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Green Human Resource Management and Pro-Environmental Behavior in Cameroon's Agricultural Sector: A Moderated Mediation Model

Mercy Atabongafac *  and Tarik Atan 

Faculty of Economics and Administrative Sciences, Cyprus International University, 99258 Nicosia, Turkey; tatan@ciu.edu.tr

* Correspondence: atabongafacmercy6710@gmail.com; Tel.: +23-7671076243

Abstract

The agricultural industry is under increasing pressure to become sustainable in the face of the escalating environmental concerns of today's world. This study on the agricultural sector of Cameroon examined the interplay of green human resource management (GHRM), pro-environmental behavior (PEB), green psychological empowerment (GPE) and interpersonal cynicism (IC). Questionnaires were distributed through Google Forms to 500 staff members, of which 411 were returned. To analyze the data, we used the PLS SEM technique (algorithm, bootstrapping, and blindfolding). GHRM was found to foster PEB and GPE by enhancing their environmental awareness and capabilities. The link between green HRM and PEB showed partial mediation by green psychological empowerment, which is an indicator of purpose, competence, and autonomy in environmental sustainability. Moreover, it was hypothesized that interpersonal cynicism would moderate the relationship between GHRM and GPE. The moderating effect, however, was negative and not statistically significant. This implies that the strength of the relationship is not significantly affected by interpersonal cynicism. This shows that GHRM still has a positive influence on the green psychological empowerment of employees regardless of the degree of interpersonal cynicism. Therefore, this study offers actionable insight for developing GHRM strategies that enhance empowerment while reducing interpersonal cynicism in the workplace, thereby boosting the practice of sustainability in the agricultural domain.

Keywords: green human resource management; green psychological empowerment; interpersonal cynicism; pro-environmental behavior; PLS-SEM



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1. Introduction

The increasing environmental sustainability awareness globally has influenced organizations to embrace eco-sustainable behavior. As environmental issues such as climate change, biodiversity decline, and resource exhaustion escalate, organizations are expected to embed sustainability into their operating and business models. Organizations implementing green and responsible practices, which represent the shift towards environmentally responsible operations, can derive multiple benefits from these initiatives, including improved environmental performance, enhanced corporate reputation, and greater employee engagement [1]. Human resource management (HRM) plays a key role in this transformation. HRM acts as a foundational tool for embedding environmental values into everyday work practices and shifting employees' motivation towards sustainability goals.

Among all sectors affected by environmental problems, agriculture remains one of the most environmentally complex and organizationally vulnerable industries.

Especially in developing nations like Cameroon, agricultural companies are subjected to specific stresses from climate variability, environmental degradation, and growing global environmental production expectations. It is very resource-dependent and especially susceptible to changing environmental trends. Similarly, there are also institutional and managerial problems that agricultural organizations confront that challenge the implementation of effective sustainability strategies. These contextual challenges render the Cameroonian agriculture sector a particularly suitable context for examining how organizational practices can encourage environmental sustainability among employees, thereby addressing a gap in context-specific sustainability research. Increasing sustainability actions in this sector is not only a great way to protect the environment, but also increases longer-term productivity, food security, and economic stability [2].

Moreover, the current contextual focus of this study on agricultural organizations in Cameroon adds further significance to the study in an environment still relatively unexplored in the green HRM literature. Previous studies have concentrated mostly on the manufacturing and hospitality industries in developed economies. There has been little empirical attention given to agricultural organizations in developing countries where environmental vulnerability, institutional limitations, and sustainability pressures are more pronounced. Thus, research on green HRM practices in this context provides useful context-specific insights and expands the scope of existing sustainability theories to under-represented organizational and geographical settings.

In response to such challenges, green human resource management (GHRM) has shown potential as a strategic approach to integrate environmental goals into HR policies and practices. According to Tanova and Bayighomog [3], GHRM is very important as it helps in accelerating green efforts. Reducing a company's ecological footprint while enhancing staff members' health and productivity is the goal of green HR management; it represents an idea of HRM that places a lot of value on ecological preservation and incorporates ecological values into HRM.

In order to promote the ethical behavior of employees in their work environment, companies should embrace GHRM strategies and actively encourage and motivate employees to accomplish environmental objectives. Previous studies claim that organizations can enhance their environmental performance through corporate sustainable HR policies and practices [3]. Companies can therefore train employees to help promote ecological restoration and achieve sustainable environment end results that have long-term environmental sustainability impacts through HR strategies that are designed with precision to enable them to contribute to environmental improvement [4].

Adekoya et al. [4] also suggest that to positively impact positive environmental behaviors in organizational settings, the individual pro-environmental behavior of employees would necessitate a shift in attitudes and behaviors with regard to responsible use of resources and environmental stewardship. Employees tend to interpret the strategies and sustainability efforts of organizations through employees' workplace social interactions and perceptions of organizational supportive behavior [5]. When employees do not have the awareness to engage with environmental issues, such perceptions influence their perception of what concerns and motivates them to behave environmentally responsibly. Thus, combining pro-environmental actions with GHRM methods can yield more sustainable outcomes for organizations.

It is therefore clear that green HRM extends the typical HR role to the promotion of organizational sustainability. It involves the creation, implementation, and maintenance of HR programs that encourage employees to participate in environmental goals.

These initiatives include green recruitment, sustainability-based training, performance management—by rewarding eco-friendly performance—and employee relations that make ecological responsibility part of the employee relationship. By positioning HR systems as directly in alignment with sustainability objectives, companies can cultivate an organizational culture that will encourage employees to get actively involved in environmental protection work.

Green HR strategies such as supporting ecological responsibility in the workplace, encouraging resource conservation, and establishing environmentally responsible work policies can bring satisfaction to employees at work and improve levels of satisfaction. Companies which practice environmentally responsible management often see improved satisfaction and loyalty among their employees; this, in turn, helps to lower staff attrition rates while increasing productivity. Some people adopt pro-environmental behavior (PEB), also known as eco-friendly behavior, often understood as the green behavior of individuals that includes recycling, conserving water and energy, supporting environmentally friendly products, and living eco-friendly lifestyles. In practice, every action can sustain sustainable living and thus reduce loss of environmental footprint [6].

Such adaptive behaviors toward climate change include actions that mitigate the negative effects of environmental change while supporting sustainability. According to climate assessment reports, pro-environmental behavior consists of public and private actions to reduce environmental damage or to actively restore natural ecosystems. In the private sector, those behaviors could involve recycling and energy conservation; in the public sector, they might promote environmental policies or sustainability initiatives. A study on pro-environment behaviors by Steg [7] revealed four central values that affect people in their attitudes toward the environment: biospheric (nature and ecological) orientations; altruistic values (others' well-being and that of other people); egoistic values (for individual resources and people), and hedonic values (satisfaction and lifestyle). It is these value dimensions that influence individuals' reasons to act in an environmentally friendly way [7].

Psychological empowerment is also a key element that can affect employee commitment to sustainability efforts. Psychological empowerment is a managerial practice where the autonomy of employees in exercising decision-making powers in the workplace is increased and employees perceive a sense of empowerment [8]. This is an aspect of an intrinsic motivating force with four dimensions, consisting of competence, self-determination, meaning, and impact [9,10]. Studies show that more psychologically empowered employees will work harder to achieve more value and actively participate in the organization's goals. However, prior research has insufficiently examined green psychological empowerment (GPE) as a mechanism through which GHM influences pro-environmental behavior, thereby limiting understanding of the underlying psychological processes linking HR practices and sustainability outcomes.

The dimension of meaning refers to the extent to which employees' personal values are consistent with their work duties [11]. Competence is defined as an individual's sense of the effectiveness of their performance of tasks [12]. Self-determination, another important dimension, reflects the extent to which there is employee discretion regarding their work [13]. Impact is ultimately the extent to which employees view their abilities and their influence over organizational performance, including strategic or operational decisions [14]. Employees whose psychological empowerment is high see their positions as fulfilling and believe they can contribute meaningfully to organizational performance through their behavior [15].

Despite organizational efforts to promote empowerment and sustainability, the presence of cynical or disengaged employees may undermine and hinder the effectiveness of

such initiatives. Cynicism refers to a disposition characterized by suspicion and skepticism toward the motives and intentions of others. Meanwhile, previous studies have examined employee attitudes, but limited attention has been given to interpersonal cynicism (IC) as a boundary condition that may weaken the effectiveness of GHRM practices, representing another important gap in the literature. Individuals exhibiting cynical attitudes tend to perceive organizational initiatives as being driven by self-interest, personal gain, or hidden agendas, rather than a genuine concern for employees or the broader society [16].

