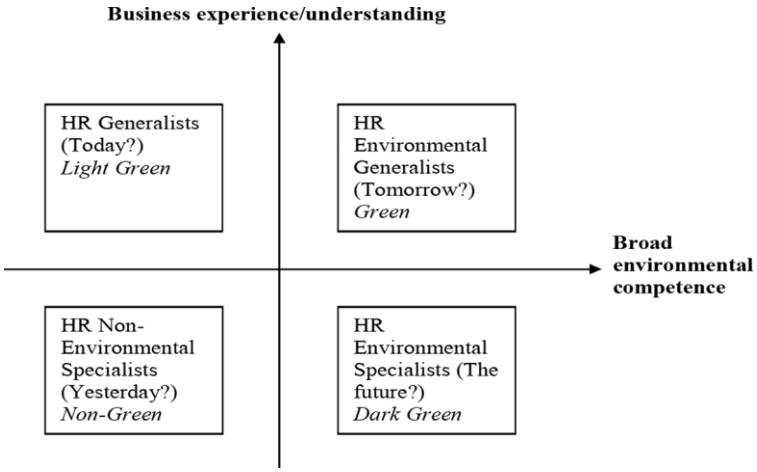

Figure A: Shades of Green – A Typology of HR Environmental Executives (The graphic is illustrative, based on a description from James and Stewart (1996:145).)

The HR department's critical responsibility is to foster a proactive attitude among employees towards the implementation of green HRM projects (Chillakuri and Vanka, 2020). There's a growing awareness among HR professionals regarding the importance of human capital in determining EEB (Dumont et al., 2017). This is evident with many UK organizations encouraging efficient use of workspace, facilitating remote working, promoting online meetings to curtail travel, and endorsing sustainable commuting options like public transportation along with carpooling (Adekoya et al., 2023; Bangwal & Tiwari, 2015;Simms, 2007).

As for the environmental issues have been in focus for quite some time, there is a lacuna in research specifically targeting the connection between green HRM, work-life balance, along with EEB. Thus, this study introduces the hypothesis H1: "Green HRM has a positive effect on employee environmental behaviour." This research aims to bridge the gap between green HRM practices and EEB, with work-life balance acting as a significant mediator. Such links, especially from an Indian perspective, are novel. Organizations keen on tapping into the benefits of enhanced EEB must prioritize green initiatives and foster a culture of environmental awareness.

