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# Green inclusive leadership and green creativity in the tourism and hospitality sector: serial mediation of green psychological climate and work engagement

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## ABSTRACT

Green creativity contributes to green innovation and green sustainability in both the manufacturing and services sectors. However, academic research offering more nuanced insights about the drivers of green creativity (GCRT) is deficient, particularly within the tourism and hospitality sector. The present study thus theorized a model based on the Componential Theory of Creativity (CTC) to examine green inclusive leadership (GIL), green psychological climate (GPC), and green work engagement (GWE) as antecedents of GCRT. The model not only posits the direct associations but also accommodates a more complex interaction of variables by anticipating the mediation effect of GPC and GWE on the association of GIL and GCRT. The data collected through *Prolific* from 302 employees in the tourism and hospitality sector is analyzed using PROCESS macro. Findings confirmed a positive association of GIL with GPC and GCRT, GPC with GWE, and GWE with GCRT. In addition, the sequential mediation effect of GPC and GWE is supported. These results are useful for the tourism and hospitality sector, where a relational leadership style, such as inclusive leadership, is more relevant for fostering creativity, given the small size of business units, the sector's service-oriented nature, and the power of employees at the point of interface with the customers.

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Green creativity; hotels; leadership style; organizational behavior; serial mediation

## Introduction

Tourism is one of the most valued commercial activities worldwide for how it spurs economic growth. However, it has a dark side in that it adversely affects the environment, which is becoming a rising concern. The tourism and hospitality sector is one of the most notable contributors to a higher carbon footprint globally (Lenzen et al., 2018). In fact, the exponential growth in this

sector is likely to contribute significantly to carbon dioxide and greenhouse gas emissions in the long run (Zhang & Gao, 2016). This situation is quite untenable, but at the same time, tourism as a commercial activity is too important to be curtailed in light of these ecological concerns. As such, researchers have initiated a debate regarding how the tourism and hospitality sector can continue to flourish while also being sustainable and environmentally responsible. Scholars have thus argued that firms need to formulate and apply green innovations that can help in reducing their carbon footprint and mitigating environmental hazards (Awan et al., 2019; Mittal & Dhar, 2016). In particular, past findings have underscored that green innovation requires green creativity (GCRT), which, in turn, can be achieved when the leadership team develops and transmits green policies and procedures to their employees that can foster their innovativeness in a pro-environmental manner (Jia et al., 2018; Li et al., 2020; Mittal & Dhar, 2016).

GCRT is a valued concept as it can enable sustainable development (Awan et al., 2019), support green innovation (Li et al., 2020), and help firms improve their corporate image (Chen & Chang, 2013). Since GCRT captures the employees' ability to suggest new ways to perform in an environmentally sustainable way (Mittal & Dhar, 2016), we can expect it to bring innovation in services, promote ecologically-friendly behavior, protect cultural heritages, provide memorable experiences to tourists, and enhance value to both customers and organizations in the tourism and hospitality sector. Moreover, since this sector has a complete service orientation, where success hinges on how customer expectations of something unique and additional (Mittal & Dhar, 2016) are met by employees at the point of interface, employees' green creative behavior can enhance their organizations' environmental performance tremendously. Furthermore, since the green creative services offered by tourism and hospitality organizations can encourage green behaviors among tourists (Tuan, 2018), the creative employee can act as an effective conduit for the transmission of novel green ideas to customers. Despite these anticipated benefits, a comprehensive review of the literature reveals that GCRT is an under-researched concept in the context of the tourism and hospitality sector, with only a limited number of studies examining it (e.g., Mittal & Dhar, 2016; Tuan, 2020). Given the rising concerns related to the ecological and environmental sustainability of this industry, this gap in the literature needs to be addressed to provide more robust insights on GCRT. The current study thus proposes to explicate the antecedents of tourism and hospitality sector employees' GCRT.

In consonance with the past studies arguing that leaderships' awareness of ecological or green issues is essential for stimulating green creative behavior among employees (Chen & Chang, 2013; Mittal & Dhar, 2016), this study also anticipates that organizational leadership will play a vital role in driving GCRT in the tourism and hospitality sector. Thus, the present study seeks to explore the mechanism through which green leadership can foster GCRT to counter the detrimental effect of tourism on the environment. We thus contend that the impact of leadership type on GCRT should also be considered (e.g., Norton et al., 2015). However, an extensive review of the literature confirms that the findings related to the effect of different leadership styles on the green behavior of employees are quite deficient, as also noted by recent studies (e.g., Luu, 2019). The leadership styles investigated so far in the green context include servant leadership (Tuan, 2020), spiritual leadership (Afsar et al., 2016), transformational leadership (Mittal & Dhar, 2016), and ethical leadership (Saleem et al., 2020). Thus, there exists a gap in the green literature, in general, and the tourism and hospitality sector, in particular, about the effect of other leadership styles, such as relational leadership, on the green behavior of employees.

Given that the tourism and hospitality sector is service-based and largely comprises small tourist firms, restaurants, and hotels, we argue that rather than examining the impact of traditional leadership styles on green behavior, a more contemporary approach, such as relational leadership, can be more illuminating. Relational leadership offers a way for leaders to think about others and how they might work with others (Cunliffe & Eriksen, 2011). As such, we interpret relational leadership as inclusive leadership and thus propose a hitherto unexplored variable, namely, green inclusive leadership (GIL), as a leadership style that can promulgate green creative behavior among tourism and hospitality employees. Our conceptualization is supported by the

preceding literature, which suggests that inclusive leadership is an essential antecedent of green behavior, such as the disposal of toxic waste under environmental regulations (Brantmeier & Webb, 2020; Javed et al., 2018). Moreover, inclusive leaders demonstrate availability, accessibility, and openness, thereby fostering creative and innovative behavior among their followers (Carmeli et al., 2010; Javed et al., 2018).

In addition, we argue that the mechanism of the effect of GIL on GCRT in the tourism and hospitality sector is complex and dynamic, with multiple intervening variables that can potentially enhance or diminish the association. As such, we draw upon the Componential Theory of Creativity (CTC) proposed by Amabile (1988) to understand the association of leadership with creativity better. CTC is the most cited model for examining the processes of individual creativity and innovation in organizations, positing that creativity is more than a function of an individual's cognitive processes, task-motivation, and domain-relevant skills. However, it is also widely influenced by the social (work) environment (Amabile & Pratt, 2016), which includes extrinsic and contextual factors, such as leadership, climate, internal and external resources, and others. In this regard, psychological climate, representing organizational goals, policies, practices, and support from management (leadership), can play a vital role in increasing employees' motivation and engagement in creative tasks (Amabile & Pratt, 2016). For instance, clarity in firms' green practices, policies, and procedures may strengthen employees' focus on green packaging, recycling of waste, and consuming energy efficiently (Zhou et al., 2018). Conversely, ambiguities in green policies and practices may deteriorate the psychological climate of employees, resulting in mismanagement, waste of resources, and environmental pollution. A green-oriented psychological climate not only drives green creative behavior but also generates employees' motivation and engagement toward the creative tasks assigned by leadership (Kataria et al., 2013; Lee & Ok, 2015). Such engagement with green-related work ensures employees are fully dedicated, motivated to find innovative solutions, and resilient when seeking novel green ideas (Awan et al., 2019; Zhang et al., 2020). Based on this accumulated knowledge, we propose green psychological climate (GPC) and green work engagement (GWE) as two intervening variables that may amplify the effect of leadership style on employee creativity.

