

Unraveling the Impact of Eco-Centric Leadership and Pro-Environment Behaviors in Healthcare Organizations: Role of Green Consciousness

Purpose: Promoting sustainability and environmental responsibility is highly reliant on workers' pro-environmental behavior. There are several studies on the pro-environmental behavior of service workers. However, some gaps require scholarly attention. First, how does eco-centric leadership impact green knowledge-sharing attitudes among employees? Second, does green climate mediate the relationship between eco-centric leadership and green knowledge sharing? Third, does green consciousness moderate the relationship between green knowledge sharing and the pro-environmental behavior of employees? This study seeks answers to these questions among employees working at the lower cadre (i.e., sweepers and cleaners) in Pakistani hospitals.

Method: Survey-based data is collected from cleaners and sweepers working in Pakistani hospitals. The structural equation modeling technique is applied to analyze the data from 251 effective questionnaires.

Originality: Green knowledge sharing as an outcome of eco-centric leadership in a mediating role of green climate is positioned for the first time. Moreover, the moderating role of green consciousness to buffer the relationship between green knowledge sharing and pro-environmental employee behavior is another unique product of this study. In the end, the context of dirty work (i.e., stigmatized occupations) is presented uniquely for the first time.

Findings: Results revealed a significant positive impact of Eco-centric leadership on pro-environmental behavior, and green knowledge sharing substantially positively mediated the relationship. Moreover, the moderating role of green consciousness was validated in the relationship between green knowledge sharing and pro-environmental behavior. Despite this, drastic disparities between eco-centric leadership and pro-environmental behavior were not attained by the sequential serial mediation of a green climate and green knowledge sharing.

Keywords: Eco-centric leadership, Green climate, Green knowledge sharing, Pro-environmental behaviors, Green consciousness

1. Introduction

In the globalization era, pro-environmental behavior (EPB) is fundamental to an organization's sustainability initiatives and the preservation of the environment (Biswas et al., 2022). Behavior on the part of employees is defined as the initiative taken to enhance the environmental sustainability of the employer's organization that is not mandated by formal environmental management policies and procedures (Kim et al., 2017). EPB involves multiple aspects, such as finding sustainable working practices, recognizing and implementing suggestions for reducing the organization's environmental effects, and developing environmentally friendly procedures and products (Afsar et al., 2020). Promoting sustainability and environmental responsibility is highly reliant on Eco-centric leadership, a green environment, green knowledge sharing, and pro-environmental behavior (Patwary et al., 2022).

Previous research suggests that eco-centric leadership can enhance employees' voluntary environmental behavior (Biswas et al., 2022; Khan et al., 2019). Responsible leadership can also foster green innovation and pro-environmental behavior. Additionally, leadership awareness of ecological or green issues can stimulate creative green behavior among employees (Huo et al., 2022). A green psychological climate entails employees' shared perception that the organization's environmental policies and procedures enhance sustainability and are conducive to better ethical leadership and pro-environmental behavior. For both organizations and individuals, promoting eco-centric leadership, a green climate, knowledge sharing, and pro-environmental behaviors can contribute to a more sustainable future (Patwary et al., 2022). Organizations that actively promote EPB often see benefits in reduced expenses, increased revenues, improved public perception, progress towards sustainability goals, and a competitive edge. Given EPB's vitality, it has drawn rising attention from scholars recently. Leadership is essential for laying the groundwork and keeping the momentum that brings positive results (Robertson and Barling, 2013). Despite this, relevant research is still in its infancy, and the mechanisms of leadership that promote EPB remain poorly understood (Graves and Sarkis, 2018). In particular, Ying et al. (2020) compared eco-centric leadership to other forms of leadership, and servant leadership stands out with its greatest ability to explain differences in employee behaviors, such as organizational citizenship behavior, attitudes, and connections like job satisfaction and loyalty to the organization (Lee et al., 2020). Hence, this study offers a novel approach to eco-centric leadership that prioritizes environmental concerns.

The healthcare industry in Pakistan is one of the fastest-growing and most dynamic in the country. Inadequate healthcare facilities and poor government investment are only two of the many issues plaguing Pakistan's healthcare sector (Ullah et al., 2021; Zhang and Zaman, 2020). Pakistan is home to both state and private medical centers. Hospitals and clinics maintained by the government are examples of public healthcare facilities, whereas those owned by private individuals or businesses are private healthcare facilities (Bhatti et al., 2022). The private healthcare sector in Pakistan is expanding rapidly and becoming a major medical treatment provider for the country's growing population. It serves approximately 70% of the population. Access, quality, and affordability are all major issues for Pakistan's healthcare system (Zhang and Zaman, 2020).

In recent years, the government of Pakistan has lifted healthcare spending, improved healthcare infrastructure, and invested in healthcare education and training to consolidate the country's

healthcare system. The healthcare segment in Pakistan is projected to grow by 4.48% from 2023- to 2027, resulting in a market volume of US\$133.20m in 2027 (Statista, 2023). Life expectancy for males in Pakistan rose from 61.7 in 1990 to 66.3 in 2017 and is expected to be 79.2 in 2100. Despite the increase in public health facilities, there is an unmet need for healthcare owing to the absence of critical health institutions in rural and remote areas. In terms of both service quality and satisfaction for patients, research reveals that Pakistan's private-sector healthcare system is now dominating the country's public-sector healthcare system.

This study contributes in several ways. To begin with, it probes into the unexplored relationship between eco-centric leadership and green knowledge-sharing attitudes among employees. Second, the first-ever interaction between eco-centric leadership and green knowledge sharing is mediated by a green climate. Third, this research is the first to present findings from low-wage workers in the healthcare industry in such an innovative fashion, which can help enhance their pro-environmental behavior and knowledge sharing.

1.1 Theoretical and Hypothesis Development:

Previous research has examined leadership's effect on followers' actions from multiple theoretical vantage points, such as the Transformational Leadership Theory (Avolio and Gardner, 2005), Self-Determination Theory (Kanat-Maymon et al., 2020; Oostlander et al., 2014), Social Learning Theory (Ayodele et al., 2019; Decker, 1986), and Conservation of Resources Theory (Fatima et al., 2018; Wu and Lee, 2020). In terms of this research, theoretically, it contributes an expanded view of TPB's underlying framework. Researchers have examined Planned Behavior theory in a variety of settings, including the organic food industry (Al-Swidi et al., 2014), recycling (Botetzagias et al., 2015), drone food delivery services (Kim and Hwang, 2020) and preparatory safer sexual behavior (Bryan et al., 2002).