More categorically, we argue that interpersonal cynicism should not be considered as yet another attitude in the workplace but, rather, as a critical interpersonal psychological state that can affect the strength and direction of employees' environmental behavior within organizations. Interpersonal cynicism can also affect employees' willingness to participate in green programs and collaborative sustainability initiatives, as high levels of interpersonal cynicism can lead to a lack of trust in the motives, intentions, and actions of their colleagues. Therefore, interpersonal cynicism could negatively affect supportive workplace relationships and cooperation, and diminish the positive impact of GHRM practices on employees' green psychological empowerment and environmental commitment. Therefore, interpersonal cynicism may impede the positive impact of GHRM practices on employees' green psychological empowerment and environmental commitment through eroding supportive workplace relationships and cooperation.

Such attitudes can erode trust between coworkers and diminish employees' willingness to participate in collaborative organizational programs. But cynicism in particular is problematic because it undermines the reciprocal social bonds between employees and organizations that Social Exchange Theory (SET) suggests are necessary for positive work environments. SET holds that positive work relationships are built on trust and the exchange of mutual favors. Workplace collaboration and mutual support can erode when employees become cynical about the motives and intentions of their colleagues. Under the influence of cynicism, the relationships of reciprocity in reward and punishment will be lost and weaken [17].

Another aspect of research has shown how interpersonal cynicism is bad for an individual's well-being and career development. Stavrova and Ehlebracht [18] showed that cynical attitudes can hinder career development, reduce job satisfaction, and affect team functionality negatively. Constant cynicism can result in long-term heartache, low job satisfaction, and little-to-no workplace collaboration. According to earlier research, supportive work environments, healthy interpersonal relationships, and perceptions of fairness in the organization can help to reduce employees' interpersonal cynical attitudes [19].

In light of these circumstances, this study explores a number of research questions. First, how does green human resource management (GHRM) influence pro-environmental behavior (PEB) and green psychological empowerment (GPE)? Second, does GPE mediate the relationship between GHRM and PEB? Third, does interpersonal cynicism (IC) moderate the relationship between GHRM and GPE? By addressing these questions, the study develops an integrated framework that explains both the mechanism—mediation via GPE and the boundary condition—moderation by IC through which GHRM affects employee environmental behavior.

The current study contributes to the literature in some respects. First, it extends previous research on green HRM by simultaneously examining GHRM, GPE, PEB, and IC within a single model, thereby offering a more comprehensive explanation of how organizational practices translate into employee-level environmental outcomes. Tanova and Bayighomog [3] emphasize a shift in the emphasis on green HRM in organizational and individual performance-related activities. Previous research has addressed the effect of GHRM on pro-environmental behaviors in a range of industries, including hospitality, education, and

manufacturing [20,21], but has largely overlooked their interaction within the agricultural sector and the combined mediating and moderating mechanisms considered in this study; therefore, this study explores the mediating role of green psychological empowerment in the association of GHRM practices with pro-environmentally friendly behaviors and provides additional insight about the psychological processes of employee involvement in sustainability promotion.

The other way this study offers novel theoretical insight is by empirically demonstrating the mediating role of green psychological empowerment, thereby advancing understanding of the psychological processes that connect HR practices to sustainability-related behaviors. The study adds to the theory by examining the agricultural sector in Cameroon and by identifying interpersonal cynicism as a moderator. It demonstrates how negative interpersonal attitudes and distrust between coworkers can constrain the effectiveness of sustainability-oriented HR practices, thereby refining the existing assumptions in SET.

Lastly, by focusing on agricultural firms in Cameroon, the study contributes context-specific evidence from a developing economy, thereby extending the generalizability of green HRM theory to environmentally vulnerable and under-researched settings.

The next section of the study presents a synthesis of the literature review and the development of the theoretical framework. This is followed by the methodology section, outlining the research design, data collection method, and analytical technique used. The next section explains the empirical evidence and the data analysis results. Finally, this paper ends with a discussion of the results, theoretical/practical consequences, and recommendations for future research.

2. Literature Review

2.1. Theoretical Framework

The current study mainly employs Social Exchange Theory (SET) and Social Cognitive Theory (SCT) to explain the relationship between green human resource management (GHRM) and pro-environmental behavior (PEB), as well as examining the mediating role of green psychological empowerment (GPE) and the moderating role of interpersonal cynicism (IC). These theories collectively offer a comprehensive understanding of the mechanisms through which organizational green practices influence employees' environmental behaviors and how individual attitudes might amplify or attenuate these effects.

Social Exchange Theory (SET), conceived by Blau [22], describes social relationships as reciprocal exchanges in which individuals tend to respond positively to any positive treatment they receive. In organizational contexts, employees are likely to reciprocate organizational support and investment with behaviors that advance organizational goals. An organization, by practicing green recruitment and selection, green training and development, green performance appraisal, and green reward systems, demonstrates its commitment to environmental sustainability and its willingness to invest in the environmental competencies of its employees. Employees who see these practices as beneficial and supportive are more likely to feel compelled to reciprocate with behaviors aligned with organizational environmental goals.

In this study, GHRM practices are environmental stimuli that stimulate employees to internalize environmental values and develop stronger psychological ties with sustainability initiatives [23]. This psychological state is conceptualized as green psychological empowerment (GPE), which represents employees' cognitive, emotional and motivational involvement in environmental activities. Green training programs, environmental communication, green performance systems, and reward systems provided by organizations create opportunities for employees to be more engaged in environmental issues. SCT suggests

that this engagement will enhance employees' environmental self-beliefs and encourage them to engage in environmentally responsible behaviors.

Thus, it is expected that GPE mediates the relationship between GHRM and PEB. Employees who are exposed to supportive GHRM practices are more likely to be psychologically engaged in environmental sustainability, which in turn motivates employees to engage in pro-environmental behaviors [24]. In other words, GHRM not only directly affects environmental behavior but also indirectly affects it via employees' psychological empowerment with environmental goals. Therefore, the combination of SET and SCT gives a solid explanation for the mediating mechanism of translating organizational green practices into individual environmental actions.

Additionally, this study advances the concept of interpersonal cynicism as a moderating variable that may affect the effectiveness of GHRM and GPE in promoting PEB. Interpersonal cynicism is a negative and distrustful attitude toward coworkers involving skepticism about others' motives, intentions, and behaviors [25]. Individuals who exhibit high interpersonal cynicism may be more likely to question the sincerity of organizational efforts and to see the participation of their colleagues in environmental programs as self-serving rather than genuine.

The integration of SET and SCT thus provides a complete theoretical explanation of the proposed model. SET explains why employees reciprocate organizational green investments with positive environmental behaviors while SCT provides an explanation of how GHRM practices influence employees' psychological empowerment and behavioral outcomes. In addition, SCT also explains the effect of interpersonal cynicism on employees' cognitive interpretation of organizational environmental initiatives, which in turn affects the strength of the association between GHRM, GPE, and PEB. According to the above theoretical arguments, this study hypothesizes that GHRM has a positive effect on PEB directly and indirectly through GPE, and interpersonal cynicism has a negative moderating effect on the above positive relationships.

2.2. Hypotheses Development

Drawing on past research, green human resource management (GHRM) plays a solid role in shaping employees' pro-environmental behavior (PEB) and green psychological empowerment (GPE), as shown in Figure 1. It does so by influencing attitudes and actions through practices like green training, rewards, and performance evaluations. Studies show that GHRM increases awareness, motivation, and participation in environmental efforts, leading to sustainable behaviors and greater responsibility for environmental targets [21,26].

However, interpersonal cynicism can also pose a threat to the success of organizational green initiatives, as it can lead to distrust and skepticism of the motives and behaviors of coworkers. People who exhibit high interpersonal cynicism are less likely to view environmental efforts in the workplace as authentic or collectively supported, which may reduce their willingness to engage in pro-environmental activities. Hence, the positive influence of GHRM on employees' pro-environmental behavior may be weakened when interpersonal cynicism is high. Green psychological empowerment (GPE) is postulated to be a significant mechanism for GHRM to enhance PEB, and the magnitude of this relationship may depend on employees' interpersonal perceptions. In particular, interpersonal cynicism acts as a boundary condition that curtails the extent to which GHRM drives psychological engagement and subsequent pro-environmental behavior. Thus, the effectiveness of organizational green practices is not only dependent on the implementation of GHRM initiatives but also on the quality of interpersonal relationships and trust levels among employees. The conceptual model is proposed on the basis of the theoretical arguments presented (Figure 1).

