

Environmentally Specific Servant Leadership and Employees' Pro-Environmental Behavior: Mediating Role of Green Self Efficacy

Muhammad Farhan Mughal¹, Shuang Li Cai¹, Naveed Ahmad Faraz², Fawad Ahmed³

¹Department of Business Management, Tianjin University of Finance and Economics, Tianjin, People's Republic of China; ²School of Management, Hunan University, Changsha, Hunan, People's Republic of China; ³Entrepreneur College (Taicang), Xi'an Jiaotong-Liverpool University, Suzhou, Jiangsu, People's Republic of China

Correspondence: Shuang Li Cai; Naveed Ahmad Faraz, Email tjufecsl@tjufe.edu.cn; naveedahmadfaraz@outlook.com

Introduction: Employees' pro-environmental behavior is crucial for accomplishing organizations' green initiatives. There is a dearth of empirical research that explored the underlying mechanism of environmentally specific servant leadership (ESL) influencing employees' pro-environmental behavior (EPB). The theoretical lens of self-efficacy theory is employed to explore the influence of ESL in predicting EPB. Employees' green self-efficacy was introduced as the mediator through which ESL influences EPB.

Methodology: Time-lagged data from 381 dyads of employee-supervisor from Pakistan's energy sector were collected during the months of June and July 2021 through systematic random sampling. The partial least squares structural equation modeling (PLS-SEM) technique was employed to analyze data and assess hypothesized relationships.

Results: The results show that all hypotheses are supported. Findings indicate that environmentally specific servant leadership has a significant direct impact on employees' pro-environmental behavior and employees' green self-efficacy partially mediates the positive influence of ESL on EPB.

Discussion: The study's managerial and theoretical implications are presented along with future research directions.

Keywords: environmentally specific servant leadership, employees' pro-environmental behavior, green self-efficacy, self-efficacy theory, energy sector

Introduction

Greening the Management philosophy has become increasingly popular on academic and business fronts.¹ In pursuit of greening the management plan, it is realized that organizations having environmentally conscientious employees would reap strategic advantages.² The vitality of employees in sustaining organizations' green initiatives has resulted in an increasing scholarly interest in identifying the predictors and the mediating mechanisms that facilitate employees' pro-environmental behavior (EPB).³⁻⁶ According to Graves, Sarkis,⁶ employees' pro-environmental behavior is

a broad set of environmentally-responsible activities such as learning more about the environment, developing and applying ideas for reducing the company's environmental impact, developing green processes and products, recycling and reusing, and questioning practices that hurt the environment.

Such behavior by the employees is essential for realizing organizations' green initiatives.^{7,8}

Leaders' role is critical in shaping and nurturing employees' desired behavior.⁹⁻¹¹ A growing scholarship has explored the influence of different leadership styles in shaping EPB.¹²⁻¹⁴ However, only a few studies are there for environmentally specific servant leadership (ESL).⁷ Servant leadership is built on the premise of others oriented leadership approach that establishes a one-to-one relationship with followers by prioritizing their needs and interests.¹⁵ Under this leadership philosophy, the leader alters employees' perspectives from self-centered to pro social to go beyond

the call for duty.¹⁶ To align with green leadership literature, the authors grounded ESL in the Liden, Wayne¹⁰ servant leadership model, which emphasized the leadership role in

emotional healing, green value creation, conceptual skills, green empowerment, helping subordinates to realize environmental goals, putting the environment first, and behaving ethically towards the environment.

In response to the calls for research and to better understand the underlying mechanisms of ESL,^{15–17} we identified green self-efficacy as a mediating channel that explains the relationship between ESL and EPB.

Though servant leaders treat all employees equally, employees' individual differences may lead them to respond differently.¹⁸ Thus, exploring the underlying mechanisms of the relationship between ESL and EPB is highly meaningful. Efficacy theory¹⁹ accentuates that individuals' self-efficacious belief is strongly linked with their resulting performance.²⁰ It is emphasized that to act pro-environmentally, employees need to care about the community at large. It is advanced that ESL can catalyze this state of "caring" by nurturing employees' self-efficacy needs. Self-efficacy at the workplace refers to an employee's realization of his/her potential to accomplish the assigned task.¹⁹ Instead of general self-efficacy, we employ green self-efficacy, being more effective in predicting employees' environment-related behaviors.²¹ We argue that ESL supplements the four essentials of employees' green self-efficacy, ie, mastery experience, vicarious experience, verbal persuasion, and psychological feedback, which in turn foster EPB. Theoretical underpinnings of servant leadership and self-efficacy theory support the postulation that employees' green self-efficacy is vital to realize EPB.

The authors claim three distinctive value-additions of this research to the knowledge of employee pro-environmental behavior and environmentally specific leadership. First, advancing self-efficacy theory, this research explores green self-efficacy as the mediating channel through which ESL predicts EPB. Secondly, it supplements the limited empirical investigations by responding to multiple calls for research to examine servant leadership's role in shaping EPB.^{13,22} Third, concerning EPB, the energy sector is a comparatively new context despite being highly relevant due to its share in adversely impacting the environment.¹³

Theoretical Background

Literature Review and Developing the Hypotheses

Environmentally Specific Servant Leadership and Employees' Pro-Environmental Behavior

During the last decade, a shift in the focus of leadership studies has been started towards environmental issues,^{23–25} and environmentally specific constructs of various leadership styles have emerged.^{26–29} To date, environmentally specific or green transformational leadership attracted a significant share of studies predicting its influence on employees' environment-related behaviors. However, only recently, Tuan (2018) conceptualized environmentally specific servant leadership that has started attracting researchers' in this area.¹³ Building on Liden, Wayne¹⁰ model of servant leadership, our conceptualization of environmentally specific servant leadership emphasizes the leadership role in

emotional healing, green value creation, conceptual skills, green empowerment, helping subordinates to realize environmental goals, putting the environment first, and behaving ethically towards the environment.¹³

Theoretically, ESL is perhaps the most suitable amongst the positive leadership styles in influencing EPB.⁷ However, very few studies examined ESL in relation to employees' behaviors towards protecting the environment. This study intends to advance the ESL literature by exploring its influence on EPB.

