

UNBOXING THE ANTECEDENTS OF HOTELS EMPLOYEE PROACTIVE PRO-ENVIRONMENTAL BEHAVIOR

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Abstract: This study focuses on employee proactive pro-environmental behavior (EPPB) rather than task-related pro-environmental behaviors. EPPB encompasses actions that promote sustainability and environmentally friendly practices beyond job tasks. Such behaviors reflect a proactive approach to environmental stewardship. This study applies social identity theory to examine the new combined effects of green organizational identity (GOI) and corporate social responsibility (CSR) on employee environmental concerns (EECs) and EPPB within the hospitality industry. It also examines the extent to which environmentally specific servant leadership (ESSL) moderates the indirect effects of CSR and GOI on EPPB through EECs. A sample of 406 supervisor-subordinate dyads from 7 five-star and 8 four-star hotels was collected using a two-wave data collection procedure. AMOS analyses indicate that ESSL moderates the indirect effects of CSR and GOI on EPPB through EECs. The study extends the existing literature that examined the effects of CSR and GOI on employee pro-environmental behaviors individually. This study explores the intricate relationships between CSR and GOI and their combined effects on proactive environmental behaviors. In addition, the study provides a novel, more integrated perspective on the roles of CSR and GOI in influencing EECs. As such, the findings of this study contribute to our understanding of the complex relationships and mechanisms involved in the CSR and GOI effects on EECs and EPPB. Finally, this study offers novel practical insights for the service industry, which poses significant environmental risks due to its operations.

Keywords: corporate social responsibility, green organizational identity, environmental concerns, proactive pro-environmental behavior, environmentally specific servant leadership

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INTRODUCTION

In the hotel industry, proactive behaviors of employees are a critical source of competitive advantage for success and sustainability (Abuelhassan et al., 2024; Ndlovu et al., 2026). Most organizations in the hospitality industry adhere to the standards of environmental sustainability that are established on the basis of strict regulations (Durrah et al., 2026; Ferdos et al., 2026; Khreis et al., 2025b). Based on the pro-environmental behavior literature, there are two main types of pro-environmental behaviors: task-related and proactive (Karatepe et al., 2021).

This study focuses on examining employee proactive pro-environmental behavior (EPPB) instead of task-related behaviors. Task-related behaviors at work are actions directly associated with fulfilling job requirements (Darvishmotevali & Altinay, 2022; Karatepe et al., 2021). On the other hand, EPPB at work involves employees' proactive measures taken to foster environmental practices beyond their job responsibilities (Bissing-Olson et al., 2013; Durrah et al., 2026). EPPB at work takes pro-environmental actions to a higher level. They involve self-initiated efforts to identify and implement innovative solutions for environmental challenges, actively seeking opportunities to improve sustainability practices beyond what is expected in one's job role. Such behaviors demonstrate a proactive and forward-thinking approach toward environmental stewardship (Bissing-Olson et al., 2013). EPPB refers to the voluntary efforts made by employees to engage in environmentally sustainable behaviors beyond their usual environmental work tasks (Bissing-Olson et al., 2013).

EPPB involves employees taking an active and self-starting approach to their environmentally friendly work practices (Bissing-Olson et al., 2013; Durrah et al., 2026). Engaging in proactive pro-environmental behaviors might involve offering valuable suggestions for the environment, pinpointing environmental issues, creating inventive solutions for environmental challenges, and tackling barriers to enhance current environmental processes (Bissing-Olson et al., 2013; Durrah et al., 2026). Employee pro-environmental behaviors are influenced by various internal factors, such as their values, attitudes, and beliefs, including employee environmental concerns (EECs) (Haldorai et al., 2023). EECs refer to employees' awareness, attitudes, and beliefs regarding environmental issues and the importance of taking proactive measures to address them (Haldorai et al., 2023). Additionally, external situational factors also play a role, such as interpersonal interactions with

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leaders, for example, environmentally specific servant leadership (ESSL) (Xu et al., 2022), and organizational factors such as corporate social responsibility (CSR) and green organizational identity (GOI) (Shiri & Jafari-Sadeghi, 2023).

The social identity theory (Tajfel et al., 1979) offers valuable insights into how hotels adopting CSR and cultivating GOI can influence EECs, ultimately leading to pro-environmental behavior (Raza et al., 2021). When hotels prioritize CSR and GOI, they create a distinctive social group that employees can identify with, fostering a shared commitment to environmental behaviors. This sense of group affiliation enhances employees' sense of belonging and strengthens their pro-environmental awareness by highlighting the importance of pro-environmental preservation. ESSL, characterized by leaders prioritizing the environment's well-being, plays a crucial moderating role (Xu et al., 2022).