Employee attitudes, subjective norms, and perceived behavioral control were examined through the lens of TPB to clarify how they could affect an individual's desire to engage in certain behaviors. Pro-environmental behaviors may be prompted when leaders instill favorable attitudes towards sustainability, foster an organizational culture that values green initiatives, and provide their teams with the necessary resources to succeed. Under this circumstance, employees will determine and strive to reproduce the rewarded behaviors based on what they learn from their leaders. As noted by Liu et al. (2012), the likelihood of individuals selecting to implement a behavior learned from mentors is reliant on the perceived repercussions of that behavior. Humans aim to obtain pleasurable outcomes while avoiding adverse consequences. This implies their preference to emulate green knowledge-sharing activities since they yield positive results. Employees will accomplish this by establishing performance goals for themselves, analyzing their actions, and altering them until the goals are reached. Ultimately, they will succeed in imitating their pro-environmental and beneficial behaviors.

2. Literature Review:

2.1 Eco-centric Leaders: Inspiring Green Attitudes in Healthcare

This study identified Eco-centric leadership as a key factor in promoting green knowledge-sharing attitudes among healthcare employees (Biswas et al., 2022). Eco-centric leaders prioritize the environment and the planet's well-being in decision-making and leadership style (McIntyre-Mills et al., 2023). They recognize the intrinsic value of nature and extend respect and care to all life, including terrestrial and aquatic ecosystems. In the meantime, eco-centric leaders effectively envision a clear eco-vision, cultivating a favorable green culture and casting away unsustainable practices (Biswas et al., 2022). They play an essential role in promoting sustainability strategies and voluntary environmental behavior. Responsible leadership encourages pro-environmental behavior by fostering organizational commitment, a green shared vision, and an internal environmental locus of control (Afsar et al., 2020). Apart from this, ethical leadership also contributes to developing a moral leadership climate and higher employee morale effectiveness (Yidong and Xinxin, 2013). It is based on ethical behavior, which is doing the right thing, even when difficult or unpopular (Metwally et al., 2019). Ethical leaders convey facts transparently, no matter how undesirable the points may be. Ethical leadership requires leaders to develop inner capacities to attend to themselves, each other, and the organization. Moreover, eco-centric leadership gives priority to the environment and the planet's well-being in decision-making and leadership style (Shrivastava, 1994).

Positive forms of leadership, such as authentic leadership, can be developed to exert an impact on green knowledge-sharing attitudes (Avolio and Gardner, 2005). Similarly, servant leadership has been found to promote employees' voluntary green behavior through a sequential mediation model (Ying et al., 2020). Green knowledge-sharing attitudes refer to the willingness of individuals to share information and knowledge correlated with environmental issues and sustainability (Song et al., 2020). These attitudes are based on the belief that sharing knowledge can facilitate sustainability and environmental awareness. Green knowledge-sharing attitudes manifest in diverse ways, such as sharing information about sustainable practices, eco-friendly travel tips, and stories about environmental activism. In addition, green, inclusive leadership and green human resource management have been identified to encourage proactive pro-environmental behavior among hotel employees (Patwary et al., 2022).

Sustainability enhancement within the healthcare industry can be achieved by integrating sustainability principles into healthcare education, adopting sustainable design practices, fostering eco-friendly transformations, and implementing eco-centric leadership approaches (McIntyre-Mills et al., 2023). Healthcare professionals must receive comprehensive education regarding the significance of sustainability and its associated environmental impact (Ignacio and Taylor, 2013). Moreover, healthcare facilities ought to be purposefully designed with sustainability as a fundamental consideration. From the perspective of healthcare organizations, they need to prioritize integrating sustainability principles into their routine operations. This can be achieved by implementing environmentally conscious modifications within the various departments, as well as the cultivation of eco-centric leadership. The latter entails acknowledging nature's inherent worth and the extension of reverence and attentiveness to all forms of life, encompassing terrestrial and aquatic ecosystems. Leadership can affect employees' pro-environmental behaviors through their values and motivation (Graves and Sarkis, 2018). Work motivations can serve as both antecedents and outcomes of leadership (Kanat-Maymon et al., 2020). Furthermore, the role of subjective norms in the theory of planned behavior can be extended to the context of eco-centric leadership and green knowledge-sharing (Al-Swidi et al., 2014).

Knowledge sharing has been found to play a crucial role in linking responsible leadership and green innovation (Huo et al., 2022). Work engagement and transformational leadership can facilitate knowledge sharing through the conservation of resources theory (Wu and Lee, 2020). This implies that leadership styles can indirectly promote green knowledge-sharing attitudes among healthcare employees by fostering a supportive work environment. Moreover, research has found that leader behavior and coworker advocacy affect voluntary workplace green behavior at multiple levels (Kim et al., 2017). There is also an interrelation between green psychological climate and organizational environmental citizenship behavior, with ethical leadership significantly shaping these factors (Luu, 2019).

Furthermore, leaders can influence employees' pro-environmental behaviors through social learning theory (Tian and Suo, 2021). Training design is a key predictor of employee performance within the healthcare sector (Leon-Perez et al., 2016). By incorporating eco-centric leadership principles into training programs, healthcare organizations can enhance green knowledge-sharing attitudes among employees. Additionally, work safety also impacts organizational social sustainability improvement in the healthcare sector (Ullah et al., 2021), further underscoring leadership's significance in fostering a sustainable work environment.

Moreover, eco-centric leadership can impact green knowledge-sharing attitudes among healthcare employees by promoting responsible, ethical, and authentic leadership styles. It advocates pro-environmental behaviors through motivation, values, and social learning and fosters a supportive and sustainable work environment through training, knowledge sharing, and work safety. Biswas et al. (2022) pointed out that leaders who prioritize environmental sustainability and adopt eco-centric values can positively influence the attitudes and behaviors of healthcare employees, fostering a culture of green knowledge-sharing within the organization.

H1: Eco-centric leadership significantly impacts green knowledge-sharing attitudes of healthcare employees

2.2 Green Climate as a Mediator: Uniting Eco-Leadership and Knowledge-Sharing in Healthcare

Eco-centric leadership prioritizes ecological knowledge, environmental stewardship, and disseminating sustainable practices (Biswas et al., 2022). In the meantime, the psychological and organizational environments that support ecologically responsible behavior and knowledge exchange are referred to as a green climate (Graves & Sarkis, 2018).