EPB is defined as

a broad set of environmentally-responsible activities such as learning more about the environment, developing and applying ideas for reducing the company's environmental impact, developing green processes and products, recycling and reusing, and questioning practices that hurt the environment.⁶

It is usually difficult for organizations to explicitly specify all of such behaviors in the formal job descriptions. Thus, the performance of EPB demands an extra call for duty from the employees and is critical for achieving the corporate greening objectives,⁷ improving organizations' financial performance,³⁰ and also in protecting the eco-system.⁹ EPB

represents their ethical conviction towards preserving the environment and is consistent with the philosophy of servant leadership, where transforming followers as “environmental servants” is a top priority.

Servant leaders considered it their primary responsibility to serve others, including employees, customers, and the community.^{31,32} Serving a wider spectrum, including protecting the environment, would activate EPB.¹³ Environmentally specific servant leaders do not consider economic gains when it comes to protecting the environment and encouraging followers to value it.³³ Instead, they offer their subordinates the required training and knowledge and sensitize them to participate in pro-environmental initiatives.⁷ Such leaders believe in followers’ green empowerment and act as role models by behaving ethically towards the environment.²⁶ They build close relationships with the employees and enhance their conceptual skills while helping them to realize environmental goals.

In addition to the arguments above, empirical evidence also supports the postulation that ESL is positively linked with employees’ environment-related outcomes.^{33–35} Therefore, the following is hypothesized:

H1: Environmentally specific servant leadership positively influences EPB.

Green Self-Efficacy as a Mediator- The Lens of Self-Efficacy Theory

Bandura³⁶ defined self-efficacy as a “belief in one’s capabilities to organize and execute the courses of action required to produce given attainments”. Choi³⁷ contended that field-specific self-efficacy has an enhanced capability to predict the behavior in that field. In this study, the authors operationalized green self-efficacy as employees’ belief about their competencies to engage and accomplish environment-related tasks.¹³ It refers to employees’ evaluation of their capabilities to accomplish pro-environmental targets.³⁸ There exists a positive association between green self-efficacy and EPB.^{13,39} Extant research has examined the intervening role of general self-efficacy between servant leadership and employees’ outcomes, eg, creativity,²⁰ citizenship behavior,⁴⁰ and proactivity.⁴¹ However, research has not unraveled the mediating role of green self-efficacy in explaining the relationship between ESL and EPB. This study is an attempt to bridge this knowledge gap.

Bandura³⁶ maintained that individuals’ belief in their efficacy depends on four foundations: mastery experience, vicarious experience, verbal persuasion, and psychological feedback. We advance that ESL would enhance employees’ green self-efficacy through these four self-efficacy sources. According to Bandura,³⁶ mastery experience, when one has perceived expertise about a task, is the vital ingredient of self-efficacy. Environmentally specific servant leaders, through empowerment, encouraging aptitude, and facilitation of subordinates to find and resolve green issues on their jobs would help them accomplish green tasks. Because of such leaders’ close one-to-one relationship with followers, they assign each follower an activity that best fits his/her potential. Such leaders would also offer their subordinates opportunities to develop green skills to advance their careers in green jobs. Moreover, an environmentally specific servant leader coaches and develops followers, which increases their skills level related to the environmental tasks. Consequently, subordinates receive positive feedback about their accomplishments, which uplifts their mastery experience.

Secondly, the vicarious experiences of employees also shape their self-efficacy belief. Vicarious experience occurs when one witnesses others completing a task successfully.⁴² Environmentally specific servant leaders possess advanced conceptual skills and the green knowledge of tasks being carried out in the organization. Thus, they are well equipped to assist and support the subordinates. Through their approach of leading by example, such leaders prove their authority as a role model worth imitating.¹³ The course of role modeling augments employees’ belief that if their leaders can complete a task successfully, they can succeed in such activities.¹⁹

Bandura³⁶ enlisted social persuasion as the third way to develop self-efficacy. Employees could be convinced to believe that they have the expertise and skills to succeed. The verbal appreciation and encouragement from the environmentally specific servant leaders help employees overcome their self-doubts. Such leaders encourage followers and display trust in employees’ abilities (Joseph & Winston, 2005), thus extracting the best from employees’ efforts.

