The Impact of Green Human Resource Management on Organizational Citizenship Behaviors: The Mediating Role of Organizational Identification and Job Satisfaction

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Abstract: The main aim of this study is to analyze the impact of green human resource management on organizational citizenship behavior through the mediating role of organizational identification and job satisfaction in Portuguese companies certified by ISO 14001. A survey was applied to a sample of 120 collaborators who work in ISO 14001 certified Portuguese industrial companies. Results indicate that there is a mediation model, which uses the effect of job satisfaction in the relationship between green human resource management and its impact on organizational citizenship behavior. This study proves to be important when understanding the individual effects caused by a green human resource management system.

1. Introduction

The emerging 'behavioral perspective' on green HRM practices has recently focused on the impact of sustainable organizational practices on employees' environmental commitment and well-being [1,2], which pointed to the existence of a 'rational cost-benefit analysis' between green and social outcomes [3,4]. In fact, in a "win-win" logic [4], the 'human dimension' is fundamental to the successful adoption of sustainable organizational practices, namely sustainable HRM practices.

Companies with a higher development level of ecological awareness and which have obtained ISO 14000 certification aim to develop green practices to reduce global warming, waste of resources, adverse climate change and pollution. "ISO 14000 standards are designed to help organizations establish management processes for controlling and improving their environmental performance and reducing their impact of operations on the environment" [5] (p. 749). The standards address the following areas, for example, greenhouse gas management, the carbon footprint of products, environmental communication, as well as the environmental aspects of product design and development, amongst others. However, these goals are only wholly achievable when employees' pro-environmental behaviors exist [6–8].

The concept of green HRM practices is relatively new [2,9,10]. Yet, the reduction of both carbon emissions and resource wastage through responsible behavior are goals that have gained increasing relevance in the literature (e.g., [11]), underlining the fact that these organizational goals can only be achieved through employees' commitment [12–15]. Green HRM practices refer to "HRM aspects of Environmental Management" [6] (p. 1), which "promote ecological responsiveness to the sustainable development of resources and involving employees' commitment and engagement towards the organization's goal and practices" [13] (p. 1483). Green HRM practices could also be defined as the pronouncement made by the organization to adopt green practices, for example, when assessing an

applicant's pro-environmental values during the procedures of recruitment and selection, training and productivity reviews, as well as promotions [6]. This would lead to the selection of a workforce that would understand, identify and promote green practices, thus maintaining the strategy in all of its aspects: training, development, recruitment, evaluation and compensation [16].

In this sense, green HRM practices are fundamental for the transformation of environmentally friendly policies into employee practices [17,18], which means that employees are important in achieving the main elements of ISO 14001: "the environmental policy, the environmental plan, implementation and operation of programs to meet objectives and targets, checking and corrective action, and management review" [5] (p. 749).

Studies indicate that employees tend to feel a greater sense of identification with green management practices when these practices are perceived to be beneficial for the employees themselves [19], for the business, environment and society. In this regard, green HRM generates other results that go beyond ecological benefits, but which also contribute to the achievement of environmental goals (e.g., [4,20]) such as Organizational Citizenship Behaviors (OCB). This term is defined as altruistic and courteous behavior [21] that is "not directly or explicitly recognized by the formal reward system" [22] (p. 4). Currently, OCB constitutes a concern for organizations due to its association with positive outcomes [21]. Organ [22] defined five dimensions that determine OCB as being: "altruism, courtesy, conscientiousness, sportsmanship and civic virtue". Our study follows the 'target-based' framework (e.g., [4,23]) when defining the concept of OCB, thus considering the dimensions proposed by Organ [22] and adding that the concept contributes "to improve the effectiveness of the environmental management of organizations" [20] (p. 223). In our study, the OCB concept refers to voluntary and civic behaviors that help the organization to achieve its goals and become more sustainable [24].

Looking through the lens of a "win-win" [3] framework of green HRM, this study seeks to fill some gaps found in the literature by analyzing the theoretical and empirical effect of green HRM on OCB. Namely, it includes the behaviors that will benefit the organization in terms of environmental sustainability, considering job satisfaction and organizational identification as important indicators of the organization's internal social sustainability.

Drawing on the theory of social identity [25], as well as on the theory of person-environment fit [26], and that of social exchange [27], our study aims to contribute to an understanding of the impact of green HRM on OCB, through the mediating role of organizational identification and job satisfaction. Accordingly, our study wishes to contribute to the current reflection on sustainable development regarding the outcomes of green HRM and the employee dimension in the following manner. Firstly, this study seeks to provide a model that focuses on a 'behavioral perspective' of green HRM practices. Secondly, our theoretical model offers novel insights into the mediating mechanisms through which green HRM influences OCB.

