

EFFECT OF GREEN INCLUSIVE LEADERSHIP ON EMPLOYEES' GREEN WORK ENGAGEMENT IN HOTELS AND TRAVEL AGENCIES: THE ROLE OF GREEN INTRINSIC MOTIVATION

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Abstract: This study aims to explore the effect of green inclusive leadership (GIL) on green work engagement (GWE). It also examines the mediating role of employees' green intrinsic motivation (GIM). The study investigated 50 category-A travel agencies and 20 five-star hotels in the Greater Cairo region of Egypt. The PLS-SEM approach was used to analyze 392 responses obtained from full-time employees. Results revealed that green inclusive leadership positively impacts employees' green intrinsic motivation and green work engagement. In addition, employees' green intrinsic motivation positively impacts green work engagement and mediates the relationship between green inclusive leadership and employees' green work engagement. The study offers comprehensive insights into green inclusive leadership, employee intrinsic motivation, and work engagement in the Egyptian tourism and hotel industry.

Keywords: Green inclusive leadership, green work engagement, green intrinsic motivation, tourism and hotel industry, Egypt

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INTRODUCTION

Hospitality and tourism organizations worldwide are undergoing a strategic shift towards environmental sustainability, with a growing focus on integrating green behaviors and practices into their operations and services (Streimikiene et al., 2021; Aboramadan et al., 2022; Alqarni et al., 2023; Velwin et al., 2024). At the heart of this movement lies the critical role of employees' environmentally conscious actions, termed green behaviors (e.g., GWE), which have emerged as key catalysts for successfully implementing eco-friendly practices within the workplace (Dumont et al., 2017). Furthermore, fostering employee engagement in such practices is essential for the effectiveness of any environmental management initiative (Karatepe et al., 2022; Shuhua and Kanokporn, 2023; Al-Romeedy and Khairy, 2024). According to Bhutto et al. (2021), GWE refers to the level of employee involvement in tasks related to environmental sustainability. This encompasses their passion for such tasks, dedication to achieving environmental goals, and a sense of pride, immersion, and commitment to ecological efforts within their work. Research has identified several key factors influencing GWE, where employees dedicate themselves to promoting environmentally sustainable practices within their workplaces (Suksutdhi, 2024). These factors are commonly identified across various studies, such as job characteristics (Rai et al., 2017), HRM practices (Ababneh, 2021), and leadership (Aboramadan et al., 2022; Fang, 2023).

Hospitality and tourism organizations recognize the crucial role work engagement plays in organizational success (Karatepe et al., 2022; Alagarsamy et al., 2023). Inclusive leadership emerges as a powerful driver of this engagement, fostering a positive and productive work environment (Bao et al., 2022). Green Inclusive Leadership (GIL) stood out as a relational approach within the landscape of contemporary leadership styles. Characterized by its openness to innovative

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green ideas, active discussion of pro-environmental goals, and accessibility for consultation on organizational environmental challenges, GIL fosters a collaborative environment where achieving sustainability becomes a shared responsibility (Aboramadan et al., 2022). Bhutto et al. (2021) defined GIL as the leadership style characterized by transparency, accessibility, and collaborative interaction with employees in pursuit of environmental goals and green processes or services. In essence, GIL leaders act as motivators, promoting active employee participation and dialogue around environmental solutions (Patwary et al., 2023). While fostering a readily accessible and open leadership style is commendable, research by Bhutto et al. (2021) concluded that it may not be the sole catalyst for maximizing green work engagement. Their findings indicate that mere leader accessibility and openness do not automatically translate into heightened employee dedication, energy, and absorption in environmentally sustainable practices.

Putra et al. (2017) posit that some intervening mechanisms (e.g., intrinsic motivation) can increase employees' work engagement. The self-determination theory (SDT) proposed by Ryan and Deci (2000a) underscores the fundamental role of motivational drivers in employee engagement, extending to the realm of green work. Gagné and Deci (2005) differentiated between intrinsic and extrinsic motivation. Activities perceived as inherently interesting, challenging, and purpose-driven fuel intrinsic motivation, leading to enhanced personal satisfaction and fulfillment (Deci et al., 2017). This type of motivation is critical for sustaining work engagement, especially in the context of GWE (Putra et al., 2017, Aboramadan, 2022). Intrinsic motivation refers to the inherent desire to engage in an activity for the inherent satisfaction and enjoyment it provides, independent of external rewards (Ryan and Deci, 2000b). Drawing on this, the current study defines green intrinsic motivation (GIM) as the internal drive to engage in environmentally friendly behaviors for personal satisfaction and fulfillment. As Deci and Ryan (2013) argue, GIM thrives when individuals possess a strong internal locus of causality, feeling responsible and in control of their actions and their positive impact on the environment. Previous studies highlighted the relationship between inclusive leadership and work engagement in a non-green context (e.g., Aslan et al., 2021; Vakira et al., 2023). In the green context, scholars examined the impact of green inclusive leadership on some variables, such as green creativity (Bhutto et al., 2021), employee green behaviors (Aboramadan et al., 2022), and green organizational citizenship (Abdou et al., 2023). The study conducted by Aboramadan et al. (2022) analyzed the effect of GIL on employees' green behaviors, such as green knowledge-sharing behavior, green service recovery performance, and green innovative work behavior. Aboramadan and his colleagues further recommended future research to investigate the impact of GIL on other green behaviors, such as GWE, which indicates a substantial gap that persists in recognizing the direct relationship between GIL and GWE. To our knowledge, no study has examined the direct relationship between GIL and GWE or the indirect relationship between the two constructs, considering GIM as a potential mediating factor, particularly within the hospitality and tourism industry. Hence, the current study has two aims. First, bridge the gap in the literature by investigating the relationship between GIL and GWE. Second, examine the mediating role of GIM in the GIL-GWE relationship in the hospitality and tourism industry. The flow chart of the research methodology is presented in Figure 1 below.