3. Hypotheses and a Conceptual Research Model

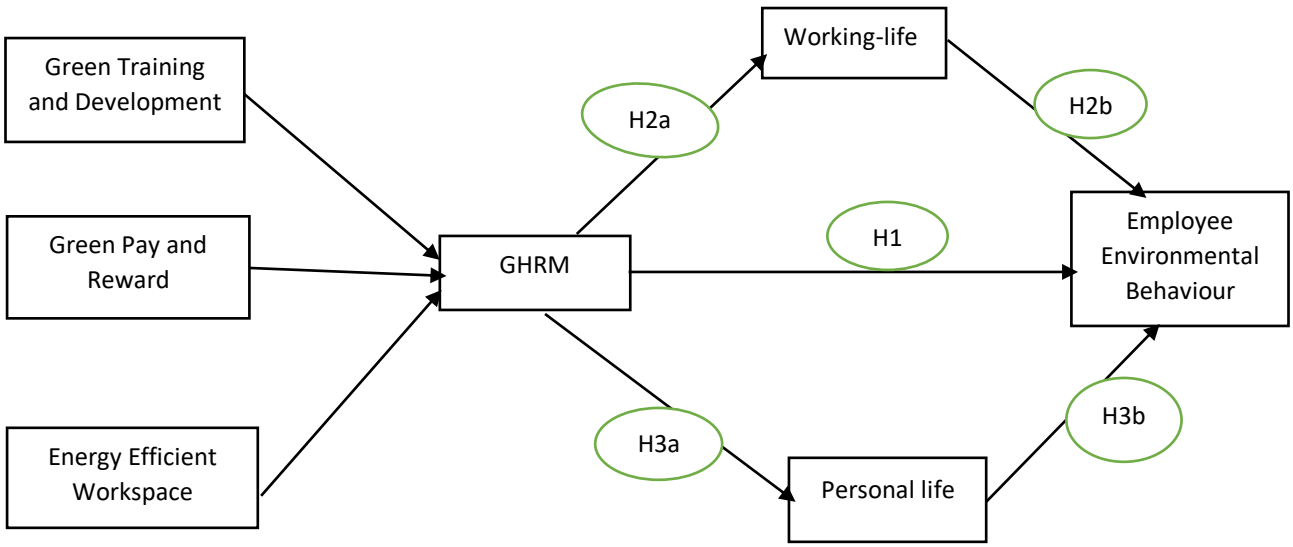

Figure B: Proposed Model and Hypotheses

Based on the study of the literature, we came up with a model and a list of hypotheses that include endogenous (dependent) variables, a mediating variable, and exogenous (independent) variables. The goal of this model, shown in Figure B, is to show how these factors are connected and how they affect EEB as a whole. The primary independent variable in the study is green HRM, further divided into GTD, GPR, and EEW. Working life and personal life act as mediating variables, while EEB serves as the dependent variable.

(This is a visual representation of the connections between GHRM, work-life balance, and EEB.)
The following model and hypotheses are purposed based on the conceptual backdrop; these hypotheses are investigated empirically.
The conceptual framework for this study, along with the corresponding hypotheses, is founded on this model. To test these hypotheses empirically, we've sourced data from three distinguished Indian firms – ITC, Suzlon Energy Ltd, Six Senses Vana- A Wellness Retreat, along with Olympia Technology Park. Notably, all these companies have been certified by the LEED rating system, a renowned global benchmark for green buildings.

4. Methodology

This research used survey data from workers in LEED-certified buildings to investigate how GHRM features affected EEB through work-life balance. To provide standardised conditions at every sample location, buildings were chosen based on LEED certification standards. Among these, LEED Platinum certified buildings were represented by Six Senses Vana- A Wellness Retreat, ITC, and Suzlon Energy Ltd., while The Olympia Technology Park was a building that achieved LEED gold certification. By examining these specific buildings, the study aimed to gain insights into the relationship between GHRM, employee well-being, and employee environmental behaviour within the context of environmentally sustainable workplaces.

4.1 Data Collection

A structured questionnaire was developed based on established measures from prior research with necessary modifications to fit the context of this study. The questionnaire was tested for clarity, comprehension, and content validity with a group of experts and pilot-tested with a small group of employees. After refining the instrument based on feedback, it was administered to employees of the selected buildings. Employees from different departments and varying job levels were approached to ensure a diverse and comprehensive sample. Respondents were informed about the purpose of the study and assured of the confidentiality of their responses. Participation was voluntary.
GHRM practices: Adapted from Renwick et al. (2013), the measure comprised items gauging the extent to which employees perceived their organization to be involved in energy-efficient workspace, green pay and reward systems, green training and development.
Employee Work-Life: Based on Muster and Schrader (2011), this measure gauged the employees' perception of how their workplace's green initiatives impacted both their work and personal lives.
Employee Environmental Behaviour (EEB): Dumont et al. (2017), this measure assessed employees' perception of their individual contribution towards environmental sustainability in their workplace.
A 5-point Likert scale, with 1 denoting "strongly disagree" and 5 denoting "strongly agree," was used to score each item.
Structural Equation Modelling (SEM) was used to analyse the data to examine the relationships between green HRM practices, employee work-life, and EEB. SEM allows for a simultaneous examination of the relationships among all variables and is appropriate for testing the fit of the conceptual model with the observed data. Prior to the main analysis, data were screened for missing values, outliers, and the assumptions of multivariate analysis.

