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Abstract

This study aims to understand the role of green human resource management (GHRM) in fostering the environmental performance of employees. Specifically, it examines the impact of GHRM practices on employee green behaviors EGB (In-role and extra-role) with perceived green organizational support (PGOS) as a mediator. This research reports the findings of a questionnaire from 371 employees (188 hotel employees and 183 travel agency employees). This survey consisted of 18 items based on a five-point Likert scale technique ranging from: “strongly disagree” (1); to “strongly agree” (5). The research hypotheses were tested through structural equation modeling (SEM) using analysis of moment structure (AMOS 25). The findings showed that there was a significant effect of GHRM on PGOS. Moreover, GHRM positively affects EGB (in-role and extra-role). There was a significant effect of PGOS on EGB. In addition, PGOS partially mediates the relationship between GHRM and EGB. The study concludes that management should take advantage of green human resource practices to acquire and retain talented employees whose environmental goals and values are consistent with those of the company. Employees should be involved in problem-solving on environmental sustainability and green management. They should also participate in continuous training programs and enhance their awareness of environmental sustainability and green management.

Keywords: Green human resource management (GHRM), perceived green organizational support (PGOS), employee green behavior (EGB), travel agency, hotel sector.

Introduction

Humanity is currently dealing with concerned environmental, social, and economic issues. The United Nations approved the 17 Sustainable Development Goals (SDGs) in 2015 to address these global concerns on a cross-border international level and to build a more sustainable and better future for all people (United Nations, 2015). Indicators for each SDG are used to track advancement toward the objectives (United Nations, 2017).
Each aim tackles environmental, social, and economic issues; rather than existing independently, they are interdependent and have an impact on one another (Bali Swain and Yang-Wallentin, 2020; Nilsson et al., 2016; Pham-Truffert et al., 2020; Pradhan et al., 2017).

In recent years, there has been an increase in interest in the literature on environmental sustainability in various fields of education, sociology, business, and psychology (Chen et al., 2019; Jian et al., 2019). Employee green behavior, or EGB, in an organizational setting, has been the focus of more recent research from the business perspective (Kim et al., 2017). According to Norton et al., (2015), EGB is defined as a workplace-specific form of pro-environmental behavior that encompasses a wide range of actions like reusing paper, recycling materials, and avoiding single-sided prints (Bissing-Olson et al., 2013). Positive results like cost savings, leader effectiveness, and organizational environmental performance are associated with EGB (e.g. Paillé et al., 2014).

Owing to these possible benefits of EGB, scholars are now concentrating on ways to encourage environmentally responsible green behavior within companies. Hence, a crucial point that needs to be addressed is how GHRM can effectively shape EGB in work groups.

GHRM highlighted the integration of green practices into human resource management tasks. However, management must show that the company has significantly invested in its environmental sustainability program and GHRM practices (Ari et al., 2020). Employees who believe management genuinely cares about GHRM execution assistance and tolerate the company's eco-friendly and environmentally sustainable operations (Yong et al., 2020b). Employee participation in the company's environmental sustainability program is encouraged by GHRM methods, such as training and rewards after they are accepted by the staff (Ansari et al., 2021; Yong et al., 2020a).

According to Lammers et al. (2015), GHRM practices help to develop perceived green organizational support (PGOS), which refers to the specific beliefs held by employees regarding how much the organization values their contributions toward sustainability. Ramus (2011) makes a strong case that PGOS is crucial for encouraging staff members to practice eco-friendly behavior and that these staff members may even be eco-innovators. Human resource practices and attractive job conditions are known to support PGOS, as per the PGOS theory (García-Chas et al., 2016; Rhoades and Eisenberger, 2002). PGOS is based on how employees view these initiatives and situations (García-Chas et al., 2016). Drawing from this theoretical framework, we argue that GHRM activities serve as the foundation for PGOS and effectively communicate to staff members that the company...
values their contributions to environmental sustainability and green management (Pinzone et al., 2019).

The current study attempted to explore the impact of GHRM on (in role and extra role) Employee Green Behavior via PGOS as a mediator, which is a significant factor taken into consideration by the tourism industry. This research offers six hypotheses after reviewing the pertinent literature on GHRM, EGB, and PGOS. The study model is subsequently presented incorporating details about the methodology, such as survey design, Population, sample, data collection procedures, and analysis. Next, it presents an in-depth assessment of the research findings using AMOS and SPSS analysis. All hypothesis results are also indicated. Finally, a list of recommendations and conclusions is provided.

Literature view

**GHRM and Employee Green Behavior**

**Employee green behavior**

Employee green behavior (EGB) is one of the techniques used by organizations to improve environmental performance and fulfill sustainability goals (DuBois & Debois, 2012). EGB was first defined by Ones and Dilchert, as an ecologically helpful behavior performed by employees in the workplace (Ones & Dilchert 2012), while Unsworth et al. (2013) defined EGB as employee activities that have beneficial effects on the environment. EGB has been described in previous studies as a workplace-specific kind of environmentally conscious behavior (Ones & Dilchert, 2012; Norton et al., 2015). Furthermore, Stern (2000) and Steg et al (2009) described employee green behavior as beneficial employee conduct that serves to reduce the negative impact of human actions. It may involve activities such as preserving water, resource utilization, waste reduction, minimizing energy consumption, and recycling (Norton et al., 2015).