Employees' environmental behaviors may be influenced by eco-centric leadership if it fosters a sense of organizational commitment, a green shared vision, and an internal environmental locus of control (Afsar et al., 2020). Concerning the value of leadership in affecting employee behavior, research demonstrates that ethical leadership and an ethical leadership atmosphere may boost employee morale and performance (Ayodele et al., 2019). Moreover, authentic leadership development focuses on the root of positive leadership forms, which can exert an impact on employee behavior and motivation (Avolio & Gardner, 2005). Social learning theory, which holds that individuals learn through witnessing others' behaviors and the results of those behaviors, may be applied to analyze the part that a green climate plays in the interaction between eco-centric leadership and green knowledge sharing (Decker, 1986). The theory of planned behavior also

posits that subjective standards, such as the impact of leadership, may shape people's plans and actions (Al-Swidi et al., 2014). Integrating these frameworks with leadership and employee behavior studies can shed light on the hypothesized connection between green climate and organizational success.

Knowledge sharing and leader-member exchange are two ways in which responsible leadership dramatically affects green innovation (Huo et al., 2022). According to the full-range leadership paradigm, job motivations may precede and result in leadership (Kanat-Maymon et al., 2020). In addition, a sequential mediation model reveals the promoting effect of servant leadership on employees' voluntary green behavior (Ying et al., 2020). Leadership style, ethics, and the workforce's morale all play a role in cultivating a green culture that encourages environmentally conscious behaviors (Graves & Sarkis, 2018). Also, studies have shown that coworker advocacy and leader behavior can affect voluntary workplace green behavior (Kim et al., 2017). Additionally, the role of moral norms in the context of recycling and pro-environmental behavior has been explored (Botetzagias et al., 2015).

In healthcare, previous research has confirmed that training design can drastically affect employee performance (Bhatti et al., 2022). Similarly, work safety is associated with organizational social sustainability improvement in healthcare settings (Ullah et al., 2021). Green, inclusive leadership and green human resource management are beneficial for proactive pro-environmental behavior among hotel employees (Patwary et al., 2022), suggesting potential applications in healthcare.

Likewise, this research hypothesizes that eco-centric leadership can shape a green climate by fostering organizational commitment, shared vision, and environmentally responsible behaviors. A green climate can encourage knowledge-sharing and environmentally sustainable practices among healthcare employees.

H2: Green climate mediates the relationship between eco-centric leadership and green knowledge-sharing among healthcare employees

2.3 Eco-Centric Leadership's Impact on Pro-Environmental Behavior

As unveiled by previous research, green knowledge-sharing mediates eco-centric leadership and pro-environmental behavior among healthcare employees (Biswas et al., 2022). Eco-centric leadership has been recognized as essential for fostering pro-environmental behavior (Biswas et al., 2022). Organizational commitment, a green shared vision, and a sense of internal environmental control are all found to be linked to workers' pro-environmental behavior, indicating the role responsible leadership plays in encouraging such behavior (Afsar et al., 2020). Furthermore, employees' leadership perceptions, values, and motivation have been linked to pro-environmental behaviors (Graves & Sarkis, 2018). Additionally, the relationship between ethical leadership and green innovation has been identified to depend critically on knowledge sharing (Huo et al., 2022). This is consistent with the conservation of resources theory, which states that people will be more inclined to engage in environmentally friendly actions if they believe their workplace is conducive to such activities (Wu & Lee, 2020). The role of leader-member exchange in facilitating knowledge sharing has also been underlined (Huo et al., 2022).

Several studies have shown that leaders may impact employees' eco-friendly behaviors (Robertson & Barling, 2013). In a sequential mediation model, servant leadership is found to improve pro-environmental behavior among volunteers (Ying et al., 2020). From the view-angle of social learning, it has been observed that ethical leadership affects the morale and productivity of employees (Ayodele et al., 2019). Moreover, ethical leadership, green psychological climate, and organizational environmental citizenship behavior are interconnected (Khan et al., 2019). Individual variations, leadership actions, and coworkers' support may all be factors influencing workplace green behavior (Kim et al., 2017). Subjective norms in the theory of planned behavior have been studied about organic food consumption, revealing the power of peer pressure to shape eco-friendly behaviors (Al-Swidi et al., 2014). Regarding recycling, the theory of planned behavior has been updated to account for ethical considerations and demographic indicators (Botetzagias et al., 2015).

The effectiveness of training programs in Pakistan's healthcare industry can be predicted by their structure (Bhatti et al., 2022). Healthcare organizations' social sustainability improvements are correlated with a focus on worker safety (Ullah et al., 2021). Green, inclusive leadership and human resource management have been examined in the context of Malaysian hotel employees' proactive pro-environmental behavior (Patwary et al., 2022).

The full-range leadership and self-determination theories have been examined to better understand the relationship between leadership and employee motivation at work (Kanat-Maymon et al., 2020). Authentic leadership development has been pushed to promote eco-friendly practices (Avolio & Gardner, 2005). The dark side of leadership, such as abusive supervision, has been explored as well regarding its cascading effect on employee creativity (Liu et al., 2012). Thus, this research hypothesizes that eco-centric leadership influences green knowledge-sharing and pro-environmental behavior among healthcare employees.

H3: Green knowledge-sharing mediates the relations between eco-centric leadership and pro-environmental behavior among healthcare employees

H4: The indirect effect of Eco-centric leadership on pro-environmental behavior through green climate and green knowledge sharing is significant.

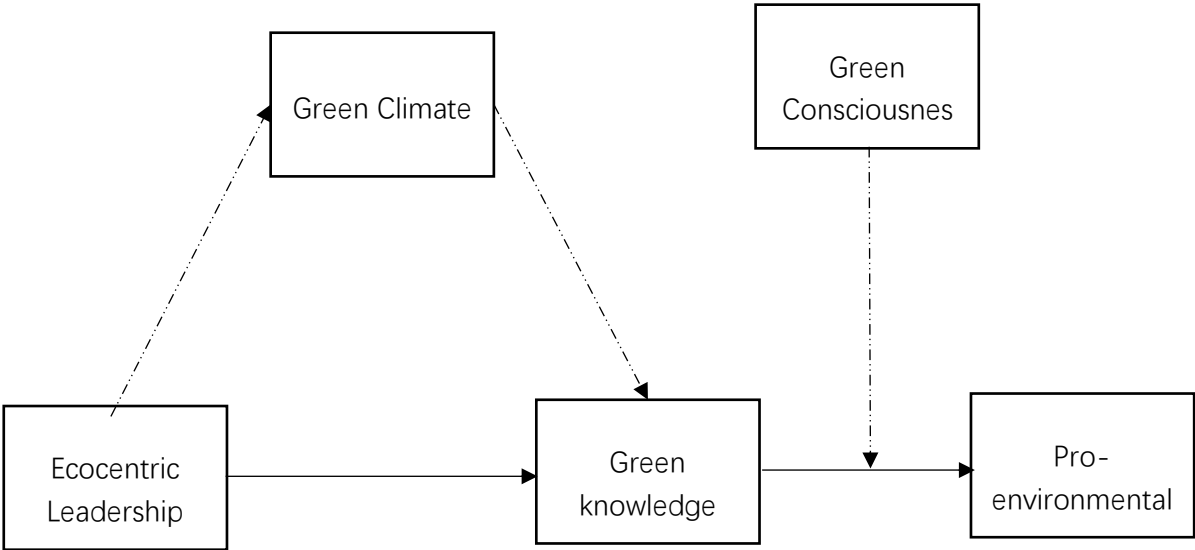
2.4 Green Consciousness: The Key to Pro-Environmental Behavior in Healthcare