The associations between GIL, GPC, GWE, and GCRT have remained largely under-explored in the context of employees' green behavior, especially in the tourism and hospitality sector. These gaps underscore the need for more studies to uncover the mechanism through which leadership can motivate employees to manage the ecological and environmental challenges at work creatively and innovatively. Accordingly, we propose a conceptual model with GIL and GPC as two contextual variables representing a work environment that enhances the trust and confidence of employees to exhibit GWE and dedication toward green creative tasks.

In addition to the paucity of green literature related to employee creative behavior in the tourism and hospitality sector, we also found that the existing studies are skewed toward developing countries like India (e.g., Mittal & Dhar, 2016). In comparison, the insights related to developed countries are scarce. We thus tested our conceptual model with data collected from 302 individuals working in the tourism and hospitality sector in Europe. We collected data through *Prolific*, an online platform for subject recruitment, since it caters explicitly to researchers, has good recruitment standards, and is user-friendly (Palan & Schitter, 2018).

The novel contribution of our study comes from: (a) proposing a new variable, i.e., GIL, which has not been examined before in the green literature, particularly in the context of the tourism and hospitality sector, (b) underscoring the complex interplay of the antecedents of GCRT in the tourism and hospitality sector by conceptualizing the serial mediation effect of GPC and GWE between the relationship of GIL and creativity, and (c) developing a conceptual model by identifying contemporary variables that are aligned with the nature and structure of the tourism and hospitality sector, which is unique compared with the manufacturing sector and has a different set of ecological challenges.

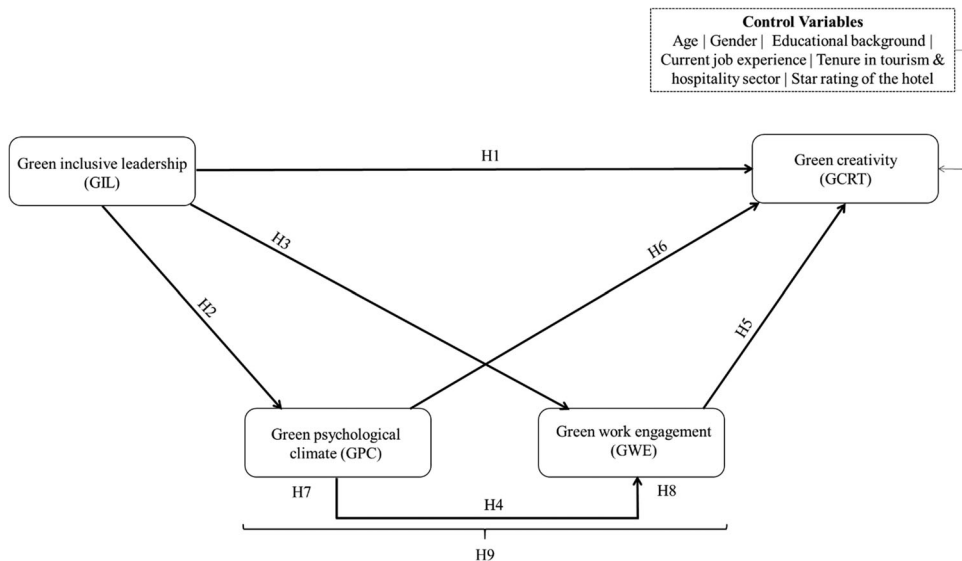


Figure 1. Conceptual model.

## Theoretical background and hypotheses development

### Conceptual model

The study draws upon the extended literature and the CTC (Amabile, 1988) to conceptualize the antecedents of employees’ GCRT in the tourism and hospitality sector. Based on the prior studies, we propose leadership as a key driver of GCRT by identifying GIL as the leadership style that can drive creativity. Thereafter, we identify GPC, representing the work environment, and the associated GWE as the intervening mechanisms between GIL and GCRT. In this context, we propose a direct association of GIL with GPC, GWE, and GCRT, respectively, as well as that of GPC and GWE with GCRT, and GPC with GWE. Furthermore, acknowledging the complex nature of the area, we propose a dynamic serial mediation model to examine the independent and sequential mediation effect of GPC and GWE on the association of GIL and GCRT. Figure 1 presents the proposed conceptual model, while Table 1 provides a description of these variables and the related literature.

### Hypotheses development

#### Green inclusive leadership and green creativity

Inclusive leadership positively impacts innovation and creativity (Amabile & Pratt, 2016; Carmeli et al., 2010; Choi et al., 2015; Javed et al., 2019) because such leaders demonstrate their availability and accessibility to employees through their activities (Carmeli et al., 2010), thereby supporting them in proposing and using new, novel, and meaningful ideas (Altunoglu & Bulgurcu Gürel, 2015; Sanders et al., 2010). Inclusive leaders thus encourage employees’ innovativeness by making organizational resources available to them (Hollander, 2012) and facilitating the promotion and implementation of novel solutions (Afsar et al., 2014). In the case of the quality-based relationship offered by inclusive leadership, employees receive fair rewards, which encourage them to fulfill job demands, including being innovative at work (Sanders et al., 2010). In sum, the existing literature endorses the view that inclusive leadership promotes the creative behavior of subordinates in different settings (Amabile & Pratt, 2016; Carmeli et al., 2010; Choi et al., 2015). The proposition of CTC that the motivation to innovate is important to foster creativity within