Employee green behavior is pro-social (Chou, 2014), and from a pragmatic perspective, routine workplace green behavior should involve both in-role and extra-role green behavior (Ramus & Killmer, 2007), since both contribute to business outcomes through value creation. The organization and its expectations about its staff determine how behavior is finally classified, such as whether it is in-role or extra-role. (Paillé & Boiral, 2014; Dumont et al., 2017). Many job duties may require employees to behave greenly, such as ensuring that toxic waste is not spilled into local water systems or that dangerous waste is disposed of by organizational standards and regulatory requirements. These types of activities require the participation of employees and, as such, are part of a
person's formal work duties. Extra-role green behavior, on the other hand, is more confusing and could be as simple as advice to improve organizational environmental performance by shutting off computers at the end of the day and switching off lights when they are not in use (Paillé & Boiral, 2014). While both in-role and extra-role green behavior are important for achieving organizational green goals (Norton et al., 2015; Yuriev, 2020), their antecedents may differ because employees have varying degrees of discretion over when and how to exhibit these behaviors in their work environments (Hoffman & Dilchert, 2012; Williams & Anderson, 1991).

Green Human Resources Management
As organizations improve their business strategies and initiatives toward an environmental agenda, HR must change its responsibilities and expand the scope of its duties by incorporating environmental management to modify how it executes its essential HR functions (Angel Del Brio et al., 2008). According to Boudreau and Ramstad (2005), HR may be able to evaluate and have an impact on employee sustainability-related behavior, motivation, knowledge, and attitudes.

To efficiently fulfill and implement environmentally friendly policies, firms can use HRM (Renwick et al., 2013; Pham et al., 2019). Various green HRM practices have been identified in previous studies. For instance, for green HRM to be successful in encouraging workplace green behavior among employees, an organization must have effective recruitment strategies that seek out prospective employees who share its environmental values and beliefs; development, performance, and reward practices that consider each employee's environmental performance; and efficient training programs that encourage ecologic attitudes, skills, and knowledge. (Gilal et al., 2019; Kim et al., 2019; Saeed et al., 2019).

GHRM and Employee Green Behavior
GHRM has the potential to have an impact on employee green behavior for many reasons; First, highlighting the company's goals for sustainability during recruiting and considering candidates' environmental values during the hiring process has the potential to increase staff members' awareness and knowledge of environmental concerns (Renwick et al., 2013). Second, integrating employees into the implementation of green activities and offering green training will be expected to improve their knowledge, abilities, and skills as well as increase their psychological responsiveness to adopting green behaviors (Liu, 2021). Third, according to HRM theories, staff understanding of the necessity and urgency of adopting such practices is a requirement for HRM practices
to be effective in eliciting appropriate workplace behavior (Nishii et al., 2008; Chaudhary, 2019; Mughal et al., 2022). Adopting GHRM policies and practices is likely to demonstrate an organization's commitment to supporting the preservation of the environment, which will motivate employees to strive toward achieving the organization's green aims. Finally, employees are encouraged to participate in and contribute to green initiatives through promotions and awards that acknowledge and value their green performance (Renwick et al., 2013; Ahmad & Umran, 2019). The previously mentioned findings were supported by Dumont et al. (2017) in a study of Chinese employees. They found that GHRM had a direct and indirect impact on in-role green behaviors, while only indirectly affecting extra-role green behaviors by fostering a psychologically green workplace environment.

**H1. GHRM has a positive impact on the in-role employee green behavior.**

**H2. GHRM has a positive impact on the extra-role employee green behavior.**

**GHRM and PGOS**

Employees can maintain positive self-images, overcome obstacles, and succeed with the help of their organizations (Butts et al., 2009; De Clercq et al., 2021). According to Eisenberger et al. (1986), perceived organizational support (POS) can be defined as employees' perceptions of the level of concern that an organization represents toward them. Effective HRM implementation has been revealed to be one of the many strategies by which POS can be established (Chiang et al., 2011; Tang et al., 2017). A positive perception of organizational support is more likely to be preserved when organizations maintain these behaviors (Chow et al., 2006; Kim and Ko, 2014; Wayne et al., 1997). In terms of empirical findings, Tang et al. (2017) and Almarzoqi et al. (2019) discovered that HRM practices had a favorable impact on POS.

According to Lamm et al. (2015), employees' attitudes toward the environment are an indication of their views and perceptions about how much their organizations value their contributions to the environment and green initiatives. In consequence, based on the organizational theory (OST) and the studies of (Lamm et al., 2015) and (Eisenberger et al., 1986), PGOS could be conceptualized as employees' beliefs and perceptions about the level of care and appreciation their organizations show toward employees' environmental and green contributions.

In general, the key component of an organization's effort in supporting its staff is the employees' subsequent perceptions that the organization's support is efficient and long-lasting. If this isn't the case, organizational support won't have the intended outcomes (Butts et al., 2009). Accordingly, the social exchange is directly tied to the norm of
reciprocity as formed through commitments to the organization (Kim and Ko, 2014), giving the theoretical foundation (Chow et al., 2006) to investigate the relationships between GHRM and PGOS.