Responsible leadership is critical in encouraging environmentally conscious behavior, and the literature confirms the necessity of spreading green knowledge sharing (Afsar et al., 2020; Huo et al., 2022). Wu and Lee (2020) drew on the conservation of resources theory to highlight the significance of work engagement and transformational leadership in promoting knowledge sharing. To be specific, employers are more likely to adopt environmentally friendly behavior when their executives exhibit moral and authentic leadership (Ayodele et al., 2019; Avolio & Gardner, 2005). Graves and Sarkis (2018) discovered that employees' views on leadership, values, and motivation substantially affected workers' environmentally friendly behaviors. In addition, servant leadership is associated with eco-friendly actions taken by employees on their own time (Ying et al., 2020; Lee et al., 2020). Similarly, the study by Biswas et al. (2022) highlighted the importance of eco-centric leadership in stimulating voluntary environmental behavior.

Khan et al. (2019) conclusively found a connection between ethical leadership, a green mental climate, and the corporate citizenship behavior of environmentally conscious businesses. In their research, employees' motivation to become green at work was found to be impacted by personality, leadership style, and peer support. Proactive pro-environmental behavior among hotel staff was largely credited to green, inclusive leadership (Patwary et al., 2022). As suggested by social learning theory, employees learn from their leaders and peers, reinforcing the importance of leadership in shaping pro-environmental behaviors (Decker, 1986). This point is supported by Oostlander et al. (2014), who identified a close relationship between leadership and volunteer motivation. Similarly, the dark side of leadership, such as abusive supervision, can adversely impact employee creativity and pro-environmental behavior (Liu et al., 2012; Fatima et al., 2018). Organizational commitment, a common vision for the future that benefits the environment, and a sense of ownership over one's immediate surroundings shape the green knowledge-sharing attitude and environmentally conscious behavior (Afsar et al., 2020). As Al-Swidi et al. (2014) highlighted, subjective norms also play a role in shaping pro-environmental behavior. Botetzagias et al. (2015) emphasized morality and demographic indicators as crucial. In this way, the current research hypothesizes that green consciousness is a vital moderating element in the relationship between green knowledge-sharing and environmentally friendly behavior in the healthcare sector.

H5: Green consciousness moderates the relationship between green knowledge-sharing and pro-environmental behavior among healthcare employees

2.5 Framework of the Study



Research Framework **Figure 1-**

2.6 Research Methods:

In this research, the researchers designed and sent out multiple-item survey questionnaires to gather information from hospital cleaners and sweepers in Pakistan. The data collection period lasted five months, from October 2022 to February 2023, with a 2-month time lag between the third week of November 2022 and the second week of January 2023.

A team of Urdu specialists adopted the back-translation technique to translate the questionnaire from English to Urdu (Sultan et al., 2021). It was not until no discernible difference was observed between the original English and the native language that the back-translation procedure was continued (Kim and Hall, 2021). To ensure the face validity of the Pakistani survey questionnaires—such as their readability and comprehensibility—a pilot survey of 35 potential respondents was conducted (Al-Swidi et al., 2021). The questionnaires were modified in response to the respondents' feedback and comments.

Furthermore, a cover letter outlining the survey's specifics and questionnaire in Urdu (the local language) was handed over to potential respondents. The research assistants also requested respondents to seal the questionnaire in the envelope and post it back once completed. The data were collected in two phases, as suggested by earlier studies (Yin et al., 2021). Specifically, the respondents were questioned on the eco-centric leadership of their supervisor and the environmental culture at their company in the first phase (T1). Respondents were asked to report on their biospheric value, voluntary ecological behavior, and sharing of green knowledge in phase 2 (T2), carried out with a two-month delay. In general, when researchers collect cross-sectional data from the same source, common bias is a severe issue worthy of note. Thus, this research adopted a two-month time lag to overcome the common technique bias issue (Podsakoff et al., 2012). Researchers uniquely coded each response to link individuals between the two waves (Cavazotte et al., 2021).

When things appeared unclear, the researchers meticulously presented Likert scales in formats such as direct statements, reverse scoring, items that were required to be changed, and illustrations. Because studies indicated that respondents gave correct answers when their names were concealed (Charles et al., 2023), this research ensured the respondents' anonymity and confidentiality to eliminate social desirability bias. During the initial stage, 297 questionnaires were obtained out of 595 questionnaires distributed, with a response rate of 52.32%. In the subsequent phase, 251 questionnaires were completed out of 297, which yielded a response rate of 85.93%. Convenience sampling was utilized, given its effectiveness in producing appropriate results in the shortest time (Saunders et al., 2009). In addition, survey data were analyzed via SmartPLS 4.0.

3. Result & Analysis:

3.1 Measurement model assessment

Confirmatory factor analysis (CFA) was explored to examine the data prior to the analysis of the statistical model. CFA is a trusted method for checking if the factors used to model a latent variable have been suitably loaded or converged upon.

Table 1 includes the average variance, Cronbach's Alpha, rho_A, and composite reliabilities; factor loading ≥ 0.70 , mean extracted variance ≥ 0.50 , and composite reliability > 0.70 are shown to be necessary for convergent validity. The HTMT ratio and Fornell and Larcker's correlation matrix were also applied in this research to assess discriminant validity. The HTMT ratio has recently emerged as a popular alternative to traditional criteria. This research followed Fornell and Larcker's (1981) standard, as evidenced by the works of some scholars (Henseler et al., 2016; Roemer et al., 2021).

In contrast to Table 1, where the variable's correlation with other variables is stated to be lower than the square root of the average variance retrieved (Hair Jr et al., 2017; Yin et al., 2021), Table 2 reveals that the HTMT ratio scores do not exceed 0.90.

In addition, the CFA estimates indicated a satisfactory level of model fit, as evidenced by the following indices: $\chi^2/df = 1.488$, comparative fit index (CFI) = 0.968, Tucker-Lewis index (TLI) = 0.963, incremental fit index (IFI) = 0.968, and the root mean square error of approximation (RMSEA) = 0.042. According to Hu and Bentler (1999), the following information was presented.

