

## **Supervisor Support and Pro-Environmental Behavior: The Mediating Role of Green Organizational Climate**

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### **ABSTRACT**

#### **Keywords:**

*Supervisor support,  
Pro-Environmental  
Behavior, Green  
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Climate.*

The world nowadays is focusing heavily on the protection of the environment. Organizations have also realized the importance of environmental management systems. In order to behave in environmentally responsible manner, it is important for organizations to find out ways to engender pro-environmental behaviors among employees. The purpose of this study is to examine the role of supportive supervision on employees' pro-environmental behaviors. Moreover, the mediating effects of perceived green organizational climate at the organization level and perceived green organizational climate at the coworker level are also investigated. The study is quantitative in nature and data were collected through surveys. Three universities were selected and a total of 375 faculty members were surveyed. Data analysis shows that supervisor support positively affected pro-environmental behavior of employees. Moreover, perceived green organizational climate at the organization level mediated the effect of supervisor support on pro-environmental behavior of employees. The study also found that perceived green organizational climate at the coworker level mediated the relationship between supervisor support and pro-environmental behavior of employees.

## **INTRODUCTION**

Organizations are strategizing increasingly on environmental management systems. In order to achieve sustainability, organizations have started to focus more on socially responsible practices. Among these practices, one of the most effective ways is to engender pro-environmental behaviors among employees (Gkorezis, 2015). There are three main reasons to focus on pro-environmental behaviors. First, pro-environmental behaviors can help organizations to achieve sustainability related goals. By encouraging more and more employees into pro-environmental behaviors, the objective to achieve sustainability can be

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achieved quite effectively. Second, pro-environmental behaviors among employees provide organizations with new ideas of how to act in environment friendly manner. Third, pro-environmental behaviors build organization image in front of stakeholders, regulators, and other agencies. These behaviors ensure that the organization is on the right track to achieve environmental sustainability (Robertson & Barling, 2013). Research on antecedents of pro-environmental behavior has been well documented in literature (Afsar, Cheema, & Javed, 2018; Javaid et al., 2023; Nie, Peng, & Yu, 2023; Robertson & Carleton, 2018; Zhang et al., 2024). What is relatively minimally researched is how leaders can play their role in engendering pro-environmental behaviors. Among leadership styles, supervisor support is still not investigated to a great deal. This research study is an attempt to understand how supervisor support affects pro-environmental behaviors among employees.

Pro-environmental behaviors refer to behaviors that are environment friendly. These behaviors are discretionary in nature since organizations do not usually force employees into acting in environment friendly ways (Robertson & Barling, 2013). Moreover, job descriptions do not include behaviors such as using stairs instead of elevators or using mugs instead of disposable cups. These behaviors are therefore positive extra-role behaviors (Tu, Li, & Zuo, 2023). Example of acting in environment friendly manner include behaviors such as turning off lights while leaving office, minimizing use of products that are harmful to the planet, consuming in sustainable manner at the workplace, planting more and more trees and plants, participating in voluntary activities that promote environmentally responsible behaviors, using cups or mugs instead of disposable products for tea, coffee, etc., avoiding use of prints or using double side of page while printing. Such behaviors are more of discretionary in nature since organizations do not reward or punish on the basis of these behaviors. Since discretionary behaviors need intrinsic motivation or feeling of fulfilment and satisfaction, the role of leader becomes pivotal in engendering pro-environmental behaviors (Afsar, Badir, & Kiani, 2016; Faraz et al., 2021; Farrukh et al., 2022; Ren, Li, & Mavros, 2024; Zhou et al., 2022). That is why supervisor support is considered an important aspect that needs to be investigated with regard to pro-environmental behaviors.