Such leaders inspire and empower employees to adopt pro-environmental values and behaviors, reinforcing the alignment between the organization's sustainability goals, such as CSR and GOI, and employees' environmental motivations, like EECs. By recognizing the interplay between the social identity perspective, CSR, GOI, and ESSL, hotels can effectively cultivate a culture of environmental responsibility (EECs) and harness the collective power of employees to drive meaningful change toward a more sustainable future by EPPB (Fatnassi et al., 2026; Khreis et al., 2025a; Ndlovu et al., 2026). ESSL has been widely acknowledged as a significant factor in shaping employees' pro-environmental behaviors (Badar et al., 2016). However, scarce research has ventured into testing the moderating role of ESSL (Darvishmotevali & Altinay, 2022), the CSR-EPPB relationship, and the GOI-EPPB relationship via EECs.

The study model (Figure 1) aims to address this gap in the scholarly landscape, further advancing the understanding of CSR, GOI, EECs, EPPB, and ESSL. Finally, the implications of the findings extend beyond academia, as they hold substantial relevance for the hospitality industry, providing valuable insights for practitioners and managers in fostering sustainable practices (Durrah et al., 2026; Fathy et al., 2025; Khreis et al., 2025).

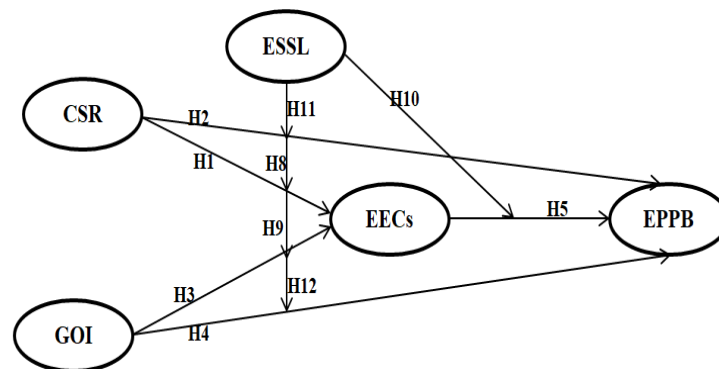


Figure 1. The Research Model

LITERATURE REVIEW

The Relationship between CSR, EEC, and EPPB

Drawing on the social identity theory (Tajfel et al., 1979), an organization actively engages in CSR practices showing its interest to prioritize environmental sustainability. It sends a clear message to employees that the organization values and prioritizes environmental responsibility (Shiri & Jafari-Sadeghi, 2023). CSR initiatives often involve raising awareness about environmental issues like climate change, pollution, and resource conservation (AlSuwaidi et al., 2021). By providing information and education, companies can help employees better understand these concerns and their environmental impact (AlSuwaidi et al., 2021; Su & Swanson, 2019). Organizations committed to CSR are likelier to engage employees in environmental sustainability activities such as organizing volunteer environmental programs, sustainability initiatives, or environmental campaigns (Cheema et al., 2020; Shiri & Jafari-Sadeghi, 2023). Active employee environmental involvement fosters a sense of ownership and empowerment, making them more invested in environmental concerns (AlSuwaidi et al., 2021; Su & Swanson, 2019).

H1: CSR positively impacts employees' EECs.

The second hypothesis suggests that CSR may positively affect EPPB. According to the social identity theory (Tajfel et al., 1979), when an organization shows dedication to CSR, especially in terms of environmental sustainability, it communicates to its employees the critical nature of environmental responsibility (Rhou & Singal, 2020). CSR initiatives in environmental practices can raise employees' awareness about environmental issues and their impacts (AlSuwaidi et al., 2021; Rhou & Singal, 2020). By actively engaging in CSR programs, employees become more informed about the importance of environmental behavior (Cheema et al., 2020; Su & Swanson, 2019). When an organization places a high emphasis on CSR, it establishes a normative benchmark for its workforce. Employees may experience societal pressure to conform their conduct to the organization's values and participate in green practices (AlSuwaidi et al., 2021; Cheema et al., 2020).

Based on the social identity theory, when employees perceive their company as socially responsible, they are more likely to feel a sense of pride and loyalty (Shiri & Jafari-Sadeghi, 2023), which can translate into greater motivation to engage in pro-environmental behaviors (AlSuwaidi et al., 2021). When organizations implement CSR practices regarding environmental responsibility and encourage employees to participate, they provide role models for employees to follow (Cheema et al., 2020; Rhou & Singal, 2020). Employees may be inspired by their organization's actions and emulate them in their behaviors, including pro-environmental activities (Song et al., 2019). Finally, CSR environmental initiatives often

involve providing employees with environmental resources, training, and support to engage in pro-environmental behaviors (Rhou & Singal, 2020). Employees with the necessary environmental tools and knowledge are likelier to take proactive steps toward environmental sustainability (AlSuwaidi et al., 2021). Literature evidence supports that perceived CSR motivates employees to engage in green innovation. These behaviors encompass activities such as generating and implementing novel green ideas. Moreover, employees will likely proactively develop and implement ideas to reduce their organization's environmental impact (Shah et al., 2021; Shahzad et al., 2020).

H2: CSR has a positive effect on employee EPPB.

