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Influence of Spiritual Leadership on Green Creativity Mediated by Employee Environmental Commitment

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Abstract: *In the recent era of globalization, organizations need to avoid it, and environmental destruction has become an enormous challenge, especially when organizations face problems of environmental degradation. Because of this, researchers have paid considerable attention to understanding key determinants of green creativity (GC), an emerging area in the fields of sustainability and organizational behavior. Supporting social learning theory, this study examines the effect of spiritual leadership on employees' green creativity through the mediating mechanism of employee environmental commitment (EEC). Rationally, this study follows a post-positivist device and thus implements a quantitative research design approach. Multilevel data was collected from 405 employees working in universities and hospitals in Pakistan. Multilevel path analysis is applied by using Mplus. Our research reveals that spiritual leadership (SL) has a statistically positive effect on employee environmental commitment, which ultimately increases green creativity (GC). This research offers several solutions to save energy by turning off extra lights, garbage, and recycling so that we can overcome the losses we face in our daily lives.*

Introduction

Recently, most industries and organizations are developing business plans to overcome all the obstacles and challenges that are caused by the environment, and organizations also play a vital role in providing sustainable business solutions. (Afsar, B., Cheema, S., & Javed, F., 2018) explained that organizations have solved many environmental problems and also become able to provide a loyal workplace so that employees remain engaged in their work and their leaders implement an ecological approach that forces employees to work honestly, loyally and act spiritually in the workplace. Any calculable environmental attitude depends on the environmental attitude of leaders, which is related to the achievement of environmental sustainability, as stated by (Norton et al., 2015). Examples can be coated to improve

environmental attitudes and behaviors, also include limited use of disposable identities and generating ideas to improve the environment, using stairs instead of elevators, double-sided printing, and saving energy by turning off unnecessary lights.

(Hoegh-Guldberg et al., 2018) researched and presented an authentic argument that to overcome and reduce the opposite meanings, recommended limiting global warming to less than 1.5°C above its pre-industrial level, which cause global carbon deterioration of Carbon dioxide (CO₂) emissions by about 45% by 2030. According to (Creutzig et al., 2018) in tracing the whole scenario of the environment, it was found that environmental research has not paid much attention to be able to conduct evidence-based

research on this complication. Regarding basic environmental attitudes and decision-making of employees, (Gul et al., (2022; Nielsen et al., 2021) demonstrated that suppressing the full opportunity of economic and psychological perception of mitigation behavior can however respond to failed policy instruments based on too undeveloped conventions of human behavior, thereby heralding operational progress towards further sustainability. Subsequently, implementation of proper and effective green strategies are to be followed, and these green strategies are mandatory for an organization that wants to gain a competitive green advantage while achieving its goals in a timely and accurate manner.

More than 147 UK organizations were surveyed, and it was found that the main agenda of these organizations was to focus on environmental issues and could create the conditions for the organization to achieve the environmental commitment of employees' as evidenced by (Khan & Ullah, 2021; Khan et al., 2022; Zibarras and Ballinger, 2011). Several progressive organizations are trying to adopt technologies, i-e., energy-saving light bulbs, video conferencing instead of physical board meetings and air conditioners that can use a small amount of energy, and all other ways in which resources are minimized. So all these actions turn to positivity, and all these commitments are inclined to the traditional view of economic development and organizational progress. Thus, technological achievements are only a way to solve all kinds of problems and issues organizations face. Social learning theory posits that employees adhere to commitments to the environment to improve their abilities in various ways, achieving better results, a person or individual becomes a role model by observing and adopting behaviors and attitudes of others who have already achieved a such commitment to environment and implementation of engaged employee environment as well as a positive attitude in the organization.

Spiritual leaders are those people or leaders who have such abilities and become role models through their attitudes and actions as committed leaders in an organization. Spiritual leaders are those leaders who suggest their subordinates act according to values, thoughts, attitudes, and good morals. Leaders should have the ability to encourage their employees to follow policies, procedures, and practices related to environmental sustainability and should be interested in achieving and adopting creative ideas in the organization. Similarly, employee environmental commitment in an organization can only be achieved when the leader is spiritual and pushes and motivates employees to be more engaged by providing creative ideas and encouraging green creativity among employees. When employees respond well to the environment and have reflective ideas about environmental issues, they will be more convinced of GC.