Lastly, environmentally specific servant leaders make genuine efforts to understand and support employees by emphasizing building long-term relationships. Furthermore, such leaders regulate the emotions of their subordinates in a positive way, which reduces stress and creates such an environment in which employees feel psychologically safe, which ultimately enhances their self-efficacious belief.⁴² From this discussion, it is argued that ESL improves employees’

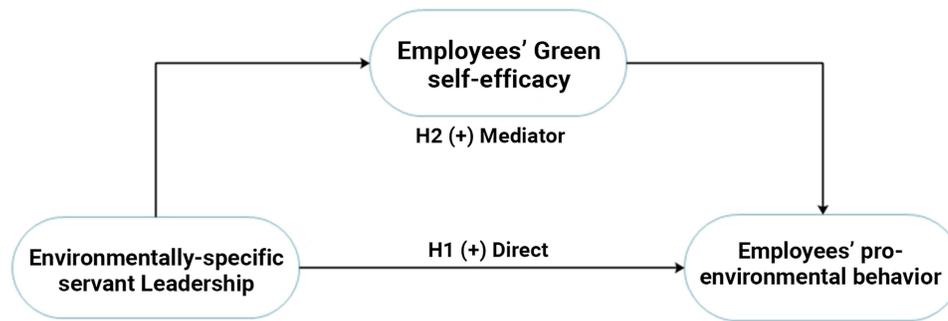


Figure 1 Theoretical Model.

green self-efficacy, which aids employees to demonstrate pro-environmental behavior on the jobs actively. Therefore, the following is postulated:

H2: The positive influence of ESL on EPB is mediated through employees' green self-efficacy.

The theoretical model is presented in [Figure 1](#).

Methodology

Context of the Study

This study's population comprised employees and their respective supervisors from Pakistan's energy sector. Selecting the respondents from this sector is profoundly meaningful because of its significant share of greenhouse gas emissions in the country, nearly fifty percent.⁷ Besides, due to the \$33 billion foreign investment, this sector is undergoing rapid expansion and entrusted to enhance the share of renewable energy from two percent to thirty percent by 2030 in the country's energy mix.⁴³ Then, this is one of the few comprehensive sectors in Pakistan comprising generation, dispatch, and distribution of energy. Further, it must adhere to the sustainability parameters for seeking loans and aids from international donor agencies.

Consent and Ethical Considerations

The study fulfills requirements laid down in the declaration of Helsinki. Researchers explained the purpose and aims of the study in the questionnaire. A statement clearly indicated that the participation was purely voluntary and the participants could exit at any stage. The study was not invasive in any respect and did not pose any harm, whether mental, physical or in terms of their professional reputation/interactions. They were assured of anonymity and confidentiality and that the data shall be used in aggregate without identifying any individual. The information collected from all participants in this research project was kept securely by the authors on a dedicated computer and was not shared or transmitted to anyone else. This study was carried out after the approval by the University Research Supervisor and the Research Ethics Committee of Tianjin University of Finance and Economics. As per legal requirements in Pakistan, no further ethical approvals were required from any authority because the study did not involve any manipulation and was not invasive.

Participants and Procedure

Researchers contacted Pakistan's Ministry of Energy (Power Division), explained the objective of this research, ensuring the participants' privacy, and requested permission for data collection. Employees working at entry-level managerial positions with at least 1 year of experience and their respective supervisors were the study's potential participants. The Ministry's representative shared a list containing names, designations, and email addresses of 2453 employees and their respective 887 supervisors. The systematic random sampling where every 4th employee and the particular supervisor selected as potential participants. Two questionnaires for employees and their immediate supervisors, prepared with Google Docs (see

[Supplementary Material](#)), were performed online during June–July 2021 with a three-week time-gap to lessen common method bias.⁴⁴ Online data collection strategy was adopted because the data were collected during COVID-19 and it was convenient to approach the potential participants online rather physically. Although such a research design reduces the final response rate, this study has gathered a reasonable response from the participants. Potential participants were voluntarily requested to fill out the survey. The first wave survey was performed on 613 employees. In that wave, the questionnaire contained questions about employees' demographics, green self-efficacy, environmentally specific servant leadership, and the immediate supervisor's name to match responses at a later stage. At the end of the first wave, 406 usable responses with a response rate of 66.23% were received. Three weeks after the first wave, the second-wave survey began to collect responses on EPB from the immediate supervisors of already participating subordinates. For the final analysis, 381 matched dyads (employee-supervisor) were gathered. The authors also employed the commonly used method for testing the common method bias, ie Harman's single-factor test.⁴⁴ In the present research, without factor rotation, the characteristic root of the common factor with the greatest explanatory power is 10.52 that explains 35.62% of the total variance. No single factor explains most covariance of independent variables and dependent variables, confirming that common method bias is not an issue in this research. The sample profile of the participants is presented in [Table 1](#).

Table 1 Sample Profile of Participants

	Supervisors		Employees	
	Frequency	%	Frequency	%
Gender				
Male	263	69	255	67
Female	118	31	126	33
Age (in years)				
18–24	42	11	73	19
25–34	69	18	99	26
35–44	145	38	133	35
45–54	91	24	53	14
Above 54	34	09	23	06
Education (level)				
Graduation	107	28	210	55
Masters	198	52	129	34
MS/PhD	76	20	42	11
Experience (in years)				
01–05	38	10	141	37
06–10	80	21	110	29
11–15	175	46	69	18
Above 15	88	23	61	16
Position				
Senior Manager	49	13	—	—
Manager	145	38	—	—
Deputy Manager	187	49	—	—
Assistant Manager	—	—	179	47
Officer	—	—	202	53
Sub-Sectors				
Generation	107	28	107	28
Despatch	133	35	133	35
Distribution	141	37	141	37

Measures

The authors used established measures for tapping all the constructs in this study. Responses were solicited through a 7-point Likert scale, one representing “strongly disagree” and seven as “strongly agree”. Employees rated their supervisors as environmentally specific servant leadership through a 12-item scale adapted by Tuan.²⁶ Employees’ response regarding their green self-efficacy was measured with a 6-item instrument developed by Chen and Chang.³⁸ Finally, each employee’s immediate supervisor was asked to evaluate EPB on a 10-item measure introduced by Robertson and Barling.⁴⁵ All the items of the constructs are enlisted in [Appendix-A](#).