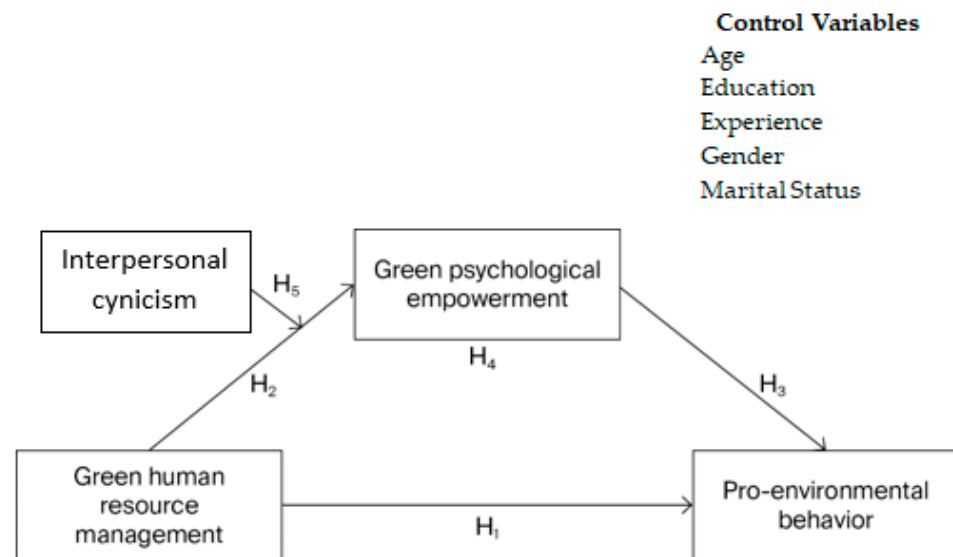


Figure 1. Conceptual model.

2.3. Green Human Resource Management and Pro-Environmental Behavior

Green human resource management (GHRM) has been increasingly recognized as a strategic organizational approach that has the potential to enhance employee behavior and organizational sustainability through the promotion of environmentally responsible practices. Previous studies have shown that GHRM enhances employee performance by influencing workers' psychological tendency towards environmental responsibility and encouraging pro-environmental behavior (PEB) at work [21]. This suggests that employees are more likely to engage in environmentally sustainable practices when organizations embed green values in their human resource policies and operational systems.

Theoretical perspectives also show that workplace environmental practices, such as empowerment, green participation, and employee involvement, have significant effects on workers' environmental attitudes and behaviors [21]. Green psychological empowerment can help employees feel competent, meaningful, and able to contribute to the environmental goals of the organization and therefore be more willing to conduct green behaviors. Additionally, Kumar et al. [27] found that green workplace practices like employee appraisal systems and environmental empowerment programs lead to positive organizational outcomes such as job satisfaction, employee commitment, retention, and reduced burnout.

Additionally, organizational culture and corporate norms are important for instilling environmentally responsible behavior in employees. Hooi [27] pointed out that a supportive organizational culture enhances the freedom of employees and their involvement in green initiatives, which subsequently improves HRM effectiveness and promotes sustainable behavior at work. Likewise, Veerasamy [28] stated that green reward systems motivate employees to be actively involved in environmental programs and sustainability practices in organizations.

Furthermore, green training and environmental awareness programs are found to significantly influence employees' environmental behaviors in their daily work. Arun Kumar [27] concluded that green training enhances employee attitudes toward sustainability and promotes environmentally responsible behavior in the workplace. Marrucci [29] also found that when organizations provide adequate environmental training, employees voluntarily participate in energy-saving behavior (e.g., turning off lights and computers after use).

Similarly, recycling policies and waste management practices cause employees to internalize environmentally responsible habits and support organizational investments in green technologies and sustainability initiatives [30]. Collectively, these arguments indicate

that GHRM practices build an enabling organizational context that nurtures positive employee attitudes, psychological empowerment, and sustainable pro-environmental behavior. Therefore, these reviews suggest the following:

H₁. *Green human resource management positively affects pro-environmental behavior.*

2.4. Green Human Resource Management and Green Psychological Empowerment

Green psychological empowerment (GPE) is defined as the intrinsic motivation and psychological state of an employee to support environmental sustainability and green organizational initiatives. It illustrates how employees find meaning, competence, self-determination, and impact in relation to environmental activities in the organization. Existing studies indicate the important role of green human resource management (GHRM) practices in fostering employees' green psychological empowerment through environmental training, motivation, participation, and supportive green policies. Hameed [26], and Masri and Jaaron [31] recently reported that GHRM practices such as green training, green performance motivation, and employee participation in environmental initiatives significantly increase employees' sense of environmental responsibility and organizational involvement. Psychological empowerment in employees in a green context is likely to lead to intrinsic motivation toward sustainability activities, which in turn increases positive organizational outcomes such as job satisfaction, commitment, and active participation in green initiatives. Green psychological empowerment, which is an individual or employee mindset or self-determination towards green initiatives, is fostered by green HRM practices like green training, ecofriendly behavior, and a reward system [32].

AduSarfo [33] claimed that GHRM practices foster a sense of belongingness and purpose among employees and help them to understand how their individual efforts can meaningfully contribute to the organization's environmental goals. This feeling of contribution and significance is an important aspect of green psychological empowerment. Moreover, Amrutha [34] argued that green training and environmentally supportive workplace practices improve employees' perceived impact and confidence in organizational sustainability efforts. Employees who are exposed to green behavioral practices and environmental awareness programs are more likely to feel that they are empowered and able to support green organizational objectives.

Similarly, Tariq [35] found that employees with a high concern for the environment are more likely to respond favorably to organizational environmental initiatives and thus enhance their psychological attachment to green initiatives. Participation in environmental decision making significantly affects green psychological empowerment of employees as well [36]. This involvement increases employees' confidence and willingness to contribute to green initiatives. Moreover, GHRM provides employees with the environmental knowledge, competence, autonomy, and confidence to engage in sustainable organizational behavior [31]. Overall, these arguments imply that GHRM creates an organizational environment conducive to increasing employees' green psychological empowerment. Thus, the study hypothesizes the following:

H₂. *GHRM has a positive impact on GPE.*

2.5. Green Psychological Empowerment and Pro-Environmental Behavior

Employees who feel competent, valued and effective in a green organizational environment experience psychological empowerment, which in turn stimulates pro-environmental behavior (PEB). According to Begum [37], green psychological empowerment enhances employees' environmental knowledge, self-efficacy, and positive attitudes towards environmental sustainability, thus increasing their willingness to act in an environmentally responsible manner in and out of the workplace. This empowerment enhances employ-

ees' sense of purpose and intentionality with respect to environmental protection and sustainable practices.

Furthermore, Cheng [38] argued that employees who obtain positive environmental perceptions through green psychological empowerment are likely to exhibit pro-environmental behavior. Employees who feel psychologically empowered are more likely to believe that their efforts can make a significant contribution to the improvement of the environment, which increases their self-confidence and encourages them to engage in environmentally friendly behavior. Thus, the sense of competence and self-efficacy generated by green psychological empowerment encourages employees to engage in environmental sustainability initiatives.

Similarly, Zafar et al. [39] reported that psychologically empowered employees are more environmentally concerned and proactive in performing actions in advance to safeguard the environment. Employees who feel they can help achieve environmental goals are more likely to adopt sustainable practices and support the organization's environmental initiatives. Moreover, Patwary et al. [40] stated that employees are more likely to exhibit intentional and effective pro-environmental behaviors when they feel supported and psychologically empowered in green organizational environments.

Furthermore, the positive impact of green psychological empowerment extends beyond the workplace into employees' personal lives and their daily environmental practices [41]. Green psychological empowerment further promotes sustainability by enhancing employees' environmental awareness and fostering pro-environmental behavior by bringing about a sense of employee environmental competence and value. Zafar et al. [42] also reported that green psychological empowerment promotes sustainability by improving employees' environmental awareness and enhancing their environmental value and competence. Finally, these arguments suggest that green psychological empowerment is important to increase the pro-environmental behavior of employees. Hence, the study hypothesizes the following:

H₃. *Green psychological empowerment is positively related to PEB.*

2.6. Mediating Role of Green Psychological Empowerment

Blau and Alba [43] defined psychological empowerment as a management practice that increases the participation of employees in decision making at the workplace. Green psychological empowerment (GPE) is the intrinsic motivation of employees towards environmental sustainability. It is represented by four dimensions, which are competence, self-determination, meaning, and impact, as identified by Saini et al. [44]. Existing studies indicate that green human resource management (GHRM) may indirectly affect pro-environmental behavior (PEB) through GPE, not only through direct organizational policies.