2. Theoretical Framework and Development of Hypotheses

The concept of Green HRM emerged in association with a set of people management practices that aim to increase the sustainability of organizations through the behavior of employees, who are encouraged to use resources in an environmentally responsible manner [6].

In the study by Renwick et al. [6], and more recently in the study by Amrutha and Geetha [28], the Ability-Motivation-Opportunity (AMO) framework was used to provide a context for management practices that promote green skills; namely, the motivation to act in a more environmentally responsible manner in order to receive rewards for achieving certain environmental results. Moreover, this will also provide employees with more opportunities to share valuable knowledge and experiences in solving environmental problems.

The AMO framework indicates that: "HRM works through increasing employees' Ability by attracting and developing high-performing employees; enhancing employees' Motivation and commitment through practices such as contingent rewards and effective

performance management (PM); and providing employees with the opportunity to engage in knowledge-sharing and problem-solving activities" [6] (p. 2).

The study by Sinclair-Desgagné [29] (p. 2) "uses the toolbox of personnel economics" to suggest a model which encompasses not only performance assessment, but also the reward system. This indicates that financial incentives should be considered as a way of motivating and encouraging employees to perform more environmentally responsible actions in companies.

2.1. Green HRM and Organizational Identification

Based on environmental sustainability, green HRM aims to implement practices that promote the development of environmental skills and provide employees with the possibility of becoming involved in 'green' initiatives [1]. Besides creating a good external image of the organization [30], these initiatives tend to promote a greater sense of identification with the organization [31]. By developing environmental skills and participating in green actions, employees become more psychologically available to the organization and perceive their work as being more meaningful, which results in greater organizational identification [30]. According to the social identity theory [25], people are more likely to identify with an organization when they perceive that it has high prestige [32] and a good image [33]. In this sense, employees who belong to a prestigious organization that enjoys a good environmental reputation make a positive assessment of the organization's performance. This, in turn, generates a sense of belonging and ultimately leads to organizational identification.

From this perspective, the study by Bauman and Skitka [34] argues that responsible organizations help to enhance the level of organizational identification felt by employees since this favors the company's status. A study carried out by Shen et al. [1] also indicates that the perception of green HRM has a positive impact on the organizational identification of employees.

In line with these frameworks, this study suggests that green HRM can contribute to greater organizational identification of employees, as is formulated in the following hypothesis:

Hypothesis 1 (H1). *Green HRM is positively associated with organizational identification.*

2.2. Organizational Identification and OCB

Pertinent literature has pointed to the positive relationship between organizational identification and organizational citizenship behaviors (e.g., [35–37]). Organizational identification means that employees accept the organization's values and goals, and these, consequently, become the individual's own values and goals [38]. The theory of social identity [25] explains that social identity is based on cognition (recognition of belonging to an organization) and on emotional value (identification with the organization's values/goals). According to this framework, the perception of belonging to an organization allows individuals to define themselves and attribute group characteristics to themselves [39].

Therefore, studies indicate that employees who identify more closely with the organization tend to adopt behaviors and attitudes that extend beyond their role [36] and which ultimately benefit the company [35–37]. Thus, it can be said that employees who experience greater organizational identification tend to go the extra mile in favor of the organization's sustainability. Therefore, the second hypothesis can be formulated:

Hypothesis 2 (H2). *Organizational identification is positively associated with OCB.*

2.3. Green HRM and Job Satisfaction

Literature has suggested that the alignment between the organization's values and the individual gives rise to positive attitudes, such as job satisfaction [26,40]. This indicates that when there is an adjustment between the individual and the organization's values, the result is positive; that is, it contributes to increasing job satisfaction. However, when there is no adjustment between the individual and the organization's values and practices,

negative results (e.g., stress) are expected. The model proposed by French et al. [41] indicates that the adjustment between the individual and the organization can refer to subjective or objective aspects of the person and the organization. It has thus become a central concept in research on job satisfaction [42], indicating that certain organizational practices, namely green HRM practices, can contribute to increasing employees' satisfaction. Based on this assumption, Ahmad and Umrani [43] have claimed that environmentally friendly organizational practices cause positive adjustment behaviors in some workers, an example of which is job satisfaction.