Results

The analysis of this research is carried out through the partial least squares structural equation modeling (PLS-SEM) method by using Smart-PLS 3.3.3 software (Boenningstedt, Germany). The PLS-SEM technique is preferred for various reasons. First, PLS-SEM has established its dominance over other statistical techniques for mediation analysis.⁴⁶ Second, the study at hand is prediction-oriented, where PLS-SEM best suits.^{46,47} Third, it is comprised of the modern statistical tools of analysis⁴⁸ and offers improved “statistical power”.⁴⁹ Using the PLS-SEM technique, the analysis was performed in the following two stages:

Confirmatory Composite Analysis (CCA)

Confirmatory composite analysis (CCA) has recently been advocated by scholars as a systematic methodological process for examining the measurement model in PLS-SEM.⁵⁰ In CCA, the nature of the constructs, reflective or formative, is specified at the beginning. The study at hand contained all the constructs as reflective lower-order. The CCA was performed in the following steps:

Items’ loadings evaluation is the first step of CCA in the evaluation of the measurement model. An item loading above 0.708 and the t-statistic above ± 1.96 under two-tailed is considered significant.⁵⁰ Items’ loadings along with t-statistics are enlisted in [Table 2](#).

The second step in CCA evaluates construct-level reliability. Cronbach’s alpha (α) and composite reliability (C.R) are widely used statistics for the evaluation of construct-level reliability. The threshold values for α and C.R are from 0.70 to 0.95.⁴⁹ The values for α and C.R are presented in [Table 2](#) and are within the threshold range for all constructs.

The convergent validity of all the constructs is assessed in the third step of CCA. The average variance extracted (AVE) is the most commonly used statistic for establishing convergent validity of constructs.⁴⁹ The threshold value of AVE is above 0.50. AVE values for all the constructs are shown in [Table 2](#).

Lastly, CCA is performed to establish the uniqueness of the constructs. The heterotrait-monotrait (HTMT) ratio of correlations⁴⁶ is the recommended metric, and its values should be below 0.90.⁴⁹ HTMT values presented in [Table 3](#) settle the distinctness of the constructs.

Assessment of the Structural Model (SM)

Assessment of the structural model (SM) was carried out by performing the following steps:

Ensuring that multi collinearity is not a potential problem is the first step in the assessment of SM. The variance inflation factor (VIF) is a widely used metric in this regard. The VIF value below three is the threshold in the latest instructions.⁵⁰ VIF values are well within the limit and are presented in [Table 2](#).

Evaluation of directed and mediation hypotheses is the second step in SM assessment. The bootstrapping approach of the PLS algorithm is employed to obtain the path coefficient (β) values for all the hypothesized paths. The latest guidelines have recommended reporting percentile bootstrap confidence intervals where for the statistical significance of a structural path, its confidence intervals should not have a zero value.^{49,51} To understand the nature of mediation, ie “partial” or “full” after assessment of the indirect effect, it is essential to look at the strength of the direct effect. If, after introducing the mediating variable(s), the direct effect is still significant, the mediation would be “partial”, and if that direct effect becomes non-significant, then the mediation would be “full”.⁵¹ To substantiate the mediation results, value for Variance Accounted For (VAF) was calculated which decides about the nature of mediation. As a rule of thumb, the

Table 2 Confirmatory Composite Analysis

Constructs	Items	S.L.	α	C.R	AVE	VIF
Environmentally specific Servant Leadership	ESL1	0.84	0.82	0.937	0.558	1.59
	ESL2	0.88				
	ESL3	0.88				
	ESL4	0.92				
	ESL5	0.86				
	ESL6	0.84				
	ESL7	0.89				
	ESL8	0.78				
	ESL9	0.82				
	ESL10	0.77				
	ESL11	0.72				
	ESL12	0.84				
Pro-environmental Behavior	EPB1	0.77	0.81	0.945	0.631	1.81
	EPB2	0.78				
	EPB3	0.79				
	EPB4	0.81				
	EPB5	0.75				
	EPB6	0.76				
	EPB7	0.79				
	EPB8	0.85				
	EPB9	0.8				
	EPB10	0.84				
Green Self-efficacy	GSE1	0.79	0.84	0.917	0.648	1.75
	GSE2	0.78				
	GSE3	0.83				
	GSE4	0.79				
	GSE5	0.81				
	GSE6	0.83				

Note: Values for the t-statistics were obtained through a two-tailed test, significant at 5% with 5000 bootstrap runs.

Abbreviations: S.L., standard loadings; α , Cronbach alpha; C.R, composite reliability; AVE, average variance extracted; VIF, variance inflation factor.

Table 3 Discriminant Validity

	Mean	S.D	EPB	GSE
Employees' Pro-environmental Behavior	4.52	0.96		
Green Self-efficacy	4.47	1.12	0.498	
Environmentally specific Servant Leadership	4.58	1.19	0.487	0.395

VAF value <0.2 , ≥ 0.2 but ≤ 0.8 , and >0.8 means “No mediation”, “Partial mediation”, and “Full mediation”, respectively.⁵² Results for the assessment of SM are presented in [Table 4](#).