Shaukat et al. [21] suggested that GHRM practices such as green training, involvement in sustainability, and assessment of environmental performance develop a psychologically supportive green climate that encourages employees' environmentally responsible behavior. Furthermore, Saeed et al. [6] indicated that GHRM institutionalizes environmental values in organizational processes, thus raising the environmental commitment and psychological attachment of employees to green initiatives. When employees feel empowered, supported, and capable of contributing to environmental goals, they are more likely to adopt sustainable practices and pro-environmental behavior. Psychological empowerment has a significant impact on an employee's attitude and behavior at work [45].

Ali and Yahya [46] defined GPE as a positive perception of the employees toward the environmental initiatives of the organization that encourages them to respond through environmentally responsible actions. Imran [41] also linked GPE to behaviors like recy-

cling, conservation, and environmental responsibility. Patwary et al. [40] also found that employees who consider their organizations as environmentally friendly are more likely to engage in eco-friendly behavior.

Moreover, Nishii et al. [47] argued that employees gain psychological empowerment through observing organizational HRM practices and then promoting pro-environmental behavior. Ahmad [48] stated that organizations that incorporate environmental objectives into appraisal systems and promote pollution prevention develop a stronger environmental commitment among employees. Similarly, Renwick et al. [49] proposed that the organization's concern for environmental sustainability motivates employees to participate in green behavior. Therefore, organizations should empower employees and stakeholders to actively engage in environmental initiatives [50]. Thabit et al. [51] concluded that GHRM, GPE, and PEB reinforce each other in a virtuous sustainability cycle. Therefore, this study proposes the following:

H₄. *Green human resource management indirectly influences pro-environmental behavior through green psychological empowerment.*

2.7. Moderating Effects of Interpersonal Cynicism

Cynicism is the human attitude of distrust toward the intentions and actions of others. People tend to think that the behavior of people mainly depends on selfishness and personal interest [52]. Interpersonal cynicism in organizational contexts can hinder the effective implementation of sustainability initiatives and environmental programs [53]. Green human resource management (GHRM) practices are designed to improve employees' environmental awareness, skills, and participation in sustainability-related activities. The effectiveness of these practices often depends on employees' interactions with and perceptions of their coworkers. Those with high levels of interpersonal cynicism are more likely to be suspicious of others' motives and see their coworkers' involvement in environmental initiatives as false, self-interested, and motivated by personal gain rather than authentic concern for environmental sustainability.

Previous research has indicated that GHRM practices have a positive impact on Green psychological empowerment (GPE), as they equip employees with the requisite knowledge, motivation, support, and opportunities to engage in the pursuit of organizational sustainability goals [54]. Green training, green rewards, and participative environmental practices are used to give employees a sense of meaning, competence, self-determination, and impact on environmental issues. However, interpersonal cynicism may serve as a moderator of this beneficial effect by reducing employees' willingness to collaborate, share information, and participate in collective environmental efforts.

Workplace behaviors are influenced by organizational practices, social interactions, and observations in the work environment from the perspective of Social Cognitive Theory. Employees high in cynicism about their coworkers may be less likely to see environmental initiatives as collective and meaningful endeavors. Rather, they may see the involvement of colleagues in green activities as symbolic or opportunistic, which can lead to a decline in their own psychological engagement in environmental programs. Therefore, organizations' efforts to develop comprehensive GHRM practices might not be effective in empowering employees with high interpersonal cynicism to actively support sustainability initiatives.

Furthermore, interpersonal cynicism can also act as an obstacle to GPE development, given that empowered environmental action often involves cooperation, trust, and mutual support among employees [55]. Team-based environmental actions, sharing environmental know-how or contributing to common sustainability targets may be resisted by those who do not trust their coworkers. Therefore, the positive effect of GHRM practices on employees' perception of environmental competence and influence could be weakened. Regarding

the adoption of GHRM practices by organizations to promote sustainable development, the quality of interpersonal relationships among employees is an important contextual factor that affects the success of these initiatives. High levels of interpersonal cynicism could inhibit the effectiveness of GHRM practices by reducing employees' psychological engagement with environmental goals.

Conversely, low levels of interpersonal cynicism can foster trust, collaboration, and social support, which can enhance the empowering effects of GHRM. Employees are more likely to experience psychological empowerment and engage proactively in environmental activities when they believe their colleagues are reliable and truly committed to sustainability [56]. Thus, it is anticipated that interpersonal cynicism negatively moderates the relationship between GHRM and GPE, meaning that the positive impact of GHRM on green psychological empowerment is weaker when interpersonal cynicism is high. Thus, the present study hypothesizes the following:

H₅. *Interpersonal cynicism negatively moderates the positive relationship between green HRM and green psychological empowerment.*

3. Methodology

3.1. Data Collection and Sampling

A deductive quantitative research method was used that is grounded in the logical positivist paradigm. Data were collected using a convenience sampling method, a non-probability sampling technique [57]. The use of convenience sampling for this study was considered appropriate due to accessibility constraints and the limited availability of comprehensive employee databases within agricultural organizations, as well as the exploratory nature of the research in its underexplored context. The advantage of this approach was that the researchers could efficiently reach respondents with relevant knowledge on organizational environmental practices and employee behavior. While this approach facilitated access to respondents and efficient data collection, it is important to acknowledge that convenience sampling may limit the generalizability of the findings. The top 20 agricultural companies in Cameroon were contacted via email to make appointments, as well as to obtain permission to collect data from their workers. Workers were chosen as respondents on the grounds that they possess fundamental operational knowledge of organizational practices and also play a significant part in environmental decision-making processes [58].

An online survey method was used for data collection due to its quick and practical means in the Cameroon context [59,60]. The questionnaire was divided into two parts: demographic information and measurement of items related to GHRM, PEB, GPE, and IC. A Google Forms survey was used to distribute a total of 500 questionnaires. Out of these, 411 valid responses were collected and used for analysis, which resulted in a response rate of 82%. Although the high response rate enhances the reliability of the dataset, using convenience sampling and an online survey might lead to sampling bias and, at the same time, limit the sample representativeness which is why variance inflation factor (VIF) values were examined in the measurement model to detect possible multicollinearity and reduce the risk of common method bias.

Given the relatively high response rate for an online survey, procedures for participation were thoughtfully put together to keep respondents engaged. Participation was entirely voluntary, and their privacy was protected. Reminders were sent at regular intervals. The survey stayed short and focused to make it easier for people to finish. Three responses were eliminated due to incomplete information. Therefore, the sample used for analysis consisted of 64% female and 36% male participants. About 41% were within 20–30 years of age, 37% were 31–40 years old, and 22% were aged 41 years and above. Regarding marital status, 54% of participants were married, while 46% were single.

3.2. Measures

The studied variables were assessed using a five-point Likert scale, from 1 (strongly disagree) to 5 (strongly agree). IC, acting as the moderator, was evaluated with eight measures drawn from Kuo [61]. The instrument showed strong internal consistency, with a reliability coefficient of 0.90. These items centered on interpersonal distrust, reflecting employee's views that coworkers are self-centered [62], intentionally point out faults, treat peers negatively due to power dynamics, or ignore errors. Some examples include the following: some colleagues are suspicious of others' opinions in the workplace, some co-workers just have only their own interest and self at heart [63], some co-workers willingly watch you without correcting as you make mistakes, or, due to their position and power, some coworkers look down on other colleagues (see Appendix A for the full scale of items). A higher score means stronger cynical views about coworkers in the work environment.

Furthermore, the study used a 9-item scale developed by Jabbour et al. [64] to measure GHRM (independent variable). A sample of these items is the following: applicants who are knowledgeable enough about greening are selected by my company for job vacancies. Nine items from Kaiser et al. [65], Robertson and Barling [66], and Kim et al. [67] were extracted to measure the pro-environmental behavior (dependent variable) with the sample question, "I partake in eco-friendly programs." GPE (mediator) was measured with eight items from Spreitzer et al. [68] and a sample question: "I believe my knowledge of environmental issues helps improve my performance at work." A high score means high level of GPE (see Appendix A for the full scale of items).