**Table 1.** Variable description and background literature.

Variable	Operational description in the context of the present study	Prior Findings	Authors
Green inclusive leadership (GIL)	<p>It is a relational form of leadership representing a contemporary leadership style that is characterized by openness to new green ideas, readiness to discuss the pro-environmental goals, and availability to consult on the environmental challenges faced by the organization.</p> <p>Categorically, the present study defines GIL as <i>'the behavior of leaders who are open, accessible, and available for interacting with employees to achieve environmental and cleaner processes/services goals'</i>.</p>	<p>Although GIL is a novel variable proposed by the present study, yet inclusive leadership has been examined in relation to innovative behavior at work and employee creativity in the past. These studies have described inclusive leadership as representing the leaders' tendency to give voice to the employees, encourage the development and implementation of new ideas, and consider their perspective in decision-making.</p>	<p>Altunoğlu and Bulgurcu Gürel (2015); Fang et al. (2019); Javed et al. (2019)</p>
Green psychological climate (GPC)	<p>GPC represents the extent of organizational focus on the environmental and ecological outcomes of their activities. It is measured in terms of employees' perception of the interest their organization has in supporting environmental causes, protecting the environment, and behaving in an environmentally-friendly way.</p>	<p>Scholars have described GPC as the perception of employees about the pro-environmental policies and green values of their organization. Prior studies have found that GPC is associated with green employee behavior and is, in turn, driven by green human resource management, transformational leadership, ethical leadership, and the green values of individuals. Furthermore, GPC mediates the association of ethical leadership and environmental behavior.</p>	<p>Dumont et al. (2017); Khan et al. (2019); Norton et al. (2014); Norton et al. (2017); Saleem et al. (2020); Zhou et al. (2018)</p>
Green work engagement (GWE)	<p>GWE represents the involvement of employees in green-level tasks. It may be described as the enthusiasm of employees about green tasks, their commitment to working on environmental tasks, and their pride, intensity, and involvement in environmental work.</p>	<p>GWE has not been explored much in the past. However, drawing upon the well-elucidated description of work engagement, scholars describe it as a manifestation of diligence, pride, dedication, vigor, and energy for green-related activities. GWE has been found to act as an intervening mechanism between employee green behavior and its antecedents. Past findings confirm job resources as a key driver of work engagement, thereby underscoring the</p>	<p>Aboramadan et al. (2020); Bakker and Demerouti (2017); Çop et al. (2020); Bakker and Xanthopoulou (2013)</p>

*(continued)*

Table 1. Continued.

Variable	Operational description in the context of the present study	Prior Findings	Authors
Green creativity (GCRT)	GCRT refers to the behavior of tourism and hospitality sector employees, wherein they may manifest the tendency to suggest novel methods to achieve environmental objectives, offer and encourage green-oriented ideas to improve the environmental-related performance of their firm, rethink new green ideas, and seek creative solutions to environmental problems	importance of leadership in impacting it. GCRT has been described as a fine-grained expression of green behavior and may be seen as a proxy of ecology-oriented innovation to counter environmental challenges. Some of its key antecedents are transformational leadership, environmentally-specific servant leadership, creative process engagement, green role identity, green innovation strategy, and green-related resources.	Li et al. (2020); Mittal and Dhar (2016) Tuan (2020); (W. Zhang et al., 2020)

organizations also underscores the role of leadership in promoting and nurturing employees' creative thinking.

Although inclusive leadership has not previously been examined in the ecological and pro-environmental context, the available evidence related to its positive effect on employees' innovative behavior and its role in supporting new idea generation provides us with sufficient basis to expect that GIL in the tourism and hospitality sector will be a positive driver of GCRT among the employees.

Thus, we anticipate that to achieve organizations' environmental objectives, GIL supports the employees, remains open to their green ideas, frequently communicates with them, cares about their expectations and interests, and provides them assistance at all times to foster their GCRT. In sum, we contend that the openness, availability, and accessibility of green inclusive leaders enable them to interact with employees in such a way that it increases their tendency to seek innovative green solutions to ecological and environmental issues at work. Hence, we propose:

**H1:** GIL is positively associated with GCRT.

### *Green inclusive leadership and green psychological climate*

GPC represents an organization's pro-environmental orientation (Saleem et al., 2020). Since leaders are essential drivers of organizational behavior (Bass, 1960), they can create a climate that nurtures pro-environmental thinking while setting examples for others to emulate (Ones & Dilchert, 2012). They can also influence the perceptions about the climate by presenting the related policies in a certain manner (Mayer et al., 2010). In the specific context of green climate, corporate environmental strategy, as driven by the leadership team, positively impacts GPC (Norton et al., 2017). The leadership literature also confirms the influence of leadership style on organizational climate. For example, transformational leadership influences employees' psychological climate (Kranabetter & Niessen, 2017; Nohe & Hertel, 2017). while in the green context, it also has a notable impact on GPC (Zhou et al., 2018). Similarly, Saleem et al. (2020) showed that ethical leadership positively influenced the green psychological environment in universities and hospitals. In addition, the theoretical tenets of CTC, wherein leadership and psychological climate



fall in the fourth component of the creativity model, also support the premise that organizational leadership, through its distinctive characteristics, can impact followers' mental and cognitive processes, as well as their perceptions about the climate.

Although there is no a priori finding for this, the preceding discussion provides us with an adequate basis to speculate that GIL, with its openness and accessibility, will positively impact GPC in the tourism and hospitality sector. This is plausible because when individuals work in an organization, their perception and interpretation of corporate policies and practices are often influenced by leaders who translate strategies into guidelines and train employees regarding the expected green and creative outcomes. Inclusive leaders can, therefore, be anticipated to create positive perceptions about the organizations' green climate by formulating green policies and practices, providing the freedom to work, and interpreting the green objectives that are to be achieved. Hence, we hypothesize:

**H2:** GIL is positively associated with GPC.

### *Green inclusive leadership and green work engagement*

Work engagement is a state of mind characterized by vigor, dedication, and immersion in work-related matters (Schaufeli et al., 2002). Scholars have maintained that employees' work engagement is strongly linked with leadership in organizations since leaders not only motivate employees but also increase their work engagement by supporting their subordinates (Bakker et al., 2011; Choi et al., 2015). Some past studies have gone beyond the generic discussion about the positive influence of leadership on work engagement to link it with different leadership styles, such as transformational, ethical, authentic, and inclusive (Choi et al., 2015; Ghadi et al., 2013). Although these studies have not explicitly examined the impact of inclusive leadership on work engagement, it is not difficult to imagine that such a relational approach to leadership will have a positive influence on the dedication and commitment of employees to their work. By extrapolating the theoretical arguments of CTC as well, we can also contend that when inclusive leaders come across as open, accessible, and available, they can inspire employees to reciprocate in the form of improved work engagement by devoting their emotional, cognitive, and physical resources (Amabile & Pratt, 2016; Choi et al., 2015). We posit that this expected effect of inclusive leadership on work engagement is also valid in the green context, particular because this style of leadership focusses on employee needs, which is a key factor in crafting an engaged workforce (Shuck & Herd, 2012). As such, we anticipate that GIL can increase employees' engagement in the tourism and hospitality sector with their green-related work tasks. As GWE is the energy that employees expend to complete their green work tasks, their willingness to put in the effort to achieve green tasks, and the extent of their absorption in such green-related work (Aboramadan et al., 2020), GIL can enhance GWE by motivating employees through its open approach. Against this background, we posit:

**H3:** GIL is positively associated with GWE.

### *Green psychological climate and green work engagement*

The extent of employees' work engagement is driven by their construal of their work milieu (Shuck & Herd, 2012), implying that work engagement is related to their perception of the work climate, which can motivate them to perform their role with the utmost dedication (Kataria et al., 2019). In this regard, scholars have confirmed that a positive psychological climate at the workplace increases the work engagement of employees (Kataria et al., 2013; Lee & Ok, 2015). This is also in accordance with the seminal literature that has confirmed the impact of psychological climate on results, such as work engagement (e.g., Rollins & Roberts, 1998).