4.1.1 Sample Selection

A total of 700 questionnaires were disseminated. From this distribution, 421 responses were received. However, 71 of these had to be discarded due to incomplete information, leaving 350 questionnaires fit for analysis. The observed response rate exhibited a significant level of prominence, serving as an indicator of the distinctive attributes of the population under study. The collected data from the questionnaires were automatically transcribed into Microsoft Excel spreadsheet, was utilised to integrate data into an SPSS database for further analysis. Basic data verification plus scrutiny methods, such as checking for range, distribution, and patterns of missing values, were employed.

4.1.2 Research Instrument

The survey was organized into four distinct sections, each tailored to address the five proposed hypotheses of the research. The initial section encompassed five questions regarding GTD, four about GPR, and five related to EEW (Section 1). The subsequent section (Section 2) contained five questions each centered around working life and personal life. Section 3 probed into 'employee environmental behaviour' through five questions, while the final section (Section 4) gathered demographic information, capturing information including company name, employment history, age, gender, along with educational background.

Each query from Sections 2 to 4 adopted a five-point Likert scale for responses, with endpoints labeled as (point 1 to point 5) strongly disagree to strongly agree. The selection of questions and their structuring were grounded in a thorough review of the existing literature on the topic.

To validate the content of the questions, they were subjected to expert review. Four experts, comprising two from the industry and two academics, were approached for their insights on the content and construct of these questions. Taking their feedback into account, necessary adjustments were made to enhance clarity and relevance.

Cronbach's alpha was used to assess the reliability of the study's constructs. As obtained values for the various scales surpassed the recommended benchmark, as showcased in Table 1. To further validate the questionnaire's efficacy, a measurement model was run using AMOS, which endorsed both the discriminant and convergent validity for all the survey constructs.

Table 1: Reliability and item loading

Construct	*Items*	*CR*	*AVE*	*MSV*	*ASV*	*Cronbach's α*
Green training and development	GT5	0.885	0.607	0.179	0.143	0.882
	GT4					
	GT3					
	GT2					
	GT1					
Green pay and reward	GP4	0.817	0.527	0.181	0.111	0.816
	GP3					
	GP2					
	GP1					
Energy efficient workspace	WS5	0.935	0.741	0.181	0.1	0.932
	WS4					
	WS3					
	WS2					
	WS1					
Working life	WL5	0.902	0.65	0.563	0.21	0.899
	WL4					
	WL3					
	WL2					
	WL1					
Personal life	PL5	0.943	0.768	0.332	0.183	0.943
	PL4					
	PL3					
	PL2					
	PL1					
Employee	EB5	0.851	0.535	0.563	0.243	0.842
	EB4					

environmental	EB3
behaviour	EB2

CR, composite reliability; AVE, average variances extracted; ASV, average shared variances.

5. Data analysis and results

5.1 Sample characteristics

Table 2 displays the respondents' demographic information. Out of 350 responders, 67% were men and 33% were women. The majority of respondents worked full-time, with 53% being between the ages of 30 to 40, and 47% being between the ages of 40 and 50. The majority of respondents were familiar with the environmental design features of green buildings.

Table 2 Demographic profile of the sample

Variable	*Categories*	*Response %*
Gender	Male	67
	Female	33
Age Group	30-40	53
	40-50	47
Employment	Full-time	100
	Part-time	0

5.2 Common method bias

There are instances where common method bias should be a major concern; it is usually recognised that common method bias inflates associations between variables. Because the study relied on self-reported data, typical method bias may have occurred (Podsakoff et al., 2003). Harman's technique was implemented to mitigate biases. For both independent and dependent variables, exploratory factor analysis (EFA) was used in conjunction with principal component analysis. If a single component explains a disproportionately large amount of the variance, this indicates the presence of Common Method Bias (CMB). However, in our investigation, the appearance of a single factor revealed approximately 16% of the variance, providing evidence that CMB is not a severe danger.

5.3 Structural equation modelling (SEM)

SEM is a multivariate technique that looks at the hypothesised model's series of dependent relationships all at once. SEM basically combines two mechanisms—a measurement model and a structural model—with multiple regression and confirmatory factor analysis (CFA). Doloi et al. (2011) state that the measurement model primarily addressed the link between latent and observed variables, as well as the validity and reliability of the latent and observed variables. The latent variable's connection and path strength are the focus of the structural model.

