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## RESEARCH ARTICLE



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# Towards sustainable development in the hospitality sector: Does green human resource management stimulate green creativity? A moderated mediation model

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## Abstract

Green human resource management (GHRM) is an important organisational approach to promote the sustainable development of organisations. Although the literature regarding the effect of GHRM is growing, little is known about the mechanisms and boundary conditions that may facilitate the link between GHRM and green outcomes. Through a combined underpinning of ability–motivation–opportunity, job demands–resources and social exchange theories, this study examines the relationship between GHRM and green creativity through green work engagement, with spiritual leadership moderating the GHRM–green work engagement relationship. Also, we explore the links between GHRM, spiritual leadership, green work engagement and green creativity using a moderated mediation model. Using survey data of 271 front-line hotel employees in UAE, we use a partial least squares structural equation modelling to conduct our statistical analysis. The results show that GHRM positively influences green work engagement and green creativity, while green work engagement positively influences green creativity and mediates the GHRM–green creativity nexus. In addition, spiritual leadership amplifies the nexus between GHRM and green work engagement and the mediating effect of green work engagement in the nexus between GHRM and green creativity in the context of the hospitality sector in the UAE. Our study offers industry-specific practical implications and suggests agendas for further research.

## KEYWORDS

green creativity, green human resource management, green work engagement, hotels, spiritual leadership, sustainable development

## 1 | INTRODUCTION

Environmental concerns and the implementation of sustainable practices have received great attention over the last few decades

(Aboramadan & Karatepe, 2021; Bartolacci et al., 2020; Yong et al., 2020). Increased environmental awareness that emerges from customers and the market pressure, in addition to the government's laws and regulations (Pham, Hoang, et al., 2020; Siraj et al., 2022),

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stimulates organisations to foster their transition to more environmentally-friendly management practices (Al-Hawari et al., 2021; Li et al., 2020). In light of this, organisations are more motivated to achieve sustainable outcomes through the implementation of green practices (Hameed et al., 2022; Thabet et al., 2022). For example, service organisations (e.g., hotels) are working to conserve resources in their activities, reduce waste, and educate their employees and customers (Kim et al., 2019). According to Arun et al. (2021), the hotel sector expends immense quantities of resources to operate (e.g., energy and water) and generates greater amounts of waste. This has resulted in the development of “green” hotels, which aim to operate in a more ecologically responsible manner by implementing environmental initiatives and integrating green practices in order to address influential stakeholders' concerns about corporate environmental sustainability (Elkhwesky, 2022).

One of the approaches that have been embraced by different organisations to promote sustainability is green human resource management (GHRM) (Aftab et al., 2022; Luu, 2019a). GHRM refers to “HRM activities, which enhance positive environmental outcomes” (Kramar, 2014, p. 1075). It plays a key role in augmenting green environmental behaviour by incorporating several practices, such as green training, green performance appraisal, and green rewarding (Dumont et al., 2017; Jabbour, 2011). As a result, GHRM has the potential to foster a culture of environmental sustainability by promoting pro-environmental business practices (Ahmad et al., 2021).

Previous studies suggested that GHRM practices are not only helpful in cost reduction (Nejati et al., 2017) but also instrumental in improving organisational environmental performance (Fawehinmi et al., 2020). Given that GHRM is still in its early stages (Chams & García-Blandón, 2019; Hameed et al., 2022; Sabbir & Taufique, 2022), recent studies underscored the need to examine the effect of GHRM on both green and non-green outcomes (Ahmad et al., 2021; Gilal et al., 2019). Along similar lines, very limited attention has been given to examining the underlying mechanisms through which GHRM practices can engender green outcomes (Muisyo et al., 2022; Pham, Thanh, et al., 2020; Xie & Zhu, 2020). For example, Luu (2019a) examined the relationship between GHRM and organisational citizenship behaviour for the environment, with collective green crafting as a mediator and environmentally-specific servant leadership as a moderator. In addition, Dumont et al. (2017) examined the relationship between GHRM and in-role and extra-role behaviour, using individual green values as a moderator and psychological green climate as a mediator. In light of this, more research is needed to examine the potential of other psychological and contextual/social factors on the GHRM–green outcomes link (Hameed et al., 2022; Pham, Hoang, et al., 2020; Tanova & Bayighomog, 2022). In other words, investigating how and when GHRM practices lead to green employee behaviour is of particular interest to offer robust insights into how businesses can encourage employees to come up with creative solutions to environmental problems (Farooq et al., 2021).

Research on green creativity as one of the important sustainable outcomes is emerging (Riva et al., 2021), which refers to “the development of new ideas about green products, green services, green

processes, or green practices that are judged to be original, novel, and useful” (Chen & Chang, 2013, p.109). Despite the significance of green creativity in developing new environmentally sustainable ways to accomplish tasks (Mittal & Dhar, 2016; Ogbeibu et al., 2021), promoting innovation and helps in coping with market competition (Bhutto et al., 2021; Tuan, 2020), it has received little attention with respect to GHRM (Ahmad et al., 2021; Al-Hawari et al., 2021). Drawing on the ability–motivation–opportunity (AMO) theory (Appelbaum et al., 2000), this study aims to examine the relationship between GHRM and green creativity.

Furthermore, given that GHRM literature is scattered and yet to be considered a new field of inquiry (Aboramadan, Kundi, et al., 2021), our research also aims to address this void by examining how and when GHRM practices contribute to the development of green creativity. In addition, research on the antecedents and outcomes of green work engagement is also scarce (Karatepe et al., 2022). Employees who exhibit higher green work engagement are more dedicated to green work and can contribute to the organisation's sustainable initiatives through their ecologically responsible behaviours (Luu, 2019b). Examining the mediating effect of such a motivational construct is needed to better explain the link between GHRM and green creativity (Çop et al., 2021). Thus, guided by the job demands–resources (JD-R) theory (Bakker & Demerouti, 2017), our study seeks to explore the mediating role of green work engagement on the relationship between GHRM and green creativity.