Lastly, the structural model's quality indicators, including coefficient of determination (R^2) and predictive relevance (Q^2), are also needed to be presented in the assessment of the structural model. The coefficient of determination highlights the variance explained by independent variables(s) in the dependent variable(s). The R^2 threshold values 0.19, 0.33, and 0.67 are considered as small, moderate, and substantial, respectively (Chin, 1998). Similarly, the predictive relevance (Q^2) describes the predictive accuracy of a structural model. For the purpose of generating Q^2 values, the PLS-SEM blindfolding procedure was employed. [Table 4](#) enlists R^2 and Q^2 values of the SM. Results of the SM are also presented in [Figure 2](#).

Table 4 Assessment of the Structural Model

Hypothesized Paths		β	t-Statistics	C.I	VAF	Decision
Direct Path H1:	ESL -> EPB	0.286	5.979	[0.235, 0.429]	N/A	Supported
Mediation Paths H2:	ESL->GSE-> EPB	0.133	3.702	[0.109, 0.203]	73%	Partial Mediation
Quality Indicators						
R ² Employees' Green Self-efficacy = 0.270			Q ² Employees' Green Self-efficacy = 0.163			
R ² Employees' Pro-environmental Behavior = 0.600			Q ² Employees' Pro-environmental Behavior = 0.236			

Note: Values for the t-statistics and C.I were obtained through a two-tailed test, significant at 5% with 5000 bootstrap runs.

Abbreviations: ESL, Environmentally-specific servant leadership; GSE, Green self-efficacy; C.I, confidence interval; β , Path coefficient; R², Coefficient of determination; Q², Predictive relevance.

Discussion on Results

This study aimed to explore environmentally specific servant leadership’s mechanisms in predicting EPB through mediating role of employees’ green self-efficacy.

Our results accentuate the direct effect of ESL on EPB, which is in line with the findings of the past studies.^{12,26,33} Servant leadership characterized by environmental focus aims at investing in green training and development of employee behaviors while offering constructive feedback in a timely manner and backing up your employees in their green initiatives. Environmentally specific-servant leaders offer employees autonomy and encouragement, which increases their involvement in taking part in green tasks. This finding echoes with past research wherein ESL was shown to influence the employees’ green or environment-related behaviors.^{1,7,13} The servant leader’s caring attitude towards community and green values helps establish such credibility that he/she is seen as an exemplary figure among followers who copy his/her behavior. Servant leaders under green philosophy equip employees with the necessary environmental knowledge and sharpen their skills and abilities, which in turn help them to engage in EPB.¹³

Then, the finding establishes that employees’ green self-efficacy mediates the relationship of ESL with EPB. Environmentally specific servant leaders not just behave and pose responsibly, they also make every effort to provide support and direction, establish autonomy among employees, allocate resources, and extend green training to employees with the aim of growing them as an environmental servant-leader for the future.^{10,12} The repeated action and learning mechanism from feedback establishes a sense of self-efficacy among employees that they are capable of achieving such positive environmental tasks once they commit. Hence, our results conclude that green self-efficacy acts as a channel through which ESL influences EPB. Environmentally specific servant leaders ensure the basic essentials of self-efficacy through empowerment, extending a chance to participate in pro-environmental tasks freely and displaying a genuine concern towards the initiatives that are

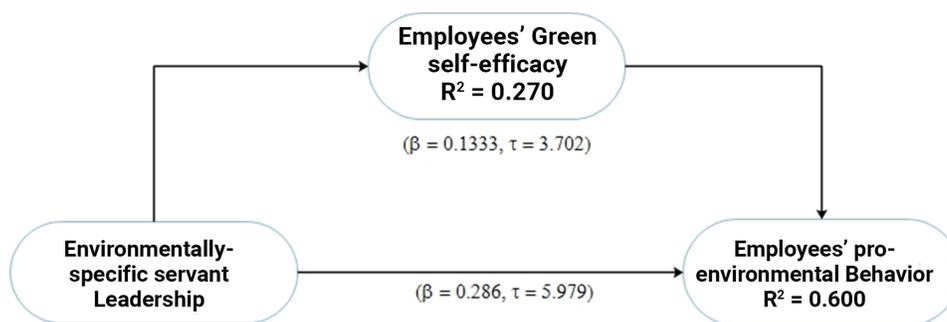


Figure 2 Structural Model Results.

important initiatives for employees' professional growth. In return, employees engaged in pro-environmental behavior. The results reveal that the nature of mediation in this study is "partial mediation" which means that other intervening variables also in addition to employees green self-efficacy that may explain the relationship between ESL and EPB.