Table 1: Confirmatory Factor Loading

Variables	Items	Loadings	Cronbach's Alpha	Composite Reliability	(AVE)	R ²
Ecocentric Leadership			0.891	0.899	0.570	
	ECL1	0.721				
	ECL2	0.729				
	ECL3	0.747				
	ECL4	0.853				
	ECL5	0.822				
	ECL6	0.801				
	ECL7	0.626				
	ECL8	0.718				
Green Climate			0.804	0.820	0.564	0.316
	GC	0.789				
	GC	0.795				
	GC	0.822				
	GC	0.597				

	GC	0.733				
Green Knowledge Sharing			0.919	0.932	0.760	0.580
	GKS	0.900				
	GKS	0.899				
	GKS	0.903				
	GKS	0.925				
	GKS	0.714				
Green Consciousness			0.897	0.926	0.546	
	Gcon-1	0.526				
	Gcon-3	0.644				
	Gcon-4	0.662				
	Gcon-5	0.628				
	Gcon-6	0.793				
	Gcon-7	0.820				
	Gcon-8	0.818				
	Gcon-9	0.846				
	Gcon-10	0.838				
Pro-Environmental behavior			0.894	0.898	0.613	0.657
		0.743				
		0.828				
		0.722				
		0.735				
		0.77				
		0.814				
		0.857				

Table 2: HTMT

	Pro-env Behavior	Green Consciousness	Eco Leadership	Green Climate	Green Knowledge
Pro-env Behavior					
Green Consciousness	0.796				
Eco Leadership	0.748	0.813			
Green Climate	0.683	0.715	0.642		
Green Knowledge	0.777	0.774	0.819	0.571	

3.2 Structural model assessment

Using SmartPLS 4.0, this research tested the mediating effect by comparing two different structural models: direct mediation of green climate and sequential mediation inclusion of the mediating variable (green climate and green knowledge sharing), as represented in Fig. 2 and Table 3. Eco-centric leadership, green climate, knowledge sharing, and consciousness were all subjected to a path analysis to clarify their interconnectedness. Multiple significant correlations were observed between these factors. Eco-centric leadership has a strong positive effect on green knowledge sharing, green climate, and pro-environmental behavior ($\beta = 0.755, p < 0.001$; $\beta = 0.562, p < 0.001$) and ($\beta = 0.245, p < 0.001$), respectively. Nonetheless, the green climate was also clarified to positively impact pro-environmental behavior ($\beta = 0.038, p = 0.038$) and green knowledge sharing ($\beta = 0.116, p = 0.020$). In addition, green consciousness was found to enhance pro-environmental behavior significantly ($\beta = 0.217, p = 0.025$), demonstrating the significance of one's beliefs and values in motivating environmentally friendly choices. As shown by the significant correlation ($\beta = 0.324, p < 0.001$), green knowledge sharing positively affects pro-environmental behavior. Moreover, mediation analysis revealed that green knowledge sharing partially mediates eco-centric leadership and pro-environmental behavior ($\beta = 0.038, p < 0.001$). Despite this, it is worthy of note that the full sequential mediation path of green climate and green knowledge sharing between eco-centric leadership and pro-environmental behavior did not reach statistical significance as with ($\beta = 0.021, p = 0.067$). Further, regarding moderation interaction, green consciousness yielded a significant moderation effect size found upon green knowledge sharing on pro-environmental behavior with moderate effect size ($\beta = -0.207, p < 0.001$). In particular, the interaction coefficient's negative value uncovered that employees with greater degrees of green consciousness have a poorer association between green knowledge sharing and pro-environmental behavior. This implies that green knowledge sharing less affects employees' pro-environmental behavior when they already have a high level of environmental consciousness. Hence, except H4, all study hypotheses have been validated.

Table 3: Structural model assessment

Path Analysis	Beta	STD	T- Value	P values
Eco-centric Leadership -> Green Climate	0.562	0.06	9.393	0.000
Eco-centric leadership -> Green knowledge sharing	0.755	0.038	19.74	0.000
Eco-centric leadership -> Pro-environmental behavior	0.245	0.046	5.366	0.000
Green Climate -> Green knowledge sharing	0.116	0.05	2.32	0.020
Green Climate -> Pro-environmental behavior	0.038	0.018	2.073	0.038
Green consciousness -> Pro-environmental behavior	0.217	0.097	2.24	0.025
Green knowledge sharing -> Pro-environmental behavior	0.324	0.054	5.982	0.000
Mediation Analysis				
Eco-centric leadership -> Green knowledge sharing -> Pro-environmental behavior	0.224	0.042	5.321	0.000
Green Climate -> Green knowledge sharing -> Pro-environmental behavior	0.038	0.018	2.073	0.038
Eco-centric Leadership -> Green Climate -> Green knowledge sharing	0.065	0.032	2.067	0.039
Eco-centric Leadership -> Green Climate -> Green knowledge sharing -> Pro-environmental behavior	0.021	0.012	1.834	0.067
Moderation Results				
Green consciousness x Green knowledge sharing -> Pro-environmental behavior	-0.207	0.054	3.866	0.000

4. Discussion

The study's findings present new information on the variables influencing pro-environmental behaviors in Pakistan's healthcare industry. As revealed, eco-centric leadership in green climate positively influences both green knowledge sharing and pro-environmental behavior. In more detail, when individuals perceive a supportive and environmentally conscious climate, they are more likely to share knowledge and exhibit pro-environmental behaviors (Biswas et al., 2022; Sahoo et al., 2023). These findings further underscore the significance of cultivating a green climate that fosters environmental awareness and encourages sustainable actions (Alyahya et al., 2023). Additionally, by stimulating the spread of knowledge about environmental issues, these leaders encourage individuals to act sustainably (Chen et al., 2023).

Moreover, as hypothesized, green climate mediates the relationship between eco-centric leadership and green knowledge sharing. In other words, when individuals feel they are part of a friendly and eco-conscious community, they are more likely to work jointly for environmental benefits (Alyahya et al., 2023). These findings highlight the importance of fostering an environment that encourages sustainable and green activities. It appears that employee's behavior is directly

influenced by their environmental consciousness. Healthcare employees who care more about the environment have a higher likelihood to take actions that benefit the environment. This finding highlights that individual ideas and values are vital in motivating them to engage in sustainable activities (Tuan, 2021; Biswas et al., 2022).

Interestingly, the mediating role of green knowledge sharing facilitates cooperation between eco-centric leaders and followers committed to protecting the environment. This demonstrates how pro-environmental behavior is impacted by eco-centric leadership, at least in part by stimulating knowledge exchange (Chen et al., 2023). Leaders who lay emphasis on ecological principles not only inspire followers to behave in ways that benefit the environment but also facilitate the dissemination of knowledge about these issues. More precisely, this unveils that the facilitation of information exchange within a green climate helps to explain the favorable effect of a green climate on pro-environmental behavior. This is because people are more likely to share what they know they are in an encouraging and environmentally conscious atmosphere, which leads to more people taking steps to protect the environment (Su et al., 2020; Riva et al., 2021).