Some studies have already pointed out that the ethical and environmentally responsible behaviors of organizations are associated with employees' positive attitudes at work [44,45] and, more specifically, with job satisfaction [4,46,47]. Therefore, green HRM is expected to generate higher levels of job satisfaction. Considering these assumptions, the following hypothesis was formulated:

Hypothesis 3 (H3). *Green HRM is positively associated with job satisfaction.*

2.4. Job Satisfaction and OCB

Literature has shown that there is a positive relationship between job satisfaction and OCB (e.g., [48–51]), thus indicating that employees who experience high levels of job satisfaction strive to present behaviors that will benefit the company. The social exchange theory [27] is generally used to understand workers' organizational citizenship behaviors and their relationship to job satisfaction. According to this theory, employees who are satisfied with their work tend to exhibit reciprocal and positive behaviors (i.e., OCB), with the aim of favoring the organization. In this sense, in the exchange relationship with the organization, workers who are more satisfied with aspects such as the work itself, as well as remuneration and their relationship with colleagues and supervisors, tend to be more predisposed to rewarding the organization with favorable behaviors, as is the case of organizational citizenship behaviors. Several studies support this idea of reciprocity between employees who are most satisfied with the organization and OCB (e.g., [49–51]). Based on these studies, one can argue that when employees are more satisfied with their work, they tend to act with the purpose of repaying the organization that benefits them through responsible organizational behaviors. Based on this argument, the following hypothesis is defined:

Hypothesis 4 (H4). *Job satisfaction is positively associated with OCB.*

2.5. The Mediating Role of Organizational Identification in the Relationship between Green HRM and OCB

The literature has revealed that employees develop a strong sense of identification with the organization when they consider it to have a highly regarded and favorable image, which is also associated with more responsible environmental practices. Environmentally responsible companies gain the admiration of employees as internal stakeholders [52]. In this sense, the adoption of green HRM practices may favor the image of organizations, contributing to their good reputation. Furthermore, according to Aguinis and Glavas [53], employees can strongly identify with responsible organizations when their work provides them with the possibility of achieving something which is of purpose and meaning to their lives.

If one is to apply this reasoning, green HRM can contribute to the development of greater organizational identification in collaborating employees and, according to Ashforth et al. [54], this identification is positively related to behaviors that support the organization's sustainability, such as OCB. Consequently, when there is a high identification with the organization, employees tend to exhibit helping behaviors that go beyond what is expected of them within the scope of their functions [55].

The work by Shen et al. [1] reveals that green HRM impacts OCB positively through the mediating role of organizational identification. Based on the social identity theory [27],

Shen et al. [1] suggest that green HRM may be positively associated with employee organizational identification and, consequently, with positive workplace outcomes. The truth is that studies have shed light on the influence of HRM practices on employees' attitudes and positive behaviors [56]. Accordingly, one proposes that green HRM practices influence OCB through organizational identification. Therefore, the fifth hypothesis is assumed:
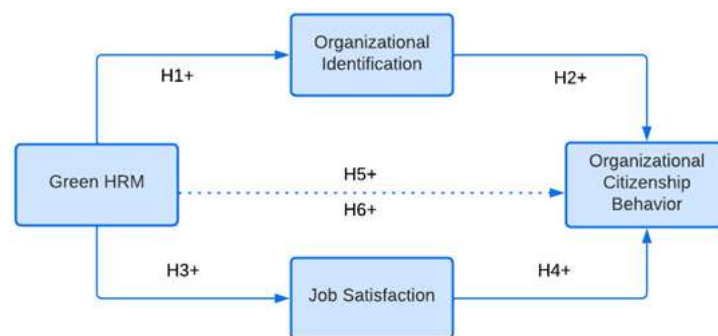
Hypothesis 5 (H5). *Green HRM impact on OCB through the mediating role of organizational identification.*

2.6. The Mediating Role of Job Satisfaction in the Relationship between Green HRM and OCB

Some studies have shown that green HRM practices can positively influence job satisfaction [57,58]; in turn, job satisfaction can generate an effect on OCB [59,60]. A better understanding of this link is provided by the person-environment adjustment theory [26], insofar as it explains how green HRM influences the increase in job satisfaction. The theory of social exchange [27] also allows for further insight into the reciprocal behavior of employees when they decide to go the extra mile.

The study by Story and Castanheira [61] suggests that responsible organizations have a positive effect on employee satisfaction, which consequently leads to positive behaviors at work. Glavas [62] considered that employees go beyond their obligations in order to contribute to the good of the organization if this benefits both the organization and society. This is in line with the study by Kunda et al. [63], which reveals that responsible activities related to the environment (such as reducing a negative impact on the environment and promoting the well-being of society) are positively related to OCB.