Implications

Theoretical Implications

This paper makes a contribution to the green and pro-environmental literature from multiple management perspectives. First, this study responds to multiple calls for the paper to investigate the relationship between environmentally-specific servant leadership and EPB.^{7,13} Secondly, this study furthers the scope of self-efficacy theory by incorporating green and pro-environmental behaviors into the existing body of knowledge on green management practices. This is done by studying the mediation effects of green self-efficacy between ESL and EPB. Third, it responds to calls for research on examining the possible mediating effect of employees' green self-efficacy from the perspective of servant leadership and EPB.⁵³

Practical Implications

The results also indicate managerial implications for green practices in Pakistan's energy sector. The need for environmentally specific servant leaders echoes with the growing attention of organizations on establishing green human resource practices as part of their corporate social responsibility initiatives. Leadership roles are often considered informal mechanisms, supplementing formal HRM policies written in company rule books. Organizational policies must incorporate green self-efficacy into the work climate through positive reinforcement. Results reiterate that ESL is a key driver of employees' pro-environmental behaviors, indicating that policymakers should engrain their human resource practices to prioritize green behaviors in the hiring and selection process to hire servant leaders who are inclined towards green behaviors. Whereas for the existing workforce and the managerial staff, green training programs should be devised and developed. This helps inculcate pro-environmental attitudes and enhances ESL behavior. The focus needs to be laid on grooming employees to build servant leadership practices that they identify with due to inspiration. These practices help organizations develop future environmentally specific servant leaders (Liden et al, 2008; Luu, 2018).

Limitations and Future Research

Despite offering valuable insights into the relationship between ESL and EPB, this research has its limitations. The cross-sectional design of this study does not establish causality between independent and dependent variables. We suggest aspiring researchers design longitudinal investigations based on this model. Second, it may not be possible to assess whether individual differences (eg, personality traits, values, and interest in the subject of the study) potentially could have skewed the data, this must be noted as a limitation of this study because authors did not gather data on these variables and could not assess this aspect. Third, we gathered data from employee-supervisor dyads from the energy sector of Pakistan; a better level of generalizability can be achieved by future researchers by conducting replication studies in another sector or industry. Fourth, this study included individual-level mediators and green self-efficacy in the relationship between ESL and EPB. It is suggested that team-level or group-based self-efficacy may be observed to examine its effect on EPB. Lastly, future studies may further explore mediating or moderating roles of other job-related factors, such as employee-supervisor value congruence, leader-identification, employee's green job crafting, and green locus of control. In the rapidly growing knowledge stream of employees' pro-environmental behavior, this study intended to explore employees' green self-efficacy as the underlying mechanism of environmentally specific servant leadership (ESL) in influencing employees' pro-environmental behavior (EPB). The perspective of self-efficacy theory was employed to understand the influence of ESL in predicting EPB. Our findings highlighted that environmentally specific servant leadership has a significant direct impact on employees' pro-environmental behavior and employees' green self-efficacy partially mediates the positive influence of ESL on EPB.

Ethical Considerations and Informed Consent

This study was carried out after the approval by the University Research Supervisor and the Research Ethics Committee of Tianjin University of Finance and Economics. No additional ethical approvals were required since the study was not invasive and did not involve manipulation of any kind. Participants were informed that participation was voluntary, and that they could exit at any stage. The study did not pose any harm mentally, physically or to professional relationships/reputation of participants. The study was designed in such a way as not to obtain any personal information of the respondents. They were assured of anonymity and that their personal identification information (eg name and email id) will not be shared with anyone and will be kept strictly confidential. The information collected from all participants in this research project was kept securely by the authors on a dedicated computer and was not shared or transmitted to anyone else.

Disclosure

The authors declare no competing interests in this work.