Although there is no a priori study for this, the support for the association of positive psychological climate with work engagement in general organizational contexts provides us with an adequate basis to propose such an association in the green and tourism context as well. Thus, we anticipate that GPC will enhance the GWE of employees in this area, such that when employees perceive that organizational green policies, practices, and guidelines facilitate and support them, they will immerse themselves more in their green work role to reduce the adverse ecological and environmental effects of their organizations' activities. This is also in tandem with the propositions of CTC, which imply that employees effectively utilize their cognitive abilities, time, and energies when they receive support and encouragement from the organization (Amabile & Pratt, 2016). Thus, we propose:

**H4:** GPC is positively associated with GWE.

### *Green work engagement and green creativity*

Research on organizational behavior has revealed that work engagement has a positive relationship with creativity. This is because employees who are dedicated and engaged in their work can be expected to be flexible in their thought-process and ready to invest appreciable effort at work (e.g., Eldor & Harpaz, 2016; Koch et al., 2015). For instance, we can expect highly engaged employees to be open to novel ideas on work process optimization (Bakker et al., 2020). It follows, therefore, that employees high in work engagement will be motivated to invest their energy and skills in performing work-related tasks creatively (Bakker & Xanthopoulou, 2013). Lending support to these extant findings, Demerouti et al. (2015) confirmed that employees working in different verticals, such as trading, business services, and health care, showed better creative performance due to their higher engagement in their work. CTC also theorizes that innovative performance is an outcome of higher work-engagement and task motivation (Amabile & Pratt, 2016).

Based on this discussion, we argue that GWE will be related to GCRT. In other words, we believe that tourism and hospitality employees with high engagement with their green-related tasks will exhibit more GCRT, i.e., show a readiness to explore and suggest novel and innovative ways to mitigate the damaging ecological and environmental consequences of their organizational work. It is also plausible to expect this association for tourism and hospitality employees because the sector is service-oriented, and there exists scope for individual excellence and effort to enhance the customer experience. In sum, we can expect GCRT to be higher when employees are engaged in green tasks with a higher level of absorption, dedication, and cognitive effort. Accordingly, we propose:

**H5:** GWE is positively associated with GCRT.

### *Green psychological climate and green creativity*

Several psycho-social variables impact green behavior, such as attitude, leadership, beliefs, and green organizational climate (Dumont et al., 2017; Norton et al., 2015). In this context, scholars have particularly examined GPC to confirm its impact on green/pro-environmental and innovative behavior at work. For example, Tahir et al. (2020) confirmed the positive impact of GPC on green employee behavior at work. Similar findings had been reported by Dumont et al. (2017) and Norton et al. (2015), confirming GPC as a proximal predictor of the related behavior of employees. In the same vein, Zhou et al. (2018) contended that the perception of employees about the green climate in their organization positively impacted their pro-environmental behaviors. Taking the debate further, Khan et al. (2019) argued that positive perceptions about GPC promoted employees' pro-environmental behaviors, such as the recycling of waste, conservation of energy, and efforts to reduce waste. Conversely, if the employees perceive that the policies

and processes followed by their organization do not support responsible ecological and environmental behavior, it will cause them to engage less in green behaviors (Luu, 2019).

Given that GCRT is a fine-grained expression of the green behavior of employees (Mittal & Dhar, 2016), we believe that the positive perception of employees in the tourism and hospitality sector regarding the GPC of their organization will positively affect their creativity. The sector's service-oriented nature provides employees with ample opportunity to exhibit pro-environmental behaviors if they are motivated by a positive perception of the firms' environmentally-conscious policies and processes. This anticipation is also supported by CTC, which provides a strong rationale for the fact that organizational climate, which ensures safety, risk-taking ability, motivation, and positive feedback, elevates employees' green creative thinking (Amabile & Pratt, 2016). In the backdrop of the preceding empirical evidence and theoretical support, we hypothesize:

**H6:** GPC is positively associated with GCRT.

### *Mediating effect of green psychological climate and green work engagement*

In the preceding discussion, we offered empirical evidence from the extended literature on organizational behavior, in general (e.g., Afsar et al., 2014; Choi et al., 2015; Nohe & Hertel, 2017), and green behavior, in particular (e.g., Aboramadan et al., 2020; Norton et al., 2017; Saleem et al., 2020), to posit the direct associations between GIL, GPC, GWE, and GCRT. These associations can also be pre-empted based on the CTC (Amabile, 1988; Amabile & Pratt, 2016).

The complex nature of human behavior, in both personal and work settings, makes us contemplate the existence of more intricate dynamics among these variables by way of the indirect effects flowing between them. Due to this, we also propose to examine the mediating effect of GPC and GWE on the relationship between GIL and GCRT. Our reasons behind hypothesizing such mediating effects are: (a) inclusive leadership focuses on being accessible to employees and encouraging them to think in novel ways about organizational issues, which enhances their creativity (e.g., Altunoglu & Bulgurcu Gürel, 2015; Javed et al., 2018). A similar association can also be posited between GIL and GCRT; (b) organizational leadership positively impacts psychological climate (Norton et al., 2017; Zhou et al., 2018) and work engagement (Bakker et al., 2011; Choi et al., 2015), as can be posited in the case of GIL with GPC and GWE; (c) GPC has a positive impact on green employee behavior, including creativity (Dumont et al., 2017; Norton et al., 2015; Tahir et al., 2020); and (d) work engagement has a positive influence on creative performance (Bakker & Xanthopoulou, 2013; Demerouti et al., 2015). The same association can be posited in the case of GWE and GCRT.

Due to these associations, it is likely that employees' perceptions about the green climate in their organization and their level of work engagement mediate the relationship between GIL and GCRT. Furthermore, prior studies have confirmed the mediating effect of climate on the association of leadership style with employee behavior (e.g., Khan et al., 2019), green human resource management with employee green behaviors (e.g., Dumont et al., 2017), and green transformational leadership and green product development performance (Zhou et al., 2018). On the whole, a supportive climate mediates the effects of the leadership team's efforts to enhance organizational performance (Zhang et al., 2018). Similarly, past studies have confirmed the mediating role of work engagement in various organizational contexts, such as the association of human resources management practices and organizational commitment in higher education (Aboramadan et al., 2020) and the association of leadership styles and organizational citizenship behavior (Aboramadan et al., 2019). In sum, work engagement mediates the association between efforts to enhance performance and their outcome (Aboramadan et al., 2020).