Effective HRM strategies improve employees' perceptions of the support from the organization they work for and influence people to see themselves as essential participants in social interactions (Allen et al., 2003; Tang et al., 2017). We suggest that GHRM creates PGOS by exploiting SET and OST because employees see GHRM practices in their organizations as an investment aimed at improving staff members' abilities and understanding of environmental issues. In light of the previously cited considerations, we propose the following hypothesis:

**H3: GHRM has a positive impact on PGOS.**

**Perceived Green Organizational Support and Green Behavior**

GOS is contingent upon a company's human resource initiatives. Employees who participate in training programs regarding the organization's environmental sustainability, for instance, are considered crucial collaborators in achieving environmental objectives. Employees rewarded for engaging in pro-environmental activities believe that their organization appreciates what they have done for the environment. As a result, GHRM acts as an essential basis for the GOS, which has infrequently been the subject of empirical research (Pinzone et al., 2019). Particularly Lamm et al.'s (2013) study indicated that affective commitment moderated POS’s effect on organizational citizenship behavior toward the environment. In their 2015 observational study, Lamm et al. determined that psychological empowerment partially mediated the effect of POS on job satisfaction, intentions to leave the company, organizational identity, and environmental citizenship behavior.

**H4. PGOS has a positive impact on in-role employee green behavior.**

**H5. PGOS has a positive impact on extra-role employee green behavior.**

**PGOS mediates the effects of GHRM on employee green behavior.**

According to Paillé and Raineri (2015), the relationship between company environmental policies and employees' eco-initiatives was partially mediated by perceived organizational support. According to Paillé and Raineri's (2016) research, job satisfaction served as a partial mediating factor between organizational support and employees' pro-environmental activities. According to Erdogan et al. (2015), perceived organizational support strengthened the relationship between organizational commitment and management's adherence to procedural fairness and the environment. According to the HRM literature, HRM practices may not directly impact an employee's performance; specific social and emotional processes get involved in and
control these relationships (e.g. Kehoe and Wright, 2013). Employees are predicted to have a positive insight into GHRM if the organization effectively addresses their green interests (Shen et al., 2018). Noticeably, how employees observe GHRM is largely influenced by how their organizations handle their interests (Shen et al., 2018). Considering this, PGOS can be viewed as a type of organizational investment in staff members' green knowledge that has the potential to reinforce staff members’ green behavior socially and emotionally.

*H6. PGOS mediates the effects of GHRM on in-role and extra-role employee green behavior.*

![Figure 1: The Hypothetical Framework of the Study](image)

**Research Methodology**

*The Research Instrument*

This research used a questionnaire as an instrument for collecting data. The instrument had five main parts. Part one covered the profiles of the respondents. Part two covered items related to GHRM and part three covered PGOS while part four covered the in-role green behavior. The last part is related to the extra-role green behavior. GHRM was evaluated with five green HR practices, including green recruitment, green training, green performance management, green reward, and green employee involvement (Renwick et al., 2013; Tang et al., 2018), each of which was measured with one element representing a core green HR function on the scale developed by Tang et al. (2018). An example of these items is “Our organization provides green training programs to develop employees’ green skills and behaviors”. The internal reliability was (0.92, for hotels; 0.91, for travel agencies). PGOS was measured using seven items adopted from Eisenberger et al.’s (1986) scale of POS. These seven items were modified to apply to environmental and green management. An example is “My organization values my contribution to green management”. The internal reliability for this scale was 0.91.
We measured in-role green behavior using three items from Bissing-Olson et al. (2013). An example is “Today, he fully completed the tasks assigned by superiors in an environmentally friendly way”. The internal reliability for this scale was (0.94, for hotels; 0.93, for travel agencies). We measured extra-role green behavior using three items adapted from Bissing-Olson et al. (2013). An example is “Today, he took the opportunity to be actively involved in environmental protection at work’ ” The internal reliability of this scale was 0.89. A five-point Likert scale was used, where 1 “strongly disagree” and 5 “strongly agree”, was used for each item (Table 3).

**Research Population and Sampling Technique**

This study was devoted to exploring the impact of green human resource management on the green behavior of employees with the mediating role of perceived green organizational support in the tourism and hotel sector. For data collection, a questionnaire survey was distributed to a sample of employees in both hotels and travel agencies. The target population for this study was employees in Greater Cairo five-star hotels and class-A travel agencies. Convenience sampling was utilized to reach these employees. Although this approach has its limitations when it comes to the generalizability of the results this sampling technique was utilized for two reasons. First, it is simple, cost-effective, and not too time-consuming (Stratton, 2021). Second, this approach has been widely used in hospitality research (e.g., Aboramadan et al., 2021; Albashiti et al., 2021). To avoid the biases associated with this sampling approach, the researcher followed the recommendations suggested by Stratton (2021) to improve the dependability of this sampling technique. For instance, vague and complex study objectives were avoided. Also, a validated questionnaire and reliable study measures were utilized. In addition, to minimize non-response bias, the researchers took two steps to increase the number of participants in the study: first, they made the questionnaire short, easy to read, and respondent-friendly to encourage as many people as possible to participate (Churchill and Iacobucci, 2002). Before distributing the survey, the approval of the top management of the hotels and travel agencies was obtained to allow the staff to participate in the study. The questionnaires – translated into Arabic and piloted with 35 participants – were distributed to employees in summer 2023. An online questionnaire was used. The distribution of the questionnaire took nearly three months (October to December 2023). One hundred and eighty-eight (n 188) valid questionnaires were collected with a total of 400 questionnaires that were distributed, representing a 94% response rate from hotel employees. On the other hand, one hundred and eighty-three (n 183) valid questionnaires were collected with a total of 400 questionnaires that were distributed, representing a 91.5% response rate from travel agencies' employees. The response rate
for this study compares favorably with the rate suggested by Baruch and Holtom (2008), which was 52.7%.