In addition, drawing on the social exchange theory (SET) (Blau, 1964), this study examines the role of spiritual leadership as a contingent factor on the GHRM–green work engagement nexus. Scholars argue that leadership plays a significant role in the organisation going green (Tuan, 2020; Uddin et al., 2021). As evident in the existing literature, different leadership styles have been investigated in the sustainability context, including transformational leadership (Khan & Khan, 2022; Li et al., 2020), inclusive leadership (Bhutto et al., 2021; Thabet et al., 2022), ethical leadership (Anser, Ali, et al., 2021), and servant leadership (Luu, 2019a). However, barring a few notable exceptions (Afsar et al., 2016; Anser, Shafique, et al., 2021), little attention has been given to the effect of spiritual leadership on greening organisations (Oh & Wang, 2020). Prior studies (e.g., Anser, Shafique, et al., 2021; Steg & Vlek, 2009) suggested that social and moral values, along with altruistic behaviours, are central to spiritual leadership and employees' voluntary pro-environmental behaviours. For example, Afsar et al.'s (2016) findings show that spiritual leaders exemplify altruistic love, hope/faith and transcendent vision through their actions and behaviours to fulfil their employees' spiritual needs and serve the community, the environment and future generations by intrinsically motivating followers. Spiritual leaders may, therefore, engender greater environmental values among employees towards preserving the environment (Anser, Shafique, et al., 2021). Examining such a leadership style, particularly in the Middle Eastern context, is needed (Oh & Wang, 2020), where religious/spiritual values and practices significantly impact people management practices (Egel & Fry, 2017; Haak-Saheem & Darwish, 2021; Oh & Wang, 2020).

To this end, this study proposes a research model through which green work engagement mediates the relationship between GHRM and green creativity, while spiritual leadership moderates the relationship between GHRM and green work engagement. Specifically, our study examines (1) the effect of GHRM on green work engagement and green creativity, (2) the influence of green work engagement on green creativity, (3) green work engagement as a mediator in the aforesaid relationships, (4) spiritual leadership as a moderator in the GHRM–green work engagement nexus and (5) the interplay between GHRM, spiritual leadership, green work engagement and green creativity using a moderated mediation model.

In light of the above discussion, this study makes several contributions to the current literature. First, not much attention has been given to the relationship between GHRM and green creativity (Ahmad et al., 2021; Luu, 2021); thus, our study responds to recent calls (Darvishmotevali & Altinay, 2022) to examine this relationship, hence strengthening the evidence of the role of GHRM in the sustainability literature. Second, this study investigates the underlying mechanisms between GHRM and green creativity by using green work engagement as a mediator and spiritual leadership as a moderator, thus responding to recent research to investigate the potential of other psychological and contextual/social factors that help to explain the GHRM–green creativity link (Ahmad et al., 2021; Hameed et al., 2022; Pham, Hoang, et al., 2020; Pham, Thanh, et al., 2020; Ren et al., 2018). Elkhwesky et al.'s (2022) recent review of the role of leadership in the tourism and hospitality literature revealed that spiritual leadership remains largely underexplored. Another recent review of the literature highlighted the need for more research to shed light on this novel leadership style in hospitality research (Huertas-Valdivia et al., 2022). In addition, Tanova and Bayighomog (2022) literature review found that the boundary conditions that facilitate the application of GHRM are scarce, which is surprising given that businesses are constantly confronted with dynamics that determine their activities. To the best of our knowledge, this study is the first to examine the moderating role of spiritual leadership on the relationship between GHRM and green work engagement. It is also the first to examine a moderated mediation model linking GHRM, spiritual leadership, green work engagement and green creativity. Third, less attention has been given to the role of GHRM in the hospitality industry (Aboramadan & Karatepe, 2021; Farooq et al., 2021). This was also supported by Pham, Thanh, et al. (2020) recent literature review, which underscored that limited empirical studies have examined GHRM in the tourism literature. Fourth, while evidence regarding the predictors and outcomes of green work engagement is scarce (Karatepe et al., 2022), this research adds to the existing literature by examining the mediating role of green work engagement in the GHRM–green creativity nexus.

The remainder of this paper is structured as follows: First, it reviews relevant literature and develops the main research hypotheses. Second, the paper presents and justifies the methodological choices and techniques. Third, the empirical findings are discussed in light of theories and previous evidence. Finally, we discuss the concluding remarks of the research study, including the main theoretical

and practical implications of our findings, suggesting agendas for future studies that can build upon our research.

## 2 | LITERATURE REVIEW AND HYPOTHESIS

### 2.1 | GHRM and green creativity

GHRM plays an important role in adjusting employees' attitudes and behaviours, thus facilitating the implementation of environmental initiatives and helping to achieve green organisational outcomes (Ahmad et al., 2021; Islam et al., 2020; Pellegrini et al., 2018; Renwick et al., 2013; Roscoe et al., 2019). GHRM practices such as green training, green performance appraisal and green rewards and compensation demonstrate that the organisation values its employees' green-oriented behaviour and their contributions to environmental sustainability (Aboramadan & Karatepe, 2021). Green training is a crucial activity that helps to enhance employee's environmental awareness, enable them to understand new environmental practices and develop their green competencies and skills (Cop et al., 2020; Farooq et al., 2021; Kim et al., 2020; Schröder et al., 2022; Sourvinou & Filimonau, 2018). Furthermore, GHRM may foster employee's environmental behaviour by connecting it to performance appraisal, promotion and rewards and compensation (Anwar et al., 2020; Dumont et al., 2017; Renwick et al., 2016).

Anchored in AMO theory (Appelbaum et al., 2000), we argue that GHRM practices can serve as a significant predictor of enhancing green creativity. AMO theory suggests that GHRM practices can promote green outcomes through enhancing employees' abilities (e.g., green training and development), improving employee motivation (e.g., through using rewards and compensation that recognise green behaviour among employees) and providing opportunities (e.g., employee involvement) to enhance knowledge-sharing and foster employee participation in environmental initiatives (Renwick et al., 2013). Green creativity is primarily concerned with the production of novel solutions and ideas related to green practices, green services and products (Chen & Chang, 2013). Specifically, promoting employees' abilities through, for example, green training helps employees in absorbing and adopting new environmentally related attitudes, skills and mindsets (Pham, Thanh, et al., 2020). Enhancing employee motivation, such as linking performance appraisal and rewards and compensation to eco-friendly behaviour, inspires the employee to be held responsible for the environment. In addition, offering opportunities through enhancing employee involvement and knowledge-sharing encourage employees to contribute and produce new environmentally related ideas (Masri & Jaaron, 2017). In light of this, it can be expected that GHRM practices are likely to enhance employees' capabilities to come up with and produce creative ideas and solutions for green practices.