Based on these arguments, it is proposed that when employees perceive HRM as being environmentally responsible, they tend to experience greater satisfaction; as a result, they are more likely to respond with extra-role behaviors. Having said this, the sixth and final research hypothesis (see Figure 1) is posed:

Figure 1. Theoretical model and hypotheses.

Hypothesis 6 (H6). *The green HRM impacts OCB through the mediating role of job satisfaction.*

3. Methodology

3.1. Research Context

In order to test our hypotheses, data were collected using a cross-sectional single self-reported questionnaire applied to ISO 14001 coordinators/workers from different Portuguese industrial companies. The ISO 14000 standard is an international standard that has been implemented to create guidelines that determine parameters for environmental management systems [64]. Companies certified through this standard follow policies and develop pro-environmental practices. Therefore, one requested that the questionnaires be applied to department heads and staff members who were related to these activities in the companies we approached since they were familiar with the company's environmental management systems.

In order to proceed with a selection of these companies, one used a database found through the website of the Portuguese Institute of Accreditation. From this database, it was possible to determine which industrial companies had been certified until 31 December 2020.

3.2. Questionnaire and Measures

The questionnaire was divided into five sections: (1) green HRM; (2) OCB; (3) Organizational Identification, (4) Job Satisfaction; and the last section contained questions regarding the sociodemographic characterization of the sample (i.e., gender, age, academic qualifications, job position, tenure and type of industry). The four constructs were measured by adapting validated scales from literature (see Table 1). All the scale ratings consisted of five points, ranging from 1 "strongly disagree" to 5 "strongly agree", except for the questions relating to job satisfaction, where the possible answers are: 1. "very dissatisfied"; 2. "dissatisfied"; 3. "undecided"; 4. "satisfied" and 5. "very satisfied".

Table 1. Main constructs, items and scales.

Construct	Items	Scale
Green Human Resource Management GREEN_HRM Adapted from Guerci et al. [14]	GREEN_HRM 1: "My company selects employees based on environmental criteria". GREEN_HRM 2: "My company attracts employees through its environmental commitment". GREEN_HRM 3: "My company creates environmental training programs for employees". GREEN_HRM 4: "My company creates environmental training programs for managers". GREEN_HRM 5: "At my company, employee job descriptions include environmental responsibilities". GREEN_HRM 6: "My company encourages employee involvement in environmental issues". GREEN_HRM 7: "My company sets environmental goals for managers". GREEN_HRM 8: "In this organization, managers' evaluation includes environmental performance objectives". GREEN_HRM 9: "In this organization, employees' evaluation includes environmental performance objectives". GREEN_HRM 10: "My company has non-monetary incentives for environmental performance". GREEN_HRM 11: "My company has variable compensation based on environmental performance".	Five-point Likert scale ranging from 1. Strongly disagree to 5. Strongly agree.
Organizational Citizenship Behaviors (OCB) Adapted from Konovsky and Organ [65]	OCB1: "I help colleagues who have a high workload". OCB2: "I help colleagues who have been absent". OCB3: "I help make colleagues more productive". OCB4: "I help to orient new colleagues regarding environmental practices even if I have not been asked to do so". OCB5: "I share knowledge about environmental practices with colleagues if necessary to help them with their work". OCB6: "I respect the rights and privileges of others". OCB7: "I do not take actions without first consulting the people who could be affected". OCB8: "I keep the workplace clean". OCB9: "I keep myself informed about the company's environmental development".	Five-point Likert scale ranging from 1. Strongly disagree to 5. Strongly agree.
Organizational Identification (OI) Adapted from Mael and Ashforth [39]	OI1: "I am genuinely interested in what others think about this organization". OI2: "When I talk about this organization, I say "we" more often than "them". OI3: "The success of this organization is my success". OI4: "When someone praises the organization, I feel it as a personal compliment". OI5: "If a news article in the media criticized the organization where I work, I would feel embarrassed".	Five-point Likert scale ranging from 1. Strongly disagree to 5. Strongly agree.