All measurement scales used in this study were adapted from previously validated instruments and were assessed by experts prior to data collection to ensure their relevance and adequacy in the study context. During the measurement model assessment process, some of the items were removed from GHRM, GPE, and PEB since their factor loadings were below the recommended threshold and adversely affected the reliability and convergent validity of the constructs. The decision to exclude these items was not only based on statistical criteria, but also on the theoretical coverage of the remaining indicators. Some GHRM items on green recruitment and environmental goal-setting were dropped, but the remaining items still captured the important dimensions of green human resource management, such as environmental training, employee involvement, environmental performance evaluation, and organizational support for environmental initiatives.

Likewise, the retained items for GPE and PEB were also representative of the underlying conceptual domains of green psychological empowerment and pro-environmental behavior. The retained measures were therefore deemed adequate for the purpose of maintaining the content validity and conceptual integrity of the constructs. However, the exclusion of some theoretically relevant items may have reduced the breadth of construct coverage and this limitation should be taken into account when interpreting the findings. Future studies are invited to re-examine the deleted items with different samples and contexts in order to establish their potential retention with acceptable psychometric properties.

3.3. Data Analysis

To estimate the measurement model, SmartPLS 4 software was used with methods recommended by Hair et al. [69] and Qalati et al. [20]. The Partial Least Squares Structural Equation Modeling (PLS-SEM) approach was selected because it works well with complex models, fits variance-based analysis, and delivers dependable results, even with small sample sizes [70]. SmartPLS 4 is commonly accepted for its adaptability and easy-to-use interface in structural equation modeling.

The measurement model review focused on reliability, validity, and internal consistency. Factor loadings were checked to assess indicator reliability. Any item with a loading under

0.70 was eliminated following Hair et al. [69]’s suggested rules. This step ensured that only strong indicators remained in the analysis. Each variable’s connection to the hidden factor was evaluated carefully. Weak loadings were replaced or removed based on standard criteria. The final set of items reflected stable and consistent performance across scales.

4. Results

According to Hair et al. [71], the two important stages when using PLS-SEM, the measurement model (outer) and structural model (inner), were used.

4.1. Measurement Model

To understand the inter-item reliability, factor loading and reliability were measured using Cronbach’s alpha. This alpha values all ranges between 0.785 to 0.905, and the composite reliability (rho c) of the construct was between 0.860 and 0.918; this was used to measure the internal consistency and is above the acceptable threshold of 0.7 according to Hair et al. [71]. For convergent validity measurement, average variance extraction was used. This allows us to know the level of contribution of items in construct representation. These AVE values are greater than 0.5, which, according to Hair et al. [71], is an acceptable threshold as they range between 0.556 and 0.677, as seen in Table 1; moreover, all the items loading per construct retained were above 0.70, in line with Hair et al. [71], by deleting PEB5, PEB7, and PEB9 from PEB; GPE1, GPE2, GPE3, and GPE8 from GPE; and GHRM1, GHRM2, GHRM3, GHRM4, and GHRM9 from GHRM to enhance indicator validity and overall model quality.

Table 1. Measurement model.

Construct	Item	Loading	CA	CR (rho-a)	CR (rho-c)	AVE
Green human resource management (GHRM)	GHRM5	0.829	0.841	0.843	0.894	0.677
	GHRM6	0.827				
	GHRM7	0.827				
	GHRM8	0.808				
Pro-environmental behavior (PEB)	PEB1	0.755	0.840	0.841	0.882	0.556
	PEB2	0.753				
	PEB3	0.768				
	PEB4	0.750				
	PEB6	0.734				
	PEB8	0.711				
Green psychological empowerment (GPE)	GPE4	0.775	0.783	0.785	0.860	0.606
	GPE5	0.780				
	GPE6	0.804				
	GPE7	0.754				
Interpersonal cynicism (IC)	IC1	0.710	0.899	0.905	0.918	0.585
	IC2	0.700				
	IC3	0.767				
	IC4	0.771				
	IC5	0.770				
	IC6	0.765				
	IC7	0.823				
	IC8	0.805				

Source: Survey Data (2025).

For the assessment of discriminant validity, the study employed the Fornell–Larcker criterion and HTMT. The square root of the average variant extracted from every variable must be more than the correlation between the construct and other constructs in the model

according to Fornell and Larcker [72]. Compared to the inter-correlations among the variables, all the diagonals' values that were bolded were higher; therefore, the square roots of AVE for EC, GHRM, GPE, and PEB were 0.765, 0.823, 0.778, and 0.746, respectively, which showed satisfactory discriminant validity among the constructs, as seen in Table 2. Furthermore, the Heterotrait–Monotrait Ratio (HTMT) was employed to further assess the discriminant validity as well as the absence of multicollinearity problems among the constructs. As shown in Table 3, all HTMT values ranged from 0.420 to 0.854, below the recommended threshold value of 0.90. The results show that the constructs are empirically different from each other and discriminant validity was successfully established for the measurement model, as shown in Table 3.

Table 2. Discriminant validity using Fornell–Larcker criterion.

	IC	GHRM	GPE	PEB
IC	0.765			
GHRM	0.557	0.823		
GPE	0.569	0.606	0.778	
PEB	0.663	0.721	0.636	0.746

Source: Survey Data (2025).

Table 3. Discriminant validity using the Heterotrait–Monotrait ratio.

	IC	GHRM	GPE	PEB	IC × GHRM
IC					
GHRM	0.633				
GPE	0.670	0.741			
PEB	0.761	0.854	0.784		
IC × GHRM	0.608	0.511	0.420	0.596	

Source: Survey Data (2025).

Multicollinearity among indicators was further checked using the Variance Inflation Factor (VIF). The VIF values shown in Table 4 range from 1.515 to 2.431, well below the recommended cut-off points of 3.3 [73] and 5.0 [69], indicating that multicollinearity is not an issue.

Table 4. Variance Inflation Factor (VIF).

	VIF
Age	1.000
IC1	1.740
IC2	1.724
IC3	2.013
IC4	2.093
IC5	1.932
IC6	1.920
IC7	2.431
IC8	2.104
Education	1.000
Experience	1.000
GHRM5	1.814
GHRM6	1.872
GHRM7	1.915
GHRM8	1.798
GPE4	1.516

Table 4. *Cont.*

	VIF
GPE5	1.586
GPE6	1.636
GPE7	1.515
Gender	1.000
Marital Status	1.000
PEB1	1.753
PEB2	1.918
PEB3	1.835
PEB4	1.691
PEB6	1.873
PEB8	1.730

Source: Survey Data (2025).

Common method bias was assessed after re-specifying the model by Harman's single-factor test. The results suggested five factors with eigenvalues > 1. The first factor accounted for 35.429% of the total variance, while the other factors explained 7.362%, 6.311%, 4.495%, and 4.216%, respectively (Table 5). This suggests that no single factor dominates the variance structure and alleviates concerns about common method bias.

Table 5. Harman's single-factor test results.

Component	Variance Explained
1	35.429%
2	7.362%
3	6.311%
4	4.495%
5	4.216%

Source: Survey Data (2025).

Model fit indices also indicate acceptable model quality (Table 6). The SRMR value of the saturated model is 0.053 and that of the estimated model is 0.066, less than the threshold of 0.08, indicating a good fit. Similarly, d_{ULS} (1.073/1.627), d_G (0.364/0.402), and Chi-square (842.022/905.804) values are within the accepted ranges. However, the NFI values of 0.833 (saturated model) and 0.820 (estimated model) are just below the threshold of 0.90, which is common in PLS-SEM models due to their prediction-oriented nature.

Table 6. Model fit indices.

	Saturated Model	Estimated Model
SRMR	0.053	0.066
d_{ULS}	1.073	1.627
d_G	0.364	0.402
Chi-square	842.022	905.804
NFI	0.833	0.820

Source: Survey Data (2025).

Conclusively, demographic variables (gender, age, work experience, educational background, and marital status) were included as control variables for Pro-Environmental Behavior (PEB). After model re-estimation, the measurement model remained stable. Specifically, VIF values remained within acceptable thresholds [73], and both Fornell–Larcker and HTMT results continued to confirm discriminant validity. This indicates that the

inclusion of control variables did not affect the reliability, validity, or structural integrity of the measurement model.

4.2. Structural Model

The structural model was estimated using SMARTPLS (version 4), following the approach of Sharma et al. [74]. The significance of path coefficients was tested using bootstrapping with 5000 resamples [75].