Past research suggested that GHRM is positively related to psychological green climate (Dumont et al., 2017), task-related green behaviour (Chaudhary, 2019), green knowledge-sharing behaviour

(Rubel et al., 2021), employees' eco-friendly behaviour (Kim et al., 2019), green voice behaviour (Aboramadan, Kundi, et al., 2021), organisational citizenship behaviour for the environment (Pham et al., 2019) and environmental performance (Aftab et al., 2022). Ahmad et al. (2021) study is one of the few studies examining the GHRM–green creativity nexus. They found a positive relationship between GHRM and green creativity. Based on the above discussion and drawing on AMO theory, the following hypothesis is developed:

**H1.** There is a positive relationship between GHRM and green creativity.

## 2.2 | GHRM and green work engagement

Work engagement refers to 'a positive, fulfilling, work-related state of mind that is characterized by vigour, dedication, and absorption (Schaufeli et al., 2002, p. 74). Work engagement is a positive psychological state in which employees show high levels of energy and enthusiasm and are immersed in their work (Bakker & Demerouti, 2017). In this regard, Aboramadan (2020) defined green work engagement as the energy an employee devotes to his/her green work tasks, the willingness to expend efforts to accomplish green-related tasks and their absorption into green work.

Previous research provides evidence about the impact of HRM practices on work engagement. For example, Shantz et al. (2016) study in the healthcare sector found that HRM practices, such as training and development, participation in decision-making and communication, are positively related to work engagement. Drawing on a sample of hotel employees in Romania, Karatepe (2013) reported that employees perceive high-performance work practices (HPWPs) in light of training, empowerment and rewards enhanced work engagement. Also, Karatepe and Olugbade (2016) conducted a study in hotels in Nigeria that revealed that HPWPs, through selective staffing, career opportunities, job security and teamwork, are associated with work engagement. In addition, Meijerink et al. (2020) research suggested that employees' perceptions of HRM practices like training, job design, performance appraisal and rewards and compensation are attributed to work engagement.

However, there is limited evidence about the nexus between GHRM and green work engagement. The motivational process of the job demands–resources (JD-R) theory (Bakker & Demerouti, 2017) provides guidance in explaining the GHRM–green work engagement nexus. The JD-R theory proposes that job resources play a key role in enhancing work engagement. Job resources may include physical, social, organisational or psychological resources that are functional in attaining work goals (Bakker & Demerouti, 2017). Given this, GHRM, as a job resource, is expected to play an intrinsic motivational role by fostering learning and development and employee growth, thus fulfilling basic human needs, or an extrinsic motivational role as its useful in accomplishing work goals (Bakker & Demerouti, 2017). In other words, GHRM practices, such as green training and development and

green performance appraisal, are supposed to boost employees' dedication to their green work and nurture their absorption in green-related tasks. In empirical terms, Aboramadan (2020) study in higher education suggested that GHRM is positively related to green work engagement. Against this background, the following hypothesis is formulated:

**H2.** There is a positive relationship between GHRM and green work engagement.

## 2.3 | Green work engagement and green creativity

According to Bakker and Demerouti (2008), engaged workers perform better because they experience positive emotions, better health, better leverage their resources and transfer their engagement to other workers. Prior research demonstrated that work engagement is positively related to creativity. This is because employees who are vigorous, dedicated and immersed in their work are more likely to utilise their skills or develop new skills in order to be creative (Bakker & Xanthopoulou, 2013; Eldor & Harpaz, 2016). In addition, engaged employees are essentially motivated and willing to exert effort and invest their skills and energy because they find their job tasks interesting (Bakker et al., 2020; Demerouti et al., 2015). This, in turn, is more likely to result in employees being able to produce creative ideas about work-related tasks (Koch et al., 2015). JD-R theory suggests that work engagement plays a key role in enhancing job-related outcomes (e.g., creativity). In support of this, a body of prior literature (e.g., Bakker & Xanthopoulou, 2013; Demerouti et al., 2015; Ismail et al., 2019) reported a positive relationship between work engagement and creativity.

Against this backdrop, we argue that employees who display high green work engagement are more likely to have green outcomes, such as green creativity, because they exhibit vigour, dedication and absorption in green-related tasks. As a motivational construct, green work engagement can stimulate employees not only to participate in green-related activities and practices but also to contribute to sustainable initiatives and help other workers to untangle the meaning of eco-friendly behaviours for organisations and society's green sustainability (Luu, 2019b). Empirically, Çop et al. (2021) reported that green work engagement is positively related to green team resilience. Aboramadan (2020) found a positive link between green work engagement and role and extra-role green behaviour. In addition, Luu (2019a, 2019b) indicated that green work engagement is positively related to organisational citizenship behaviour for the environment. Notwithstanding, only a handful of empirical studies have examined the green work engagement–green creativity nexus. For example, Bhutto et al. (2021) suggested a positive relationship between green work engagement and green creativity. Based on the aforementioned arguments, the following hypothesis is developed:

**H3.** There is a positive relationship between green work engagement and green creativity.

## 2.4 | Green work engagement as a mediator

Broadly speaking, previous studies have confirmed the mediating role of work engagement among several antecedents and outcomes (Abualigah & Koburtay, 2022; Jyoti, 2021; Karatepe & Demir, 2014; Memon et al., 2020; Mostafa, 2019). For example, Memon et al. (2020) found that the relationship between HRM practices and turnover intention is mediated by work engagement. Bakker and Xanthopoulou (2013) found the relationship between social support and creativity is mediated by work engagement. In light of this and based on the theoretical discussion and empirical evidence offered, we argue that green work engagement may serve as a significant underlying mechanism by which GHRM is related to green creativity.