Statement of Problem

According to the United Nations (Yuan et al., 2022) explained that the main focus of the United Nations is on environmental challenges that reduce carbon waste and climate change. The ratio of greenhouse gas emissions grew faster between 2000 and 2010 than in the previous three decades, as described by the Intergovernmental Panel on Climate Change, IPCC, (2018). In 2019, the United Nations (UN) focused on environmental changes caused by pollution, global warming, and carbon emissions in its Sustainable Development Goals. Therefore, the highlighted issue of this study is to explore spiritual leadership in enhancing the green creativity of employees in the context of continuous development in hospitals and universities in Pakistan. This is because the employees of universities and hospitals in Pakistan have some idea about green creativity in terms of employees' commitment to the environment.

Research Questions

To this end, the research activity proposes a model for research where the EEC acts as an intermediary between SL and GC. Thus, our study examines (1) the impact of SL on EHS, (2) the relationship between EHS and GC, and (3) the mediation of EHS between SL and GC.

Therefore, our study research questions will be:

1. Do SL and EEC have a positive relationship?
2. Does EEC affect GC?
3. How does EEC mediate the relationship between SL and GC?

Literature Review and Development of Hypotheses

Influence of SL on EEC

Paillé et al. (2019) argued that spirituality at work is achieved only when the company's line managers support the commitment of employees to the environment and the protection of the environment, so in this way, the involvement of employees in meeting the goals of the company's environmental values will be achieved through loyalty and spirituality in the workplace. (Jurkiewicz & Giacalone., 2019) explained workplace spirituality by saying that workplace spirituality is essentially a sense of employee satisfaction within an organization. So when an employee is satisfied with his work, he will be more dedicated, committed, and organizational environment will be enhanced. (Saleem et al., 2021) investigated and concluded that management is an analyst of environmental issues, having a direct impact on employees' commitment, again focused and implemented on the green attitude of employees. Their study also focuses on leadership skills and explains that leadership has the qualities to create an environment that promotes green behavior and friendly culture in the workplace. The progress and succession of the organization are based only on the excellent approach to the environment as well as the loyalty of the employees in their workplace. (Paillé et al. (2019) demonstrated that less environmentally involved employees are

more likely to be motivated by organizational and psychological factors. We can therefore formulate the research hypothesis as follows:

Hypothesis 1 (H1): SL and EEC have a positive relationship.

The Relationship of EEC with GC

Waste of material, water loss, and pollution are problems of today's world. The countries that have focused on these problems and solved the solutions to these problems are the countries that are moving forward. The organizations working on these problems and the leaders having the main agenda to solve and kill these problems are the successful world leaders in this recent period. Ansari et al., (2020) argued that several environmental issues have been noticed that are destroying natural resources, shortage of water, electricity, and CO₂ emission. (Luu., 2019), Ahmad and Umrani., (2019) argued that leadership is essential for environmentally responsible behavior in organizations and firms. After discussing the relationships with organizational climate (Tian et al., 2020), the research focuses on understanding the improvement of GC and the techniques and skills that should be adopted to improve GC in Pakistan. Ahmed, I., & Danish, R. Q. (2022) elaborated that EEC is positively related to GC. Good leadership improves employee empowerment in the organization, and improves employee quality of life, which links to the improvement of GC among employees. (Saleem et al., 2021) argued that the specific goals of the organization are achieved through a significant focus on employee environmental commitment. Employees who show commitment to the environment will perform a more substantial amount of green creativity. The research, therefore, recommends the following hypothesis:

Hypothesis 2 (H2): EEC is positively related to GC.

Mediation of EEC on the relationship between SL and GC

Organization when compete and move towards progression and productivity, we can say that

such types of organizations have good leadership. Different leadership styles have distinct abilities to take a task from their subordinates but spiritual leadership can take not only good but an excellent performance from his or her subordinates by taking utmost attention to the welfare, well-being, and positive attitude of the employees at the workplace. Spiritual Leadership. Loyalty at the workplace is as essential as the soul has connection with the body. Providing an efficient environment to the employees at the workplace, and sowing a literate attitude during work is the ability of spiritual leadership. As demonstrated by (Fry et al., 2017) that Spiritual leadership can involve all the employees of the team in the leadership. It highlights the consequence of affecting people normally. Another benefit of Spiritual leadership is that this kind of leadership has a focus on affecting people socially having a significant effect in consulting the spiritual needs of employees, commitment, and organizational performance and educating their well-being.