The results indicate that the model has a good explanatory power (see Table 7). Green psychological empowerment (GPE) explains 0.445 (Adjusted $R^2 = 0.441$) and pro-environmental behavior (PEB) explains 0.583 (Adjusted $R^2 = 0.581$) in the original model. The explanatory power for GPE was not changed by the addition of control variables, but for PEB it increased slightly to 0.589 (Adjusted $R^2 = 0.582$). The change was minimal ($\Delta R^2 = 0.004$ for GPE; $\Delta R^2 = 0.006$ for PEB). This confirms that the demographic variables have only a marginal incremental explanatory contribution beyond the theoretical constructs.

Table 7. R-squares Values.

Constructs	R^2 (Original)	Adjusted R^2 (Original)	R^2 (Controls)	Adjusted R^2 (Controls)	ΔR^2
Green psychological empowerment (GPE)	0.445	0.441	0.445	0.441	0.004
Pro-environmental behavior (PEB)	0.583	0.581	0.589	0.582	0.006

Source: Survey Data (2025).

The Harman's single-factor test was used to re-examine common method bias. The first factor explained 35.429% of the variance, followed by 7.362%, 6.311%, 4.495%, and 4.216%, respectively. No dominant single factor was found, indicating that common method bias is not a serious concern after adding control variables.

Model fit indices also indicate an acceptable structural model fit, as presented in Table 7. The SRMR values are 0.053 (saturated model) and 0.066 (estimated model), both below 0.08. The values of d_ULS (1.073/1.627) and d_G (0.364/0.402) indicate small differences between the observed covariance matrix and the model-implied covariance matrix. The Chi-square values (842.022/905.804) and NFI values (0.833/0.820) suggest an acceptable but not perfect lack of fit, which is in line with the prediction-oriented approach of PLS-SEM.

The inclusion of demographic control variables did not alter the magnitude and significance of the structural relationships (Figure 2). The direct, mediating and moderating hypotheses did not change with the re-specification of the model, providing support for the robustness of the theoretical framework. The only change was a slight increase in the explanatory power of PEB, while all other relationships remained the same. This suggests the core structural model is very stable.

On theoretical grounds, the explanatory power of the model is justified, as the constructs are highly interrelated in explaining employee environmental behavior. Even small perceptual differences can be translated into meaningful behavioral variation in workplace sustainability outcomes.

The empirical results support all hypotheses, except the moderating effect (H_5) was not supported, as reported in Table 8. Specifically, green HRM had a significant influence on PEB ($\beta = 0.661$, $t = 15.633$, $p < 0.001$) and H_1 was supported. H_2 was supported by the significant influence of green HRM on GPE ($\beta = 0.443$, $t = 7.533$, $p < 0.001$). H_3 was supported by the significant influence of GPE on PEB ($\beta = 0.348$, $t = 7.12$, $p < 0.001$). We also found support for the mediating role of GPE (H_4) ($\beta = 0.154$, $t = 5.742$, $p < 0.001$). However,

the moderating effect of interpersonal cynicism on the relationship between green HRM and GPE (H5) was not supported ($\beta = 0.008$, $t = 0.16$, $p < 0.873$).

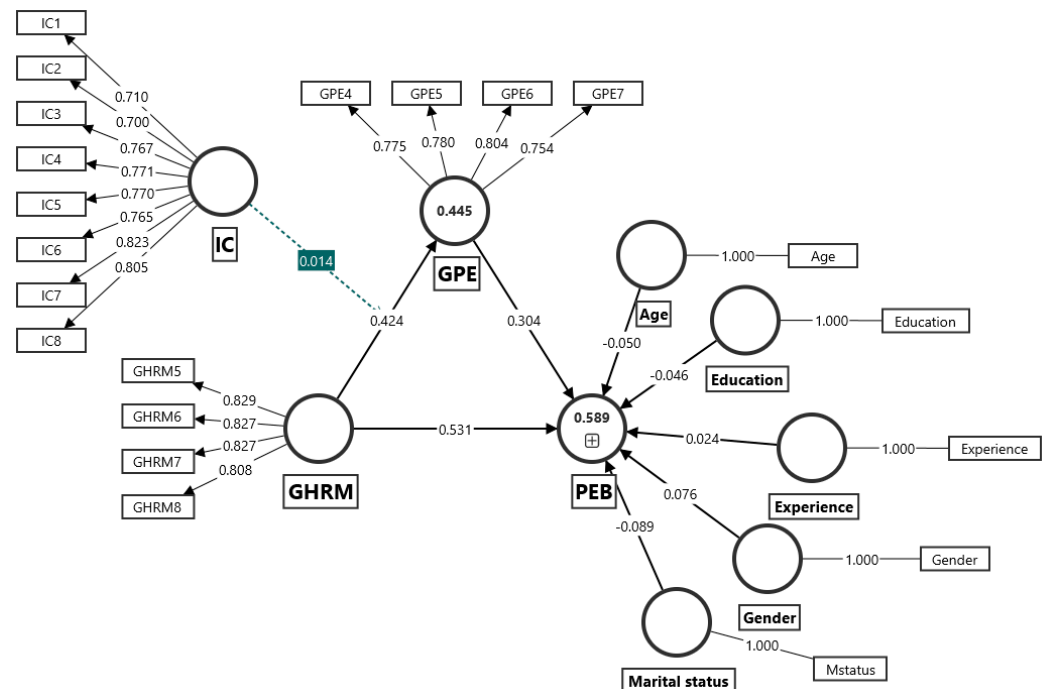


Figure 2. Structural model.

Table 8. Path analysis hypotheses testing.

Hypothesis	Proposed Relationships	Path Coefficients	Sample Mean (M)	SD	T-Values	p-Values	2.5%	97.5%	Decisions
Total effects	GHRM → PEB	0.664	0.659	0.043	15.366	0.000	0.569	0.736	supported
H1	GHRM → PEB	0.530	0.531	0.050	10.615	0.000	0.428	0.626	supported
H2	GHRM → GPE	0.424	0.407	0.063	6.745	0.000	0.282	0.527	supported
H3	GPE → PEB	0.315	0.316	0.051	6.160	0.000	0.215	0.416	supported
Mediating effect H4	GHRM → GPE → PEB	0.134	0.128	0.026	5.181	0.000	0.064	0.166	supported
Moderating role H5	GHRM × IC → GPE	0.014	−0.006	0.054	0.257	0.797	−0.121	0.076	Not supported

Source: Survey Data (2025).

4.3. Mediation Analysis

The variance accounted for (VAF) test designed by Hair et al. [71] and subsequently applied by Qalati et al. [76] was used for the mediating effect assessment. The VAF values are said to be either no, partial, or full mediation if they retained <20%, 20–80%, and >80%, respectively [69], as shown in Table 8.

VAF = indirect effect/total effect = $0.134/0.664 = 20.18\%$. According to the results, it can be concluded that GPE partially mediates the positive relationship between GHRM and PEB since the VAF value is 20.18%.

4.4. Moderation Analysis

Regarding the moderation effect, interpersonal cynicism was not identified as a significant moderator of the relationship between green human resource management and green psychological empowerment ($\beta = 0.008$, $t = 0.16$, $p < 0.873$), as indicated in Table 8. This means

that the contribution of green human resource management to green psychological empowerment is more or less unaffected by the different levels of interpersonal cynicism. Hence, H5, which suggested interpersonal cynicism as a moderator in the relationship between green human resource management and green psychological empowerment, was rejected.

Even though interpersonal cynicism has been recognized as a significant moderator in previous research, it might be that its power is dependent on the context and it is influenced by factors such as organizational culture, level of environmental commitment, and employee perceptions. Possibly, green human resource management practices were quite uniformly and rigorously carried out in the case of this research, thus decreasing the likelihood of interpersonal cynicism influencing employees' psychological empowerment. Furthermore, employees might consider green efforts as obligatory activities of the organization rather than voluntary ones, which could lessen the impact of interpersonal cynicism.

5. Discussion

Based on the findings, H1 was supported ($\beta = 0.507$, $t = 10.214$, $p < 0.001$), as the research proves a positively significant connection between GHRM and PEB. That is to say, there is a significant influence on PEB when there is encouragement on environmental sustainability suggestions from the company, rewards for environmental practice behavior, and maximum training on environmental knowledge and practices by agricultural companies. The significance of GHRM and its effect on different sectors, including agriculture, has been highlighted by Rehman et al. [77] and Javid and Mufti [78], making this study robust.