The motivational pathway of the JD-R theory (Bakker & Demerouti, 2017) provides the basis for the mediating role of green work engagement. That is, job resources like GHRM practices may trigger a motivational mechanism that leads to enhancing employees' green work engagement because they promote learning and development and employee growth. Employees who are engaged in green work, in turn, are more likely to display green creative behaviours because they are receptive to new experiences (Bakker & Xanthopoulou, 2013). Moreover, GHRM practices such as green training may motivate employees to be dedicated and absorbed in green-related tasks by creating opportunities for them to utilise their knowledge and capabilities to contribute to green-related tasks, enhancing their experiences and developing new skills (Haldorai et al., 2022), which, therefore, promoting employees' abilities to suggest novel ideas and solutions and perform creatively.

Few empirical studies have supported the mediating role of green work engagement. For instance, Çop et al. (2021) suggested that green work engagement mediated the association between green transformational leadership and green team resilience. Luu (2019a, 2019b) found that green work engagement mediated the relationship between environmentally specific servant leadership and organisational citizenship behaviour for the environment. In addition, Aboramadan (2020) revealed that green work engagement mediated the relationship between GHRM and the in-role and extra-role green behaviour. However, Bhutto et al. (2021) found that green work engagement did not mediate the relationship between green, inclusive leadership and green creativity. To the best of our knowledge, this study is the first to examine the mediating role of green work engagement on the nexus between GHRM and green creativity. Based on the preceding discussion, the following hypothesis is formulated:

**H4.** Green work engagement mediates the relationship between GHRM and green creativity.

## 2.5 | Spiritual leadership as a moderator

Spiritual leadership is defined as 'the values, attitudes, and behaviours that one must adopt in intrinsically motivating oneself and others so that both have a positive increase in the sense of spiritual well-being

through calling and membership, that is, they experience meaning in their lives, have a sense of making a difference, and feel understood and appreciated' (Fry et al., 2005, p. 836). Spiritual leadership is generally derived from motivational models that nurture and emphasize intrinsic motivation, which comprises vision, faith/hope and altruistic love (Fry, 2003). It entails inspiring and motivating employees through nurturing a positive work environment based on altruistic love and faith/hope, which helps to develop a trusted relationship with subordinates (Ali et al., 2020; Bayighomog & Arasli, 2019).

According to Yang, Huang, et al. (2019), spiritual leadership concentrates on intrinsic self-value and self-significance with the goal of intrinsically motivating employees. In addition, this leadership style is seen as important for meeting the basic needs for the spiritual survival of leaders and followers based on membership and calling (Fry et al., 2017; Zhang & Yang, 2021). Reave (2005) concludes that spiritual leadership is exhibited as spiritual values (e.g., honesty and humility), spiritual motivation (work as a calling) and spiritual practices (displaying respect for others, exhibiting care and concern, recognising the contributions of subordinates, listening responsively and treating others fairly). Thus, spiritual leaders, through reflecting on these spiritual practices and values, play a significant role in enhancing employee motivation (Yang, Huang, et al., 2019), which eventually leads to better work-related outcomes (Ali et al., 2022; Chen & Yang, 2012; Fry & Cohen, 2009).

Previous studies suggest that spiritual leadership is positively related to knowledge-sharing behaviour (Wang et al., 2019), team performance (Yang, Liu, et al., 2019), organisational citizenship behaviour (Chen & Yang, 2012), innovative behaviour (Zhang & Yang, 2021) and organisational commitment (Chen & Li, 2013). On the other hand, Ali et al. (2020) found a negative relationship between spiritual leadership and workplace ostracism. Furthermore, Chang et al. (2021) reported that spiritual leadership moderated the link between job crafting and work meaningfulness.

Based on SET (Blau, 1964), we argue that spiritual leadership may moderate the positive relationship between GHRM and green work engagement. SET suggests that relationships between the organisation and employees develop over a period of time into commitment, loyalty and trust so long as both parties are obliged to observe the exchange rules (Cropanzano & Mitchell, 2005). These exchange rules commonly comprise mutual payment rules, whereby one party's actions lead another party to give a reciprocal response (Saks, 2006). In other words, when employees fulfil their socio-emotional requirements, such as respect and support, they feel as though they have an obligation to respond similarly and pay their organisation back (Cropanzano & Mitchell, 2005). As agents of the organisation (Chen & Yang, 2012), spiritual leaders may foster the exchange relationship between the organisation and employees. That is, when employees sense that their leaders express care, concern and support, they are more likely to reciprocate with higher levels of engagement in their green work, which, therefore, may strengthen the effect of GHRM on green work engagement.

In addition, the spiritual values (e.g., integrity and honesty) and practices (e.g., showing respect, treating employees fairly, listening

responsively and caring and concern) inherited in spiritual leadership may create a healthy work environment in which employees feel appreciated and understood (Gotsis & Grimani, 2017). In such an environment, employees perceive their work as meaningful, which gives them a sense of membership in their organisations (Chen & Yang, 2012). Thus, leaders who display high spiritual leadership are more likely to create a high-quality relationship with their employees, which motivate them to put more effort into work. This, in turn, has the potential to strengthen the effect of GHRM on green work engagement. Furthermore, spiritual leaders embody altruistic love, a sense of cohesion and hope/faith to satisfy followers' social and spiritual needs and intrinsically stimulate them to serve the community and preserve the environment (Afsar et al., 2018). Given the fact that protecting the environment is one of the spiritual leaders' fundamental principles (Fry & Slocum, 2008), they are expected to effectively communicate these green values through a feeling of membership, which may instill stronger environmental responsibility in their employees (Afsar et al., 2018; Anser, Shafique, et al., 2021). This may lead the followers to have a positive attitude towards eco-friendly activities and motivate them to put more energy and effort into green-related tasks. Guided by SET, high levels of spiritual leadership may enhance the signs of appreciation and support to protect the environment, thereby boosting the GHRM–green work engagement link. The effective implementation of GHRM practices, together with a high level of spiritual leadership, is more likely to result in employees feeling more obliged to reciprocate the favour to the leader and organisation and being more engaged in their green work. In other words, we argue that when spiritual leadership is high, the relationship between GHRM and green work engagement will be stronger. Drawing on SET and the abovementioned discussion, the following hypothesis is developed:

**H5.** Spiritual leadership moderates the positive relationship between GHRM and green work engagement, such that the positive relationship will be stronger under high levels of spiritual leadership than under low levels of spiritual leadership.