**Data Analysis**

A Software Package for Social Sciences (SPSS version 25) was used for data analysis. A descriptive analysis was conducted to illustrate the profiles of the respondents. Additionally, research data was screened, and research hypotheses were examined by SEM using AMOS version 25. Furthermore, validity, reliability, and confirmatory factor analysis (CFA) were performed to develop the final structural research model. The mediating role of PGOS in the relation between GHRM and EGB (in-role and extra-role) was assessed using the Sobel test (Sobel, 1982).

**Results**

**Demographic Data Analysis**

The profile data of the respondents (as shown in Table 1) included their gender, age, educational level, organizational tenure as well as the type of organization.

**Hotels' Participants**

As for hotel participants, table 1 shows that 78.2% of the respondents were males compared to only 21.8% were females. These results support the findings of Sobaih (2015), who reported that Egyptian hotels employed limited proportions of women. Furthermore, the age of respondents who are under 25 years old represents a percentage of 51.6%; followed by the respondents in the age between 25 to 35 years with a percentage of 34.6%. Additionally, 8.5% of the respondents were between 36 to 50 years old and only 5.3% of the respondents were over 50 years old reflecting the dominance of young employees in the hospitality industry. It is noteworthy that 78.2% of the respondents held a university or higher institute degree. Meanwhile, 13.3% of them were post-graduate degrees (Masters or PhD). Furthermore, 8.5% of the respondents were holders of secondary certificates. These findings indicate that most of the employees in the hotels are well-educated.

As mentioned above, although most of the respondents were relatively young people, they had relatively acceptable hotel experience, as 48.9% of them were employed from 1 to less than 5 years. Likewise, 39.4% of them were in their current hotels for less than 1 year. Also, 8.5% of the respondents were employed for 5 to less than 10 years and only 3.2% of them were employed for 10 years or more.

**Travel agencies' Participants**

As for Travel agencies, table 1 also shows that 62.3% of the respondents were males compared to only 37.7% were females. Furthermore, the respondents aged between 25
and 35 years are observed a percentage of 44.3%; followed by the age of the respondents who are less than 25 years old has a percentage of 38.3%. Additionally, 10.4% of the respondents were under the age of 36 to 50 years and only 7.1% of the respondents were over 50 years old. It should be noted that 65.6% of the respondents had a university or higher institute degree. Meanwhile, 21.3% of them were postgraduate degrees (Master's or PhD). Furthermore, 13.1% of the respondents were holders of secondary certificates. According to their experience, 54.1% of them worked for 1 to less than 5 years. Likewise, 33.3% of them were in their current hotels for less than 1 year. Also, 8.7% of the respondents were employed for 5 to less than 10 years and only 3.8% of them were employed for 10 years or more.

<table>
<thead>
<tr>
<th>Table (1): Respondents’ Profile</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<tr>
<td><strong>Gender</strong></td>
</tr>
<tr>
<td>Male</td>
</tr>
<tr>
<td>Female</td>
</tr>
<tr>
<td>Age</td>
</tr>
<tr>
<td>Less than 25</td>
</tr>
<tr>
<td>25 up to 35</td>
</tr>
<tr>
<td>36 up to 50</td>
</tr>
<tr>
<td>More than 50</td>
</tr>
<tr>
<td><strong>Educational level</strong></td>
</tr>
<tr>
<td>Secondary School</td>
</tr>
<tr>
<td>University or Higher Institute Degree</td>
</tr>
<tr>
<td>Postgraduate Degrees (Masters or PhD)</td>
</tr>
<tr>
<td><strong>Organizational tenure</strong></td>
</tr>
<tr>
<td>Less than a year</td>
</tr>
<tr>
<td>From 1 to less than 5 years</td>
</tr>
<tr>
<td>From 5 to less than 10 years</td>
</tr>
<tr>
<td>10 years or more</td>
</tr>
<tr>
<td><strong>Type of organization</strong></td>
</tr>
<tr>
<td>Hotels</td>
</tr>
<tr>
<td>Travel Agencies</td>
</tr>
</tbody>
</table>

**Factorial Results**

We conducted confirmatory factor analysis (CFA) since we adopted a pre-tested instrument to verify the items or factors fit together to measure our variables and then were able to examine the relationships. We checked the GoF, “Goodness of Fit”, to ensure that our collected data fit the model. The findings of our CFA showed some evidence that ensured the convergent validity of our measures. First, regarding hotels, the standardized loading was between 0.79 and 0.98 with a significant p-value of “0.001”, which was above the value of 0.50 as
recommended by (Hair, 2014) except for one item (PGOS 5) which was deleted from the analysis to achieve a good fit of data. According to travel agencies, there was an appropriate convergence as all item loadings were between 0.53 and 0.96 with a significant p-value of “0.001”. We checked CR, “composite reliability”, to ensure the items adopted for measurement were related to the latent variable and AVE, “average variance extracted”, to ensure the variance in the construct. The results in Table 2 show that all CR values were above 0.7 and AVE values were above 0.6, which confirms the convergent validity. (See Table 2).