In the context of the Cameroonian agricultural sector, these findings could reflect the increasing demand for environmentally sustainable farming practices in the face of climate-related challenges, resource constraints, and pressure for sustainable agricultural production. However, the effectiveness of GHRM practices might vary across agricultural organizations depending on factors such as firm size, managerial frameworks, and the accessibility of environmental resources. Larger agricultural companies may have greater financial and institutional capacity to implement structured green HR policies, whereas smallholder farming settings may rely more on informal environmental practices and limited training opportunities. This suggests that contextual realities in agricultural operations may influence the extent to which GHRM is associated with employee pro-environmental behavior.

Hypothesis 2 of this study, which suggested the relationship between GHRM and GPE, was also supported ($\beta = 0.443$, $t = 7.533$, $p < 0.001$), proving a positive and significant connection between green HRM and GPE. According to this finding, GHRM strongly influences GPE because it has significant elements, including training to develop green abilities, employees' motivation for green performance, and opportunities that give employees a sense of the organization's green initiative. This study is in agreement with Hameed et al. [79].

This result may also point to the fact that employees working in agricultural organizations are more psychologically empowered when they perceive organizational environmental initiatives as authentic and encouraging. However, many agricultural firms in developing economies face operational challenges, including seasonal employment systems, limited employee participation in decision-making, unequal access to environmental training, and poor organizational infrastructure. Such contextual conditions may influence employees' internalization of green organizational values and psychological empowerment. Therefore, the influence of GHRM on GPE may depend not only on the existence of green HR policies, but also on the consistency, inclusiveness, and practical implementation of such policies across different agricultural settings.

The third hypothesis—the relationship between green psychological empowerment and PEB—was supported as well ($\beta = 0.348$, $t = 7.12$, $p < 0.001$), indicating a positively significant connection between GPE and pro-environmental behavior. According to this finding, there will be a 34% change in PEB as a result of a unit change in GPE. According to this study, psychologically empowered employees are very environmentally aware, taking anticipative moves in protecting the environment. This study is in line with the work of Zafar et al. [42], which discusses the role of psychological empowerment.

The fourth hypothesis (mediation), which is also the second objective of this study—the mediating role of GPE on the link between green HRM and PE—was also supported ($\beta = 0.154$, $t = 5.742$, $p < 0.001$), proving a positively significant partial mediation of green psychological empowerment on green HRM and PEB. This finding reveals that when employees are empowered to understand that their organization is environmentally friendly, they become eco-friendly. This research is in line with the work of Patwary et al. [40].

The third objective of the fifth hypothesis regarding the moderating effect of interpersonal cynicism was not supported ($\beta = 0.008$, $t = 0.16$, $p = 0.873$). Thus, this study provides evidence that interpersonal cynicism (IC) is not a significant moderator of the relationship between GHRM and GPE. That is, the positive influence of GHRM on employees' green psychological empowerment was relatively stable regardless of the employees' levels of interpersonal cynicism.

This means that employees may not have enough distrust or skepticism toward their coworkers to counteract the empowering influence of green HRM practices in organizations. According to Social Cognitive Theory, GHRM practices provide environmental knowledge, support, motivation, and opportunities for participation that can directly enhance employees' perceptions of competence, meaning, self-determination, and impact with respect to environmental activities. Such positive psychological consequences may emerge regardless of employees' interpersonal perceptions of their colleagues. Therefore, the effect of GHRM on green psychological empowerment may not be heavily influenced by the cynical attitudes of employees regarding the intention or behavior of their coworkers.

Furthermore, the non-significant moderating effect of interpersonal cynicism might be explained by the demographic and contextual characteristics of the respondents. In Cameroon, the agricultural sector is predominately represented by a relatively young workforce and the close interaction of teams and employment structures that may foster collective participation in organizational activities. These features may have reduced the variation in interpersonal cynicism among respondents. In such environments, employees may have similar perceptions and responses to organizational green initiatives, regardless of how much distrust or skepticism they have towards their coworkers. Therefore, the positive effect of GHRM on green psychological empowerment may be stable at different levels of interpersonal cynicism.

In addition, the interdependent nature of agricultural work may necessitate frequent interaction among coworkers, thus diluting the practical impact of interpersonal cynicism on workplace outcomes. Employees may take part in environmental activities even if they are skeptical about the motives of their fellow employees, as these activities are embedded in organizational routines, policies, and performance expectations. This means that the absence of a significant moderating effect is not to be taken as evidence that interpersonal cynicism is not important in green organizational settings. However, the strength of the moderating influence may depend on contextual, demographic, and measurement factors.

6. Conclusions

To sum up, this study had three objectives, including investigating the direct impact of green HRM on green psychological empowerment and on PEB, examining the mediating

role of green psychological empowerment on the link between green HRM and PEB, and, lastly, investigating the moderating role of interpersonal cynicism on the positive link between GHRM and GPE in Cameroon's agricultural industry.

With respect to the first objective, however, the research proves a positively significant influence of green HRM on green psychological empowerment, as well as on PEB, even though its influence on PEB ($\beta = 0.507$) is much stronger compared to green psychological empowerment ($\beta = 0.443$). Also, the findings prove a positively significant partial mediation by green psychological empowerment in the link between green human resource management and PEB with respect to the second objective. Lastly, according to the results, the moderating role of interpersonal cynicism on the relationship between GHRM and green psychological empowerment was found to be negative and not significant.

6.1. Theoretical Implications

This study offers several important theoretical implications by extending existing knowledge on green human resource management (GHRM) and employee environmental behavior.

It seems the influence of GHRM on pro-environmental behavior is not always direct, especially in agriculture, according to the results of this study. Prior research looked at sectors like hospitality and education, treating the relationship as simple and unchanged, but this study shows a more context-specific dynamic. In agriculture, where resources are tight and nature is sensitive, GHRM has a strong direct effect. It also shows a clear total effect. At least in theory, that means green HR practices work better than expected in vulnerable settings. This helps make green HRM theory more useful beyond conventional industrial contexts.

Second, this study takes a significant step forward in theoretical development by revealing the psychological mechanism that links GHRM with employee behavior. Previous studies have recognized the influence of GHRM on employees' PEB [27]. However, no research has been carried out to the best knowledge of the authors on the mediating role of green psychological empowerment in the relationship between green HRM and pro-environmental behavior. This study hereby closed the gap and increased green psychological empowerment's mediating role. This study addresses this gap by demonstrating that GHRM significantly enhances PEB through GPE, as environmentally empowered employees possess the requisite skills, resources, and motivation to engage in sustainable behaviors.

Finally, the existing literature has examined employee cynicism as a moderating factor in various industries [79,80], such as the role of employee cynicism on the impact of employees' engagement on work-life balance as shown by Iqbal et al. [81]. But there are little or no studies on the moderating role of interpersonal cynicism on the relationship between green HRM and green psychological empowerment. This research proves a non-significant effect of interpersonal cynicism (IC) on GHRM and GPE. This means the relationship between green HRM and GPE had no significant impact across interpersonal cynicism.

6.2. Practical Implications

In this study, the authors outline practical implications that are both more grounded and context-specific for managers working in the agricultural industry. Instead of reiterating the general expectations regarding sustainability practices, the results underline how and under what circumstances green human resource management (GHRM) can be an effective driver of employee behavioral changes.

One of the key implications is that implementing GHRM initiatives without these initiatives being strongly embraced by employees at the psychological level is a mere waste of resources. Indeed, agricultural businesses need to refocus their strategies and

not only place more emphasis on their GHRM policies, such as training, recruitment, and performance systems, but also on ensuring that these GHRM practices are turned into green psychological states of employees, i.e., green psychological empowerment. Therefore, it could be said that, instead of merely relying on formal HR systems, managerial efforts should be directed at clear communication, employee involvement, and creating a sense of alignment between organizational goals and individual roles.

This implication is particularly important in the Cameroonian agricultural sector where firms vary considerably in terms of organizational structures, availability of resources, and the working conditions of employees. In smallholder farming and medium-scale agricultural contexts, workers may be unable to access formal environmental training, formal HR systems, and sustainability incentives. Managers may thus have to embrace more participatory and pragmatic attitudes toward environmental management, integrating environmental awareness into daily farming operations, team interactions, and operational routines instead of relying solely on formal organizational policies.

Secondly, the research outcomes shed light on how GHRM impacts the pro-environmental behavior (PEB) of individuals. Green psychological empowerment, in fact, plays a major role. In real life, it means that managers should come up with ways that help employees get involved in environmental activities that give them a feeling that their work is meaningful and that they are competent, have autonomy, and can make an impact. For example, the involvement of employees in environmental decision-making or giving them autonomy in carrying out sustainability-related tasks may be a better approach than the imposition of green policies from the top level.