Based on the hypotheses above, considering the mediating role of green work engagement on the relationship between GHRM and green creativity (H4) and the moderating role of spiritual leadership on the link between GHRM and green work engagement (H5), we propose an integrative moderated mediation model, in which spiritual leadership augments the strength of the indirect effect between GHRM and green creativity via green work engagement. That is, consistent with JD-R and social exchange theories, it is expected that, at higher levels of spiritual leadership, GHRM is positively related to green creativity through green work engagement. Adding to this, GHRM, as a job resource, motivates employees by developing their green abilities and providing them with green opportunities that may also foster their green work engagement. Employees who are engaged in green work are driven to invest their time, energy and skills in performing their green work-related tasks creatively. When employees experience that their leaders express care, show respect, listen responsively and acknowledge their

contributions, they are more likely to repay with desirable job-related outcomes as a result of having such high-quality relationships. Thus, GHRM drives green creativity by motivating employees to be engaged in their green work, and spiritual leadership further encourages the exchange relationship between the organisation and employees by intrinsically inspiring their pro-environmental stance. This indicates that high levels of spiritual leadership are more likely to amplify the indirect effect of GHRM on green creativity via green work engagement. Accordingly, in light of the aforementioned discussion, the following hypothesis is postulated:

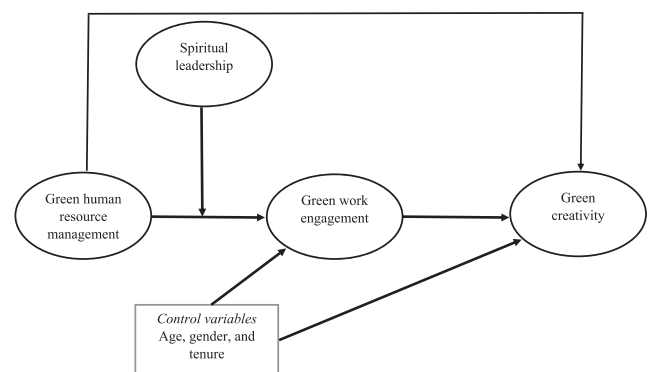
**H6.** Spiritual leadership moderates the indirect positive relationship between GHRM and green creativity through green work engagement, such that the indirect relationship is stronger under high levels of spiritual leadership than under low levels of spiritual leadership.

Figure 1 illustrates the hypotheses formulated.

### 3 | METHODOLOGY

#### 3.1 | Participants and procedure

Following a quantitative (hypothesis-testing) approach, an online survey questionnaire was used. Data were collected from front-line employees in four- and five-star hotels in the UAE. This sector is selected because of its commitment to the implementation of green practices as a result of customer pressure and environmental rules and regulations (Al-Hawari et al., 2021). In addition, the hospitality and tourism sector in the UAE is the most significant non-oil sector (Michael et al., 2019), and in 2018, the contribution of the sector represented 11.1% of the UAE's GDP (Emirates News Agency, 2019). The concentration on four- and five-star hotels is due to their well-established standards and systems (Hussain et al., 2019). A total of 19 hotels agreed to participate in this research. The questionnaire was communicated by the researcher after initial contact with HR managers and line managers, and participants were approached through personal visits. The questionnaires were filled in from January to April



**FIGURE 1** Research model

2022. We distributed 400 questionnaires to the participants. A total of 271 valid questionnaires were received for the final analysis (a response rate of 67%). The questionnaire was first developed in English and then translated into Arabic using the back-translation procedure (Brislin, 1970).

To maintain and ensure ethics, voluntary participation was fully illustrated, along with the right of withdrawal at any time. To ensure the confidentiality of answers, all participants' identities and their work information have been kept anonymized. All participants were made aware of the aim of the study, and items were carefully designed to mitigate the chance of causing anxiety or discomfort to any participant. Among the 271 employees, the sample was diverse in terms of gender (59% were male), age (46.5% were aged between 25 and 34) and tenure (46.1% spent 6–10 years).

### 3.2 | Measures

Previously established scales were used in this study to measure the constructs. All items were anchored in a 5-point Likert scale ranging from (1) *strongly disagree* to (5) *strongly agree*.

#### 3.2.1 | GHRM

This study uses the GHRM scale developed by Dumont et al. (2017) to examine green HR practices. In total, six items were included in our study. Example items are 'my company provides employees with green training to develop employees' knowledge and skills required for green management' and 'my company considers employees' workplace green behaviours in the promotion'.

#### 3.2.2 | Green work engagement

This variable was measured using Schaufeli et al.'s (2006) 9-items scale. Although this scale was initially developed to measure work engagement, in this study, slight modifications were incorporated to assess green work engagement (Bhutto et al., 2021). Example items are 'I am enthusiastic about my environmental tasks at my job' and 'My environmental-related tasks inspire me'.

#### 3.2.3 | Spiritual leadership

This construct was measured using the 9-item spiritual leadership scale developed by Pawar (2014). Participants were asked to report their responses by describing their leaders' behaviours in relation to spiritual values and practices. A sample item is 'My leader expresses his/her respect for my values'.

#### 3.2.4 | Green creativity

This construct was assessed using the 6-item scale developed by Chen and Chang (2013). Example items are 'I propose new green ideas to improve environmental performance' and 'I suggest new ways to achieve environmental goals'.

### 3.3 | Data analysis

The present study applies partial least squares structural equation modelling (PLS-SEM) to test the hypotheses. PLS-SEM was used because the main objective of this research is to predict relationships (Hair et al., 2019). In addition, the PLS-SEM approach allows the examination of multiple constructs concurrently and is recommended for examining mediation relationships (Hair et al., 2019). PLS-SEM includes (1) a measurement model test and (2) a structural model test (Anderson & Gerbing, 1988; Hair et al., 2019). The measurement model test includes a verification of the constructs through assessing factor loadings, convergent and discriminant validity, as well as a calculation of the instruments' Cronbach's alpha and composite reliability. For the structural model test, an examination of the hypotheses was undertaken. Subsequent sections explain this in further detail.