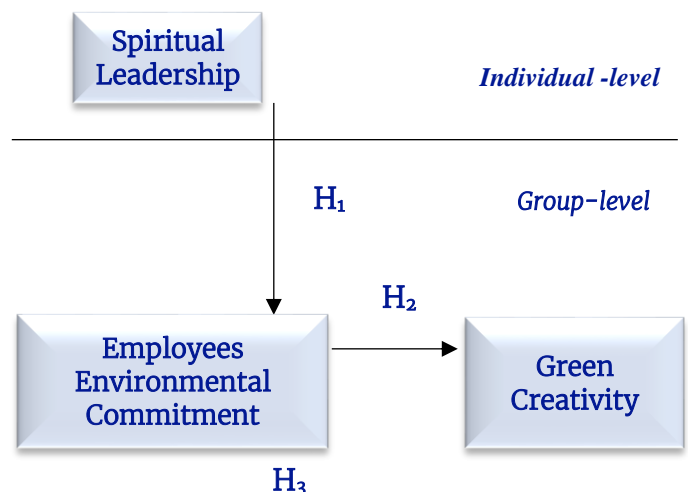
Spiritual leadership aims to enhance the performance and values of not only one individual, but the values and performances of the whole team and the whole organization. Progress and prosperity of the organization depend upon only the spiritual act of the leader and this type of leadership act or aim can promote the loyalty of the employees, employee well-being, Spirituality at the workplace, welfare, and environmental commitment of employees. Almutairi, M., & Khashman, A. (2022) suggested and concluded that the Spiritual leader must have an aim, ambition, and vision in characterizing his morals and ethics, and also supporting the employees towards their loyalty and hope. He must have a vision that promotes faith and altruistic love in the organizational goals among employees. The spiritual leader's main goal should be that he has to serve as a role model for his subordinates. He should perform a major role in improving the decision-making process in the organization by overcoming all the negative situations by creating a well-mannered

spirituality and loyalty at work and offering an excellent environment at work for the employees.

Employees' commitment to the environment shows better environmental behavior and creativity during work, and their ideas are worthy of the organization. When a spiritual leader gives instructions to his subordinates in the workplace and the organization, employees become emotionally connected in the workplace by following the leader, becoming trustworthy, honest, passionate, and more careful towards their colleagues in helping and providing the right knowledge during work. There will be an effective work commitment towards the environment and employees will be happy, work with great interest and be more committed to their work environment, in such a relaxed work environment every employee will be able to give suggestions for improvement and productivity. While working in the organization. Employees' knowledge and skills are expanded to bring more innovative ideas and creativity to work. In any organization, when employees are creative, green creativity will immediately be enhanced at work in the organization. Therefore, we can develop the hypothesis as follows:

Hypothesis 3 (H₃): EEC mediates the relationship between SL and GC.

Figure 1
Hypothesized Model



Research Methodology

A post-positivist perspective is applied in this research therefore a quantitative research methodology was implemented by adopting the deductive method. Research on the relationship between SL and green creativity has found that the connection between spiritual leadership and GC is a measurable miracle. It also explores aspects in such a way as to explain this relationship with emerging hypothetical models that are based on the reasoning that supports SLT. Multilevel and quantitative research uses a time-lagged strategy for data collection; a survey approach is implemented for data collection. Multi-source and multi-level research are used, and different analyzes are considered. Thus, spiritual leadership is an individual-level variable, and its unit of analysis is done at the individual level. Variables such as GKS and green creativity are group-level variables and are therefore analyzed as group-level variables.

Study Population and Sampling

A random sampling technique/ cluster sampling procedure was preferred. In Pakistan specifically, the province of Punjab is selected as a sample randomly, this province has almost 24 hospitals recognized by the Pakistan Medical and Dental Council and nearly 72 universities recognized by the HEC Pakistan. In the first stage, we randomly selected six hospitals and six universities, so in this way the size of the sample keeps on reducing according to cluster sampling. Requests to allow the researchers to administer the surveys were presented to the top management of these twelve organizations. The top management of three hospitals, two (02) private and one (01) public, and four universities, One (01) private and three (03) public, located in two major metropolitan cities, agreed to participate in our study. Moreover, confidentiality and ethics assurance forms were signed, and privacy guarantees were protracted. After that, the researcher requested the HR department of every organization regarding the details of their permanent employees.