The results yielded by the whole sequential mediation are interesting. However, given the lack of statistical significance, this particular chain of circumstances, eco-centric leadership, green climate, green knowledge sharing, and pro-environmental behavior may not be an adequate explanation for the observed link. This points to the existence of complexities involving the potential influence of individual-level aspects like values, attitudes, and demographic traits on the sequential mediation pathway (Naz et al., 2023; Al-Swidi et al., 2021). Additionally, the context may affect the extent to which eco-centric leadership, a green climate, and green knowledge sharing foretell ecologically good behavior.

Finally, as revealed by the moderation analysis, environmentally conscious people interact significantly with green knowledge sharing to encourage ecologically responsible behavior. These findings indicate that the strength of the association between information sharing and environmentally friendly behavior is reliant on employees' level of green consciousness (Patwary et al., 2022; Ahmad et al., 2023). In this way, individuals' fundamental environmental beliefs and values influence how information exchange fosters environmentally responsible behavior (Bauer & Weiss, 2023). Hence, eco-centric leadership is crucial in encouraging green knowledge sharing and the growth of cultures that value the environment. Considering individual disparities when encouraging sustainable behaviors is vital since elements like green consciousness may diminish the link between knowledge sharing and pro-environmental behavior. The research underscores the significance of taking into account distinctive variations, like green awareness, to promote ecological sustainability within the healthcare industry in Pakistan. These findings have significant ramifications for hospitals in Pakistan working to advance environmental sustainability, and they can help develop successful initiatives to encourage pro-environmental behavior among hospital staff.

5. Conclusion

In a nutshell, this research has shed significant light on the effects of eco-centric leadership, a green atmosphere, and the exchange of green knowledge on pro-environmental behaviors among hospital staff in Pakistan. It is suggested that hospital administration in Pakistan allocate resources towards cultivating eco-centric leadership competencies and promoting an environmentally

conscious culture within their establishments. Environmental sustainability and green practices can be promoted effectively via specialized training programs, workshops, and seminars designed to target specific areas of concern. Moreover, establishing channels for disseminating eco-friendly information within the workforce can facilitate their environmentally conscious actions. Furthermore, implementing initiatives to promote environmental awareness among hospital staff is imperative. Some efforts of organizational and legislative bodies need to underline the significance of ecological issues sustainability and the responsibility of each individual in contributing towards a more ecologically sound future.

To summarize, this study has provided evidence of the noteworthy influence of eco-centric leadership, green climate, and green knowledge sharing on pro-environmental behaviors among hospital staff in Pakistan. By recognizing the significance of green consciousness, more efficacious tactics can be devised for advancing ecological sustainability in the healthcare industry. The present research adds to the expanding literature on environmentally sustainable management practices and lays a solid foundation for forthcoming investigations in this domain.

5.1 Theoretical Implication:

TPB holds that attitudes toward behavior dramatically affect behavioral intentions and subsequent behaviors (Yang et al., 2020). This idea is also confirmed in the current research. The research results are conducive to a more comprehensive understanding of how attitudes toward pro-environmental behaviors develop in the healthcare industry. Moreover, eco-centric leadership's role is also highlighted in establishing favorable attitudes toward sustainability practices. It implies that staff members are more likely to adopt good attitudes and intentions toward pro-environmental behaviors when their leaders prioritize environmental issues and exhibit a commitment to sustainable behaviors. Furthermore, the TPB contends that social influences and subjective standards substantially impact people's intentions and behaviors (Budovska et al., 2020). In this research, it has been identified that nurturing a green atmosphere and sharing green information help establish personal standards that encourage pro-environmental behavior. When hospitals create an organizational climate that supports environmental principles and promotes information exchange, employees are more likely to sense social pressure and expectations to adopt sustainable practices. This highlights that corporate and social factors are crucial in encouraging employees to act environmentally friendly.

Individuals' apparent capacity to carry out behavior is perceived as behavioral control. According to the study, pro-environmental behaviors among employees may be regarded as having more behavioral control under eco-centric leadership, a green workplace environment, and information exchange. Hospitals may boost their staff members' self-efficacy and confidence in adopting sustainable practices by giving them the necessary tools, resources, and support. This emphasizes empowering employees by removing obstacles and fostering the right environments to encourage them to adopt and maintain pro-environmental behaviors. The TPB does not expressly take into account moderators or individual variances. The study does include green consciousness as a moderator variable, though. It implies that the link between eco-centric leadership and pro-environmental behaviors is moderated by the degree of green consciousness among the workforces. This research reveals that those more concerned about the environment are more likely to put eco-centric leadership into practice by taking real, sustainable action. The TPB's theoretical

knowledge is expanded by including individual-level moderators, such as green awareness, and emphasizing the significance of individual features in determining the success of leadership initiatives.

5.2 Managerial Implication:

Hospital executives should prioritize eco-centric leadership. This requires integrating environmental sustainability into the organization's purpose, vision, and strategic goals. Eco-centric leaders may encourage pro-environmental behavior by exhibiting a strong commitment to it and promote environmental behavior by creating a green hospital environment (Pinzone et al., 2019). Hospital management should create an eco-friendly workplace, providing resources, recognition, and incentives to support sustainable practices. They need to encourage open communication and environmental participation. Knowledge sharing promotes environmental behavior in hospitals. Training programs, workshops, and platforms can help staff share green expertise. Managers may help the team adopt environmentally friendly practices by providing learning and knowledge-sharing opportunities. Green consciousness is workers' environmental awareness. In view of this, hospital management should promote green awareness through awareness campaigns, educational programs, and training. In addition, managers may motivate and encourage pro-environmental behavior by helping staff understand environmental issues and their role in solving them.

In the meantime, hospital managers should recognize that people respond in varying ways to eco-centric leadership efforts. Thus, personalized approaches and methods are necessary. Managers can tailor interventions to workers' needs, interests, and challenges by surveying or interviewing. This customized strategy can boost eco-centric leadership's environmental advocacy. Furthermore, they should measure how eco-centric leadership, a green climate, and green information exchange affect pro-environmental behavior. They need to discover areas for improvement, measure progress, and make data-driven sustainability choices through regular monitoring and review. Feedback tools and employee engagement surveys can also be leveraged to draw information and provide opportunities for employee participation and ideas. Hospital administrators should aggressively seek collaborations and partnerships with external stakeholders, including government agencies, environmental organizations, and suppliers, to boost their sustainability initiatives. Collaboration fosters information sharing, creativity, and access to resources, expertise, and best practices. Managers may show their support for sustainability by working with external partners.