## 4 | RESULTS

### 4.1 | Measurement model

At this stage of analysis, the measurement scales were assessed by factor loadings, reliability and construct validity (convergent and discriminant validity). As shown in Table 1, all item loadings of the scales were above the threshold of 0.60, thus contributing significantly to their respective constructs. Convergent validity was established by referring to the three criteria of factor loadings, composite reliability (CR) and average variance extracted (AVE) (Hair et al., 2019). Table 1 shows these values demonstrating that each construct has a satisfactory level of convergent validity.

Regarding the discriminant validity, we followed the Fornell-Larcker criterion (Fornell & Larcker, 1981) and the heterotrait-monotrait ratio of correlations (HTMT) (Henseler et al., 2015). In light of the Fornell-Larcker criterion, the square root of the AVE values should be more than the correlation values between the variables. The results in Table 2 indicate that the square roots of the AVE values are higher than the correlation values with other variables; hence discriminant validity was confirmed. Moving to the HTMT ratio, the results show all HTMT values are less than 0.90 (Hair et al., 2019), indicating that discriminant validity was established (see Table 3).



**TABLE 1** Factor loadings, AVE and reliability

Variables	Items	Factor loadings	AVE	Cronbach's alpha	Composite reliability
GHRM			0.771	0.940	0.953
	GHRM1	0.841			
	GHRM2	0.883			
	GHRM3	0.876			
	GHRM4	0.876			
	GHRM5	0.902			
	GHRM6	0.888			
GWE			0.504	0.877	0.901
	GWE1	0.684			
	GWE2	0.673			
	GWE3	0.705			
	GWE4	0.697			
	GWE5	0.728			
	GWE6	0.720			
	GWE7	0.734			
	GWE8	0.700			
	GWE9	0.742			
SL			0.661	0.933	0.945
	SL1	0.853			
	SL2	0.871			
	SL3	0.880			
	SL4	0.871			
	SL5	0.849			
	SL6	0.782			
	SL7	0.880			
	SL8	0.646			
	SL9	0.634			
GC			0.570	0.850	0.888
	GC1	0.783			
	GC2	0.750			
	GC3	0.719			
	GC4	0.742			
	GC5	0.763			
	GC6	0.770			

Abbreviations: AVE, average variance extracted; GC, green creativity; GHRM, green human resource management; GWE, green work engagement; SL, spiritual leadership.

## 4.2 | Common method variance (CMV) and multicollinearity

Because data were collected drawing on a self-report instrument, concerns of common method variance (CMV) should be considered. In this study, to verify and also minimize any possible impact of CMV, we ensured reducing any possible response bias by confirming the anonymity and confidentiality of the participants' responses (Paek et al., 2015). In addition, we used Harman's one-factor test (Podsakoff et al., 2003) by loading all items through exploratory factor analysis (Podsakoff et al., 2003). The results indicate that the first factor

explained 35% of the total variance, implying that CMV is not an issue. Adding to this, we checked the data for multicollinearity using the variance inflation factor (VIF). Our findings show that the largest value was 1.82, which is lower than five (Hair et al., 2019), indicating that multicollinearity is not problematic.

## 4.3 | Structural model: Hypotheses testing

In this stage of analysis, the structural model was assessed, and the hypotheses were tested. As a rule of thumb, we used the following

**TABLE 2** Mean, standard deviations, intercorrelations and discriminant validity

Variables	Mean	SD	1	2	3	4	5	6	7
1. Gender	1.40	.49	-						
2. Age	2.14	.87	-0.215**	-					
3. Tenure	2.13	.93	-0.190**	0.724**	-				
4. GHRM	3.72	.95	-0.055	0.001	0.017	0.878			
5. GWE	4.27	.33	-0.031	0.036	0.006	0.454**	0.709		
6. SL	3.97	.74	-0.148*	0.005	0.006	0.604**	0.431**	0.813	
7. GC	4.25	.42	-0.134*	0.038	0.062	0.295**	0.300**	0.271**	0.754

Note: Bold values in the diagonal represent the square root of average variance extracted.

Abbreviations: GC, green creativity; GHRM, green human resource management; GWE, green work engagement; SL, spiritual leadership.

\* $p < 0.05$ . \*\* $p < 0.01$ .

**TABLE 3** HTMT ratio

	1	2	3	4
1. GHRM				
2. GWE	0.501			
3. SL	0.641	0.480		
4. GC	0.330	0.351	0.305	

Notes: GC, green creativity; GHRM, green human resource management; GWE, green work engagement; SL, spiritual leadership.

criteria to assess the structural model: coefficient of determination ( $R^2$ ), effect size ( $f^2$ ) and Stone–Geisser’s predictive relevance ( $Q^2$ ) (Hair et al., 2019).  $R^2$  examines the explained variance of the constructs.  $R^2$  value greater than 0.10 is considered adequate (Falk & Miller, 1992). In this study, the findings show that the explained variance ( $R^2$ ) was 0.32 for green work engagement and 0.14 for green creativity, exceeding the threshold value of 0.10. In relation to the effect size ( $f^2$ ), the results in Table 4 show that the effect sizes exceeded the recommended value of 0.02 for a small effect (Cohen, 1988). In addition, we calculated the  $Q^2$  value to verify the predictive accuracy of the structural model. In light of Hair et al.’s (2019) suggestion, a  $Q^2$  value greater than zero indicates predictive relevance. The results reveal that  $Q^2$  values for green work engagement and green creativity were 0.07 and 0.14, respectively, suggesting a good predictive relevance of the model.