References

- Li W, Bhutto TA, Xuhui W, Maitlo Q, Zafar AU, Bhutto NA. Unlocking employees' green creativity: the effects of green transformational leadership, green intrinsic, and extrinsic motivation. *J Clean Prod.* 2020;255:120229. doi:10.1016/j.jclepro.2020.120229
- Ahmad N, Ullah Z, Arshad MZ, Waqas Kamran H, Scholz M, Han H. Relationship between corporate social responsibility at the micro-level and environmental performance: the mediating role of employee pro-environmental behavior and the moderating role of gender. *Sustain Prod Consum.* 2021;27:1138–1148. doi:10.1016/j.spc.2021.02.034
- Afsar B, Umrani WA. Corporate social responsibility and pro-environmental behavior at workplace: the role of moral reflectiveness, coworker advocacy, and environmental commitment. *Corp Soc Responsib Environ Manag.* 2020;27(1):109–125. doi:10.1002/csr.1777
- Paillé P, Mejía-Morelos JH. Antecedents of pro-environmental behaviours at work: the moderating influence of psychological contract breach. *J Environ Psychol.* 2014;38:124–131. doi:10.1016/j.jenvp.2014.01.004
- Graves LM, Sarkis J, Gold N. Employee proenvironmental behavior in Russia: the roles of top management commitment, managerial leadership, and employee motives. *RESOUR CONSERV RECY.* 2019;140:54–64. doi:10.1016/j.resconrec.2018.09.007
- Graves LM, Sarkis J, Zhu Q. How transformational leadership and employee motivation combine to predict employee proenvironmental behaviors in China. *J Environ Psychol.* 2013;35:81–91. doi:10.1016/j.jenvp.2013.05.002
- Ying M, Faraz NA, Ahmed F, Raza A. How does servant leadership foster employees' voluntary green behavior? A sequential mediation model. *Int J Environ Res Public Health.* 2020;17(5):1792. doi:10.3390/ijerph17051792
- Raza A, Farrukh M, Iqbal MK, Farhan M, Wu Y. Corporate social responsibility and employees' voluntary pro-environmental behavior: the role of organizational pride and employee engagement. *Corp Soc Responsib Environ Manag.* 2021;28(3):1104–1116. doi:10.1002/csr.2109
- Robertson JL, Barling J. Greening organizations through leaders' influence on employees' pro-environmental behaviors. *J Organ Behav.* 2013;34(2):176–194. doi:10.1002/job.1820
- Liden RC, Wayne SJ, Zhao H, Henderson D. Servant leadership: development of a multidimensional measure and multi-level assessment. *Leadersh Q.* 2008;19(2):161–177. doi:10.1016/j.leaqua.2008.01.006
- Faraz NA, Mughal MF, Ahmed F, Raza A, Iqbal MK. The impact of servant leadership on employees' innovative work behaviour-mediating role of psychological empowerment. *Int J Manag Sci Bus Adm.* 2019;5(11):45.
- Luu TT. Building employees' organizational citizenship behavior for the environment: the role of environmentally-specific servant leadership and a moderated mediation mechanism. *Int J Contemp Hosp Manage.* 2018;31(1):406–426. doi:10.1108/IJCHM-07-2017-0425
- Faraz NA, Ahmed F, Ying M, Mehmood SA. The interplay of green servant leadership, self-efficacy, and intrinsic motivation in predicting employees' pro-environmental behavior. *Corp Soc Responsib Environ Manag.* 2021;28:1171–1184.
- Kura KM. Linking environmentally specific transformational leadership and environmental concern to green behaviour at work. *Glob Bus Rev.* 2016;17(3S):1S–14S. doi:10.1177/09721509166631069
- Eva N, Robin M, Sendjaya S, van Dierendonck D, Liden RC. Servant leadership: a systematic review and call for future research: the leadership quarterly yearly review for 2019. *Leadersh Q.* 2019;30(1):111–132. doi:10.1016/j.leaqua.2018.07.004
- Brière M, Le Roy J, Meier O. Linking servant leadership to positive deviant behavior: the mediating role of self-determination theory. *J Appl Soc Psychol.* 2020;51(2):65–78. doi:10.1111/jasp.12716
- Van Dierendonck D, Stam D, Boersma P, De Windt N, Alkema J. Same difference? Exploring the differential mechanisms linking servant leadership and transformational leadership to follower outcomes. *Leadersh Q.* 2014;25(3):544–562. doi:10.1016/j.leaqua.2013.11.014
- Tuan LT. Environmentally-specific servant leadership and green creativity among tourism employees: dual mediation paths. *J Sustain Tour.* 2020;28(1):86–109. doi:10.1080/09669582.2019.1675674
- Bandura A. *Self-Efficacy: The Exercise of Control.* New York, NY: WH Freeman and Company; 1997.
- Yang J, Liu H, Gu J. A multi-level study of servant leadership on creativity: the roles of self-efficacy and power distance. *Leadersh Organ Dev J.* 2017;38(5):610–629.
- Malik MAR, Butt AN, Choi JN. Rewards and employee creative performance: moderating effects of creative self-efficacy, reward importance, and locus of control. *J Organ Behav.* 2015;36(1):59–74. doi:10.1002/job.1943
- Norton TA, Parker SL, Zacher H, Ashkanasy NM. Employee green behavior: a theoretical framework, multilevel review, and future research agenda. *Organ Environ.* 2015;28(1):103–125. doi:10.1177/1086026615575773