The Relationship between GOI, EEC and EPPB

Developing a comprehensive GOI can significantly enhance employees' awareness of environmental issues, concerns, and behaviors toward the environment (Haldorai et al., 2023). Based on the social identity theory (Tajfel et al., 1979), when an organization is acknowledged for its environmentally responsible practices and values (Song & Yu, 2018), it can impact EECs and EPPB in various ways. A robust GOI aids in aligning employees' values with the company's environmental concerns (Haldorai et al., 2023). Employees who believe their company prioritizes sustainability and environmental responsibility are likelier to have a positive attitude toward environmental concerns and embrace environmental initiatives promoting sustainability (Haldorai et al., 2023). This shared purpose creates a strong sense of community and encourages a culture of environmental responsibility within the organization (Soewarno et al., 2019). Organizations with a green identity tend to provide their employees with resources, training, and information on environmental issues (Peng et al., 2020). This approach increases employees' awareness about environmental concerns, they become better equipped to understand the importance of sustainability (Zhang & Huang, 2019).

H3: GOI has a positive impact on EECs

The social identity theory (Tajfel et al., 1979) posits that when individuals within a workforce align themselves with an organization that embodies an environmentally sustainable identity, it may foster an enhanced sense of pride and intrinsic motivation. They feel proud to be associated with a company that prioritizes environmental responsibility and takes concrete actions to address sustainability challenges (Haldorai et al., 2023). This pride and inspiration can translate into increased engagement and commitment to environmental concerns, leading to proactive participation in green initiatives and a willingness to go the extra mile to contribute to sustainability goals (Soewarno et al., 2019). An organization that emphasizes environmental stewardship can exert a beneficial influence on the attitudes and behaviors of its employees regarding environmental issues (Haldorai et al., 2023). By establishing norms and expectations that promote eco-friendly behavior and by rewarding such behavior, employees are more likely to adopt environmental concerns leading to advocate for environmentally responsible practices (Peng et al., 2020; Soewarno et al., 2019). This can translate into proactive actions to conserve energy, reduce waste, make responsible consumption choices, and promote sustainability both inside and outside the workplace (Song et al., 2019).

H4: GOI has a positive impact on EPPB

The Mediating role of Employee Environmental Concerns

The social identity theory and the existing literature suggest that EECs can positively mediate the CSR-EPPB and GOI-EPPB relationships. The literature suggests that employees with strong environmental concerns show high attitudes and beliefs about the importance of environmental issues (Cheema et al., 2020; Kim et al., 2016). Thus, they tend to be motivated and engage in green behaviors proactively (Zhang & Huang, 2019). Their environmental concerns are mediated by bridging the relationship between environmental and organizational goals (CSR and GOI) and their proactive actions. Employees who are environmentally concerned are more likely to interpret CSR initiatives and GOI as genuine and meaningful, which increases their motivation to engage in pro-environmental behavior (Haldorai et al., 2023; Shiri & Jafari-Sadeghi, 2023). Employees who are environmentally concerned and perceive their organization as socially responsible are likelier to take proactive steps toward environmental sustainability (Shiri & Jafari-Sadeghi, 2023; Soewarno et al., 2019). Therefore, they can achieve the organizational environmental goals by initiating actions such as proactively conserving energy, advocating for sustainable practices, reducing waste, or participating in environmental initiatives inside and outside the workplace (Xu et al., 2022).

H5: EECs have a positive impact on EPPB

H6: EECs positively mediate the relationship between CSR and EPPB.

H7: EECs positively mediate the relationship between GOI and EPPB.

The Moderation Role of Environmentally Specific Servant Leadership

The study suggests that ESSL moderates the effect of CSR and GOI on EECs. Leaders have a crucial impact on the relationship between an organization's environmental initiatives and goals and its employees' environmental awareness, concerns, behaviors, and performance (Luu, 2019; Tuan, 2021). Leaders who exhibit high ESSL create supportive environments that enhance these connections. They provide information, practices, resources and training to support employees in addressing environmental concerns (Aboramadan et al., 2021; Tuan, 2020, 2021). Thus, Leaders with high ESSL are able to strengthen the effect of CSR and GOI on EECs by enhancing their subordinates' awareness of CSR and GOI initiatives and practices (Javed et al., 2024; Zafar et al., 2023). Conversely, leaders with low ESSL diminish the effectiveness of CSR and GOI on EECs by not supporting environmental practices and initiatives, failing to involve employees in green decision-making, and providing insufficient support, encouragement, and resources

(Aboramadan et al., 2021; Tuan, 2020, 2021). Accordingly, leaders with high ESSL act as potent stimulators, enhancing the effects of CSR and GOI on EECs. Leaders with low ESSL serve as isolators, diminishing the connection between subordinates' environmental concerns and both CSR and GOI initiatives and practices.