Table 1. *Cont.*

Construct	Items	Scale
Job Satisfaction (SATIS)	SATIS1: "Being able to keep myself busy at all times".	Five-point Likert scale ranging from 1. Totally dissatisfied to 5. Totally satisfied.
Adapted from Weiss et al. [66]	SATIS2: "The possibility to work independently in my position". SATIS3: "The opportunity to do different things from time to time". SATIS4: "The opportunity to "be somebody in life". SATIS5: "The way my boss handles his/her workers". SATIS6: "My supervisor's competence in making decisions". SATIS7: "The way my job provides for steady employment". SATIS8: "The possibility of helping other people". SATIS9: "The ability to tell people what to do". SATIS10: "The possibility of doing something that allows me to use my skills". SATIS11: "The way company policies are put into practice". SATIS12: "The chances for advancement on this job". SATIS13: "The freedom to use my own judgment". SATIS14: The possibility of using my own methods to do my work". SATIS15: "The working conditions". SATIS16: "The way my co-workers get along with each other". SATIS17: "Recognition for doing a good job". SATIS18: "The feeling of accomplishment I get from the job".	

3.3. Data Collection

In the first phase, companies were contacted, and a request was placed for the application of the questionnaire to employees. In the second phase, a pre-test was carried out in order to correct flaws and ensure that the items used on the scale were clearly understood. To this end, the questionnaire was answered by 10 employees of one of the companies that possessed the criteria established for this investigation. As a result, some changes were introduced to the wording of the items. In the next phase, the questionnaires were applied to the 287 companies between June and July of 2021. As a result of this contact with these companies, 120 valid responses were obtained.

The data obtained reveal that the final sample was balanced in terms of gender; that is, of the participants, 65 (54.2%) were female, and 55 (45.8%) were male. Regarding age, individuals were between 21 and 68 years, and the average age value corresponded to 41 years. Regarding the participants' education level, 36 (30%) had completed secondary education, 42 (35%) had a bachelor's degree, 41 (34.2%) had a master's or postgraduate degree and only 1 (0.8%) had a doctorate degree. Regarding seniority in the current organization, it was found that 17 (14.2%) worked in the organization for less than 1 year, 45 (37.5%) have a seniority of between 1 and 5 years, 14 (11.7 %) between 5 and 10 years and, finally, 44 (36.7%) have been in the company for longer than 10 years.

With regard to the job position of the participants, it was decided to aggregate all responses into 9 categories. Therefore, 42 (35%) individuals perform functions as technicians/superior technicians, 21 (17.5%) are heads of sector, 14 (11.7%) are administrative staff, 13 (10.8%) engineers, 8 (6.7%) operators, 7 (5, 8%) directors, 4 (3.3%) managers and 3 (2.5%) accountants. In the category of "others", one included the inaccurate answers.

The Portuguese Classification of Economic Activities Rev. 3 [67] was used to classify the activity sector. Forty-six (38.3%) of the respondents belong to the manufacturing industry, 18 (15%) to the construction sector, 17 (14.2%) to the area of consulting (scientific, technical and similar), 16 (13.3%) to the human health and social support activities sector and 7 (5.8%) to the water collection, treatment and distribution sector, as well as sanitation, waste management and depollution. Furthermore, 5 (4.2%) belong to administrative activities and the support service sector; 3 (2.5%) to accommodation, catering and similar; 2 (1.7%) to the electricity, gas, steam, hot and cold water and cold air sector; and finally, 1 (0.8%) to the wholesale and retail trade sector, including the repair of motor vehicles and motorcycles. Five answers (4.2%) were included in the category "other".

3.4. Data Analysis

Data analysis was performed using the SPSS statistical program [68], the PROCESS macro [69] and AMOS [70]. The procedure was begun with exploratory factor analysis (EFA), which was followed by principal component extraction and orthogonal varimax rotation to test the uni-dimensionality of each separate variable. One then implemented the Kaiser-Meyer-Olkin (KMO) test for sampling adequacy (which would have to exceed 0.50) and Bartlett's sphericity test (which would have to be statistically significant) [68]. Items with loadings higher than 0.50 [68], and factors with Cronbach's alpha equal to or greater than 0.70 [71], were considered. Subsequently, the measurement model was estimated by using AMOS [70], which has 4 latent variables. Finally, in order to test the proposed hypotheses, a parallel multiple mediator model (Model 4) was executed by using the PROCESS macro [69].

3.5. Common Method Variance

The data obtained was collected during one single moment in time. As such, the existence of Common Method Variance (CMV) could constitute a concern for this study [72]. Some assumptions were considered in order to reduce CMV, both in the design and in the way the questionnaire was applied. In order to adapt the items to the context in which the questionnaire was to be applied, as well as to ensure a clearer understanding of the items, a pre-test was carried out with employees from companies certified by the ISO 14001 standard. The information collected in this preliminary study contributed to the subsequent adaptation and clarification of the wording of some questions. In the application of the questionnaires, confidentiality was guaranteed in the treatment of data and anonymity of the answers. Additionally, one explained that there were no correct or incorrect answers and requested participants to provide honest and independent answers.