5.3.1 The measurement model

AMOS 27.0 is used to perform a CFA in order to test the measurement model. It is essential to verify the validity and reliability of the measurement model prior to verifying the relationships in the structural model (Fornell and Lacker, 1981; Ifinedo, 2006).

Reliability, convergent validity, and discriminant validity of the measurement model's parameters were assessed (see Table 1). Internal consistency is computed for the aim of determining reliability, and the results indicate the dependability of each survey question intended to assess the same quality. Cronbach's α, which runs from 0 to 1, is used to quantify the internal reliability of each construct (GTD, GPR, EEW, WLF, PLF, and EEB) based on pairwise correlations between items. According to Sekaran (2003), a Cronbach's α value of 0.6 to 0.7 is regarded dependable, while a number above 0.7 indicates a high degree of dependability. According to Table 1, every construct has a degree

of reliability that is above 0.7 and close to 0.9. Consequently, it demonstrates how well-coordinated each construct is inside. As a result, these actions are suitable and suitable for SEM investigation.

The measurement model's constructs are measured for reliability using composite reliability (CR). CR is a more visually appealing method of assessing overall dependability and assesses the construct's consistency (Hair et al., 2010). According to Table 1, the measurement model's composite reliability (CR) is greater than 0.7. As a result, every construct in the measurement model has strong reliability. The degree to which indicators of a specific construct have a high percentage of variation overall is known as convergent validity (Hair et al., 2010). By using standard regression weight, convergent validity is evaluated. The standard regression weight (or standard factor loading) estimations' result indicates that the latent variables are significantly represented by the indicator variables. Always have a standard factor loading that is greater than 0.50 (Hair et al., 2010). According to Table 1, the observed variable's standard factor loading ranges from 0.75 to 0.95. It indicates that the latent variable or construct and the observed variables are satisfactory, hence requiring confirmation of the convergent validity.

According to Hair et al. (2010), discriminant validity demonstrates how distinct a construct is from other constructs. There are two main approaches for assessing discriminant validity. First, there shouldn't be a strong correlation between assessments of theoretically distinct constructs (Trochim, 2006). Second, the level of square root AVE should be higher than the correlation between the constructs, and the average variances extracted (AVE) of the specific constructs are always bigger than the average shared variances (ASV) between the constructs. Table 1 demonstrates that the specific structures' AVEs exceed their ASVs.

According to Hair et al. (2010), the model fit was assessed using indices such as the Tucker Lewis index (TLI), comparative fit index (CFI), goodness of fit index (GFI), normed fit index (NFI), and root mean square of error approximation (RMSEA). Specifically, $\chi 2/df$ should be less than 3, CFI, GFI, NFI, and TLI should all be near to or greater than 0.9, and the RMSEA should always be less than 0.08 to provide a satisfactory fit with the data (Gefen and Straub, 2000). The measurement model's goodness-of-fit indices are summarised in Table 3. Table 3 makes it abundantly evident that the measurement model assumes a good fit, therefore we can move on to using SEM to evaluate the structural model.

Table 3 Summary of goodness-of-fit indices for measurement model

Model fit index	χ^2/df	*CFI*	*GFI*	*NFI*	*TLI*	*RMSEA*
Model	2.015	0.952	0.885	0.909	0.946	0.052

CFI, comparative fit index; GFI, goodness of fit index; NFI, normed fit index;
TLI, Tucker Lewis index; RMSEA, root mean square of error approximation.

5.3.2 Structural model

SEM was used to assess the structural model and investigate the proposed conceptual research model. The model's goodness-of-fit, which is determined to be only passably sufficient, is shown in Table 4. As a result, we are able to move forward with our investigation of the hypotheses outlined in our model.