Hence, with the help of the human resource departments of the participating organizations, the researcher identified 200 workgroups having a mean size of 10.5 employees; moreover, every workgroup had an exclusive manager/leader/supervisor in the first round. Five employees were randomly selected in 75 work units as they have more than five employees and seven employees were randomly selected in 700 work units as they have more than seven employees and ten employees were randomly selected in 25 remaining work units, so including 200 groups and 1325 employees. Then the researcher randomly identified 176 workgroups having a mean size of 10.5 employees; moreover, every workgroup had an exclusive manager/leader/supervisor in the second round. Five employees were randomly selected in 67 work units as they have more than five employees and seven employees were randomly selected in 93 work units as they have more than seven employees. The rest of the 16 work units have ten employees, and each employee was selected because no groups had less than five employees.

In this way, 176 groups have 1146 employees. Subsequently, the present research aims were conveyed to all the nominated individuals, who were then asked to participate in the study by completing the survey. It has been ensured that information linked with the surveys is confidential and anonymous. In order to avoid common method biases for the dependent and independent variables linked with one-time data collection, time-lagged data has been employed, and data were collected in two phases by administering three surveys approximately three weeks apart starting from September 2022 to the end of October 2022.

Measures

The research trusts deep-rooted measures extensively recycled in the literature to estimate the three paradigms. A 17-item scale was adapted from Fry et al., (2005) to measure spiritual leadership. For example; "the leaders in my organization have the courage to stand up for

their people." Raineri and Paille (2016) and (Wang, 2016) instrument consisting of environmental commitment and environmental citizenship behaviors items have been applied to the measurement of employees' environmental commitment, example of the items is "The environmental concern of my company means a lot to me." Chen and Chang (2013) instrument

consisting of (06 items) scale is selected for the measurement of green creativity. The example from the items includes "The members of the organization develop adequate plans for the implementation of new green ideas." All of the questions in this part will be graded on a five-point Likert scale, and their codes are listed in the table below.

Table 1

Coding for 5- the point Likert Scale

Code	Representing
1	Strongly disagree
2	Disagree
3	Neutral
4	Agree
5	Strongly agree

Methods of Data Analysis/Statistical Analysis

In the current study, multilevel confirmatory analysis was conducted in MPlus to test construct validity, including individual-level spiritual leadership, group-level employee environmental commitment and green creativity, as well as model, fit indices, as demonstrated by Muthén & Muthén., (2017). MPlus offers unique approaches to data analysis that include longitudinal, multilevel, and cross-sectional data. Therefore, MPlus was used in the current research because the current research should examine multilevel data. Model fit was assessed using commonly used measures, including the Tucker-Lewis index (TLI), comparative fit index (CFI), chi-square/degrees of freedom, root mean square error of approximation (RMSEA), and standardized root means square residual (SRMR). Acceptable cutoffs for these indices were less than 2.00 for χ^2/df , .90 for CFI, and TLI (Preacher, Zhang, & Zyphur, 2011).

Reliability Analysis

The reliability analysis of the study variables, including spiritual leadership, green creativity, and employee environmental commitment, is presented in Table 1. Sekaran and Bougie (2016) referred to reliability as the internal consistency of measuring variables. Furthermore, the current research used Cronbach's alpha to estimate construct reliability. The values of Cronbach alpha for all the constructs were found to be in the acceptable range and far above the threshold value of 0.70, and thus internal consistency was confirmed for all the variables (Fornell & Larcker, 1981; Hair et al., 2010). Such as Cronbach's alpha value for spiritual leadership was 0.996 assessed by 17 items. Similarly, employees' environmental commitment was estimated by eight items, and the Cronbach alpha value was 0.722. GC was evaluated through six items with a Cronbach alpha value of 0.863.

Table 2

Reliability of the Study Variables

Variable	Items	Alpha
Spiritual Leadership (SL)	17	0.996
Employees' Environmental Commitment (EEC)	8	0.722
GC	6	0.863

Notes: SL= Spiritual Leadership, EEC = Employee environmental commitment, GC = Green Creativity

Sample Adequacy Test

The Kaiser-Meyer-Olkin (KMO) test was performed to assess the goodness of fit of the data. KMO measures the adequacy of the complete sample as well as each construct. KMO values represent the amount of variance in the constructs that may be common variance. A higher amount of variance means less data

sufficiency. Test values range from zero to 1. Values between 0.80 and 1 indicate sample adequacy, values less than 0.60 do not determine adequacy, while values close to zero represent additional problems with the analysis (Cerny & Kaiser, 1977; Kaiser, 1974). The KMO value found in this research was 0.793, which specified the adequacy of the sample.