A Harman's single-factor test was performed [73] and included all the items. The ensuing variance values (38%) suggested that the CMV did not constitute a source of concern in this study.

4. Results

This section presents the results of the empirical study. Table 2 reports the values of the descriptive statistics: the mean and standard deviations, the explained variance, as well as the Cronbach alpha for each construct and the pairwise correlation of the variables analyzed in our model.

Table 2. Means, standard deviations and correlations of the construct-related variables.

Variable	Mean	STD.DEV.	1	2	3	4
1. Green HRM	3.24	0.98	(0.70) [a] (0.96) [b]			
2. OI	4.15	0.70	0.280 ***	(0.50) [a] (0.80) [b]		
3. Job Satisfaction	3.99	0.59	0.557 ***	0.577 ***	(0.46) [a] (0.94) [b]	
4. OCB	4.37	0.46	0.493 ***	0.380 ***	0.545 ***	(0.30) [a] (0.86) [b]

Note: N = 120. *** Significant at $p < 0.001$ (2-tailed). [a] Explained variance of the construct-related variables. [b] Scale reliabilities.

One first tested the measurement model by means of AMOS [70], which has four latent variables (i.e., green HRM, OCB, OI and SATIS). For green HRM, 11 indicators were included; for OCB, 9 indicators were included; for OI, 5 indicators were included; and SATIS comprised 18 indicators. The model with all the latent variables presented a good fit with the data ($\chi^2/\mathrm{df} = 1.465$, $p < 0.001$; CFI = 0.902; IFI = 0.904; RMSEA = 0.063). It can

thus be assumed that the index values show a good adaptation of the model to the data structure [74].

Finally, and in order to test the hypotheses, one used Model 4 of PROCESS macro to execute a parallel multiple mediator regression model (Table 3). In this model, the antecedent variable X (green HRM) was modeled as consequent influencing Y (OCB), directly as well as indirectly, through two mediators (M1: OI; M2: SATIS).

Table 3. Regression coefficients, standard errors, and model summary information (parallel multiple mediator model).

| Antecedent | | | | Consequent | | | | | | | | | | | | |
| | | **M_1 (PSR)** | | | | | **M_2 (OI)** | | | | | **Y (OCB)** | | | |
		β	SE	*t*-Test	CI 95% [LL; UL]		β	SE	*t*-Test	CI 95% [LL; UL]		β	SE	*t*-Test	CI 95% [LL; UL]
X (Green HRM)	A_1	0.20	0.06	3.17 **	0.07/0.33	A_2	0.35	0.05	7.56 ***	0.26/0.44	c'	0.13	0.04	3.03 *	0.05/0.22
M1 (OI)	-	-	-	-	-		-	-	-		B_1	0.07	0.06	1.26	−0.04/0.19
M2 (SATIS)	-	-	-	-	-		-	-	-		B_2	0.25	0.08	3.03 *	0.09/0.42
K	i_{M1}	3.50	0.21	16.36 ***	3.08/3.93	i_{M2}	2.86	0.16	18.33 ***	2.55/3.17	i_Y	2.62	0.25	10.55	2.13/3.12
		$R^2 = 0.08$ $F(1.18) = 10.02 < 0.001$					$R^2 = 0.33$ $F(1.18) = 57.14 < 0.001$					$R^2 = 0.36$ $F(3.11) = 21.54 < 0.001$			

Notes: Based on a bootstrap test (5.000 re-samples). When the bootstrap of 95% CI (LL: lower levels; UL: upper level (JS)s) contains zero for one of the values. It indicates that the effect was not significant. β = regression coefficients; SE = standard error; CI = confidence interval; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$. X = Green HRM; Y = OCB, organizational citizenship behaviors; M1 = organizational identification (OI); M2 = Family satisfaction (SATIS).

The results indicated that there was a positive and significant impact of green HRM on OCB ($\beta = 0.13$, $t_{120} = 3.03$; $p < 0.001$). The results also showed that green HRM produces an effect on M1 (confirming H1) and on M2 (confirming H3). Green HRM affects both OI ($\beta = 0.20$; $t_{120} = 3.17$; $p < 0.001$) and SATIS ($\beta = 0.35$; $t_{120} = 7.56$; $p < 0.001$). However, the effect of green HRM is greater on SATIS than on OI. Therefore, the variable SATIS may play a more important role in mediating the effect of green HRM on OCB than the effect exerted by OI.