This evidence further motivates us to propose GPC and GWE as potential intervening variables between GIL and GCRT. In addition, the literature on leadership maintains that relational and inspiring leaders translate and transmit employees' perception of psychological climate (Javed

et al., 2018). Moreover, the psychological climate tends to develop enthusiasm, confidence, and motivation in employees about green and meaningful work (Zhou et al., 2018). The influence of leadership and support from the psychological climate can also make employees dedicated and engaged in their work, which enhances their green creative performance (Carmeli et al., 2010; Javed et al., 2018). Thus, we propose not only the individual mediational effect of GPC and GWE, but also their serial mediation effect:

**H7:** GPC mediates the association between GIL and GCRT.

**H8:** GWE mediates the association between GIL and GCRT.

**H9:** GPC and GWE of employees operate as serial mediators between GIL and GCRT.

### **Control variables**

CTC maintains that demographic variables, such as age, gender, educational background, current experience, and total experience, impact the green creative behavior of employees (Amabile & Pratt, 2016; Li et al., 2020). The effect of these variables should thus be considered when examining the antecedents of employees' GCRT. Applying these observations and prior studies to the tourism and hospitality sector (e.g., Jaiswal & Dhar, 2015; Mittal & Dhar, 2016), we controlled GCRT for the possible confounding effects of age, gender, educational background, current job experience, tenure in the tourism and hospitality sector, and the star rating of their employer (i.e., the hotel).

### **Methodology**

We employed a survey-based approach to collect the data from European hotel employees through *Prolific*. The respondents included employees from upper, middle, and junior management, trained professionals, and administrative staff. We selected this population to represent the tourism and hospitality sector since hotels are known to be highly energy-intensive due to their operations and customer service requirements (Mensah, 2014). As such, the hospitality sector worldwide is under considerable pressure to improve its performance regarding environmental sustainability (Siti-Nabiha et al., 2014). The unit of analysis in this empirical investigation is employees because this study aimed to measure employees' green creative behavior, which may help firms in reducing the waste and contamination caused by hotels. We developed the questionnaire and administered it in the English language. Before finalizing the questionnaire, we invited four management and psychology research experts to modify it to ensure its face and content validity.

### **Measures**

The study employed a five-point Likert scale to measure latent constructs (1 = strongly disagree and 5 = strongly agree). All items had an adequate correlation with their respective constructs, confirming that they were reflective (Hair et al., 2014). We also used pre-validated scales for all constructs. GIL was measured using a seven-item scale that Carmeli et al. (2010) developed and validated. However, items with less than 0.7 loadings were excluded, leaving us with only three items (Table 2). We measured GPC through a five-item instrument developed by Norton et al. (2017) and validated by Zhou et al. (2018), of which three items were retained in the model (Table 2). Next, we employed a seven-item scale previously developed by Schaufeli et al. (2002) to measure green work engagement. We modified the items to fit the pro-environmental context and pretested them before the final data collection. Three of these items were ultimately

Table 2. Constructs' reliability, factor loading, and AVE values.

S #	Items	$\alpha$	AVE	Factor loading	CR
	<b>GCRT</b>	0.90	0.65		0.90
GCRT1	I suggest new ways to achieve the environmental goals of my organization			0.87***	
GCRT2	I propose new green (ie, environmentally-oriented) ideas to improve the environmental performance of my organization			0.90***	
GCRT3	I promote and champion new green ideas (ie, environmentally-oriented) to others at work			0.81***	
GCRT4	I rethink and revise green (ie, environmentally-oriented) ideas at work			0.71***	
GCRT5	I find creative solutions to environmental problems at work			0.70***	
	<b>GIL</b>	0.90	0.76		0.90
GIL3	Our organization's leadership is open to discussing pro-environmental goals at work and new green (ie, environmentally oriented) ways to achieve them			0.84***	
GIL4	Our organization's leadership is available for consultation on environmental problems at work			0.87***	
GIL5	Our organization's leadership is ready to listen to requests related to handling environmental issues at work			0.90***	
	<b>GPC</b>	0.89	0.74		0.90
GPC2	Our organization is interested in supporting the efforts made to handle environmental problems			0.87***	
GPC3	Our organization believes that it is important to protect the environment			0.89***	
GPC4	Our organization is concerned about working in a more environmentally-friendly way			0.82***	
	<b>GWE</b>	0.85	0.65		0.85
GWE2	When I get up in the morning, I look forward to performing environment-related tasks at work			0.82***	
GWE3	I am enthusiastic about my green job, ie, part of my work that requires performing in an environmentally responsible way			0.83***	
GWE6	I get really immersed in environment-related tasks at work			0.78***	

\*\*\* $p < .001$ , Cronbach's Alpha =  $\alpha$ , Composite reliability = CR.

**Table 3.** Descriptive statistics and correlation values among the studied variables.

Variables	Mean	SD	1	2	3	4	5	6	7	8	9	10
1 Age	29.68	8.97	1									
2 Gender	1.56	0.50	-0.04	1								
3 Educational background	3.93	1.37	0.10	0.03	1							
4 Current job experience	2.77	1.75	0.39**	0.01	.12*	1						
5 Tenure in the tourism and hospitality sector	2.85	1.74	0.36**	-0.01	.10	0.67**	1					
6 Star rating of the hotel	3.80	0.85	-0.02	-0.12*	0.21*	0.07	0.08	1				
7 GCRT	3.28	0.99	-0.03	0.004	0.01	0.10	0.13*	0.10	1			
8 GIL	3.47	1.04	0.02	-0.06	0.10	0.18**	0.27**	0.26**	0.34**	1		
9 GPC	3.45	1.08	-0.01	0.001	.11*	0.17**	0.21**	0.27**	0.31**	0.70**	1	
10 GWE	3.09	0.98	-0.08	0.01	.05	0.04	0.05	0.11	0.68**	0.35**	0.40**	1

Notes: \*\*\* $p < 0.01$  \*\* $p < 0.01$ , \* $p < 0.05$ ; GCRT: green creativity, GIL: green inclusive leadership, GPC: green psychological climate, GWE: green work engagement.

retained based on their loadings (Table 2). Finally, we adopted a six-item scale developed by Chen and Chang (2013) and further validated by several studies (Li et al., 2020; Mittal & Dhar, 2016) to gage GCRT. We retained five of these in the study (Table 2). All constructs reported Cronbach’s alpha greater than the cut-off value of 0.7, as discussed by recent studies (Talwar et al., 2021).

## Methods

This study employed SPSS 25 and AMOS to analyze the individual-level data collected from hotel employees. We used covariance-based structural equation modeling (CB-SEM) to evaluate the goodness of model fit and because our research is exploratory. Furthermore, CB-SEM is suitable for our study since the data meets the multivariate requirements, as discussed by recent studies (Talwar et al., 2020a; 2020b). Before analysis, we checked the data for missing values and outliers, of which none were found.





We used the SPSS PROCESS macro (Model 6) to isolate the direct and the indirect effects in the model, in consonance with recent studies (Marshall et al., 2020; Teoh et al., 2020). We chose this macro since it offers the benefit of correcting measurement errors (Hayes, 2017). Moreover, Hayes’ mediation approach is preferable since it addresses some of the drawbacks of the Sobel test (Huertas-Valdivia et al., 2018).