5.3 Limitations & Future Research:

The results of this study are restricted to hospital staff members in Pakistan. In view of this, care should be taken when extrapolating the findings to other business sectors or cultural settings. Future research might broaden the study to include a more varied sample of individuals from other industries and nations to extend the generalizations. A cross-sectional design was adopted in the survey to collect data at a specific moment in time. This strategy limits the ability to establish causal links between the variables. Thus, future studies might use longitudinal or experimental methods to further comprehend the temporal dynamics and causation between eco-centric leadership, a green environment, green information sharing, a green consciousness, and pro-

environmental behaviors. The study relied on self-reported measures, which might be accompanied by bias in response, such as common method bias or social desirability bias. To manage potential preferences and enhance the validity of the findings, future studies should use objective metrics or gather data from several sources. In this study, the moderator was green consciousness, whereas the mediators were the green climate and the exchange of green information. Other mediating and moderating factors may also play a part but were overlooked. Future studies should examine additional variables, including individual beliefs, organizational regulations, or outside forces that may impact the link between eco-centric leadership and pro-environmental behaviors.

It is possible to examine the long-term benefits of eco-centric leadership on pro-environmental behaviors by conducting longitudinal research. This can provide information on the long-term persistence and viability of the reported effects. A more thorough knowledge of how eco-centric leadership affects pro-environmental behaviors can be obtained by comparing the results across various sectors and cultural situations. This can enable the identification of context-specific elements and the creation of specialized sustainability promotion tactics. A more comprehensive viewpoint can result from looking at several impacts on pro-environmental behaviors, including individual, team, and organizational variables. The creation of thorough intervention approaches would be made possible by understanding how these many levels interact and impact one another. Employing qualitative research techniques, such as focus groups and interviews, may offer more significant insights into the underlying mechanisms and processes through which pro-environmental behaviors are affected by eco-centric leadership, a green environment, information exchange, and green awareness. This can provide a more profound knowledge of the experiences and perspectives of employees and complement the quantitative data. It is beneficial to conduct intervention studies evaluating the efficacy of certain treatments intended to support eco-centric leadership, develop a green environment, and enhance the sharing of green information and awareness. These studies enable the analysis of the causal relationship between these treatments' effects on pro-environmental behaviors and help healthcare organizations adopt evidence-based practices.

Reference

- Afsar, B., Maqsoom, A., Shahjehan, A., Afridi, S.A., Nawaz, A., Fazliani, H., 2020. Responsible leadership and employee's proenvironmental behavior: The role of organizational commitment, green shared vision, and internal environmental locus of control. *Corporate Social Responsibility and Environmental Management* 27, 297-312.
- Al-Swidi, A., Mohammed Rafiul Huque, S., Haroon Hafeez, M., Noor Mohd Shariff, M., 2014. The role of subjective norms in theory of planned behavior in the context of organic food consumption. *British food journal* 116, 1561-1580.
- Al-Swidi, A.K., Gelaidan, H.M., Saleh, R.M., 2021. The joint impact of green human resource management, leadership and organizational culture on employees' green behaviour and organisational environmental performance. *Journal of Cleaner Production* 316, 128112.
- Avolio, B.J., Gardner, W.L., 2005. Authentic leadership development: Getting to the root of positive forms of leadership. *The leadership quarterly* 16, 315-338.
- Ayodele, F.O., Haron, H.B., Ismail, I., 2019. Ethical Leadership, Ethical Leadership Climate and Employee Moral Effectiveness: A Social Learning Perspective. *KnE Social Sciences*, 189–205-189–205.
- Bhatti, M.K., Soomro, B.A., Shah, N., 2022. Predictive power of training design on employee performance: an empirical approach in Pakistan's health sector. *International Journal of Productivity and Performance Management* 71, 3792-3808.
- Biswas, S.R., Uddin, M.A., Bhattacharjee, S., Dey, M., Rana, T., 2022. Ecocentric leadership and voluntary environmental behavior for promoting sustainability strategy: The role of psychological green climate. *Business Strategy and the Environment* 31, 1705-1718.
- Botetzagias, I., Dima, A.-F., Malesios, C., 2015. Extending the theory of planned behavior in the context of recycling: The role of moral norms and of demographic predictors. *Resources, conservation and recycling* 95, 58-67.
- Bryan, A., Fisher, J.D., Fisher, W.A., 2002. Tests of the mediational role of preparatory safer sexual behavior in the context of the theory of planned behavior. *Health Psychology* 21, 71.
- Budovska, V., Torres Delgado, A., Øgaard, T., 2020. Pro-environmental behaviour of hotel guests: Application of the Theory of Planned Behaviour and social norms to towel reuse. *Tourism and hospitality research* 20, 105-116.
- Cavazotte, F., Mansur, J., Moreno, V., 2021. Authentic leadership and sustainable operations: How leader morality and selflessness can foster frontline safety performance. *Journal of Cleaner Production* 313, 127819.

- Crabtree, C., Kim, J.Y., Gaddis, S.M. et al. Validated names for experimental studies on race and ethnicity. *Sci Data* 10, 130 (2023). <https://doi.org/10.1038/s41597-023-01947-0>
- Decker, P.J., 1986. Social learning theory and leadership. *Journal of Management Development* 5, 46-58.
- Fatima, T., Majeed, M., Shah, S.Z., 2018. Jeopardies of aversive leadership: A conservation of resources theory approach. *Frontiers in psychology* 9, 1935.
- Fornell, C., Larcker, D.F., 1981. Evaluating structural equation models with unobservable variables and measurement error. *Journal of marketing research* 18, 39-50.
- Graves, L.M., Sarkis, J., 2018. The role of employees' leadership perceptions, values, and motivation in employees' provenvironmental behaviors. *Journal of cleaner production* 196, 576-587.
- Hair Jr, J.F., Sarstedt, M., Ringle, C.M., Gudergan, S.P., 2017. *Advanced issues in partial least squares structural equation modeling*. saGe publications.
- Henseler, J., Ringle, C.M., Sarstedt, M., 2016. Testing measurement invariance of composites using partial least squares. *International marketing review*.
- Hu, L.t., Bentler, P.M., 1999. Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural equation modeling: a multidisciplinary journal* 6, 1-55.
- Huo, C., Safdar, M.A., Akhtar, M.W., Ahmed, M., 2022. Linking responsible leadership and green innovation: the role of knowledge sharing and leader-member exchange. *Frontiers in Environmental Science*, 1069.
- Ignacio, J.J., Taylor, B.J., 2013. Ethical issues in healthcare inquiry: A discussion paper. *International journal of nursing practice* 19, 56-61.
- Kanat-Maymon, Y., Elimelech, M., Roth, G., 2020. Work motivations as antecedents and outcomes of leadership: Integrating self-determination theory and the full range leadership theory. *European Management Journal* 38, 555-564.
- Khan, M.A.S., Jianguo, D., Ali, M., Saleem, S., Usman, M., 2019. Interrelations between ethical leadership, green psychological climate, and organizational environmental citizenship behavior: A moderated mediation model. *Frontiers in psychology* 10, 1977.
- Kim, A., Kim, Y., Han, K., Jackson, S.E., Ployhart, R.E., 2017. Multilevel influences on voluntary workplace green behavior: Individual differences, leader behavior, and coworker advocacy. *Journal of management* 43, 1335-1358.
- Kim, J.J., Hwang, J., 2020. Merging the norm activation model and the theory of planned behavior in the context of drone food delivery services: Does the level of product knowledge really matter? *Journal of Hospitality and Tourism Management* 42, 1-11.