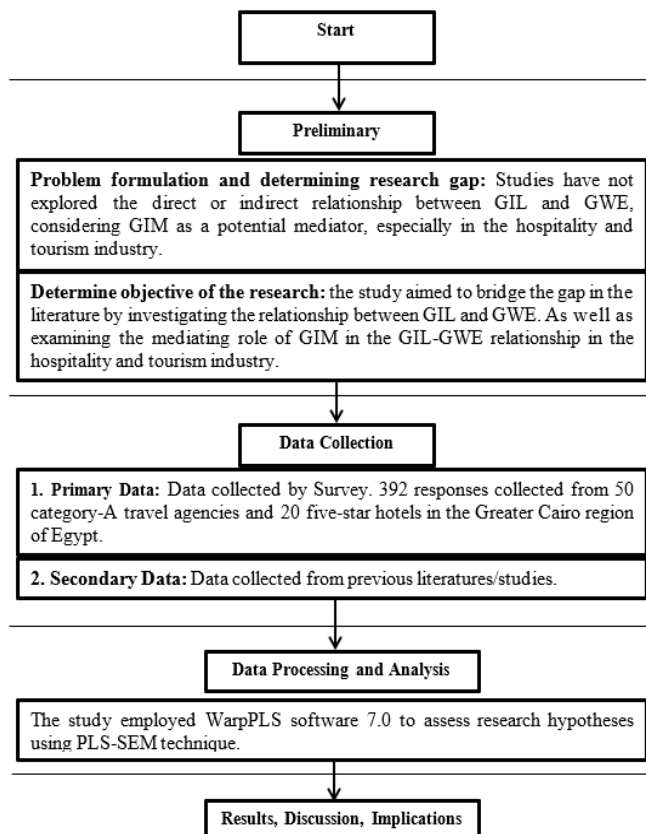


Figure 1. A flow chart of research methodology

THEORETICAL FRAMEWORK AND HYPOTHESES DEVELOPMENT

Green Inclusive Leadership and Green Work Engagement

Active involvement in work activities "work engagement" can strongly reflect employees' demonstrably strong commitment (Khairy et al., 2023a). This commitment manifests as enthusiastic and proactive participation, motivating them to tackle diverse tasks and excel across various facets of their work (Schaufeli et al., 2006). GWE refers to the concerted effort and dedication employees devote to fostering a sustainable work environment. It manifests in their adherence to eco-friendly practices and their entrenched sense of belonging within an organization committed to environmental responsibility (Aboramadan, 2022). GWE transcends mere compliance with environmental initiatives. It signifies a deep employee commitment to actively contribute to a sustainable work environment (Bhutto et al., 2021). This commitment manifests in both cognitive focus and emotional dedication towards tasks associated with eco-friendliness, reflecting a heightened level of seriousness in preserving the environment. As a key indicator of active pro-environmental participation, GWE underscores the crucial role employees play in fostering a truly green workplace (Marini et al., 2023; Khairy et al., 2024).