## Results

### Descriptive statistics

We took forward data from 302 hotel employees for analysis. Table 2 presents the values of respondents’ socio-demographic variables, including their age, gender, educational background, current job experience, tenure in the tourism and hospitality sector, and the star rating of the hotel. The profile of the respondents was: *gender*: female = 55.96% (169); *educational background*: less than high school = 0.003% (1), high school = 19.54% (59), college = 26.82% (81), professional degree = 3.64% (11), bachelors = 39.74% (120), and masters = 9.93% (30); *current job experience*: up to 2 years = 29.80% (90), 2-4 years = 25.17% (76), 4-6 years = 19.21% (58), 6-8 years = 5.96% (18), 8-10 years = 3.97% (12), and more than 10 years = 15.89% (48); *tenure in the tourism and hospitality sector*: up to 2 years = 20.53% (62), 2-4 years = 22.19% (67), 4-6 years = 21.19% (64), 6-8 years = 8.61% (26), 8-10 years = 6.95% (21), and more than 10 years = 20.53% (62), and *hotel rating*: 1 star = 0.99% (3), 2 star = 3.31% (10), 3 star = 31.46% (95), 4 star = 43.36% (131), 5 star = 20.20% (61), and more than 5 star = 0.66% (2). We present the correlation values of the examined variables in Table 3.

Table 4. HTMT Analysis.

	GIL	GC	GWE	GPC
GIL				
GC	0.370			
GWE	0.400	0.778		
GPC	0.780	0.347	0.464	

### Common method bias and social desirability bias

Common method bias (CMB) is a potential problem that can affect the study results (Podsakoff et al., 2012). As such, we applied Harman's single-factor test to examine our data for the potential threat of CMB (Tandon et al., 2021). The results of the maximum variance explained by one factor were only 46.70%, within the recommended value of 50% (Kumar et al., 2021; Tandon et al., 2021). Therefore, CMB was not a potential threat to the study.

Socially desirable responding (SDR) refers to the behavior of respondents when they fill in the survey favorably, which may impact the validity of the survey (Nederhof, 1985). To control for such bias in the current study, the respondents were informed that their responses would be kept confidential and anonymous, thereby motivating them to fill in the survey honestly. Moreover, we randomized the items to allow respondents to answer without knowing which items belonged to what construct. Lastly, the survey was self-administered as various studies have reported that a self-administered survey reduces the effect of social desirability and the distortion of answers. Therefore, higher honesty, randomized item techniques, and the self-administered approach used in the present study minimized SDR (Li et al., 2020; Nederhof, 1985).

Furthermore, the collected data did not suffer from non-response (or late-response) bias, which occurs when subjects from a sample either delay or do not respond due to content/item- and study-related issues. However, we collected data through *Prolific*, where delayed responses are automatically timed-out, and only eligible respondents could complete the survey. Thus, our data collection approach ensured that there was no non-response (or late-response) bias.

### Measurement model

The measurement model generated through confirmatory factor analysis (CFA) returned acceptable model fit indices ( $\chi^2/df = 2.38$ ,  $CFI = .97$ ,  $TLI = .96$ ,  $RMSEA = .07$ ), in line with the recommended values (Hair et al., 2014). The validity and reliability statistics of the model also met the required conditions. To begin with, we confirmed the convergent validity of all of the constructs since the factor loadings and composite reliability exceeded the required cut-off of 0.7, and all average variance extracted (AVE) values were more than 0.5 (Hair et al., 2014). We report the relevant values in Table 2. Similarly, we confirmed discriminant validity as the correlations between constructs were less than 0.80 (Table 3), and the HTMT value of each pair of the construct was less than 0.9 (Table 4), as recommended (Henseler et al., 2015).

### Effect of control variables

GCRT was controlled for age, gender, educational background, current job experience, tenure in the tourism and hospitality sector, and the star rating of the hotel. The results reported that none of the control variables exerted any confounding influence on the endogenous variable. Specifically, the values were: age ( $\beta = -0.01$ ,  $p < 0.05$ ), gender ( $\beta = 0.00$ ,  $p < 0.05$ ), education ( $\beta = -0.04$ ,  $p < 0.05$ ), experience ( $\beta = 0.02$ ,  $p < 0.05$ ), tenure ( $\beta = 0.08$ ,  $p < 0.05$ ), and rating ( $\beta = 0.02$ ,  $p < 0.05$ ).

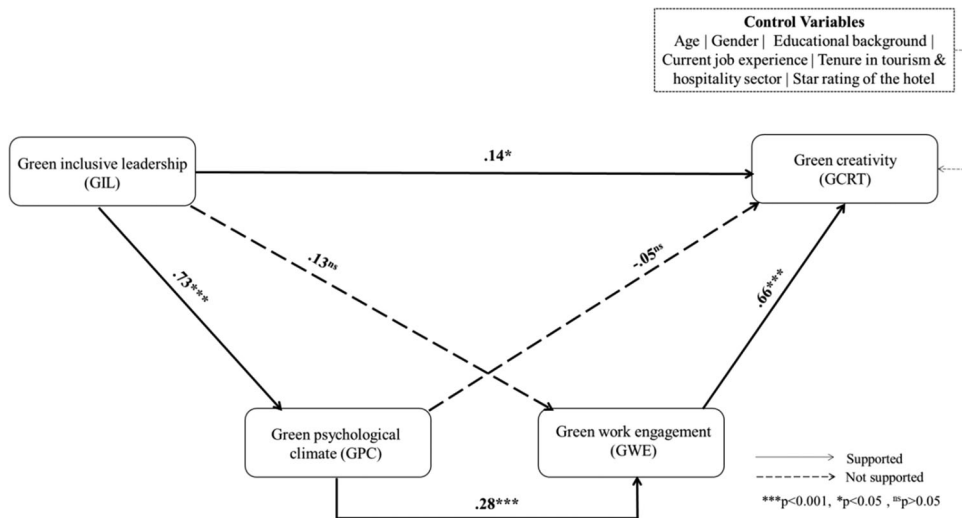


Figure 2. Results of hypotheses testing.

Table 5. Results of serial mediation analysis.

Dependent Variables								
	Model summary	GPC	GWE	GCRT	SE	r-squared	LLCI	ULCI
Model 1	GIL	0.73***	–	–	0.04	0.49		
Model 2	GIL	–	0.13	–	0.07	0.17		
	GPC	–	.28***	–	0.07			
Model 3	–	–	–	–	–	–	–	–
	GIL	–	–	.14*	0.06	0.48		
	GPC	–	–	–0.05	0.06			
	GWE	–	–	.66***	0.05			
Direct and indirect effects of GIL on GCRT								
Model 4	GIL (Direct effect)			0.14*	0.06		0.025	0.245
	GIL→GCRT (Total effect)			0.32***	0.05		0.216	0.419
	GIL→GPC→GCRT (Indirect effect)			–0.03	0.05		–0.124	0.052
	GIL→GWE→GCRT (Indirect effect)			0.08	0.05		–0.019	0.191
	GIL→GPC→GWE→GCRT (Indirect effect)			0.14	0.04		0.062	0.210

**Hypotheses testing**

The study proposed six direct associations (H1 through H6), the results of which we exhibit in Figure 2. H1 proposed a positive association of GIL with GCRT, which was supported ( $\beta = 0.14, p < 0.05$ ), as presented in Table 5 (model 3). H2, proposing a direct association of GIL with GPC, was also supported, as can be seen in model 1, Table 5 ( $\beta = 0.73, p < 0.001$ ). In comparison, H3, predicting a positive association of GIL with GWE was not supported ( $\beta = 0.13, p > 0.05$ ), as exhibited in Table 5 (model 2). H4, however, positing a positive association between GPC and GWE was statistically significant ( $\beta = 0.28, p < 0.001$ ), as shown in Table 5 (model 2). Similarly, H5, which proposed an association of GWE with GCRT, was also statistically significant ( $\beta = 0.66, p < 0.001$ ), shown in Table 5 (model 3). Finally, H6, hypothesizing the association of GPC with GCRT, was not supported ( $\beta = -0.05, p > 0.05$ ), as presented in Table 5 (model 3).