Table 4 Summary of goodness-of-fit indices for structural model

Model fit index	χ^2/df	*CFI*	*GFI*	*NFI*	*TLI*	*RMSEA*
Model	2.16	0.945	0.875	0.901	0.938	0.055

CFI, comparative fit index; GFI, goodness of fit index; NFI, normed fit index;
TLI, Tucker Lewis index; RMSEA, root mean square of error approximation.

Properties of the structural model (standardised path coefficients (β), standard error, critical ratio and hypotheses result) are indicated in Table 5.

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Table 5: Summary of testing hypothesis

Hypothesis	*Structural Relationship*	*St. Est (β)*	*Unst. Est(β)*	*P*	*Result*
H1 Total effect	EEB - GHRM	0.51	0.465	<0.001	Supported
Directeffect	EEB - GHRM	0.31	0.33	<0.001	
H2a	WLF - GHRM	0.61	0.77	<0.001	Supported
H2b	EEB - WLF	0.52	0.43	<0.001	Supported
H3a	PLF - GHRM	0.67	0.87	<0.001	Supported
H3b	EEB - PLF	0.09	0.07	<0.001	Not supported

EEB, employee environmental behaviour; GHRM, green human resource management; WLF, work-life; PLF, personal life

The squared multiple correlation R square was also reported in this study. The strength of the suggested model is assessed using the R square value. The outcome of the structural model's multivariate test was the R square. According to estimates, the WLF predictors account for 36.9% of the variation and the PLF predictors for 45.5% of the variance. 64.4% of the variance in EEB is thought to be explained by its predictors.

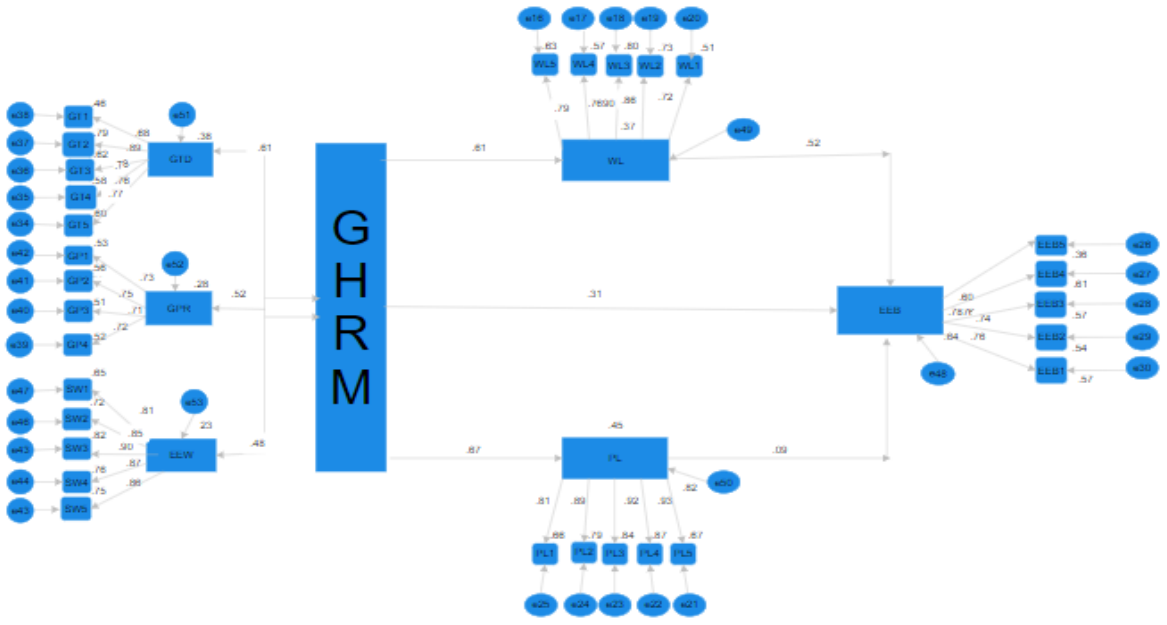

Figure C With mediating variable (see online version for colours)

5.4 Analysis of Mediating Effects

According to the underlying path theory, three structural paths were postulated:

1. Direct path from GHRM to EEB without any mediators.
2. Mediated path from GHRM through WLF to EEB.
3. Mediated path from GHRM through PLF to EEB.