Regarding the final step, this was considered to be partially fulfilled in the sense that the mediating variable OI does not have a statistically significant relationship ($\beta = 0.07$; $t_{120} = 1.26$; $p = 0.213$) with OCB (rejecting H2). However, job satisfaction does ($\beta = 0.25$, $t_{120} = 3.03$; $p < 0.05$) (confirming H4).

The values found in the mediation model between green HRM and OCB indicate that in the presence of mediating variables (M1 and M2), the value of c' did not lose significance, although the relationship weakened (c' = 0.13; $t_{120} = 3.03$; $p < 0.05$), thus fulfilling the last condition, which may indicate that there is mediation.

In sum, and despite the fact that it does not lose statistical significance, the direct effect (c') decreased in relation to the indirect effect. Therefore, one concluded that there may be a partial mediation effect.

In order to confirm the existence of a mediation process, the bootstrapping test was performed. The results of the indirect mediation effect tested through bootstrapping considered 95% confidence intervals. This demonstrated that null or zero effects were found within the intervals for the relationship between green HRM and OCB through OI (0.02; 95% CI: −0.01; 0.05) and were not found for the relationship through SATIS (0.09; 95% CI: 0.03; 0.15). This means that the value of c' is different from zero; namely, the effects of green HRM on OCB were only mediated by the effect of SATIS (M2). The results found in the test allowed one to confirm Hypothesis 6 and reject Hypothesis 5.

5. Discussion and Conclusions

This study presents evidence regarding the positive effects of green HRM on employees' OCB, as well as on the mediating role of job satisfaction. Following a 'behavioral

perspective' of green HRM practices, the study focused on the impact of sustainable HRM practices on employees' behavior and well-being (e.g., [1,2]). The results are consistent with other studies that have already pointed to a positive and significant impact of green HRM practices on OCB (e.g., [4,75]). These results highlight that when environmental awareness and 'green' skills increase through the implementation of green HRM practices in organizations, employees seek to reciprocate in a way that benefits the organization through organizational citizenship behaviors. Consequently, OCB also increases. Our results are an important contribution to the role of green HRM practices in promoting employees' extra-role behaviors towards the organization in the context of industries certified by the ISO 14001 standard. One has thus sought to demonstrate that sustainable HRM practices, which value the development of green skills and the engagement of employees, produce both ecological and social benefits.

The confirmation of Hypotheses 1 and 3 indicated that green HRM has an effect on organizational identification and job satisfaction (e.g., [76]); that is, management centered on environmental objectives increased employees' identification with organizational values and heightened job satisfaction [77].

However, the results did not confirm Hypothesis 2. They also contradicted the current empirical evidence, which supports the argument that voluntary helping behaviors towards the organization depend on organizational identification [55]. These results seem to indicate that employees' identification with the organization's objectives and values is, in itself, insufficient for the enhancement of extra-role behaviors, potentially indicating that this decision can only be made when staff consider it to be of benefit to themselves [19]. Indeed, our results contribute to an expansion of existing knowledge on the relationship between the organizational and individual determinants of extra-role behaviors toward the sustainability of the organization. Accordingly, they indicate that there may be identified with the organization's green values [76], but that this is not enough to advance towards citizenship behaviors. These results seem to point to a logic of action centered on a "win-win" perspective [3], as will be seen below.

An analysis of the results of Hypothesis 4 provides support for the prediction that green HRM is positively related to employees' job satisfaction. In fact, these results further confirm expectations found in the literature, which point out that green HRM practices are positively related to higher levels of job satisfaction [12,13,15,46,48]; these, in turn, constitute an important aspect of any organization's social sustainability [4].

The results also underline the existence of a "win-win" logic [3], thus pointing to a "potential 'trade-off' between environmental outcomes and social outcomes" [4] (p. 222), as was initially mentioned. Indeed, findings related to Hypotheses 5 and 6 show that only the employees who are most satisfied with the organization's environmental practices will be willing to develop extra-role behaviors; additionally, despite an increase in organizational identification when there are green HRM practices, this seems to be an insufficient reason for making any special effort to benefit the organization. Thus, the results reject the mediating role of organizational identification (Hypothesis 5) and confirm the mediating role of job satisfaction (Hypothesis 6). These results support the need for an instrumental logic between ecological results (which benefit the organization) and certain working conditions (which benefit the individual). Only more satisfied individuals show a disposition of reciprocation to the organization through citizenship behavior. They are fully conscious of what they can receive from the organization, namely, that the environmental practices that benefit the organization and society will also constitute an advantage for the employee.