**Mediation analysis**

The mediation analysis involved examining the mediation effect of GPC and GWE on the association of GIL and GCRT. The analysis was performed using Model 6 in the PROCESS macro. Five thousand bootstrap samples were used to create a 95% bias-corrected confidence interval (CI) to



evaluate the significance of indirect effects if the CI did not include zero (Hayes et al., 2017). Table 5 reports the results (model 4). The indirect effect through GPC as the sole mediator in the association of GIL and GCRT revealed that GPC did not sufficiently explain the association: indirect effect =  $-0.03$ ,  $SE = 0.05$ , 95% C.I.  $[-0.124, 0.052]$ . Similarly, GWE as the sole mediator in the association of GIL and GCRT did not sufficiently explain the relationship between the two: indirect effect =  $0.08$ ,  $SE = 0.05$ , 95% C.I.  $[-0.019, 0.191]$ . Thus, neither GPC nor GWE mediated the association of GIL and GCRT independently, as zero falls within the lower and upper limit of the confidence interval. As such, **H7** and **H8**, hypothesizing the mediation effect of GPC and GWE independently on the association of GIL and GCRT were not supported. In contrast, when both GPC and GWE were considered as mediators, they sequentially mediated the association between GIL and GCRT significantly: indirect effect =  $0.14$ ,  $SE = 0.04$ , 95% C.I.  $[0.062, 0.210]$ , supporting **H9**. Furthermore, the direct effect of GIL on GCRT was statistically significant ( $\beta = 0.14$ ,  $p < 0.05$ ), indicating partial mediation.

## Discussion

Based on the identified research gaps in the literature and the need to promote environmentally sustainable performance in the tourism and hospitality sector, we proposed a conceptual model to theorize the association of GIL and GPC (contextual variables representing work environment) with GWE and GCRT (employee outcomes).

**H1**, proposing a positive association between GIL and GCRT, was supported by the statistical analysis. Although GIL is a new construct we propose, inclusive leadership has previously been documented as having a positive impact on innovation and creativity (Amabile & Pratt, 2016; Carmeli et al., 2010; Choi et al., 2015; Javed et al., 2019). Thus, our finding is in consonance with the prior studies. In addition, the support for a positive association between GIL and GCRT also aligned with CTC (Amabile, 1988), which theorized that motivation is essential to fostering creativity among employees. The finding implies that by remaining open to discussing pro-environmental goals and new greenways to achieve them, organizations' leadership can motivate employees to propose, promote, and champion green ideas to improve their environmental performance. In addition, by remaining available for consultation on environmental problems and lending their ear to requests related to handling environmental issues at work, the leadership can not only encourage employees to find creative solutions to newer environmental problems but also rethink and revise green ideas at work.

**H2** posited a positive association between GIL and GPC. In consonance with the prior extended literature on the impact of leadership on employees' psychological climate, including GPC (Kranabetter & Niessen, 2017; Nohe & Hertel, 2017; Saleem et al., 2020; Zhou et al., 2018), our findings also supported the association. Support for H2 was further aligned with the tenets of CTC, wherein leadership can be anticipated to influence employees' mental and cognitive processes by encouraging green policies and practices. In the present context, the result implies that through their openness, availability, accessibility, and encouragement, leadership can reinforce to their employees that the organization is aware of its responsibility for environmental sustainability and is ready to support efforts to protect the environment.

**H3**, hypothesizing a positive association of GIL and GWE, however, was not supported by the findings. This is in contradiction to our anticipation based on the organizational behavior literature, which has noted the positive influence of different leadership styles, such as transformational, ethical, inclusive, and authentic, on work engagement (Choi et al., 2015; Ghadi et al., 2013). A possible reason for this lack of direct association between GIL and GWE could be that the openness and accessibility of leadership alone does not channel employees' dedication, energy, and absorption with green work or enhances their intent to devote their emotional, cognitive, and physical resources. Rather, it may need some intervening mechanism that could

amplify the effect of the leadership's availability to increase the work engagement of employees. However, organizational behavior is a complex phenomenon, and scholars need to delve deeper into unexpected outcomes by exploring the said association in diverse contexts, using samples collected from respondents from different geographies, age groups, educational backgrounds, and other socio-economic differentiators.

**H4** examined a positive association between GPC and GWE. The outcome of our statistical analysis supported this hypothesis, which we had proposed by extrapolating the findings of the extended literature on the association of a positive psychological climate at the workplace with the work engagement of employees (Kataria et al., 2013; Lee & Ok, 2015). Moreover, this finding was in concordance with the CTC propositions that motivation can enhance the intent of employees to effectively utilize their cognitive abilities, time, and energies for organizational work. Support for the hypothesis implies that a positive perception about their organizations' commitment to protecting the environment and functioning in an environmentally responsible way can make the employees more engaged, enthusiastic, and committed to performing environment-related tasks at work.

**H5**, positing that GWE fosters employees' GCRT in the tourism and hospitality sector, was supported, in line with past studies outside of the environmental and tourism context (Bakker & Xanthopoulou, 2013; Demerouti et al., 2015). Support for a positive association of GWE with GCRT also aligned with the theoretical insights of CTC since it connects creativity with employees' dedicated engagement with their work. This finding suggests that employees who are zealously immersed in performing environment-related tasks at work will have a higher intent to not only propose, promote, and encourage new green ideas at work but also be eager to revisit and revise the existing environmentally-oriented practices.

The result did not support **H6**. Although there was no a priori basis for the hypothesis, we had expected a positive association between GPC and GCRT based on prior studies in the general context of employee green behavior (Dumont et al., 2017; Norton et al., 2015; Tahir et al., 2020). Our anticipation was also grounded in CTC, which posits that a positive organizational climate elevates employees' green creative thinking (Amabile & Pratt, 2016). A potential reason behind this lack of association could be that employees' psycho-social rationalizations are such that their positive perceptions about GPC of their organization do not incite their creativity and innovativeness. This association has not been examined before in the context of the tourism and hospitality sector, making our study an exploratory effort to unearth the association, which, if found, could prove useful for practitioners. As such, we suggest that further studies should focus intensively on examining this association, taking cultural and economic factors into consideration.