The relationship between inclusive leadership and work engagement was established through several aspects (Aslan et al., 2021). Firstly, Carmeli et al. (2010) and Hollander (2012) argue that by fostering an environment of trust and psychological safety through open communication, accessibility, and emotional support, inclusive leaders foster intrinsic motivation and risk-taking, leading to enhanced work engagement. Secondly, Bannay et al. (2020) assert that inclusive leaders demonstrate a commitment to their team's development by investing in targeted resources and opportunities for skill enhancement and knowledge acquisition. This not only equips employees for success but also propels work engagement. Thirdly, Carmeli et al. (2010) and Zeng et al. (2020) indicated that inclusive leaders move beyond directive styles, actively engaging their teams in decision-making processes and granting them autonomy. This promotes employees' feelings of ownership and responsibility, demonstrably translating into more work engagement. In the green context, Abdou et al. (2023) concluded that GIL transcends mere environmental advocacy. It necessitates the active engagement and empowerment of employees in sustainability initiatives, fostering a culture of shared environmental stewardship within the organization. This inclusive approach demonstrably enhances GWE, leading to demonstrably improved environmental outcomes. Therefore, the study hypothesized that:

H1: GIL positively affects GWE

Green Inclusive Leadership and Green Intrinsic Motivation

Employee behaviors are often driven by intrinsic or extrinsic motivations (Norton et al., 2015). Intrinsic motivation arises from the inherent satisfaction and interest individuals find in a task, fostering autonomy and personal fulfillment. In contrast, extrinsic motivation stems from external rewards, recognition, or even the fear of punishment, influencing behavior through external pressures (Ryan and Deci, 2000b). Within the self-determination theory (SDT), intrinsic motivation signifies the apex of autonomous behavior (Gagné and Deci, 2005). This inherent drive propels employees toward pro-environmental tasks intrinsically perceived as interesting and stimulating, resulting in personal pleasure and satisfaction (Deci et al., 2017). Building on this definition, Li et al. (2020) defined green intrinsic motivation as the internalized desire to engage in pro-environmental behaviors. This self-determined motivation arises from personal values, interests, and a sense of responsibility toward the environment, resulting in internal rewards such as satisfaction and fulfillment. Green inclusive leaders prioritize cultivating GIM in their employees, fostering a sense of competence, autonomy, and relatedness within the workplace (Yanzi and Yanan, 2019). This unique leadership style cultivates a fair and equitable environment, demonstrably propelling intrinsic motivation toward environmental sustainability. Notably, green-inclusive leaders provide frequent feedback and recognition for both green practices and professional development. This directly addresses the fundamental psychological needs outlined by SDT "competence, autonomy, and relatedness", which demonstrably foster employees' intrinsic motivation (Qasim et al., 2022). Supportive leadership is well-established as a predictor and nurturer of employee intrinsic motivation within the organizational behavior literature (Shu, 2015; Bande et al., 2016; Faraz et al., 2021). Inclusive leaders embody this principle by actively supporting their team members. They demonstrate openness, availability, and accessibility, ensuring employees' expectations, needs, and aspirations are heard and addressed (Hudie et al., 2017). Moreover, inclusive leadership fosters trust and loyalty by demonstrably valuing employee contributions, actively responding to ideas, and providing essential emotional support (Javed et al., 2019). This approach engenders a demonstrably more supportive organizational climate compared to other leadership styles (Choi et al., 2017). Within this supportive environment, employees are empowered to take initiative, adapt to changing circumstances, and freely share information and opinions (Zeng et al., 2020; Khairy et al., 2023b). Inclusive leaders further demonstrate their commitment to employee success by actively engaging in supporting business processes and motivating their teams to overcome challenges (Bannay et al., 2020). Hence, the following hypothesis was proposed:

H2: GIL positively affects employees' GIM

Green Intrinsic Motivation and Green Work Engagement

GWE refers to a positive and fulfilling state of mind specifically related to environmental practices and initiatives within the workplace (Schaufeli et al., 2006; Aboramadan, 2022). It is characterized by three key components: vigor where employees exhibit high energy and mental flexibility, demonstrating a willingness to invest effort and persevere in green work endeavors, even when faced with difficulties; dedication refers to aligning environmental responsibility with personal values, individuals find meaning and significance in their green roles, readily adapting to the demands of their environmental work; and absorption indicates that employees experience deep immersion and focus in their green tasks, driven by a strong desire to contribute positively to environmental goals (Karatepe et al., 2022; Marini et al., 2023).

Previous studies suggested that employees engage in environmentally friendly behaviors at work (e.g., GWG) due to intrinsic and extrinsic motivation (Norton et al., 2015; Shu, 2015; Xu et al., 2022). GIM fuels eco-friendly behaviors driven by personal satisfaction and enjoyment. Unlike external rewards, this motivation stems from within (Deci and Ryan, 2013). When individuals feel an internal sense of control over their green actions, this "locus of causality" empowers them to actively create positive environmental change. For example, a deep love for nature and responsible practices can inspire employees to engage in developing products and services that minimize environmental impact, driven by their values and commitment to sustainability (Li et al., 2020). Regarding the relationship between GIM and GWE, the current study was drawn on SDT. SDT explains how intrinsic and extrinsic motivations influence pro-environmental behaviors (Ryan and Deci, 2000a; Duong et al., 2023). Intrinsically motivated individuals act because they find the activity inherently interesting, enjoyable, and fulfilling (Ryan and Deci, 2000a). This includes internalized and identified motivations, where the action aligns with personal values and feels important (Yang and Thøgersen, 2022). For example, individuals might be intrinsically motivated to practice green behaviors because they find them enjoyable and contribute to environmental well-being. They engage in these activities for the inherent satisfaction and pleasure they derive, not external rewards (Koo et al., 2015; Duong et al., 2023). So, the current study proposes that when employees have Intrinsic love, passion, and interest in the environment, they are more likely to engage in green work as they find GWE more interesting, enjoyable, and fulfilling for their environmental passion. Consequently, the following hypothesis was formulated:

H3: GIM positively affects GWE

The Mediating Role Green Intrinsic Motivation

The current study employed the social exchange theory (SET) of Blau (1964, 2017) and the SDT of Ryan and Deci (2000a) to indicate how green inclusive leaders encourage employees' green work engagement by affecting their green intrinsic motivation. SET underscores the notion that social interactions are fundamentally reciprocal exchanges (Blau, 1964, 2017). Inclusive leaders who demonstrate openness, accessibility, and availability initiate a positive exchange with their employees (Carmeli et al., 2010). This, in turn, fosters a sense of obligation among employees to reciprocate through enhanced vigor, dedication, and absorption in their work, which constitutes work engagement, especially when employees experience their work as enjoyable, interesting, and inherently satisfying (Saks, 2019). This intrinsic drive amplifies the positive effects of inclusive leadership, creating a mutually reinforcing cycle that culminates in enhancing work engagement (Shu, 2015; Abdou et al., 2023). Furthermore, SDT identified three fundamental psychological needs that drive intrinsic motivation: autonomy, competence, and relatedness (Ryan and Deci, 2000a). When individuals engage in activities that fulfill these needs, they experience inherent satisfaction and enjoyment, leading to intrinsically motivated behavior (Güntert, 2015). Inclusive leadership ignites intrinsic motivation by nurturing employee autonomy and competence. They do this by empowering decision-making, investing in skill development, and recognizing achievements (Güntert, 2015).

Consequently, employees reciprocate by exhibiting high levels of work engagement, characterized by vigor, dedication, and absorption in their work (Shu, 2015). The current study, grounded in both SET and SDT, proposes that GIL drives intrinsic motivation in employees, leading them to actively engage in green tasks and pro-environmental behaviors. Green inclusive leaders embody openness, accessibility, and availability. These traits, according to SET, establish a positive exchange relationship with employees (Yanzi and Yanan, 2019). In response, employees are intrinsically motivated to reciprocate by enhancing their green work engagement (Cenkci et al., 2021). This engagement manifests through the dedication of their emotional, cognitive, and physical resources to their work (Bao et al., 2022). SDT further supports this dynamic. Leaders who offer encouragement and recognition for green initiatives spark interest and enthusiasm among employees, fostering deeper engagement with environmentally focused tasks (Bhutto et al., 2021). By creating a culture of open dialogue and inquiry, green inclusive leaders also cultivate genuine curiosity in their teams, motivating them to engage in green work with zeal and dedication (Aboramadan et al., 2022; Abdou et al., 2023). Essentially, GIL fosters a mutually beneficial cycle. Leaders create an environment that fosters GIM, and employees reciprocate by dedicating their efforts towards more GWE. Hence, the study hypothesized that:

H4: GIM positively mediates the relationship between GIL and GWE.

The conceptual framework of the study is illustrated in Figure 2 below.

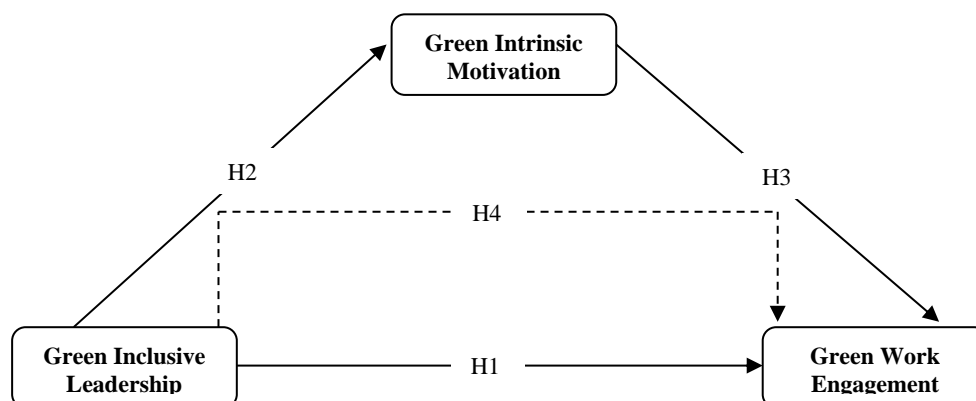


Figure 2. Conceptual framework of the study

METHODOLOGY

Measures

This is a survey-based study that explores the impact of green inclusive leadership on green work engagement in five-star hotels and category-A travel agencies, examining the mediating role of employees' green intrinsic motivation. A 9-item scale developed by Carmeli et al. (2010) was used to evaluate green-inclusive leadership.