Evidence from the analysis indicates that the mediation effect is significant for the path GHRM → WLF → EEB. Conversely, the mediation through the path GHRM → PLF → EEB is not significant, as detailed in Table 6.

Table 6 Mediation analysis

Mediating effect of	*In the relationship of*	*Sobel test (z)*	*p*	*Result*
WLF	GHRM - EPF	4.7	<0.001	Supported
PLF	GHRM - EPF	1.07	>0.001	Not supported

WLF, working-life; PLF, personal life; GHRM, green human resource management; EEB, employee environmental behaviour

5.4.1 Evaluation of Total Effect

Considering the direct structural path from GHRM → EEB (without the influence of mediating variables), a significant total effect was observed ($\beta = 0.465$, $p < 0.001$).

5.4.2 Evaluation of Direct Effect

Upon introducing the mediating variable into the model, there was a noticeable reduction in the standardized path coefficient (β) from GHRM → EEB, moving from $\beta = 0.465$ to $\beta = 0.33$. However, this effect remained significant. This reduction suggests the presence of partial mediation, in line with the criteria set by Baron and Kenny (1986). Hypothesis H1 posited a positive impact of GHRM on EEB. The results from the structural equation modeling affirm the validity of hypothesis H1.

5.4.3 Examination of Indirect Effects

The pathway incorporating GHRM → WLF → EEB revealed a notable indirect impact on EEB via the working life factor ($z = 4.7$, $p < 0.001$). Hypothesis H2a speculated a positive linkage between GHRM and employee working life. This was confirmed by a significant path coefficient between GHRM and working life ($\beta = 0.77$, $p < 0.001$), supporting H2a. Moreover, hypothesis H2b, suggesting a favorable relationship between working life and EEB, was also validated ($\beta = 0.43$, $p < 0.001$). This indicates that working life indeed influences EEB positively.

Conversely, the pathway GHRM → PLF → EEB didn't exhibit a statistically significant indirect effect between GHRM and EEB via the personal life domain ($z = 1.02$, $p > 0.05$). Although hypothesis H3a, suggesting that Green HRM positively impacts employee personal life, was supported with a significant path coefficient ($\beta = 0.87$, $p < 0.001$), hypothesis H3b (indicating a positive relationship between personal life and EEB) wasn't upheld. The relation between personal life and EPF was found to be insignificant ($\beta = 0.07$, $p > 0.05$), which implies that personal life doesn't necessarily translate to improved EEB.

Beyond direct relationships, the potential mediating roles of working life and personal life were explored. The mediation effects were assessed using Sobel tests.

5.4.4 Sobel Test Examination

Merely determining whether the relationship between the predictor and the outcome variable undergoes partial or full mediation upon introducing the mediating variable may not be exhaustive (Frazier et al., 2004). To ascertain the significance of the mediation effect, it's imperative to apply the Sobel (1982) test.

In the Sobel test framework:

- The path between the predictor and the moderator is labeled as (1)
- The pathway from the moderator to the outcome variable is termed as (2) or "ab".

To test the mediation effect, one divides the estimate of the mediating variable by its standard error. The resulting value is then compared against a standard normal distribution, as delineated by Sobel (1982) and MacKinnon et al. (2002).
The standard error of the indirect effect, denoted as *sab*, is given by:
$sab=(a2\times sb2)+(b2\times sa2)$

Here:

- *a* stands for the unstandardized regression coefficient of path a.
- *b* represents the unstandardized regression coefficient of path b.
- *sa* is the standard error associated with a.
- *sb* is the standard error associated with b.