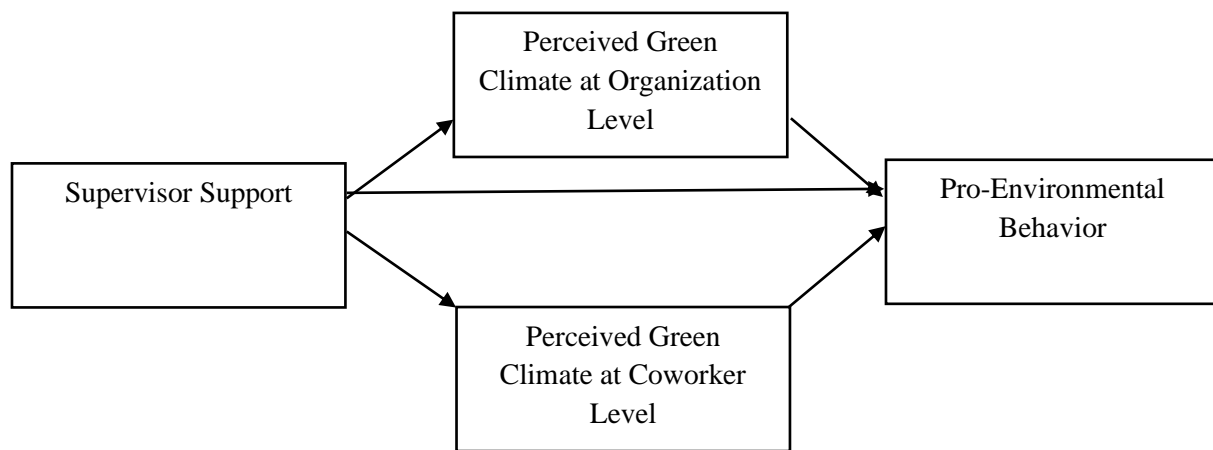
There has been a number of conceptualizations around pro-environmental behavior at workplace. Researchers have mainly agreed that these behaviors are directed towards protecting the environment, acting in environmentally responsible manner, decreasing pollution, reusing things that are environment friendly, and disposing off waste in the most efficient and safest manner (Javaid et al., 2023; Nie, Peng, & Yu, 2023; Robertson & Carleton, 2018; Zhang et al., 2024). Researchers also agree that pro-environmental behaviors are discretionary, extra-role, and voluntary behaviors at workplace. Supervisors play an

important role in encouraging employees to engage in extra-role behaviors. This is due to the fact that supervisors directly interact with subordinates and in order to do extra-mile, their support is crucial. This support is needed to make employees feel worthy, trustful, and respected (Ahmad, Ullah, & Khan, 2022; Azhar & Yang, 2022; Deng et al., 2022; Inoue & Alfaro-Barrantes, 2015; Shah et al., 2023; Thabet et al., 2023; Zheng, Y., Gao, Li, & Dang, 2023). Subordinates enjoy working under supervisors who extend their support in every possible manner. Subordinates hence feel obligated to do something extra for the organization. They feel fulfilled, satisfied, and intrinsically motivated to do what they like. Tasks done as part of duty or job usually do not provide sense of fulfillment or inner satisfaction. Employees consider it something that they are paid for. They do not feel any accomplishment while performing tasks that are part of job description. In comparison, their accomplishment and feeling of satisfaction come from doing something positive and discretionary (Ahmad et al., 2023; Albrecht, Dalton, & Kavadas, 2024; Mohammadi et al., 2023; Molnar et al., 2021; Punzo et al., 2019; Truelove et al., 2014; Wesselink, Blok, & Ringersma, 2017; Wu et al., 2021; Yuan & Li, 2022; Yue et al., 2022; Zafar et al., 2022). Those employees who have no supervisor support would feel less motivated or obligated to engage in discretionary and positive citizenship behaviors. This is because their reciprocity and obligation to pay back in form of positive behaviors diminishes under lack of support from supervisors. On the contrary, when they are supported by their supervisors, they readily engage in discretionary behaviors such as exchange of knowledge, information sharing, raising voice, building organization image in front of outsiders, creating and implementing new ideas, engaging in green behaviors, innovating for the organization, and showing loyalty towards the organization.

With the rising global consciousness around environmental degradation, organizations across the spectrum—including public institutions and private enterprises—have increasingly begun to embrace green management practices in pursuit of a sustainable future. Since the 1990s, mounting criticism has been directed toward the ecological footprints of organizational operations. In response, governments worldwide have introduced extensive legislation aimed at fostering environmentally responsible industries and societies (Ahmad, Ullah, & Khan, 2022; Azhar & Yang, 2022; Deng et al., 2022; Inoue & Alfaro-Barrantes, 2015; Shah et al., 2023; Thabet et al., 2023). At the same time, a growing number of corporations have taken proactive steps to demonstrate their commitment to sustainability. Many are voluntarily assessing their environmental performance using globally recognized frameworks such as the Global Reporting Initiative (GRI), ISO 14001, and ISO 14031. Notably, nearly 80% of Fortune 250 firms now publish annual sustainability reports (Zheng, Gao, Li, & Dang, 2023).