H8: ESSL moderates the CSR-EECs relationship

H9: ESSL moderates the GOI-EECs relationship

The literature suggests that ESSL can influence the relationship between EECs and EPPB in multiple ways. Leaders with high ESSL, rather than those with low ESSL, appreciate subordinates' environmental concerns and value their perspectives on environmental issues by providing environmental support and empowerment (Badar et al., 2023). This approach motivates employees with environmental concerns to engage in proactive behaviors (e.g., EPPB) (Abuelhassan et al., 2024). Leaders with high ESSL are role models for proactive environmental behaviors by exhibiting environmentally responsible behaviors. They demonstrate the importance of green interests through their actions and decisions, inspiring their subordinates to follow suit (Aboramadan et al., 2021). Therefore, leaders with high ESSL create a supportive environment that enhances the relationship between EECs and EPPB. They encourage their subordinates to elevate their environmental concerns to be proactive in green behaviors. On the other hand, leaders with low ESSL neglect the importance of providing employees with the necessary resources, tools, and opportunities to engage in pro-environmental behaviors (Aboramadan et al., 2021; Tuan, 2020). They decrease allocating budget and time for green initiatives, promoting training programs, or providing access to environmentally friendly technologies and practices (Badar et al., 2023). Leaders with low ESSL can weaken the relationship between EECs and EPPB. They do this by reducing support and resources and fostering an environment that does not prioritize environmental contributions. As a result, they fail to create a supportive atmosphere that encourages employees to engage in proactive green behaviors when environmental concerns arise. In contrast, leaders with high ESSL can enhance the impact of EECs and EPPB by empowering, inspiring, and supporting employees with environmental concerns, encouraging them to adopt proactive green behaviors. Accordingly,

H10: ESSL moderates the EECs-EPPB relationship

The moderated mediation analytical paradigm suggests that the relationship between an independent variable (such as CSR or GOI) and a mediator (like EECs) can be influenced by a specific moderator (for instance, ESSL in hypotheses H8 and H9). In this context, the indirect relationship linking the independent variable to a dependent variable (such as EPPB) through the mediator is typically affected by the same moderator (Preacher et al., 2007). Additionally, hypothesis H10 posits that ESSL moderates the relationship between EECs and EPPB. Therefore, the following hypotheses are proposed:

H11: ESSL moderates the CSR- EPPB indirect relationship via EECs.

H12: ESSL moderates the GOI- EPPB indirect relationship via EECs.

MATERIAL AND METHODS

Data Collection Process

Five-star and four-star hotels in the KSA were approached for participation in a research study, out of which 7 five-star and 8 four-star hotels agreed to take part in the survey. Once the human resource departments of these hotels were approved, questionnaires were distributed among the employees and their leaders. The respondents were required to answer the questionnaire items and submit them to the designated person in charge. In the study, the author distributed 512 questionnaires to employees and their supervisors. This was done in person, with 224 questionnaires going to five-star hotels and the rest to four-star hotels. At Time 1, the author collected 476 valid employee questionnaires over two weeks. Time 2 (one month after Time 1), distributed 476 questionnaires to the employees who had returned their questionnaires. The author collected 444 valid questionnaires during this phase. Two months after Time 1, the author collected 456 questionnaires from 96 supervisors. The author assigned unique codes to each questionnaire to match the employees' and supervisors' questionnaires. The author obtained 406 sets of questionnaires from both employees and supervisors, which accounts for 79.3% of the original 512 questionnaires distributed.

Measurements and Analysis

The study utilized the Likert scale ratings from the sources of the constructs. The study used Su & Swanson's (2019) five items to measure CSR and rated them on a seven-point Likert scale. Using a five-point Likert-type scale, the study assessed GOI with six items from Mittal & Dhar (2016). The four items of EECs were taken from Kim et al. (2016) using a 7-point scale. For EPPB, the study utilized the three items developed by Karatepe et al. (2021) and rated them on a 5-point scale. For ESSL, the study used the twelve items created by Luu (2020) and rated them on a 5-point scale. To ensure discriminant validity, the study used the square root of the average variance extracted (AVE) values. For evaluating convergent validity, the study utilized factor loadings, composite reliabilities (CR) and AVE. Finally, the author conducted confirmatory factor analysis (CFA) and tested our hypotheses using AMOS 21.

RESULTS

Construct Validity

Table 1 presents the means, standard deviations, and correlations among study constructs. All constructs correlate positively with each other ($p < 0.01$). The study used the AVE values to ensure discriminant validity. Fornell and Larcker suggested that every variable should have an AVE value greater than its correlation values with other variables. Our results, shown in Table 1, indicate that in this study, the square root of the AVE values of each variable was higher than all their correlation coefficient values, proving the study's discriminant validity.