For example, “The manager is accessible for discussing emerging pro-environmental problems” and “The manager is open to hearing g new pro-environmental ideas”. In addition, a 6-item scale adapted from Aboramadan (2022) was used to measure employees' green work engagement. For example, “I am proud of the environmental work that I do” and “I am immersed in my environmental work”. Moreover, a 6-item scale developed by Li et al. (2020) was utilized to assess employees' green intrinsic motivation. For instance, “I enjoy trying to complete environmental tasks in my workplace” and “I enjoy improving existing green ideas in my workplace”.

Population and sample

The study analyzed five-star hotels and travel agencies-category-A in Egypt's hospitality and tourism industry using a convenience sample strategy. The researchers' large population and limited resources have led to a significant challenge in their research endeavor which is why this study relied on a convenience sampling technique (Hashad et al., 2023). Data from employees of Egypt's five-star hotels and category-A travel agencies, which continuously offer superior customer service and are dedicated to green initiatives, was used to assess the research model. The Egyptian Ministry of Tourism and Antiquities (2022) reported that the Greater Cairo region of Egypt has 30 five-star hotels and 1666 travel agencies category-A. The study involved 50 travel agencies and 20 hotels, with a response rate of 56%, based on 392 valid questionnaires out of 700 distributed. Out of 392 employees, 52.30% (n= 205) were in five-star hotels, while 47.70% (n=187) were in travel agencies (Figure 3).

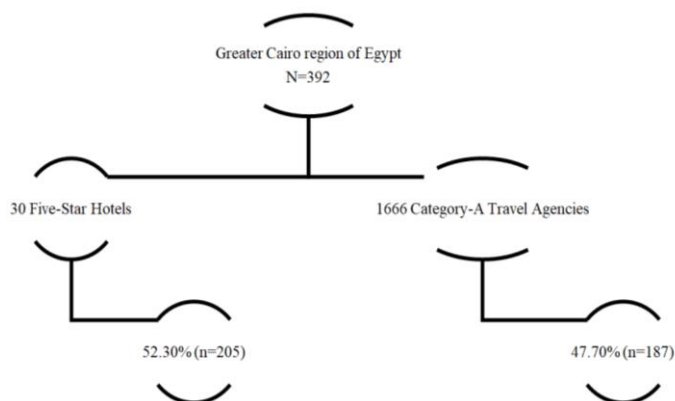


Figure 3. Study sample

Respondents' profile

According to Table 1, 392 employees were involved in this study; 308 (78.57%) were males and 84 (21.43%) were females. There were 178 (45.41%) employees below the age of 30 and 32 (8.16%) above the age of 50. In addition, more than two-thirds (n=268, or 68.37%) held a bachelor's degree. Furthermore, about half of the participants (n=182, 46.43%) had two to five years of work experience.

Table 1. Respondents' profile (N=392)

		Frequency	Percent
Gender	Male	308	78.57
	Female	84	21.43
Age group	< 30 years	178	45.41
	30 : < 40 years	136	34.69
	40 : ≤ 50 years	46	11.73
	> 50 years	32	8.16
Educational level	High schools/institute	94	23.98
	Bachelor	268	68.37
	Master/PhD	30	7.65
Tenure	1:< 2 years	122	31.12
	2 to <5 years	182	46.43
	≥5 years	88	22.45

Data analysis

This study employed WarpPLS software 7.0 to assess research hypotheses using PLS-SEM, a popular analytical technique in tourism and hospitality research. The study utilized PLS-SEM, a statistical method for theory validation and data processing in complex models, suitable for strategic and management studies in hospitality and tourism research (Abouelenien et al., 2024; Alshehri et al., 2024; Khairy and Elzek, 2024). In addition, the Multi-Group Analysis was first conducted and revealed no significant differences in path coefficients according to the differences in the workplace “travel agencies or hotels”.

RESULTS

Reliability and validity

According to Table (2), the research constructs exhibited composite reliability (CR) ratings above the minimally acceptable level (CR>0.70), with all item loadings being statistically acceptable (Loadings >0.50, p<0.05). The study's convergent validity was also confirmed by the AVE values exceeding 0.50 (Gerbing and Anderson, 1988). It can also be noted that the model is considered free of common method bias since the variance inflation factors (VIFs) for every latent variable are ≤ 3.3 (Kock, 2015). Table (3) confirms the study model's discriminant validity, with each variable's AVE value exceeding the maximum common value and a significant correlation between latent variables which is less than unity. The validity of the constructs was confirmed through the calculation and proof of the HTMT since it is < 0.85, as shown in Table (4).