Table 2: Internal Consistency Estimates of Parcels

<table>
<thead>
<tr>
<th>Construct</th>
<th>Hotels</th>
<th>Travel Agency</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SL</td>
<td>CR</td>
</tr>
<tr>
<td>1-GHRM</td>
<td></td>
<td></td>
</tr>
<tr>
<td>My organization hires candidates with green values, knowledge, and awareness</td>
<td>0.79</td>
<td>0.92</td>
</tr>
<tr>
<td>My organization provides green training programs to develop employees’ green skills and behaviors</td>
<td>0.80</td>
<td>0.92</td>
</tr>
<tr>
<td>My organization evaluates employees’ green behaviors in the performance management process</td>
<td>0.91</td>
<td>0.92</td>
</tr>
<tr>
<td>My organization provides employees with opportunities to participate in green management</td>
<td>0.83</td>
<td>0.92</td>
</tr>
<tr>
<td>My organization rewards employees for their green behavior</td>
<td>0.86</td>
<td>0.92</td>
</tr>
<tr>
<td>2- PGOS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>My organization values my contribution to green management issues</td>
<td>0.86</td>
<td>0.92</td>
</tr>
<tr>
<td>My organization cares about my environmental values and goals</td>
<td>0.91</td>
<td>0.92</td>
</tr>
<tr>
<td>My organization cares about my opinions on green management issues</td>
<td>0.89</td>
<td>0.92</td>
</tr>
<tr>
<td>My organization takes pride in my accomplishments on green management issues</td>
<td>0.92</td>
<td>0.92</td>
</tr>
<tr>
<td>My organization would ignore any complaint from me on green management issues (R)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>My organization values extra effort on green management issues</td>
<td>0.91</td>
<td>0.92</td>
</tr>
<tr>
<td>My organization cares about my</td>
<td>0.89</td>
<td>0.92</td>
</tr>
</tbody>
</table>
Structural Equation Modelling Results

We adopted a confirmatory approach in our study by developing a theoretical model based on the literature review and then collecting data to examine this model via a pretested questionnaire form. The results of the structural model confirm that the model has a good fit to the data CMIN/DF (2.641), CFI (0.914) CFI values close to 1 indicate a very good fit., and TLI (0.924) TLI values close to 1 indicate a very good fit., RMSEA (0.065) in hotels. Similarly, the measurement model has a good fit to the data CMIN/DF (2.591), CFI (0.903), and TLI (0.918), RMSEA (0.072) in travel agencies.

Assessing Discriminant Validity

Discriminant validity can be achieved by comparing the square root of the AVE of each construct with the correlation estimates between constructs. Kline (2011) suggested that the estimated correlations between factors should not be excessively high (>0.85). All the constructs represent different concepts, and the discriminant validity is achieved because the square root AVE of each construct is higher than the squared correlation between that construct and other constructs (Hair et al., 2013). As shown in Tables 3&4, it can be seen that discriminant validity is achieved, the square root of the AVE for each construct was higher.

<table>
<thead>
<tr>
<th>3-In-role EGB</th>
<th>0.94</th>
<th>0.66</th>
<th>0.94</th>
<th>0.93</th>
<th>0.65</th>
<th>0.93</th>
</tr>
</thead>
<tbody>
<tr>
<td>Today, I fully completed the tasks assigned by my superiors in an environmentally-friendly way</td>
<td>0.89</td>
<td></td>
<td></td>
<td>0.89</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Today, I carried out duties in an environmentally friendly way</td>
<td>0.98</td>
<td></td>
<td></td>
<td>0.96</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Today, I accomplished the desired task in an environmentally friendly way.</td>
<td>0.91</td>
<td></td>
<td></td>
<td>0.91</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>4-Extra-role EGB</th>
<th>0.90</th>
<th>0.71</th>
<th>0.89</th>
<th>0.90</th>
<th>0.68</th>
<th>0.89</th>
</tr>
</thead>
<tbody>
<tr>
<td>Today, I took a chance to get actively involved in environmental protection at work</td>
<td>0.94</td>
<td></td>
<td></td>
<td>0.92</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Today, I took the initiative to act in environmentally-friendly ways at work</td>
<td>0.88</td>
<td></td>
<td></td>
<td>0.87</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Today, I did more for the environment at work than I was expected to</td>
<td>0.80</td>
<td></td>
<td></td>
<td>0.80</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: SL = standardized factor loading, CR > 0.7, AVE > 0.5, $a$ = Cronbach's alpha
Table 3: Discriminant Validity of the Constructs

<table>
<thead>
<tr>
<th></th>
<th>GHRM</th>
<th>PGOS</th>
<th>In-role EGB</th>
<th>Extra-role EGB</th>
</tr>
</thead>
<tbody>
<tr>
<td>GHRM</td>
<td>0.839</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PGOS</td>
<td>0.743</td>
<td>0.818</td>
<td></td>
<td></td>
</tr>
<tr>
<td>In-role EGB</td>
<td>0.620</td>
<td>0.658</td>
<td>0.812</td>
<td></td>
</tr>
<tr>
<td>Extra-role EGB</td>
<td>0.694</td>
<td>0.768</td>
<td>0.670</td>
<td>0.842</td>
</tr>
</tbody>
</table>