Table 3

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy	0.793
Approximation Chi-Square	11475.84
Degree of Freedom	763
Significance	0.00

Descriptive statistics and correlation outcomes are displayed in Table 3. The data dispersion and central tendency are described as the resources and standard deviation. Skewness and kurtosis

are used for the testing of normality. The mean values were as follows: SL = 4.19, EEC = 4.31 and Green Creativity GC = 3.11.

Table 4

Descriptive Statistics and Correlation

Variable	Mean	Range	SD	Skew	Kur	1	2	3
SL	4.19	1-5	0.53	-2.02	1.96	1		
EEC	4.31	1-5	0.75	-1.60	2.06	0.21**	1	
GC	3.11	1-5	0.55	-1.62	1.37	0.34**	0.36**	1

Noted Points: ** $p < 0.01$, Skew stands for Skewness, Kur is Kurtosis, SD represents Standard deviation, SL is Spiritual leadership, EEC means Employee Environmental Commitment and GC represents Green Creativity.

Standard deviation values of all the variables are within the range and expressed little scattering in the dataset. Due to the normality of the variables; both Skewness and Kurtosis values were according to range (range value +2.58 to -2.58).

Direct and Indirect Effects

Table 5 described the direct and mediation impacts also. The direct effect of individual-level SL on EEC is displayed. The results showed that the impact of SL on EEC is positive and

statistically significant at 0.26 (96% CI [0.06, 0.47]). So, with a one-unit increase in spiritual leadership, employee environmental commitment increases by 0.26 units. In Hypothesis 1, this research stated that SL has a positive impact on EEC. Findings also directed a statistically significant and positive relationship between SL and EEC. So our first hypothesis (H_1) is approved. Furthermore, research verified the indirect impact of individual-level SL on group-level GC and found a positive and statistically

significant impact of SL on GC 0.24 (96% CI [0.04, 0.37]). Hence, with a one-unit increase in SL, GC increases by 0.24 units. The direct effect of group-level EEC and green creativity (GC) is mentioned. The observation was made that there is a positive and statistically significant impact of EEC on GC 0.57 (96% CI [0.29, 0.86]). Therefore, with a one-unit increase in EEC, GC increases by 0.57 units.

So, Hypothesis 2 also stated and approved that EEC is positively related to GC. Consequently, Hypothesis 2 is also recognized.

The indirect effect of individual-level SL on group-level GC with the mediation of group-level EEC is quantified in Table 4. The research outcomes proved a substantial and positive mediation of EEC on SL and GC connotation 0.17 (96% CI [0.07, 0.29]). Moreover, research also assessed the entire effect of SL on GC 0.361 (SL → GC + SL → GKS → GC = 0.24 + 0.17 = 0.41). Thus, the percentage of the mediation consequence of EEC was 41% (0.17/0.41 = 0.41). The mediation of EEC on the direct impact of spiritual leadership on GC is Hypothesis 3. So, Hypothesis 3 is accepted as well.

Table 4
Direct and Indirect Effects

	Coefficient	Sig.	BC 96% CI	
			Lower	Upper
Individual → Group				
SL → EEC	0.26*	0.00	0.06	0.47
SL → GC	0.24*	0.00	0.04	0.37
Group → Group				
EEC → GC	0.57*	0.00	0.29	0.86
Individual → Group → Group				
SL → EEC → GC	0.17**	0.00	0.07	0.29

Notes: Sig stands for Significance, CI is Confidence Interval, SL = Spiritual Leadership, GC = Green Creativity, GKS = Green Knowledge sharing, *p < 0.01, **p < 0.05

Discussion

Zhang & Ma, (2021) showed that the relationship between employee environmental commitment and environmental management has an impact on green innovation and it is also due to management's ability to implement these variables to improve organizational performance and green creativity. The process of leadership gives importance due to its implementation in the workplace and brings spirituality that provides recognition, gratitude, and a worthy inspiration to employees of organizations who follow their leadership traits and qualities and are also able to provide values of virtue and inspiring mortality. Thus, this research aims to