Table 2. Factor loadings, Cronbach Alpha, CR, AVE, and VIF

	Item loading	CR	CA	AVE	VIFs
Green inclusive leadership (GIL)	-	0.924	0.905	0.579	2.060
GIL.1	0.871				
GIL.2	0.824				
GIL.3	0.808				
GIL.4	0.832				
GIL.5	0.820				
GIL.6	0.804				
GIL.7	0.669				
GIL.8	0.607				
GIL.9	0.541				
Green work engagement (GWE)	-	0.900	0.867	0.602	2.219
GWE.1	0.810				
GWE.2	0.826				
GWE.3	0.778				
GWE.4	0.815				
GWE.5	0.740				
GWE.6	0.676				
Green intrinsic motivation (GIM)	-	0.919	0.894	0.657	1.793
GIM.1	0.695				
GIM.2	0.804				
GIM.3	0.774				
GIM.4	0.856				
GIM.5	0.849				
GIM.6	0.869				

Table 3. Discriminant validity

	GIL	GIM	GWE
Green inclusive leadership (GIL)	0.761	0.590	0.688
Green intrinsic motivation (GIM)	0.590	0.810	0.629
Green work engagement (GWE)	0.688	0.629	0.776

Table 4. HTMT for validity

HTMT ratios (good if < 0.90, best if < 0.85)	GIL	GIM	GWE
Green inclusive leadership (GIL)			
Green intrinsic motivation (GIM)	0.686		
Green work engagement (GWE)	0.796	0.719	
P values (one-tailed) for HTMT ratios (good if < 0.05)	GIL	GIM	GWE
Green inclusive leadership (GIL)			
Green intrinsic motivation (GIM)	<0.001		
Green work engagement (GWE)	<0.001	<0.001	

Table 5. Model fit and quality indices

	Assessment	Criterion
Average path coefficient (APC)	0.505, P<0.001	P<0.05
Average R-squared (ARS)	0.534, P<0.001	P<0.05
Average adjusted R-squared (AARS)	0.533, P<0.001	P<0.05
Average block VIF (AVIF)	2.084	acceptable if ≤ 5 , ideally ≤ 3.3
Average full collinearity VIF (AFVIF)	2.024	acceptable if ≤ 5 , ideally ≤ 3.3
Tenenhous GoF (GoF)	0.572	small ≥ 0.1 , medium ≥ 0.25 , large ≥ 0.36
Sympson's paradox ratio (SPR)	1.000	acceptable if ≥ 0.7 , ideally = 1
R-squared contribution ratio (RSCR)	1.000	acceptable if ≥ 0.9 , ideally = 1
Statistical suppression ratio (SSR)	1.000	acceptable if ≥ 0.7
Nonlinear bivariate causality direction ratio (NLBCDR)	1.000	acceptable if ≥ 0.7

Research model fit and quality metrics

Kock's (2021) model fit and quality index criteria were all met by the current study (Table 5).

Hypotheses testing results

Hypotheses testing results shown in Figure (2) indicate that green inclusive leadership (GIL) positively impacts green work engagement (GWE) ($\beta=0.45$, $P<0.01$), and green intrinsic motivation (GIM) ($\beta=0.63$, $P<0.01$). This means that as GIL increases, GWE and employee GIM tend to be high, supporting both H1 and H2. In addition, employee GIM positively impacts their GWE ($\beta=0.43$, $P<0.01$). This means that when GIM is higher, GWE tends to be high. Therefore, H3 is supported. Figure (4) also shows that green inclusive leadership interpreted 40% of the variance in employees' green intrinsic motivation ($R^2=0.40$). Moreover, green inclusive leadership and green intrinsic motivation interpreted 67% of the variance in employee green work engagement ($R^2=0.67$).