Table 1. Descriptive Analysis, Variance Inflation Factor, Correlation, and Discriminant Validity

Variables		Mean (SD)	Correlation				
			1	2	3	4	5
1	ESSL	3.19 (1.305)	(0.825)				
2	CSR	4.65 (1.723)	0.590**	(0.805)			
3	GOI	3.93 (1.024)	0.511**	0.387**	(0.729)		
4	EECs	4.71 (1.590)	0.793**	0.524**	0.658**	(0.815)	
5	EPPB	4.01 (0.872)	0.349**	0.306**	0.341**	0.468**	(0.865)

Notes: N = 406, p<0.01= **

To assess the study's convergent validity, the study analyzed the loadings of the items belonging to the five constructs (Table 2). The loadings were all significant ($p < 0.01$) and higher than 0.50. The lowest loading was for GOI2, with a value of 0.708, while the highest was for EPPB1, with a value of 0.906. The finding found that all five constructs had CR values of over 0.60, with the highest value of 0.962 for ESSL and the lowest value of 0.872 for GOI.

The high significant factor loadings and CR values indicated that the five constructs had no convergent validity issues. Additionally, all of the study's constructs had AVE values exceeding 0.50, further demonstrating convergent validity (Hair et al., 2010). Finally, the CFA findings using AMOS showed a good fit (χ^2 [pdf] = 476.451 [395], χ^2 /pdf = 1.206, CFI = 0.991, RMSEA = 0.023, AGFI = 0.916, GFI = 0.929, NFI = 0.949), which confirmed the construct validity.

Table 2. The Convergent Validity and Loadings

Variables and Items	AVE	CR	Loadings
Environmentally Specific Servant Leadership	0.681	0.962	
ESSL1			0.805**
ESSL2			0.830**
ESSL3			0.814**
ESSL4			0.846**
ESSL5			0.827**
ESSL6			0.854**
ESSL7			0.808**
ESSL8			0.835**
ESSL9			0.831**
ESSL10			0.827**
ESSL11			0.798**
ESSL12			0.827**
Corporate Social Responsibility	0.648	0.902	
CSR1			0.812**
CSR2			0.801**
CSR3			0.800**
CSR4			0.811**
CSR5			0.802**
Green Organizational Identity	0.532	0.872	
GOI1			0.717**
GOI2			0.708**
GOI3			0.771**
GOI4			0.732**
GOI5			0.717**
GOI6			0.728**
Employee Environmental Concerns	0.665	0.888	
EECs1			0.810**
EECs2			0.803**
EECs3			0.797**
EECs4			0.850**
Employee Proactive Pro-Environmental Behavior	0.747	0.899	
EPPB1			0.906**
EPPB2			0.812**
EPPB3			0.873**

Notes: ** = $p < 0.01$

Two tests were conducted to check for any potential common method bias (CMB) in the proposed model. Firstly, we performed a one-way analysis of variance (ANOVA) to investigate the CMB of the supervisor survey. The result of the ANOVA was insignificant ($F = 1.274$, $p = 0.061$), suggesting that supervisors rated their subordinates' EPPB independently. The author conducted Harman's single-factor test to test the CMB of the employee survey. The analysis revealed no CMB problem in the study, as the most significant variance explained for all constructs' items was 47 %, less than 50% (Podsakoff et al., 2003). Therefore, we concluded that no CMB issue was present in the study.

Hypotheses Testing

The findings presented in Table 3, Step 1, indicate that CSR significantly influences EECs ($\beta = 0.306$, $p < 0.01$) and EPPB ($\beta=0.200$, $p < 0.01$), thereby supporting H1 and H2, respectively. Based on the findings of H3 and H4, GOI positively impacts both EECs and EPPB. The results presented in Table 3 (Step 1) show that GOI significantly affects EECs ($\beta = 0.471$, $p < 0.01$) and EPPB ($\beta = 0.236$, $p < 0.01$), providing support for H3 and H4, respectively. The findings presented in Table 3 (Step 2) demonstrate that EECs significantly influence EPPB ($\beta =0.326$, $p < 0.01$). Therefore, H5 is supported. The results of the analysis, shown in Step 2 of Table 3, indicated a positive indirect effect of CSR ($\beta = 0.100$, $p < 0.01$) and GOI ($\beta = 0.153$, $p < 0.01$) on EPPB through EECs. Therefore, the findings fully supported both H6 and H7.