- Kim, M.J., Hall, C.M., 2021. Do perceived risk and intervention affect crowdfunder behavior for the sustainable development goals? A model of goal-directed behavior. *Journal of Cleaner Production* 311, 127614.
- Lee, A., Lyubovnikova, J., Tian, A.W., Knight, C., 2020. Servant leadership: A meta-analytic examination of incremental contribution, moderation, and mediation. *Journal of Occupational and Organizational Psychology* 93, 1-44.
- Leon-Perez, J.M., Notelaers, G., Leon-Rubio, J.M., 2016. Assessing the effectiveness of conflict management training in a health sector organization: evidence from subjective and objective indicators. *European Journal of Work and Organizational Psychology* 25, 1-12.
- Liu, D., Liao, H., Loi, R., 2012. The dark side of leadership: A three-level investigation of the cascading effect of abusive supervision on employee creativity. *Academy of management journal* 55, 1187-1212.
- Luu, T.T., 2019. Green human resource practices and organizational citizenship behavior for the environment: The roles of collective green crafting and environmentally specific servant leadership. *Journal of Sustainable Tourism* 27, 1167-1196.
- McIntyre-Mills, J.J., Makaulule, M., Lethole, P., Pitsoane, E., Arko-Achemfuor, A., Wirawan, R., Widianingsih, I., 2023. Ecocentric living: a way forward towards zero carbon: a conversation about indigenous law and leadership based on Custodianship and Praxis. *Systemic Practice and Action Research* 36, 275-319.
- Metwally, D., Ruiz-Palomino, P., Metwally, M., Gartzia, L., 2019. How ethical leadership shapes employees' readiness to change: The mediating role of an organizational culture of effectiveness. *Frontiers in psychology* 10, 2493.
- Oostlander, J., Güntert, S.T., Van Schie, S., Wehner, T., 2014. Leadership and volunteer motivation: A study using self-determination theory. *Nonprofit and Voluntary Sector Quarterly* 43, 869-889.
- Patwary, A.K., Mohd Yusof, M.F., Bah Simpong, D., Ab Ghaffar, S.F., Rahman, M.K., 2022. Examining proactive pro-environmental behaviour through green inclusive leadership and green human resource management: an empirical investigation among Malaysian hotel employees. *Journal of Hospitality and Tourism Insights*.
- Pinzone, M., Guerci, M., Lettieri, E., Huisingh, D., 2019. Effects of 'green' training on pro-environmental behaviors and job satisfaction: Evidence from the Italian healthcare sector. *Journal of Cleaner Production* 226, 221-232.
- Podsakoff, P.M., MacKenzie, S.B., Podsakoff, N.P., 2012. Sources of method bias in social science research and recommendations on how to control it. *Annual review of psychology* 63, 539-569.

- Robertson, J.L., Barling, J., 2013. Greening organizations through leaders' influence on employees' pro-environmental behaviors. *Journal of organizational behavior* 34, 176-194.
- Roemer, E., Schuberth, F., Henseler, J., 2021. HTMT2—an improved criterion for assessing discriminant validity in structural equation modeling. *Industrial management & data systems* 121, 2637-2650.
- Saunders, M., Lewis, P., Thornhill, A., 2009. *Research methods for business students*. Pearson education.
- Shrivastava, P., 1994. Ecocentric leadership in the 21st century. *The Leadership Quarterly* 5, 223-226.
- Song, M., Yang, M.X., Zeng, K.J., Feng, W., 2020. Green knowledge sharing, stakeholder pressure, absorptive capacity, and green innovation: Evidence from Chinese manufacturing firms. *Business Strategy and the Environment* 29, 1517-1531.
- Sultan, P., Wong, H.Y., Azam, M.S., 2021. How perceived communication source and food value stimulate purchase intention of organic food: An examination of the stimulus-organism-response (SOR) model. *Journal of Cleaner Production* 312, 127807.
- Tian, H., Suo, D., 2021. The trickle-down effect of responsible leadership on employees' pro-environmental behaviors: Evidence from the hotel industry in China. *International Journal of Environmental Research and Public Health* 18, 11677.
- Ullah, Z., Sulaiman, M.A.B.A., Ali, S.B., Ahmad, N., Scholz, M., Han, H., 2021. The effect of work safety on organizational social sustainability improvement in the healthcare sector: the case of a public sector hospital in Pakistan. *International journal of environmental research and public health* 18, 6672.
- Wu, W.-L., Lee, Y.-C., 2020. Do work engagement and transformational leadership facilitate knowledge sharing? A perspective of conservation of resources theory. *International journal of environmental research and public health* 17, 2615.
- Yang, X., Chen, L., Wei, L., Su, Q., 2020. Personal and media factors related to citizens' pro-environmental behavioral intention against haze in China: A moderating analysis of TPB. *International Journal of Environmental Research and Public Health* 17, 2314.
- Yidong, T., Xinxin, L., 2013. How ethical leadership influence employees' innovative work behavior: A perspective of intrinsic motivation. *Journal of business ethics* 116, 441-455.
- Yin, C., Ma, H., Gong, Y., Chen, Q., Zhang, Y., 2021. Environmental CSR and environmental citizenship behavior: The role of employees' environmental passion and empathy. *Journal of Cleaner Production* 320, 128751.

Ying, M., Faraz, N.A., Ahmed, F., Raza, A., 2020. How does servant leadership foster employees' voluntary green behavior? A sequential mediation model. *International journal of environmental research and public health* 17, 1792.

Zhang, X., Zaman, B.U., 2020. Adoption mechanism of telemedicine in underdeveloped country. *Health Informatics J* 26, 1088-1103.