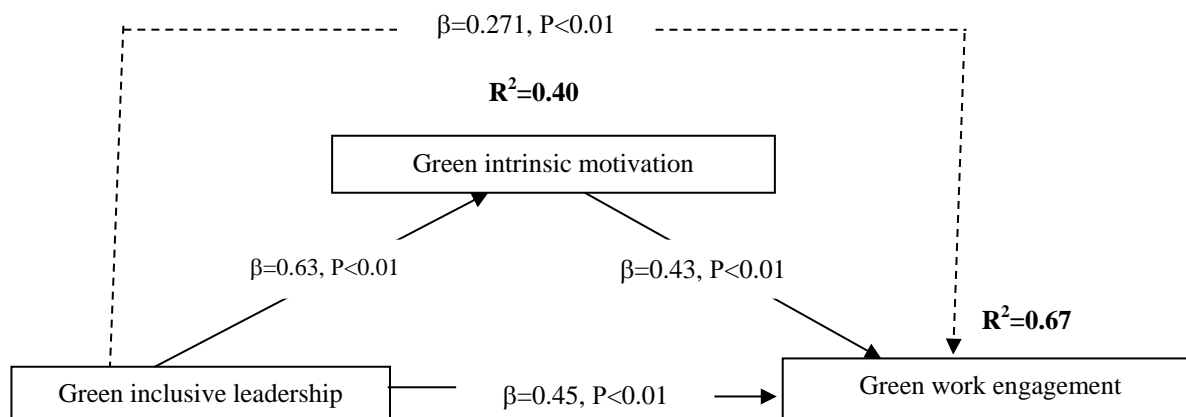


Figure 4. The final model of the study

Finally, bootstrapping analysis was used to investigate the indirect effect to evaluate the role of green intrinsic motivation as a mediator (Table 6). The indirect effect's Std. $\beta=0.271$ (0.630×0.430) was significant ($P<0.001$), with a t -value of 7.968, according to the bootstrapping procedure. Additionally, mediation is confirmed by the fact that a "95% Bootstrapped Confidence Interval" (LL=0.204, UL=0.338) does not cross a zero in the middle. Therefore, it can be said that there is statistically significant evidence supporting the role that green intrinsic motivation plays as a mediator in the relationship between green inclusive leadership and green work engagement. H4 is therefore supported.

Table 6. Mediation analysis

H4	Path a GIL-GIM	Path b GIM-GWE	Indirect Effect	SE	t-value	Bootstrapped Confidence Interval		Decision
						95% LL	95% UL	
GIM as mediator	0.630	0.430	0.271	0.034	7.968	0.204	0.338	Mediation

DISCUSSION

The study investigates the impact of green inclusive leadership on green work engagement and the mediating role of employees' green intrinsic motivation. The research model was established and tested, incorporating four hypotheses (H1, H2, H3, and H4). The study found that green inclusive leadership positively influences green work engagement (H1-supported) and employees' green intrinsic motivation (H2-supported). These findings exhibit notable concordance with earlier research in green context conducted by Fang et al. (2021), and Patwary et al. (2023).

Inclusive leadership fosters team relationships, boosts employee loyalty, and promotes green behavior, demonstrating resource accessibility and innovative employee behavior, particularly in the hospitality and tourism industry (Bhutto et al., 2021). Decuyper and Schaufeli (2020) suggest that approachable and open-minded leaders motivate followers to invest their energy in their work. Inclusive leaders positively impact green human resources practices, prioritizing employee needs and increasing engagement with green practices in tourism and hotel enterprises, thereby boosting motivation. In addition, green inclusive leadership positively impacts the hospitality and tourism sector by transforming corporate policies into guidelines and training employees on green outcomes.

This approach fosters positive perceptions of the organization's green climate by providing freedom and achieving green objectives (Bhutto et al., 2021). Further, the findings are in line with studies conducted in non-green contexts, such as Ly (2024) and Cin and Sönmez (2024). The study also found that green intrinsic motivation positively influences green work engagement (H3-supported) and positively mediates the relationship between green inclusive leadership and employees' green work engagement (H4-supported). These results are consistent with Bhutto et al. (2021) and Aboramadan et al. (2022), Green inclusive leadership can enhance green work engagement by motivating employees through an open approach (Bhutto et al., 2021). Green inclusive leadership, a style that prioritizes employee needs, can boost engagement in the tourism and hospitality sector by focusing on green-related work tasks (Aboramadan

et al., 2020). This approach can enhance green work engagement, highlighting the energy expended and commitment to green tasks. In addition, leaders significantly contribute to employees' perceived organizational support by providing essential organizational resources, as they are considered a crucial source of support (Huning et al., 2020). GIL fosters positive employee perceptions of green organizational support by making leaders accessible and open to addressing environmental issues, thereby promoting positive green work experiences (Aboramadan et al., 2022).

Theoretical and practical implications

The current study offers valuable theoretical contributions, particularly to SET and SDT, enriching the field of green organizational behaviors. Notably, the findings bolster the core principles of both theories: our results reinforce the fundamental views of SET, illustrating that supportive leadership fosters reciprocal positive behaviors from employees. By establishing a climate of inclusivity and environmental commitment, organizations incentivize intrinsic motivation and encourage employees to reciprocate through increased engagement in green practices. Further, the findings resonate with SDT's emphasis on intrinsic motivation as a key driver of engagement. The mediating role of GIM highlights that when green inclusive leaders exhibit openness, availability, and accessibility, it ensures employees' expectations, needs, and aspirations are heard and addressed, leading to satisfying their needs and motivating their engagement in green behaviors. The positive influence of GIL on GWE, mediated by GIM, underscores the belief that employees respond to inclusive leadership with more commitment and engagement. Further, the study emphasizes the critical role of leadership in fostering GIM, a key driver of GWE. Leaders who champion both environmental sustainability and inclusivity can directly influence GWE while simultaneously nourishing GIM. This occurs by addressing employees' passion and interest in green values and providing opportunities for active involvement in sustainability efforts. Furthermore, the study establishes a positive correlation between GIM and GWE. Intrinsic motivation is known to fuel employee vigor, dedication, and absorption, leading to enhanced engagement with tasks that align with their values.