Table 3. The Results of Hypotheses

Variables	Environmental Concerns				Proactive Pro-Environmental Behavior							
	Direct Effect				Direct Effect				Indirect Effect			
	β	SE	Bootstrapping		β	SE	Bootstrapping		β	SE	Bootstrapping	
			Lower	Upper			Lower	Upper			Lower	Upper
Step 1												
Age	0.040	0.042	-0.041	0.122	0.030	0.050	-0.065	0.129				
Gender	-0.037	0.037	-0.109	0.036	-0.002	0.046	-0.109	0.089				
Education	-0.017	0.038	-0.091	0.057	0.130	0.050	0.031	0.226				
Tenure	-0.024	0.042	-0.104	0.060	-0.014	0.049	-0.111	0.082				
CSR	0.306**	0.037	0.231	0.375	0.200**	0.048	0.107	0.295				
GOI	0.471**	0.029	0.414	0.526	0.236**	0.060	0.119	0.354				
R ²	0.420				0.140							
Step 2												
Age	0.04	0.042	-0.041	0.123	0.016	0.049	-0.079	0.112	0.013	0.014	-0.011	0.046
Gender	-0.037	0.037	-0.109	0.037	0.01	0.045	-0.077	0.102	-0.012	0.013	-0.041	0.010
Education	-0.017	0.038	-0.091	0.058	0.136	0.048	0.041	0.229	-0.006	0.012	-0.030	0.019
Tenure	-0.024	0.042	-0.104	0.06	-0.006	0.049	-0.101	0.088	-0.008	0.014	-0.038	0.018
CSR	0.306**	0.037	0.232	0.375	0.101	0.058	-0.011	0.215	0.100**	0.024	0.058	0.152
GOI	0.471**	0.029	0.414	0.526	0.083	0.078	-0.063	0.240	0.153**	0.033	0.092	0.219
EECs					0.326**	0.067	0.191	0.452				
R ²	0.420				0.200							
Step 3												
Age	0.047	0.034	-0.021	0.114	0.016	0.049	-0.079	0.122	0.015	0.012	-0.006	0.041
Gender	-0.023	0.031	-0.081	0.038	0.010	0.045	-0.077	0.102	-0.007	0.010	-0.029	0.012
Education	0.001	0.032	-0.061	0.062	0.136	0.048	0.041	0.229	0.001	0.010	-0.020	0.022
Tenure	-0.022	0.034	-0.089	0.046	-0.006	0.049	-0.101	0.088	-0.007	0.012	-0.032	0.015
CSR	0.100**	0.039	0.020	0.176	0.101	0.058	-0.011	0.215	0.033*	0.015	0.006	0.063
GOI	0.284**	0.041	0.200	0.361	0.083	0.078	-0.063	0.240	0.092*	0.023	0.050	0.140
EECs					0.326**	0.067	0.191	0.452				
ESSL	0.569	0.044	0.487	0.659								
ESSL X CSR	0.137	0.031	0.077	0.198								
R ²	0.630				0.200							
Step 4												
Age	0.051	0.031	-0.009	0.112	0.016	0.049	-0.079	0.112	0.017	0.011	-0.003	0.041
Gender	-0.040	0.028	-0.094	0.015	0.010	0.045	-0.077	0.102	-0.013	0.010	-0.034	0.005
Education	0.022	0.029	-0.036	0.041	0.136	0.048	0.079	0.229	0.007	0.010	-0.011	0.028
Tenure	-0.025	0.032	-0.086	0.039	-0.006	0.049	-0.101	0.088	-0.008	0.011	-0.031	0.012
CSR	-0.007	0.035	-0.079	0.059	0.101	0.058	-0.011	0.215	-0.002	0.012	-0.026	0.020
GOI	0.453**	0.042	0.365	0.533	0.083	0.078	-0.063	0.240	0.148**	0.032	0.085	0.210
EECs					0.326	0.067	0.191	0.452				
ESSL	0.614**	0.037	0.543	0.690								
ESSL X GOI	0.316**	0.033	0.250	0.379								
R ²	0.680				0.200							
Step 5												
Age	0.040	0.042	-0.041	0.123	-0.017	0.047	-0.109	0.075	0.012	0.014	-0.012	0.043
Gender	-0.037	0.037	-0.109	0.037	-0.016	0.041	-0.096	0.067	-0.011	0.012	-0.038	0.011
Education	-0.017	0.038	-0.091	0.058	0.094	0.046	0.003	0.182	-0.005	0.012	-0.029	0.019
Tenure	-0.024	0.042	-0.104	0.060	-0.016	0.047	-0.107	0.075	-0.007	0.014	-0.036	0.018
CSR	0.306	0.037	0.232	0.375	0.072	0.057	-0.038	0.188	0.095	0.026	0.045	0.147
GOI	0.471	0.029	0.414	0.526	0.120	0.075	-0.023	0.271	0.146	0.038	0.071	0.218
EECs					0.309	0.047	0.151	0.458				
ESSL					0.057	0.078	-0.037	0.148				
ESSL x EECs					0.327	0.038	0.252	0.402				
R ²	0.420				0.300							
Notes: Corporate social responsibility = CSR, green organizational identity = GOI, environmentally specific servant leadership = ESSL, employee environmental concerns = EECs. employee proactive pro-environmental behaviour = EPPB. *= p<0.05. **= p<0.01. N = 406												

The finding revealed that the ESSL-CSR interaction ($\beta = 0.137$, $p < 0.01$; Figure 2), ESSL-GOI interaction ($\beta = 0.316$, $p < 0.01$; Figure 3), and ESSL-EECs interaction ($\beta = 0.327$, $p < 0.01$; Figure 4) are significantly positive, supporting H8, H9, and H10 respectively. The findings show that ESSL significantly moderated the indirect association between CSR and EPPB through EECs (H11, $\beta = 0.095$, $p < 0.01$), as well as the indirect relationship between GOI and EPPB via EECs (H12, $\beta = 0.146$, $p < 0.01$).