23. Mittal S, Dhar RL. Effect of green transformational leadership on green creativity: a study of tourist hotels. *Tour Manag.* 2016;57:118–127. doi:10.1016/j.tourman.2016.05.007
24. Chen Y-S, Chang C-H. The determinants of green product development performance: green dynamic capabilities, green transformational leadership, and green creativity. *J Bus Ethics.* 2013;116(1):107–119. doi:10.1007/s10551-012-1452-x
25. Chen Y-S, Chang C-H, Lin Y-H. Green Transformational leadership and green performance: the mediation effects of green mindfulness and green self-efficacy. *Sustainability.* 2014;6(10):6604–6621. doi:10.3390/su6106604
26. Tuan LT. Effects of environmentally-specific servant leadership on green performance via green climate and green crafting. *Asia Pac J Manag.* 2019;38:925–953. doi:10.1007/s10490-019-09687-9
27. Mukonza C, Swarts I. Examining the role of green transformational leadership on promoting green organizational behavior. *Contemporary Multicultural Orientations and Practices for Global Leadership: IGI Global;* 2019. p. 200–224.
28. Wang X, Zhou K, Liu W. Value Congruence: a study of green transformational leadership and employee green behavior. *Front Psychol.* 2018;9:1–8. doi:10.3389/fpsyg.2018.01946
29. Gurmani JK, Khan NU, Khalique M, Yasir M, Obaid A, Sabri NAA. Do environmental transformational leadership predicts organizational citizenship behavior towards environment in hospitality industry: using structural equation modelling approach. *Sustainability.* 2021;13(10):5594. doi:10.3390/su13105594
30. Khan MAS, Jianguo D, Ali M, Saleem S, Usman M. Interrelations between ethical leadership, green psychological climate, and organizational environmental citizenship behavior: a moderated mediation model. *Front Psychol.* 2019;10:1977. doi:10.3389/fpsyg.2019.01977
31. Spears LC, Lawrence M. *Focus on Leadership: Servant-Leadership for the Twenty-First Century.* NJ, USA: John Wiley & Sons; 2002.
32. Greenleaf RK. *Servant Leadership: A Journey into the Nature of Legitimate Power and Greatness.* New York: Paulist Press; 1977:1–37.
33. Luu TT. Integrating green strategy and green human resource practices to trigger individual and organizational green performance: the role of environmentally-specific servant leadership. *J Sustain Tour.* 2020;28(8):1193–1222. doi:10.1080/09669582.2020.1729165
34. Afsar B, Cheema S, Javed F. Activating employee's pro-environmental behaviors: the role of CSR, organizational identification, and environmentally specific servant leadership. *Corp Soc Responsib Environ Manag.* 2018;25(5):904–911. doi:10.1002/csr.1506
35. Tuan LT. Activating tourists' citizenship behavior for the environment: the roles of CSR and frontline employees' citizenship behavior for the environment. *J Sustain Tour.* 2018;26(7):1178–1203. doi:10.1080/09669582.2017.1330337
36. Bandura A. *The Nature and Structure of Self-Efficacy. Self-Efficacy: The Exercise of Control.* New York, NY: WH Freeman and Company; 1997:37–78.
37. Choi JN. Individual and contextual predictors of creative performance: the mediating role of psychological processes. *Creat Res J.* 2004;16(2–3):187–199. doi:10.1080/10400419.2004.9651452
38. Chen YS, Chang C-H, Yeh S-L, Cheng H-I. Green shared vision and green creativity: the mediation roles of green mindfulness and green self-efficacy. *Qual Quant.* 2015;49(3):1169–1184. doi:10.1007/s11135-014-0041-8
39. Guo L, Xu Y, Liu G, Wang T. Understanding firm performance on green sustainable practices through managers' ascribed responsibility and waste management: green self-efficacy as moderator. *Sustainability.* 2019;11(18):4976. doi:10.3390/su11184976
40. Chen Z, Zhu J, Zhou M. How does a servant leader fuel the service fire? A multilevel model of servant leadership, individual self identity, group competition climate, and customer service performance. *J Appl Psychol.* 2015;100(2):511. doi:10.1037/a0038036
41. Bande B, Fernández-Ferrín P, Varela-Neira C, Otero-Neira C. Exploring the relationship among servant leadership, intrinsic motivation and performance in an industrial sales setting. *J Bus Ind Mark.* 2016;31(2):219–231. doi:10.1108/JBIM-03-2014-0046
42. Bandura A. *Social Foundations of Thought and Action.* NJ, USA: Englewood Cliffs; 1986.
43. Ali Y, Rasheed Z, Muhammad N, Yousaf S. Energy optimization in the wake of China Pakistan Economic Corridor (CPEC). *J Control Decis.* 2018;5(2):129–147. doi:10.1080/23307706.2017.1353929
44. Podsakoff PM, MacKenzie SB, Podsakoff NP. Sources of method bias in social science research and recommendations on how to control it. *Ann Rev Psychol.* 2012;63:539–569. doi:10.1146/annurev-psych-120710-100452
45. Robertson JL, Barling J. Toward a new measure of organizational environmental citizenship behavior. *J Bus Res.* 2017;75:57–66. doi:10.1016/j.jbusres.2017.02.007
46. Hair JF, Sarstedt M, Ringle CM. Rethinking some of the rethinking of partial least squares. *Eur J Mark.* 2019;53(4):566–584. doi:10.1108/EJM-10-2018-0665
47. Sharma PN, Shmueli G, Sarstedt M, Danks N, Ray S. Prediction-oriented model selection in partial least squares path modeling. *Decis Sci.* 2021;52(3):567–607. doi:10.1111/deci.12329
48. Ali I, Ali M, Leal-Rodríguez AL, Alabort-Morant G. The role of knowledge spillovers and cultural intelligence in enhancing expatriate employees' individual and team creativity. *J Bus Res.* 2019;101(1):561–573. doi:10.1016/j.jbusres.2018.11.012
49. Hair JF, Risher JJ, Sarstedt M, Ringle CM. When to use and how to report the results of PLS-SEM. *Eur Bus Rev.* 2019;31(1):2–24. doi:10.1108/EBR-11-2018-0203
50. Hair JF, Howard MC, Nitzl C. Assessing measurement model quality in PLS-SEM using confirmatory composite analysis. *J Bus Res.* 2020;109:101–110. doi:10.1016/j.jbusres.2019.11.069
51. Nitzl C, Roldan JL, Cepeda G. Mediation analysis in partial least squares path modeling: helping researchers discuss more sophisticated models. *Ind Manag Data Syst.* 2016;116(9):1849–1864. doi:10.1108/IMDS-07-2015-0302
52. Hair JF Jr, Hult GTM, Ringle C, Sarstedt M. *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM).* London: Sage Publications; 2016.
53. Wells VK, Gregory-Smith D, Manika D. *Introduction to the Research Handbook on Employee Pro-Environmental Behaviour. Research Handbook on Employee Pro-Environmental Behaviour.* Edward Elgar Publishing; 2018.

Psychology Research and Behavior Management

Dovepress

Publish your work in this journal

Psychology Research and Behavior Management is an international, peer-reviewed, open access journal focusing on the science of psychology and its application in behavior management to develop improved outcomes in the clinical, educational, sports and business arenas. Specific topics covered in the journal include: Neuroscience, memory and decision making; Behavior modification and management; Clinical applications; Business and sports performance management; Social and developmental studies; Animal studies. The manuscript management system is completely online and includes a very quick and fair peer-review system, which is all easy to use. Visit <http://www.dovepress.com/testimonials.php> to read real quotes from published authors.

Submit your manuscript here: <https://www.dovepress.com/psychology-research-and-behavior-management-journal>