examine the impact of SL on GC with the mediating role of employees' environmental commitments and green knowledge sharing as well as the mediating role of leaders' pro-environmental attitudes. Barnett et al., (2005); and Khan et al., (2019) investigated that commitment and environmental protection can be ensured by leaders and employees who act on the phenomenon of spirituality by following their spiritual leaders (Norton et al., 2017; Saleem et al., 2020) and Prof. - ecological approach and green creativity. This research also agrees with research (Jufrizen et al., 2019) that states that spiritual leadership has a positive and significant effect on workplace spirituality because

workplace spirituality that is caused by spiritual leadership increases employees' environmental commitment, and that management and employees can give creative ideas to improve organizational capabilities. In such conditions, they can inspire enthusiasm and belonging, and try not to be inattentive in the workplace and in their next life's work, where they should remain committed. The vision of hospitals bringing good consequences in work and work environment improves their work, increases environmental commitments, ecological knowledge sharing, and green creativity among employees.

Research Implications

Both theoretical and practical implications of this research are presented in the following sections giving details of each.

Theoretical Implications

The research carried out on spiritual leadership and green creativity has a connection with EEC and scholars have also explained the different effects on GC that how employees may be urged to perform creative ideas. Previous research has examined the role of spiritual leadership on employees' environmental commitment at work and within the organization (Jufrizen et al., 2019). Our research is therefore an effort to improve the existing knowledge stream by seeing its role in promoting green creativity through a moderated mediating mechanism. Spiritual leaders have a high concern for and commitment to the environment and also a finding was mentioned by (Astuti, R. J., & Haryani, S. P., 202; Ullah et al., 2022) that when spiritual leadership is high, employee commitment to the organization is also high. Our findings suggest that spiritual leaders establish and implement the kind of practices, regulations, and rules that create a greener organizational environment, and because of this kind of employee commitment to the environment, employee performance will also improve. These findings are linked to the existing body of research that a spiritual leader who has a clear vision and mission has high

expectations for the sustainability of the organization, and has love and affection for employees, will have an impact on the service provided by employees for their respective organizations as the findings produced by Astuti, R.J. and Haryani, S.P., (2021).

Practical Implications

Practically, this study suggests different visions for managers and organizations. The fundamental idea of this research is therefore closely connected with the current state and plans of the organization for sustainable development from the point of view of the environment. This research focuses primarily on the roles of organizational leaders and employees in implementing environmentally friendly practices and defending natural resources through energy conservation, waste reduction, and recycling to enhance organizational productivity. The current study offers organizational workers a good plan to develop their employees in environmentally friendly activities beneficial for sustainable growth and progress. In this regard, green creativity (GC) is considered significant in achieving the green practices of an organization. Organizations can achieve green creativity (GC) by adopting spiritual leadership and environmental attitudes/commitments of leaders.

Limitations and Future Directions

The variables which I have selected as a mediator and moderator can be changed and tested the impact of (SL) on (GC) with other different mediators and moderators and then the result would be compiled. Therefore, it would also not be determined other characteristics that can arbitrate in the spiritual leadership (SL) and green creativity (GC) relationship, For example, employees' environmental awareness and passion. The current study has developed a phenomenon to originate green creativity. Moreover, it will be exciting to examine the consequences of green creativity (GC) on organizations' environmental and financial

performance. Moreover, we strengthened the SLT perceptions, so it will be more reliable to integrate other theoretical perspectives to understand green creativity in a superior way. As that of social information processing theory (Salancik, & Pfeffer, 1978), supervisors' organizational "embodiment" (Eisenberger et al., 2010), and "looking outward" at the informational cues (Hansen et al., 2016) may be more essential in this concern.

Conclusion

In more intensive research on green employee creativity, the present research sought to find the predominant mechanism of spiritual leadership. Therefore, a multilevel model was created for this research by integrating social learning theory and a multilevel moderating mechanism, including spiritual leadership and employee environmental commitment as predictors of GC. The experimental results of this research revealed that spiritual leadership is invented as an important predictor of EEC, which may ultimately lead to GC. Moreover, the results of our study clearly showed that, whether directly or indirectly, spiritual leadership supports and improves such an environment in the organization that ultimately strengthens green creativity and promotes progressive ideas of employees not only in the workplace but also within the entire organization and the entire environment where employees live. The effective and proper planning of the right ideas at right time improves the green creativity of employees, which is considered a success tool for the outcome of EEC implementation, as well as for creating such an environment in which employees feel comfortable, more committed to work and with their leaders for the development of organization. Consequently, our evaluations illustrate that EEC significantly mediates the relationship between SL and GC, making employees more creative by exhibiting more creativity in their respective organizations.

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