Table 4: Discriminant Validity of the Constructs

<table>
<thead>
<tr>
<th></th>
<th>GHRM</th>
<th>PGOS</th>
<th>In-role EGB</th>
<th>Extra-role EGB</th>
</tr>
</thead>
<tbody>
<tr>
<td>GHRM</td>
<td>0.826</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PGOS</td>
<td>0.745</td>
<td>0.822</td>
<td></td>
<td></td>
</tr>
<tr>
<td>In-role EGB</td>
<td>0.650</td>
<td>0.693</td>
<td>0.806</td>
<td></td>
</tr>
<tr>
<td>Extra-role EGB</td>
<td>0.681</td>
<td>0.766</td>
<td>0.714</td>
<td>0.824</td>
</tr>
</tbody>
</table>

Diagonal entries (in bold) are the square root of AVE; sub-diagonal entries are the latent construct inter-correlations.

Testing Research Hypotheses

The direct relationships

Hotels

The total effect model reveals a significant positive association between GHRM and in-role green behavior (0.16, p < 0.001), extra-role green behaviors (0.18, p < 0.001), and PGOS (1.11, p < 0.001; as shown in Table 6). Thus, H1, H2 and H3 are supported. Similarly, there is a significant positive association between PGOS and in-role green behavior (0.25, p < 0.001) and extra-role green behaviors (0.30, p < 0.001) as shown in Table 6. This implies that these hypotheses are supported.

Travel Agencies

The total effect model reveals a significant positive association between GHRM and in-role green behavior (0.10, p < 0.001), extra-role green behaviors (0.13, p < 0.001), and PGOS (1.24, p < 0.001; see Table 6). Thus, H1, H2 and H3 are supported. Similarly, there is a significant positive association between PGOS and in-role green behavior (0.26, p < 0.001) and extra-role green behaviors (0.31, p < 0.001) as shown in Table 6. This implies that hypotheses H4 and H5 are supported.
Table 5: Hypotheses Test Results of Hotels

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Hypothesized Relationship</th>
<th>β</th>
<th>T-Value</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1</td>
<td>GHRM → In-role</td>
<td>0.16</td>
<td>3.937</td>
<td>Supported</td>
</tr>
<tr>
<td>H2</td>
<td>GHRM → Extra-role</td>
<td>0.18</td>
<td>4.312</td>
<td>Supported</td>
</tr>
<tr>
<td>H3</td>
<td>GHRM → PGOS</td>
<td>1.11</td>
<td>24.058</td>
<td>Supported</td>
</tr>
<tr>
<td>H4</td>
<td>PGOS → In-role</td>
<td>0.25</td>
<td>4.894</td>
<td>Supported</td>
</tr>
<tr>
<td>H5</td>
<td>PGOS → Extra-role</td>
<td>0.30</td>
<td>6.768</td>
<td>Supported</td>
</tr>
</tbody>
</table>

Note: β = Standardized path; *Absolute t-value > 1.96, p < 0.05; **Absolute t-value > 3.29, p < 0.001.

Table 6: Hypotheses Test Results of Travel Agencies

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Hypothesized Relationship</th>
<th>β</th>
<th>T-Value</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1</td>
<td>GHRM → In-role</td>
<td>0.10</td>
<td>2.549</td>
<td>Supported</td>
</tr>
<tr>
<td>H2</td>
<td>GHRM → Extra-role</td>
<td>0.13</td>
<td>3.612</td>
<td>Supported</td>
</tr>
<tr>
<td>H3</td>
<td>GHRM → PGOS</td>
<td>1.24</td>
<td>23.692</td>
<td>Supported</td>
</tr>
<tr>
<td>H4</td>
<td>PGOS → In-role</td>
<td>0.26</td>
<td>5.364</td>
<td>Supported</td>
</tr>
<tr>
<td>H5</td>
<td>PGOS → Extra-role</td>
<td>0.31</td>
<td>6.723</td>
<td>Supported</td>
</tr>
</tbody>
</table>

Note: β = Standardized path; *Absolute t-value > 1.96, p < 0.05; **Absolute t-value > 3.29, p < 0.001.

Mediating relationships

Hypothesis 6 concerns investigating the mediating effect of PGOS in the relationship between GHRM and EGB (In-role and extra-role). It was hypothesized that there would be a mediating effect of PGOS in the relationship between GHRM and EGB. The results demonstrated that PGOS partially mediates the relationship between GHRM and EGB (In-role and extra-role) in both hotels and travel agencies (Sobel test = 4.354, p < 0.001; Sobel test= 5.332, p < 0.001). It indicated that the indirect effect of GHRM on EGB through PGOS was significant.