After appropriate verification of the structural model, the hypotheses were tested, drawing on bootstrapping 5000 resamples. The results show a positive and significant relationship between GHRM and green creativity ( $\beta = 0.194$ ,  $t = 3.466$ ,  $p < 0.01$ ), providing support for H1. Moving to H2, the results show a positive and significant relationship between GHRM and green work engagement ( $\beta = 0.349$ ,  $t = 5.619$ ,  $p < 0.001$ ); hence H2 was supported. In support of H3, the results show a significant and positive relationship between green work engagement and green creativity ( $\beta = 0.221$ ,  $t = 3.233$ ,  $p < 0.01$ ). In relation to H4, the results of bootstrapping suggest that green work engagement mediated the GHRM–green creativity relationship ( $\beta = 0.077$ ,  $t = 2.836$ , CI: 0.030, 0.136), supporting H4 (see Table 4).

Regarding H5, the findings in Table 4 indicate that the interaction effect between spiritual leadership and GHRM significantly predicted green work engagement ( $\beta = 0.211$ ,  $t = 5.634$ ,  $p < 0.001$ ). We used PROCESS macro in SPSS (Hayes, 2018) to explore the nature of the interaction. Following Aiken and West’s (1991) suggestion, predictor variables were mean-centred. The findings suggest that the positive relationship between GHRM and green work engagement was stronger when spiritual leadership was high ( $\beta = 0.189$ ,  $t = 6.790$ ,  $p < 0.001$ , CI: 0.134, 0.244), while no significant relationship was found when spiritual leadership was low ( $\beta = 0.047$ ,  $t = 1.891$ ,  $p = 0.059$ , CI: -0.001, 0.096); hence, H5 was supported. This interaction effect is illustrated in Figure 2.

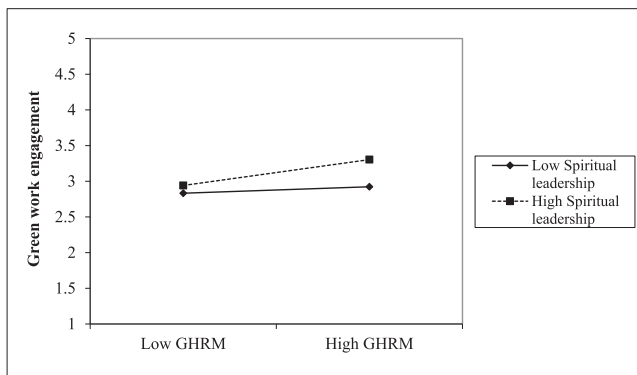
According to H6, the findings in Table 4 indicate that the indirect effect of GHRM on green creativity via green work engagement was positive and significant when spiritual leadership was high (estimate = 0.051, SE = 0.018, CI: 0.017, 0.089). However, when spiritual leadership was low, no significant relationship was found (estimate = 0.012, SE = 0.008, CI: -0.003, 0.029), supporting H6.

## 5 | DISCUSSION

This study sought to contribute to the existing hospitality and sustainability literature by exploring the nexus between GHRM and green creativity. Our study also aimed to investigate how and when GHRM leads to green creativity. Specifically, green work engagement was tested as an important underlying mechanism (mediator), and spiritual leadership was examined as a boundary condition (moderator). The findings suggest that GHRM is positively related to green creativity. This is consistent with previous studies (Ahmad et al., 2021; Luu, 2021), which provide support for the positive relationship between GHRM and green creativity. In addition, this finding is in line with AMO theory (Appelbaum et al., 2000) that offering green training to develop employees’ skills and knowledge (skill-enhancing) promotes employee involvement in sustainable initiatives (opportunity-enhancing), and linking employee rewards and compensation to green behaviour (motivation-enhancing) are likely to encourage employees to produce novel and useful green ideas and solutions to meet

	Path coefficients	t-Value	p-Value	f <sup>2</sup>
Direct and interaction effects				
GHRM → GC	0.194	3.466	0.001	0.035
GHRM → GWE	0.349	5.619	0.000	0.111
GWE → GC	0.221	3.233	0.001	0.045
GHRM X SL → GWE	0.211	5.634	0.000	0.101
95% CI Bias Corrected				
	Beta	t-value	LL	UL
Indirect effect				
GHRM→GWE → GC	0.077	2.836	0.030	0.136
95% CI bias corrected				
Moderator (SL)	Conditional indirect effect	SE	LL	UL
Conditional indirect effects				
Low	0.012	0.008	-0.003	0.029
High	0.051	0.018	0.017	0.089

Abbreviations: CI, confidence interval; GC, green creativity; GHRM, green human resource management; GWE, green work engagement; LL, lower level; SL, spiritual leadership; UL, upper level.



**FIGURE 2** Interaction effect of GHRM and spiritual leadership on green work engagement

environmental goals. This indicates that hotels can increase their green creativity by using green training and basing their performance appraisals for rewards, compensation and promotion on their employee's eco-friendly behaviour (Farooq et al., 2021).

Furthermore, the findings indicate that GHRM is positively associated with green work engagement. This corroborates previous literature (Aboramadan, 2020; Darban et al., 2022) that found a positive relationship between GHRM and green work engagement. Our findings are also consistent with the JD-R theory (Bakker & Demerouti, 2017), by which job resources (e.g., GHRM) start a motivational path leading to enhancing employees' green work engagement. Our results also reveal that green work engagement is positively related to green creativity. This is congruent with recent research (Bhutto et al., 2021; Karatepe et al., 2022) and JD-R theory (Bakker & Demerouti, 2017), implying that employees who are highly engaged in their green work have enthusiasm and dedication to their

**TABLE 4** Results of the structural model

green tasks, and they are more inclined to invest their skills and capabilities to suggest new green ideas and generate out of the box solutions to achieve sustainable goals. The results also suggest that green work engagement mediates the relationship between GHRM and green creativity. This is in accord with the tenets of JD-R theory (Bakker & Demerouti, 2017) and previous studies (Karatepe et al., 2022; Luu, 2019a, 2019b), which demonstrate that green work engagement functions as an important mediating mechanism between job resources (GHRM) and the outcomes (green creativity). That is, employees' perceptions of the effective application of GHRM practices play a significant role in fostering their engagement in green-related tasks. As a result, they display favourable job outcomes (e.g., green creativity). In other words, our findings show that the effect of GHRM on green creativity may not be solely direct, implying that GHRM practices influence green creativity via a specific intervening mechanism, such as green work engagement.