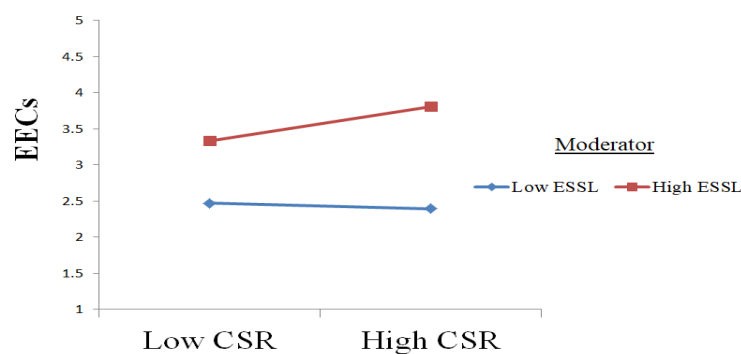


Figure 2. ESSL Moderates CSR-EECs Relationship

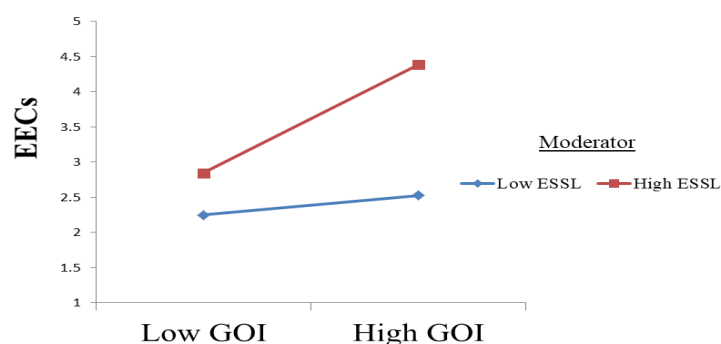


Figure 3. ESSL Moderates GOI-EECs Relationship

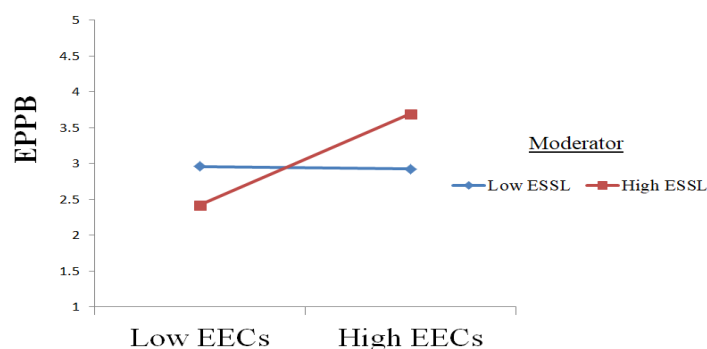


Figure 4. ESSL Moderates EECs-EPPB Relationship

DISCUSSION

Theoretical Contributions

The findings highlighted several novel theoretical contributions within the context of CSR, GOI, ECs, ESSL, and EPPB. First, the study asserts its pioneering contribution in unraveling the intricate dynamics of CSR and GOI, particularly in their influence on ECs and EPPB (Fatnassi et al., 2026; Ferdos et al., 2026; Khreis et al., 2025c). The study goes beyond previous research (Shiri & Jafari-Sadeghi, 2023; Zafar et al., 2023) that investigated the individual impacts of CSR and GOI on employee pro-environmental behaviors. This study delves deeper into the complex relationships between CSR and GOI and their joint effects on proactive environmental behaviors. Also, it offers a novel and more comprehensive understanding of how CSR and GOI shape ECs. Therefore, these findings enhance our knowledge of the intricate interactions and mechanisms underlying the effects of CSR and GOI on ECs and EPPB, providing valuable insights into the dynamics of sustainable behavior within organizations (Bissing-Olson et al., 2013; Durrah et al., 2026).

Second, the study fills a critical void in the literature by examining the mechanisms through which CSR and GOI impact EPPB via EECs. It advances our understanding of the underlying processes that explain how organizational factors (e.g., CSR and GOI; Nourafkan et al., 2024; Pham et al., 2023) influence EPPB (Bissing-Olson et al., 2013; Durrah et al., 2026). This theoretical contribution provides valuable insights into the pathways through which CSR and GOI translate into tangible environmental outcomes (Nourafkan et al., 2024; Shiri & Jafari-Sadeghi, 2023; Song et al., 2019), highlighting the

importance of fostering EECs as a mediating mechanism (Darvishmotevali & Altinay, 2022). Also, it provides further support for the tenets of the social identity theory (Tajfel et al., 1979) through the mediating role of ECCs in CSR and GOI's effects on pro-environmental behaviors. Previous research has focused on examining the relationship between CSR and task-related pro-environmental behaviors, mainly through the mediating mechanism of personal environmental norms (AlSuwaidi et al., 2021). Third, this study recognizes the importance of ESSL in influencing employees' pro-environmental behaviors. While previous research (Aboramadan et al., 2021; Javed et al., 2024) has highlighted its significance, no studies have examined its moderating role in the relationships between CSR and GOI with EPPB through EECs. The study applies social learning theory to explain how ESSL can moderate the relationship between pro-environmental organizational factors (CSR and GOI) and employees' pro-environmental tendencies and attitudes (EECs). It also found that ESSL, in collaboration with CSR and GOI, interacts with employees' EECs to encourage proactive engagement in pro-environmental behaviors. This research supports recent findings in the hospitality industry on the potential impact of ESSL in promoting environmentally responsible behaviors (Darvishmotevali & Altinay, 2022; Javed et al., 2024).