Figure 2: The final research structural model for hotels
Discussion

First, the results imply that employees' perceptions of GOS are antecedent to GHRM. Management can provide employees with a range of environmentally friendly HR strategies, including selective hiring, green training, and rewards (Luu, 2018; Pham et al., 2019). In line with OS theory (Rhoades and Eisenberger, 2002), employees' perceptions of green OS are reinforced by the company's voluntary efforts aimed at implementing these green HR practices. Green human resource practices serve as a signal for management's investment in the knowledge, skills, and capacities of employees regarding environmental sustainability and green management. They also serve as the foundation for employees' perception of green operating systems (García-Chas et al., 2016). Thus, these environmentally friendly HR practices demonstrate that the company appreciates its workers' contributions to green management and environmental challenges and is concerned about their welfare (Pinzone et al., 2019). The results regarding the relationship between PG OS and GHRM are consistent with OS theory, which holds that good work environments and GHRM practices result from the voluntary acts of the organization and serve as the foundation for GOS (Rhoades and Eisenberger, 2002). This is also consistent with the attribution theory, which holds that when workers discover that the organization implements a variety of GHRM practices to raise staff awareness of environmental sustainability and green initiatives and encourage them to follow policies and guidelines regarding environmentally responsible behavior, they will have positive opinions of OS (Nishii et al., 2008).
Second, the results also imply that PGOS encourages green behavior on the part of employees, both extra- and in-role behavior. According to OS theory (Rhoades and Eisenberger, 2002), workers who perceive that management values and honors their hard work feel obligated to assist in achieving the company's environmental objectives. According to the principles of SIP theory (Salancik and Pfeffer, 1978), workers also perceive green HR activities as indicators of GOS. Workers who hold such beliefs demonstrate high levels of in-role and extra-role green behavior. The effects of PGOS on behavioral outcomes have been extensively documented in the literature (Rhoades and Eisenberger, 2002), but the results shown above significantly advance our understanding of how PGOS affects both in-role and extra-role green behavior at the same time.

Third, the effect of GHRM on in-role and extra-role green behavior is entirely mediated by PGOS. According to the principles of OS theory (Rhoades and Eisenberger, 2002), this is the case. More precisely, when workers use green HR practices at work, they feel that their employer recognizes their contributions to environmental conservation, encourages them to take the initiative, and is concerned about their welfare. Certain staff members behave better in certain situations. The results previously described align with the COR theory (see Halbesleben and Wheeler, 2015). In other words, positive opinions about the company's support (green OS) can be used to predict employees' resource-investment behaviors since they suggest that future investments in the company would result in greater resource gains (GHRM practices). The results of perceived green OS as a mediator are consistent with those of Pinzone et al. (2019). The results imply that PGOS fully mediates the effect of GHRM on green behavior that is both in and outside of it. Green OS is based on the management's GHRM investment. Workers who feel this way react to green OS and GHRM by acting more sustainably both inside and outside of their roles.

**Theoretical contribution**

The present study carries important theoretical implications. This study on GHRM by offering empirical evidence on its potential to foster pro-environmental behavior among employees provides further rationalization for the urgent need to integrate sustainability dimensions into the HRM systems of the organizations. It signifies the role of HRM in achieving environmental sustainability and builds the case for developing a sustainable HR system to support the cause of sustainability. By presenting a conceptual framework of the relationship between GHRM and employee green behaviors, the study adds to the understanding of the concept of GHRM and its consequences and hence, strengthens the theory building by
expanding the nomological network of GHRM, which is still in its infancy. The study examining GHRM as a predictor of in-role and extra-role employee green behaviors also adds to the understanding of antecedents of employee green behaviors and hence contributes to organizational behavior literature. Further, by elucidating the socio-psychological processes via which GHRM influences employee in-role and extra-role green behaviors, the study fulfills a major gap in the literature where the dearth of research exploring the mechanisms linking GHRM with employee outcomes has been acknowledged. Furthermore, by illustrating the contingencies of the GHRM–employee green behaviors relationship, the study offers a nuanced understanding of the relationship from the employee perspective and hence, advances the literature on behavioral HRM and investigating PGOS as a mediator of GHRM–employee green behaviors, the study attends to the need for research on the conditions that may stimulate or attenuate the strength of the above relationship and advances the understanding on the role of individual differences in shaping employee green behaviors. The study makes an important contribution toward environmental management in terms of minimizing the pollution and depletion of natural resources.

**practical implications**

This research contributed significantly to practice by introducing a model to achieve GHRM, PGOS, and EGB in hotels and travel agencies. The proposed model was formed as a result of exploring the opinions and perceptions of employees. It was also sustained by the evidence revealed in the literature. The modified model can be used as an effective tool to assist hotel and travel agency management to improve GHRM to make their employees accomplish the desired task in an environmentally friendly way.

**Conclusions and Recommendations**

This study created and evaluated a model that examined the relationships between GHRM, in-role and extra-role EGB, and PGOS. During the process, it was determined how GHRM affected EGB through PGOS as a mediator. The quantitative data, which came from hotels and travel agency staff, supported the study relationships. Below is a discussion of the findings.

First, the findings indicated that GHRM has a positive effect on EGB. These results are equivalent to prior studies that examined how human resources management policies affected both in-role and extra-role EGB. The findings were consistent with
the studies conducted by Dumont et al., 2017 and Aboramadan, 2020 which discovered that GHRM has a positive effect on both in-role and extra-role EGB.

GHRM and PGOS were found to have a positive correlation. These findings are consistent with the JD-R framework (Demerouti et al., 2001) discussion, which emphasizes that workplace resources act as a motivating factor to enhance employees' engagement at work. It was further found that PGOS had a beneficial impact on both in-role and extra-role green behavior. This suggests that employees with higher PGOS levels are more likely to engage in reliable and high-quality interactions with their organization, which would eventually motivate workers to demonstrate positive outcomes like environmentally friendly behavior.