6 Discussion

Our investigation reveals a strong inclination among employees towards recognizing the positive impact of green HRM features on EEB, with perceptions largely consistent across job types, genders, and ages. This is notable considering the organizational perspective emphasizing the necessity of green HRM to bolster EEB.
Our study sought to explain the intricate relationship between employee perceptions of green HRM and EEB. To this end, structural models were formulated, positioning EEB as the outcome, GHRM as the predictor, and both working and personal life as mediators. Each construct met the statistical benchmarks for one-dimensionality, reliability, and both discriminant and convergent validity. Notably, during the model refinement process, certain items were excluded based on fitting criteria referenced in established literature.
Our examination spanned both direct and mediated associations between GHRM, work-life balance, and EEB. The mediation analysis introduced working and personal life as potential mechanisms through which GHRM influences EEB. Analyzing survey results from three environmentally-conscious Indian companies, our findings consistently supported our proposed hypotheses, thereby bridging a noticeable gap in the literature on the tie between GHRM and EEB. Interestingly, while working life emerged as a partial mediator in the GHRM-EEB linkage, no tangible correlation was observed between personal life and EEB.
This research empirically underscores the pivotal role GHRM plays in elevating EEB, underscoring that companies can harness GHRM to enrich EEB. This aligns with studies advocating the criticality of GHRM in driving enhanced environmental outcomes (Dumont et al., 2017; Renwick et al., 2013). Hence, firms emphasizing GHRM are likely to witness augmented EEB, a consequence of synergizing HRM practices with environmentally-conscious organizational strategies.
Moreover, our study introduces work-life balance, from the lens of individual employees, as a crucial mediator shaping the GHRM-EEB relationship. By unveiling the mechanism through which GHRM augments EEB—mediated by personal working and personal lives—we offer fresh insights to the existing literature. Prior HRM research has underscored the organizational impact of HRM on performance, but few have navigated the triad of GHRM, work-life balance, and EEB. Drawing parallels with Bangwal et al., 2017; Muster & Schrader, 2011, who theorized about work-life's positive influence on EEB, we empirically substantiate this relationship. Our results spotlight the organizational imperative of facilitating employee involvement in green initiatives, necessitating a strategic blend of green training, rewards, and fostering an eco-friendly workplace ethos. Surprisingly, our findings diverge when it comes to the role of personal life in influencing EEB, suggesting a more nuanced relationship that hinges on the harmonious integration of working and personal lives.
In essence, the findings underscore the importance of work-life as a mediator in the GHRM-EEB dynamic.

6.1 Implications Derived from the Results

A striking revelation from our study is the evident link between EEB and work-life. This stands in contrast to prior research, which predominantly opined that an employee's environmental behavior is primarily influenced by the nature of their household (cited in works like Al-Swidi et al., 2021; Saputro & Nawangsari, 2021; El-Zein et al., 2006). While Dumont et al., 2017 proposed that prior experiences hold weight in determining EEB within the workspace, our

findings contrastingly underscore the marginal influence of personal life on EEB. These insights markedly augment the existing body of knowledge.

Drawing from these results, it's evident that there's an urgent need for more integrated approaches towards enhancing EEB. Instead of disseminating multiple, and sometimes contradictory, messages concerning EEB, a consolidated strategy emphasizing the interplay of work-life becomes imperative. Collaboration amongst all vested stakeholders is the need of the hour. A seamless fusion of Green HRM with environmental initiatives, complemented by synchronized policymaking and adept implementation, is crucial to realizing tangible outcomes. Relying solely on isolated initiatives, like emphasizing only recycling, might render limited success in steering individual behaviors towards sustainability unless intertwined with work-life practices. In essence, the study underlines the predominant role of GHRM practices in the workplace in elevating EEB, relegating the influence of household routines and past experiences to the background.

7 Conclusion

This research aims to illustrate the connection between GHRM and EEB. The results' analysis verified that work-life balance acts as a mediator in the relationship between GHRM and EEB. In order to create a green culture that is important to an organization's EEB and a green workplace that promotes employee workplace satisfaction, it becomes necessary to place a greater emphasis on green training, reward employee through GPR for their environmentally friendly work-life practices. Subsequent investigations should extend this analysis to multiple other institutions, and we can also examine the potential spillover impact of work-life balance on EEB.

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