The findings further indicate that spiritual leadership strengthens the positive relationship between GHRM and green work engagement. Specifically, employees' perception of their relationship with their spiritual leaders was important to enhance the effect of GHRM. The presence of high spiritual leadership fulfils the spiritual needs of hotel employees, giving them a sense of belonging to their hotels (Chen & Yang, 2012). This, in turn, plays a significant role in augmenting the positive effect of GHRM on green work engagement. This is concordant with SET (Blau, 1964) that trusting and a high-quality relationship between employees and their spiritual leaders send signals to the employees that the organisation cares about them, which then leads to strengthening the positive effect of GHRM on green work engagement. In other words, spiritual leadership reinforces the exchange relationship between the employee and the organisation because they care, support and appreciate their contributions. Our findings also suggest that spiritual leadership moderates the indirect

relationship between GHRM and green creativity via green work engagement. More specifically, when spiritual leadership is high, hotel employees are more inclined to exert their effort and happily engage in their green tasks, which eventually foster green creativity.

## 5.1 | Theoretical implications

This study contributes to the current literature by examining the interrelationships of GHRM, spiritual leadership, green work engagement and green creativity. First, limited studies have examined the relationship between GHRM and green creativity (Ahmad et al., 2021), particularly in the hospitality literature (Luu, 2021); hence our study addresses this void and responds to recent calls (Darvishmotevali & Altinay, 2022) to investigate this relationship, thus strengthening the evidence of the role of GHRM in the tourism and sustainability literature. Second, employees' green work engagement is an important instrument for achieving sustainable outcomes (Bhutto et al., 2021). Despite this, the mediating role of green work engagement in the general literature has been largely neglected (Karatepe et al., 2022). This study fills in this gap and adds to the existing literature by examining green work engagement as a mediator in the GHRM–green creativity nexus. Third, different leadership styles have been tested in the current hospitality literature, such as inclusive leadership (Bhutto et al., 2021), servant leadership (Karatepe et al., 2020), narcissistic leadership (Aboramadan, Turkmenoglu, et al., 2021) and transformational leadership (Chen & Wu, 2017). However, the effect of spiritual leadership remains under-researched (Oh & Wang, 2020). This was also evidenced in a recent literature review (Elkhwesky et al., 2022), which demonstrated that little attention had been given to the role of spiritual leadership in contemporary hospitality literature. We contribute to the extant literature by investigating the moderating effect of spiritual leadership on the GHRM–green work engagement nexus. Fourth, this study adds to the literature by exploring the interplay between GHRM, spiritual leadership, green work engagement and green creativity through a moderated mediation model. Finally, this study has examined the aforesaid relationships in a Middle Eastern country (UAE), hence responding to calls (Cooke et al., 2020) for further research regarding the effect of GHRM in the Asian context.

## 5.2 | Practical implications

This study provides implications for policymakers, HR professionals and organisations, especially in the tourism and hospitality industry. Management commitment to the effective application of GHRM practices augments organisational capabilities to promote employees' green creativity based on the following. First, providing employees with green training helps to enhance their awareness of environmental management values. In addition, such training programmes equip employees with the needed skills, which enable them to work effectively on management green agendas. Doing so plays a significant role in improving employees' emotional and cognitive readiness and

motivating them to support the company's green goals (Aboramadan, Kundi, et al., 2021). This is critical to enhancing employees' dedication, enthusiasm and absorption in their green tasks, which is more likely to enable them to come up with green creative ideas and solutions. Second, the HR department may reinforce green behaviour by linking performance appraisal, rewards and promotion to the achievement of green outcomes. This sends a message to the hotel employees that their green attitudes and behaviours are critical, which then encourages them to be engaged in green tasks and suggests novel green ideas to enhance environmental performance.

Third, as evidenced in our findings, high spiritual leadership strengthened the relationship between GHRM, green work engagement and green creativity. In light of this, companies may rely on other resources together with GHRM to support environmental sustainability. This study encourages the adoption of a spiritual leadership style, particularly in the Middle Eastern region (Oh & Wang, 2020), due to its positive effect on achieving sustainable goals. That is, spiritual leaders display support, care, respect and appreciation for employees' contributions. These practices help to create high-quality relationships with employees, thus provoking employees to reciprocate the favour to the leader and organisation through being highly engaged in their green work and being motivated to propose creative ideas, hence promoting the achievement of hotels' green goals.

## 5.3 | Limitations and future research

This study has several limitations that provide avenues for future research. First, this study used self-report data that raises concerns about potential CMV. Although our procedural and empirical techniques indicated that the CMV is not an issue, future research may collect data from multiple participants to minimise CMV. Second, our research relied on cross-sectional data, which restricts conclusions about causal inferences. Thus, future studies are encouraged to use a longitudinal design to assess our model over time to derive causal inferences.

Third, our study used green creativity as an outcome. Future research may include other outcomes such as organisational citizenship behaviour towards the environment, organisational attractiveness and green voice behaviour. Fourth, we used spiritual leadership as a moderator and green work engagement as a mediator. Other moderators, such as servant leadership and other intervening variables like psychological meaningfulness and climate for a green initiative, might be examined in future inquiries. Finally, our study sample comprised front-line hotel employees; hence upcoming research may examine the research model in other sectors, such as airlines and resorts in different countries. This is consistent with Karatepe et al. (2022) and Elkhwesky's (2022) recent literature review and helps to enhance our understanding of the relationships between the study variables.

## CONFLICT OF INTEREST

Disclosure of potential conflicts of interest: all authors declare that they have no conflicts of interest.

## ETHICS STATEMENT

Research involving Human Participants and/or Animals (not applicable).

## AUTHOR CONTRIBUTIONS

**Ahmad Abualigah:** Conceptualization, methodology, formal analysis, investigation, data curation, writing—original draft. **Tamer Koburtay:** Conceptualization, methodology, formal analysis, data curation, writing—original Draft. **Islam Bourini:** Data curation, formal analysis, writing—original draft. **Kamal Badar:** Formal analysis, writing—original draft. **Ali Meftah Gerged:** Writing—review & editing.

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