Finally, our results supported the existence of the sequential mediation effect of GPC and GWE between GIL and GCRT (**H9**), which is a novel association that has not previously been examined. Preceding studies have considered single mediators, such as psychological capital (Fang et al., 2019) and psychological empowerment (Javed et al., 2018), between creativity and inclusive leadership. The result indicates that GPC and GWE sequentially account for the partial impact of GIL on GCRT. Furthermore, since the indirect effect had a sign similar to the direct effect (positive in the current study), we can consider these two intervening variables a mediator, in consonance with recent studies (Tuan, 2020). However, **H7** and **H8** were not supported by our analysis, indicating that GPC or GWE do not intervene between GIL and GCRT independently, and should, therefore, be considered in tandem to better measure the antecedents of GCRT.

### ***Theoretical contribution***

Our study offers four key theoretical contributions. First, this study proposed a novel construct, i.e., GIL, to better explicate the drivers of GCRT in the tourism and hospitality sector. By doing

so, the study extends the limited literature, focusing on the impact of diverse leadership styles on employee green behavior in this area. The previous literature has examined only two leadership styles, namely, green transformational leadership and environmental-specific servant leadership, in the green context (Chen & Chang, 2013; Li et al., 2020; Mittal & Dhar, 2016; Tuan, 2020).

Second, the study proposes newer associations that have not previously been examined, both in the context of the green behavior of employees in the tourism and hospitality sector and in general. For instance, no prior studies have examined GPC and GWE as a joint mechanism through which organizational leadership can enhance the behavior of employees to generate, support, and rethink green ideas that can improve organizations' environmental performance. Similarly, the relationship between GPC and green behavior has been examined by only two relevant studies (Norton et al., 2017; Zhou et al., 2018), while work engagement has also remained under-researched in the ecological and GCRT literature (Bakker & Xanthopoulou, 2013). This is a remarkable contribution by our study since scholars have contended that proposing hitherto unexplored associations constitute a noteworthy theoretical contribution (Whetten, 1989).

Third, our study contributes to theoretical advancement in the area by providing insights into green employee behavior in the tourism and hospitality sector, wherein studies related to environmental performance have largely focused on the organization as a whole in the context of its eco-friendly services, environmental management system, sustainable hotel practices, and so on (e.g., Gupta et al., 2019). In comparison, despite the key role that employees can play in pushing the green agenda, the drivers of employees' green behavior in this sector have remained under-explored (Sourvinou & Filimonau, 2018).

Finally, our study contributes at the methodological level by theorizing and testing a serial mediation model to measure the sequential effect of GPC and GWE on the association of GIL and GCRT. Past studies have confirmed the mediation mechanism of team voice, psychological capital, and organizational support between leadership and creativity in other industries (Fang et al., 2019; Qi et al., 2019). Similarly, the existing literature on the drivers of green creativity has largely examined independent mediation effects only (e.g., Jia et al., 2018; Mittal & Dhar, 2016). By considering the sequential mediating effect of GPC and GWE, we underscore the joint role of contextual factor (GPC) and the task motivation component (GWE) of CTC in driving the green creativity of employees. No prior study until now has thus proposed and examined the sequential mediating effect of these variables on the association of green behavior, as well as its drivers, in the tourism and hospitality sector.

### ***Managerial implications***

This study offers three key practical implications for the tourism and hospitality sector from the perspective of promoting employee green behavior. First, the findings of the study confirm that an inclusive leadership approach, wherein relational leaders follow an open door policy, remove hierarchical barriers, and encourage employees to express their green concern, can enhance the green creativity of employees. Given the service-oriented nature of the tourism sector and the power in the hands of employees to create unique experiences for customers that also enhance their own green behavior, illuminating the role of inclusive leadership in promoting employee green behavior is of great practical use not only for the organizations but also for society at large. In this regard, our study highlights the fact that being aware of environmental challenges is not enough; rather, tourism organizations need to focus on a more contemporary leadership style that motivates employees to perform their work tasks in a creatively pro-environmental way. Accordingly, we recommend that tourism organizations should sensitize and train their leadership teams to be more accessible and open. To break the ice in organizations that have been adhering to more conventional leadership styles, we recommend that informal monthly

gatherings can be organized for all employees, including the leadership team. This can serve as a good beginning point to initiate a change in leadership style to make it more inclusive.

Secondly, to visibly communicate to the employees that their views on creative and innovative solutions to the environmental challenges faced by their organizations are welcome, tourism organizations can introduce an initiative like '*green voice of employees*' as a part of their enterprise social media (ESM) post or a pinboard where employees can share their green ideas. Such an initiative will serve the dual purpose of not only encouraging green creativity but also signaling the fact that their leadership team is open to their ideas for enhancing their organizations' environmental performance.

Finally, since our study indicates that inclusive leadership can motivate green creativity among employees through the sequential mechanism of GPC and GWE, we suggest that tourism organizations not only formulate commensurate green policies, procedures, and practices but also disseminate them promptly to employees to increase their positive perception about GPC in their organization. This would also enhance their related work engagement, as well as their green creativity. Since communication, both verbal and non-verbal, is the key here, we suggest that in addition to disseminating the policies effectively, the green-orientation of the organization should also be enforced in day-to-day life. Some practical ways could be to have a '*green corner*' where posters and videos related to the organization's carbon footprint, waste generation, and management approaches, for example, can be displayed to provide a better connection to employees. Furthermore, to psychologically strengthen the green perception of employees about their organizational climate, the interiors could have a subtle green color scheme, separate bins for items that are to be recycled, and so on.

### ***Limitations and directions for the future research***

The current study makes notable contributions to theory and practice, which need to be contextualized by taking the following limitations into consideration. First, the study primarily focused on green creative behavior in the tourism and hospitality sector, ignoring product and process realignment that can significantly contribute to reducing environmental damages and contamination. Thus, future studies should expand our model to consider these aspects as well. Second, the study has not considered cultural factors to keep the scope of the study manageable, thereby limiting the insights on how employees' cultural background accounts for motivating their green behavior and promoting green tourism. Third, the study collected self-report data from hotel employees in Europe. As such, the findings of the study may not be generalizable to other geographies or sectors. However, the constructs and relationships explored in our study are relevant to other sectors, be they manufacturing, service, or so on. Future studies can thus replicate our model in different contexts to generate related findings. Fourth, our study is cross-sectional, providing behavioral insights at a given point in time. Thus, it does not capture the changing or situational behavior. We recommend that future researchers conduct experiment-based and longitudinal studies to establish causality and capture possible changes in behaviors. Finally, we proposed our conceptual model by extrapolating the theoretical propositions of CTC, which does not provide specific constructs or the direction of relationships. Future researchers can apply other theories, such as the value-attitude-behavior (VAB) theory, which has been applied successfully to examine sustainable behavior (Kim et al., 2020).

### **Disclosure statement**

No potential conflict of interest was reported by the authors.

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