Ultimately, the findings show that PGOS proved to be a significant mediating mechanism between all the interrogated relationships. The correlation between GHRM and both in-role and extra-role green behavior was significantly mediated by PGOS.

This study has diverse benefactions to GHRM research in general and tourism and hospitality sector research on green management in particular. GHRM research is developing, and further study is required (Pham et al., 2019), especially within the context of the tourism and hospitality sector. In response, the study presented a model and conducted empirical research that explains the correlation between GHRM and its consequences. PGOS construct was used as a study variable and as a mediator, dissimilar to previous research, which used different mediators such as environmental knowledge, environmental passion, green employee empowerment, green capital, Psychological green climate, and employee green values (Dumont et al., 2017; Gilal et al., 2019; Fawehinmi et al., 2020; Hameed et al., 2020; Song et al., 2020).

From a managerial perspective, organizations in the tourism and hospitality sectors are expected to go green and develop a plan that will enable their employees to participate as environmental activists. These organizations will need to apply GHRM activities effectively and successfully to encourage eco-friendly workplace practices among employees and to improve environmental management. Tourism and hospitality organizations need to embrace sustainable green practices to help employees settle environmental challenges and concerns, which may improve the green performance of these organizations particularly and the whole community generally. HR professionals in tourism and hospitality organizations are counseled to include GHRM practices at the top of their yearly programs, besides other HRM systems such as high-performance work proceedings and high-commitment HRM systems. GHRM practices should include clear green hiring strategies, green training, a green performance evaluation system, and effective green rewarding and recompense policies. When articulating GHRM initiatives, this research strongly advises HR specialists and senior management in tourism and hospitality organizations to build fundamental organizational concepts and principles. Establishing a person-organization fit requires hiring personnel who share a
commitment to environmental protection. Additionally, HR professionals in the tourism and hospitality sector can set an appropriate example by expressing their environmental ethics and values at work through a variety of channels, including emails, pamphlets, and frequent seminars on green management. During the interview process, HR professionals can evaluate candidates' environmental values by examining their awareness of and willingness to participate in green management techniques. Additionally, HR staff members can give tourism and hospitality employees sufficient environmental conservation training and coaching, which will assist employees align with their organizations' environmental policies and raise understanding of environmental management issues. Finally, HR policymakers in the tourism and hospitality sector may link performance appraisal and reward schemes with employees’ environmental performance. This might include measuring the amount of paper used within a time and the number of printing orders performed, which can be tracked using printing monitors.

Limitations and Future Studies

The study has some limitations; it explained the effects of GHRM on EGB with PGOS as a mediator in five-star hotels and class-A travel agencies in Greater Cairo. Further research could be focused on other sectors and governorates to check for differences between these sectors. Furthermore, the study investigated the impact of GHRM on EGB. Future studies can investigate other employees' attitudes and behaviors such as Service recovery performance, innovative behavior, green work engagement, and adaptive performance by GHRM.

References


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تأثير إدارة الموارد البشرية الخضراء على السلوكيات الخضراء للموظفين: الدور الوسيط للدعم الأخضر المتلقى من المنظمة

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الملخص العربي
تهدف هذه الدراسة إلى فهم دور إدارة الموارد البشرية الخضراء في تعزيز الأداء البيئي للموظفين، وعلى وجه التحديد، فهي تدرس تأثير ممارسات إدارة الموارد البشرية الخضراء على السلوكيات الخضراء للموظفين مع الدعم التنظيمي الأخضر المتلقى من المنظمة كوسيلة. تعرض هذه الدراسة نتائج استبيان شملت 371 موظفًا (188 موظفًا في الفنادق و183 موظفًا في وكالات السفر). يتكون هذا الاستبيان من 18 فقرة بناءً على تقنية مقياس ليكرت المكون من خمس نقاط. تم اختبار فرضيات البحث من خلال تحليل المعادلات البنائية باستخدام تحليل (AMOS 25). أظهرت النتائج أن هناك تأثير كبير لإدارة الموارد البشرية الخضراء على الدعم التنظيمي الأخضر المتلقى من المنظمة. علاوةً على ذلك، تؤثر إدارة الموارد البشرية الخضراء بشكل إيجابي على السلوكيات الخضراء للموظفين. كان هناك تأثير كبير على السلوكيات الخضراء للموظفين بالإضافة إلى ذلك، توسط الدعم التنظيمي الأخضر المتلقى من المنظمة جزئيًا في العلاقة بين إدارة الموارد البشرية الخضراء والسلوكيات الخضراء للموظفين. واجتمعت الدراسة إلى أن الإدارة يجب أن تستفيد من ممارسات الموارد البشرية الخضراء للاكتساب واستبقاء الموظفين الموهوبين الذين تتوافق أهدافهم وقيمهم البيئية مع أهداف الشركة. يجب أن يشارك الموظفون في حل المشكلات المتعلقة بالاستدامة البيئية والإدارة الخضراء كما ينبغي عليهم المشاركة في برامج التدريب المستمر وتغريز وحيي بالأستدامة البيئية والإدارة الخضراء.

الكلمات المفتاحية: إدارة الموارد البشرية الخضراء، الدعم التنظيمي الأخضر، السلوك الأخضر للموظفين، وكالات السفر، قطاع الفنادق.