Some reflections on the main contributions of the study to the theory and practice of organizational sustainability follow below. Finally, the acknowledgment of this study's limitations constitutes an opportunity for future research.

5.1. Implications for Theory on Sustainability

This study brings several theoretical contributions to the literature. Firstly, it presents a model that focuses on a 'behavioral perspective' in research on green HRM by providing

evidence for the 'rational cost-benefit analysis' between green and social outcomes. We have interpreted the results obtained, considering that: (1) people management, which focuses on results and environmental values, can foster employees' discretionary behaviors—behaviors that go beyond the formal tasks required by job descriptions; (2) employees accept, assimilate and incorporate green goals and values into their responsible practices and behaviors [15] if they experience a sense of satisfaction. Secondly, our theoretical model proposes a new perspective of the mediating mechanisms through which green HRM influences OCB. This highlights the importance of people feeling satisfied, both with their work and the organization's environmental policies, to the extent that they feel the need to take a step forward and benefit the organization.

5.2. Implications for the Practice of Sustainability

This study makes some contributions for organizational managers interested in implementing sustainable HR practices that are favorable to green and sustainable management. It also contributes to the creation of a work context which is favorable to responsible behaviors. Based on these results, one of the most important conclusions of this study for sustainable managers to consider is the idea that employees must feel that there is a significant personal gain in their adoption of green management practices. Employees are available to develop responsible and beneficial behavior for the organization when they experience satisfaction, for example, in the way they are financially compensated for achieving performance based on environmental criteria, when the performance evaluation program contemplates environmental performance or when their job description includes environmental responsibilities. The secret seems to be a mutually beneficial situation.

In this sense, Human Resources managers must consider various practices. For example, in the recruitment and selection process, the choice of employees should center on environmental criteria, in the sense that the hiring policy is grounded on the employees' environmental identification and commitment. Another practice that is thought to be important in this process is the creation of environmental training programs for employees and managers. Accordingly, the main objective in environmental training should reside in the development of new skills in environmental management and the promotion of good environmental practices. Establishing environmental goals for the organization, and for each of its co-workers, must constitute a practice to be developed on the path toward sustainable management. The setting of environmental objectives must be associated with the evaluation of environmental performance; that is, employees and managers must be evaluated for their commitment and environmental performance, and the organization must provide a monetary benefit to reward efforts in achieving such goals.

5.3. Limitations, Directions for Future Research and Conclusions

Despite several theoretical and practical implications, this study possesses some limitations. The first of these is some concern regarding the comparison and generalization of the data. Since the questionnaire was only applied to companies certified by the ISO 14001 standard, it did not contemplate a comparison with non-certified companies and, therefore, does not allow for generalization to the entire Portuguese industrial sector. In this sense, it would be useful for future studies to cover uncertified companies from different sectors of activity and establish a distinction between employees' and supervisors' perspectives.

The second limitation of the study resides in the way the data were obtained. Since they are self-reported and include a cross-sectional study, there may be several potential sources of bias that should be pointed out as limitations. Despite the care taken in the investigation process already explained in the article, one cannot offer definitive conclusions in terms of causality inferences, so future studies should be of a longitudinal nature, where information is obtained at different times.

The response rate is the third limitation of the study. The response rate obtained did not correspond to our initial expectations (287 companies contacted/120 valid responses ≈ 0.42 responses per company) due to the fact that the application of the questionnaires

coincided with the moment of mandatory confinement due to the COVID-19 pandemic. Although it was adequate for the testing of the analysis model, the results could have had a different expression if the response rate had been larger. In this sense, we suggest that future studies should contemplate larger response rates to enhance the validity of the conclusions.

Finally, in future studies, the theoretical model can be expanded in several ways. In this study, the green HRM practice construct encompassed the process of selecting and recruiting employees according to environmental criteria, training programs for employees and managers, job descriptions with environmental responsibilities, performance evaluation using environmental criteria and a remuneration system centered on environmental performance. Future studies may focus on green HRM practices separately, thus contributing toa better explanation for the impact of each of these practices on employees' behavior and well-being [4].

In sum, this study expands our knowledge on the effects of green HRM and suggests practical recommendations to organizations that will further enhance their sustainability through employee behavior.

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