Thirdly, this study, in contrast to earlier research that suggested direct benefits might be acquired from sustainability efforts, cautions against baseless assertions of competitive advantages. The outcomes point out, however, that the advantages of GHRM depend on internal mechanisms such as empowerment. So, companies ought to shift their focus to a process-driven perspective, emphasizing the development of internal capabilities rather than anticipating instant external benefits, such as a better public image or increased profitability.

Furthermore, this research found that green psychological empowerment was not significantly different at different levels of interpersonal cynicism. However, the non-significant interaction influence does not mean that interpersonal cynicism is unimportant; rather, it indicates that employees' mistrust or suspicion of their colleagues did not have a significant impact on the relationship between GHRM and green psychological empowerment in the context of this research. In conclusion, the findings show that organizational green HRM practices were successful in increasing employee's environmental motivation and empowerment regardless of interpersonal attitudes. Thus, even if some employees might be cynical about interactions, this was not enough to damage the positive relationship between green HRM practices and the employees' psychological involvement in sustainability initiatives. These findings suggest that the positive impacts of GHRM are relatively strong and can be sustained even in the context of less ideal interpersonal trust at work.

Managers could focus instead on clear, consistent green policies that show up day after day. When leaders back those practices with visible actions and open dialogue, workers feel more included in environmental goals. It is easier to build trust when programs are not just listed on paper but experienced in daily tasks; additionally, supporting teams through training and hands-on participation helps align individual effort with broader firm values.

Agricultural managers should also be aware that structural challenges, including seasonal labor patterns, asymmetric power relations between managers and field workers, and limited organizational resources, may affect employees' responses to sustainability initiatives. Therefore, managers are advised to facilitate the implementation of fair and

inclusive environmental programs for all groups of employees. Equal opportunities for participation, practical environmental support, and accessible sustainability training may increase employees' psychological attachment to organizational environmental goals and improve long-term pro-environmental behavior in agricultural organizations.

6.3. Limitations of the Study and Future Research

Similarly, to all studies, this research had its limitations that it will be in the interest of future researchers of green initiatives to advance. Firstly, future researchers should recreate the model for a competitive analysis. Also, researchers are called upon to test this model in other industries like hospitality, education, manufacturing, and telecommunications in Cameroon and other underdeveloped nations, since this study was focused solely on the agricultural industry in Cameroon.

Another limitation of this study relates to the sampling technique employed. Most small farms in the region were included due to easy access, which means the data might not reflect all agricultural firms. Although this method obtained responses quickly, it could limit the generalizability of the findings and introduce a potential sampling bias. Hence, those findings should be interpreted with caution because they may not fully represent all agricultural firms.

Additionally, the study was limited to some agricultural organizations in specific parts of Cameroon and the results may not be generally extendable to all agricultural organizations or other sectors in developing economies. Future studies are therefore encouraged to use probability sampling techniques and to include smallholder farms, diverse agricultural settings, and multiple geographical regions to enhance external validity and the wider applicability of the findings. Future studies using random selection would offer clearer insight into how agriculture works across diverse settings.

Yet another limitation of this study was the use of a quantitative research approach and the collection of data through an online survey. Future studies are encouraged to use mixed methods, including qualitative methods and field surveys, to provide deeper insight into the relationships among the study variables. Another limitation is that interpersonal cynicism was only tested as a moderator of the relationship between green human resource management (GHRM) and green psychological empowerment (GPE). Future research can investigate its moderating role within other relationships of the proposed framework to form a more comprehensive understanding of its influence.

Also, the fact that just a single moderator and mediator have been used in this study is a limitation. There should be several concepts or constructs playing the role of moderator or mediator. Hence, future researchers should research green moral identity, environmental mindfulness, eco-centric organizational citizenship behavior, eco-feedback seeking behavior (mediators) and green organizational identity, environmental locus of control, green self-efficiency, job autonomy, and eco-anxiety (moderator) in the said correlation.

Moreover, future studies can use more advanced methodological approaches, such as mixed-method, panel, or experimental research designs and longitudinal research designs, to provide a deeper insight beyond questionnaire-based analysis. Although the current study employed a cross-sectional survey design to capture relationships among the variables at a single point in time and thus limits the ability to infer causal relationships between green human resource management (GHRM), green psychological empowerment (GPE), pro-environmental behavior (PEB), and environmental commitment (EC), longitudinal studies may help researchers better understand changes in employee attitudes and environmental behaviors over time. Lastly, methods that combine quantitative and qualitative approaches may provide a deeper contextual understanding of how green HRM practices impact employee behavior in organizations.

Another limitation is the overall fit of the model. The model showed good reliability, convergent and discriminant validity, and reasonable collinearity statistics, but the Normed Fit Index (NFI) of 0.833 was below the usual threshold of 0.90. This suggests that the proposed theoretical framework may not fully account for all sources of covariance observed in the empirical data. The findings therefore were interpreted with some caution. This study offers guidance for future research on how to improve the model specification by including other explanatory variables, testing different theoretical configurations and cross validating the analysis using other samples and contexts to improve the overall model fit and theoretical robustness.

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Data Availability Statement: The data presented in this study are available on request from the corresponding author.

Conflicts of Interest: The authors declare no conflicts of interest.

Abbreviations

The following abbreviations are used in this manuscript:

AVE	Average Variance Extracted
CDC	Camerron Development corporation
EE	Employee Cynicism
GHRM	Green Human Resource Management
GPE	Green Psychological Empowerment
PEB	Pro-environmental behavior
PLS-SEM	Partial Least Squares Structural Equation Modeling
SET	Social Exchange Theory

Appendix A

Variable	Items	Measures	Source
Interpersonal Cynicism (IC)	IC1	Some colleagues are suspicious of others opinion at workplace.	Kuo [61]
	IC2	Some co-workers just have only their interest and self at heart.	
	IC3	Some co-workers willingly watch you without correcting as you make mistakes.	
	IC4	Due to their position and power, some coworkers look down on others colleagues.	
	IC5	Some coworkers hate when being oppressed by the company.	
	IC6	When my performance is being played as a game, I disdain them.	
	IC7	Some coworkers deliberately criticize colleagues.	
	IC8	some coworkers apply the make do style to handle unnecessary request.	

Variable	Items	Measures	Source
Green Human Resource Management (GHRM)	GHRM1	When interviewing candidates or evaluating them for selection, my organization ask environmental related questions	Jabbour et al. [64]
	GHRM2	Employees know their specific green target, goals and responsibilities	
	GHRM3	My organization provides environmental training to the organizational members to increase environmental awareness	
	GHRM4	I can see with my own eyes that the environment is deteriorating	
	GHRM5	My organization give rewards for green skills acquisition	
	GHRM6	My organization introduce rewards for innovative environmental initiative/performance	
	GHRM7	My organization introduce green whistle-blowing and help-line	
	GHRM8	My organization offer workshops for staffs to improve environmental behavior and exchange their tacit knowledge	
	GHRM9	I am aware of how to protect the environment from pollution	
Green Psychological Empowerment (GPE)	GPE1	In the organization, the work I do is meaningful to the environment.	Spreitzer et al. [68]
	GPE2	I am confident about my ability to do environmentally sustainable work	
	GPE3	I have significant autonomy to promote sustainability without needing permission from others	
	GPE4	My impact on what happens in the work environment is large	
	GPE5	I am motivated to go beyond my basic job duties to promote environmental sustainability	
	GPE6	The organization gives me the tools and encouragement to be environmentally responsible at work	
	GPE7	The environmental initiatives in the organization are important to me personally	
	GPE8	I believe my knowledge of environmental issues helps improve my performance at work.	
Pro-environmental Behavior	PEB1	At work, I take part in environmental friendly programs	Kaiser et al. [82], Robertson and Barling [66]
	PEB2	I share my knowledge about the environment with co-workers	
	PEB3	I suggest new practices that could improve the environmental performance of my organization.	
	PEB4	At work, I question practices that are likely to hurt the environment	
	PEB5	In my work, I weigh the consequences of my actions before doing something that could affect the environment	
	PEB6	At my work, I perform environmental tasks that are not required by my company	
	PEB7	At work I avoid wasting resources such as electricity or water	
	PEB8	At work i take stairs instead of elevators to save energy	
	PEB9	At work, i turn off lights when out of office	

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