Finally, our study contributes to the literature on proactive employee behaviors (Abuelhassan & AlGassim, 2022) by providing empirical evidence for the flourishing of EPPB in the hospitality industry. We examine and evaluate the role of green-oriented organizations in promoting proactive individuals' green behaviors.

We also depict the roles of organizations and leaders in shaping employees' EECs to promote EPPB. Our research findings advance our understanding of the importance of all members of an organization, including policy-makers, leaders, and employees, in boosting EPPB by revealing causal relationships between them.

Managerial Contributions

The practical contributions of this research are relevant to organizations, experts, and policy-makers in the hospitality industry. First, the study recommends that policy-makers implement laws and regulations to promote and support environmental initiatives, including impact assessments and waste management systems, in the hospitality industries. Specifically, these could consist of technological standards for emissions and discharges and technological-specific standards for water, electrical, and thermal energy consumption. The study asserts that large industries' responsibility regarding environmental sustainability is more crucial than individuals' responsibility. In other words, at the management level, green strategies and practices could significantly impact the creation of a genuinely sustainable effort.

Promoting CSR and GOI through green consumerism and eco-friendly products will foster individual responsibility and encourage more efforts in environmental protection. For CSR, hospitality management should prioritize eco-friendly operations, community engagement, and ethical sourcing to enhance EECs and encourage EPPB. On the other hand, for GOI, hospitality management should focus on integrating sustainable practices, promoting environmental values within the organizational culture, and emphasizing sustainability in day-to-day operations to develop a strong GOI. This can create a sense of environmental concern among employees and motivate them to engage in environmentally proactive behaviors.

Second, the study highlights that EECs positively impact EPPB and act as a mediator between CSR and EPPB as well as between GOI and EPPB. Therefore, hospitality management needs to recognize the significance of EECs as a pathway through which CSR and GOI can influence EPPB. Organizations can enhance the impact of CSR and GOI initiatives on EPPB by strengthening EECs. For instance, hospitality management can implement strategies such as raising awareness, educating on environmental issues, offering training programs, organizing workshops, and sharing information on sustainable practices. These efforts can help employees develop a deeper understanding of environmental concerns and encourage them to adopt proactive pro-environmental behaviors. Also, we suggest that hotels integrate environmental concerns and values into employee selection, recruitment, performance evaluation, and motivation processes.

To promote pro-environmental behavior, employee recruitment and selection standards and job descriptions should emphasize the significance of environmental concerns and values. Intrinsic and extrinsic rewards can be essential tools to promote and incentivize employees' environmental concerns and values.

Finally, the research findings indicate that ESSL moderates the indirect relationships between CSR and PPB via EECs, and GOI and PPB via EECs. Therefore, hospitality management must recognize the importance of ESSL in shaping the relationships between organizational factors, EECs, and EPPB. Supporting and empowering ESSL can enhance the impact of CSR and GOI on employees' EECs and EPPB. Hospitality management should prioritize the development of ESSL skills among leaders in the hospitality industry. ESSL involves demonstrating environmental consciousness, providing support and resources for sustainable practices, and setting an example for employees.

By promoting ESSL, hospitality management can foster a culture of sustainability and encourage employees to engage in EPPB. For instance, hotels may prefer to promote employees with the same vision and values regarding environmental protection during the promotion process. By using promotion criteria, organizations can communicate the importance of environmental protection to prospective leaders, encouraging ESSL development.

CONCLUSION

Collectively, the findings support the notion that CSR, GOI, and EECs all play important, albeit complementary, roles in facilitating proactive pro-environmental behaviors in hospitality employees. By simultaneously rather than separately investigating CSR and GOI, this research offers a more complete understanding of how organizational values and identity impact individual-level green behaviors. The results also help to clarify the complex relationships between the dynamics of CSR and GOI that promote EECs, which in turn promote EPPB. Hence, the present study contributes to a more nuanced understanding of proactive environmental behavior in service contexts.

The results also underscore the importance of ESSL as a moderator variable that mediates the relationships between CSR, GOI, EECs, and EPPB. Environmentally focused leaders, in concert with green-oriented organizational practices, help foster powerful environmental cognitions, which, in turn, motivate hospitality employees to go beyond their prescribed job responsibilities and participate in voluntary pro-environmental behaviors.

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