This suggests that employees with higher GIM are more likely to actively participate in green initiatives, which do not entail advanced cognitive skills. Otherwise, the study built a comprehensive framework for understanding GWE, highlighting the interconnectedness of leadership, motivation, and engagement in the context of sustainability. Notably, it identifies GIM as a key mediator between GIL and GWE. This underscores the leadership's critical role in fostering GIM through an inclusive and values-aligned environment. Such an environment fuels intrinsic motivation, leading to deeper engagement in green initiatives regardless of job boundaries. Therefore, cultivating GIM should be central to any leadership strategy for promoting GWE. This study lays the groundwork for further research on effective leadership practices for GIM and their applicability across diverse contexts. Ultimately, translating these insights into actionable strategies empowers workforces to actively contribute to a more sustainable future.

The findings of the study offer some key practical implications for tourism and hotel industry practitioners seeking to advance environmental sustainability through leadership, motivation, and employee engagement: Firstly, hospitality and tourism organizations must prioritize GIL style by selecting and training leaders who exhibit a strong personal commitment to environmental sustainability and are adept at fostering inclusion within the workforce.

Furthermore, integrate modules on environmental stewardship and inclusive leadership into training programs, equipping leaders to promote green practices and foster a green-value-driven work environment. Secondly, fostering GWE in hospitality and tourism organizations is a significant matter. Tourism and hotel enterprises can increase their employees' GWE by providing employees with the resources, recognition, and opportunities necessary to actively participate in environmentally responsible practices. In addition, designing clear and accessible avenues for employee engagement in green initiatives fosters a sense of ownership and meaningful contribution. Thirdly, tourism and hotel enterprises must comprehend the mechanism of motivation to cultivate employees' GIM by promoting a comfortable and meaningful work environment that enhances employee well-being and connects their work to broader environmental impact, increasing intrinsic motivation and driving deeper engagement. Finally, hospitality and tourism organizations must create feedback mechanisms and recognition systems to highlight employee contributions to sustainability initiatives, strengthen intrinsic motivation, and reinforce desired behaviors. By adopting these evidence-based strategies, tourism and hotel enterprises can cultivate a workforce with a genuine intrinsic motivation to embrace green practices, ultimately contributing to a more sustainable and responsible hospitality and tourism industry.

Limitations and future research

This study successfully explored the relationships between green inclusive leadership, green work engagement, and green intrinsic motivation in the context of five-star hotels and category-A travel agencies in Egypt. While the findings offer valuable insights into this specific environment, acknowledging certain limitations is crucial for future research exploration. Firstly, the study focused on five-star hotels and category-A travel agencies in Egypt, which restricted its direct applicability to broader populations and settings. Future research should aim to replicate the findings in diverse organizational contexts, including green-certified hotels across different star ratings (4/5-star), other hospitality and tourism sectors, such as restaurants and airlines, and broader geographical areas, especially across the Middle East and other African countries. These explorations will enhance the generalizability of the findings and contribute to a more comprehensive understanding of the interdependencies between the examined constructs. Secondly, the current study primarily focused on GWE as the key outcome variable. However, to gain a more holistic perspective on the effectiveness of GIL, future investigations could examine its impact on a broader range of green behaviors.

Analyzing its influence on specific actions like green recycling, green commitment, and green voice behavior would

offer valuable insights into how GIL translates into tangible environmental outcomes. Furthermore, exploring the relative efficacy of different green leadership styles alongside GIL holds significant promise.

By comparing the predictive power of styles like green servant leadership, green transformational leadership, and GIL on green behavioral outcomes, the hospitality and tourism literature can be enriched with a deeper understanding of how leadership dynamics shape employee environmental engagement.

This comparative analysis would provide valuable guidance on fostering optimal leadership approaches for specific contexts and desired behaviors. Third, the current study investigated the mediating role of green intrinsic motivation in the relationship between green inclusive leadership and green work engagement. Therefore, further research may explore the moderating effect of GIM in the GIL-GWE relationship or investigate the mediating/moderating role of other factors like green dynamic capabilities, green ambidexterity, green organizational identification, etc. Finally, this study employed a quantitative approach using questionnaires. While effective, incorporating qualitative methods offers additional insights, as conducting in-depth interviews or focus groups will provide a deeper understanding of employee experiences and perceptions regarding GIL and its impact on GWE. By integrating qualitative methodologies, future research can offer a more nuanced and holistic perspective on the investigated relationships.

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