Given that environmental problems are largely rooted in human behavior, the role of employees' pro-environmental conduct at the workplace has become increasingly vital. Encouraging such behavior requires a nuanced understanding of the motivational drivers behind employees' environmental engagement. Although prior research has explored this phenomenon, most of it remains grounded in Western contexts, leaving a critical gap in understanding within developing economies.

This study aims to address that gap by investigating how supervisor support and green organizational climate at the organization level and green organizational climate at the coworker level influence employees' pro-environmental behaviors within the Pakistani universities. By contextualizing these dynamics, the research seeks to contribute meaningful insights to the broader discourse on sustainability and behavioral change in emerging markets. Figure 1 presents theoretical framework of the study.



**Figure 1:** Theoretical Framework

### HYPOTHESES DEVELOPMENT

Earlier research exploring environmentally responsible behavior spans a broad range of individual actions, including energy conservation (Afsar, Cheema, & Javed, 2018; Javaid et al., 2023; Nie, Peng, & Yu, 2023; Robertson & Carleton, 2018; Zhang et al., 2024), recycling, waste reduction, eco-conscious transportation choices, fuel and water conservation, and sustainable purchasing practices. Afsar, Badir, and Kiani (2016), in particular, highlighted such behaviors as representative of “other environmentally significant behaviors,” underscoring the profound influence of organizational initiatives aimed at environmental protection. They emphasized the crucial role of employees in fostering environmentally beneficial actions that contribute meaningfully toward restoring the planet’s ecological balance. Expanding upon this foundation, Inoue and Alfaro-Barrantes (2015) proposed a more nuanced classification of pro-environmental behaviors. They identified four distinct categories: social environmentalism (e.g., engaging in conversations about

environmental issues or participating in local community groups), conservation lifestyle (e.g., recycling, conserving energy and water, waste minimization, adopting eco-friendly transportation and consumption habits), environmental citizenship (e.g., financial support for conservation efforts, involvement in policy advocacy), and land stewardship (e.g., activities such as habitat restoration and environmental clean-up).

Despite these classification efforts, the literature reveals significant inconsistencies in the conceptualization and measurement of pro-environmental behaviors (Faraz et al., 2021; Farrukh et al., 2022; Ren, Li, & Mavros, 2024; Zhou et al., 2022). Farrukh et al. (2022), in their review of 49 empirical studies, identified 42 distinct measurement approaches, highlighting a lack of uniformity in defining and quantifying such behaviors. In response, they proposed a refined *Pro-Environmental Behavior Scale*, based on data from undergraduate respondents, which organized pro-environmental behaviors into four domains: conservation, environmental citizenship, food, and transportation. While this framework provides a valuable step toward standardization, it still captures only a narrow subset of behaviors, potentially omitting other meaningful actions with substantial ecological impact. These definitional and methodological inconsistencies persist, posing a challenge for researchers attempting to isolate and examine the underlying drivers of pro-environmental behaviors (Albrecht, Dalton, & Kavadas, 2024; Mohammadi et al., 2023; Molnar et al., 2021; Punzo et al., 2019; Truelove et al., 2014; Wesselink, Blok, & Ringersma, 2017). Although various attempts have been made to operationalize these behaviors within workplace contexts, a consistent and comprehensive framework remains elusive. What distinguishes pro-environmental behaviors in organizational settings from those in broader societal contexts is their direct influence on organizational decision-making processes and the implementation of environmental strategies and policies.

### ***Supervisor support and pro-environmental behavior***

In organizational research, Social Exchange Theory (SET) has served as a foundational lens to understand employee behavior and motivation (Paillé & Boiral, 2013). Applying this framework, Paillé and Boiral (2013) emphasized the role of perceived organizational support in shaping pro-environmental behavior among employees. Their findings suggest that when organizations demonstrate support through environmental initiatives or eco-conscious policies, employees are more likely to reciprocate with environmentally responsible behavior. This aligns with Zafar et al. (2022), who argued that higher levels of organizational support foster emotional bonds between employees and their organizations, thereby increasing their identification with organizational values and their willingness to embrace change initiatives. Further supporting this perspective, Composto, Constantino, and Weber (2023) found a

positive association between organizational support and affective commitment, as well as a significant influence of supervisor support on organizational citizenship behavior. When employees perceive that their organization values their contributions and well-being, it cultivates positive emotional connections and motivates them to go beyond formal job roles—engaging in voluntary, sustainability-oriented behaviors. Yue et al. (2022) additionally noted that supervisor support enhances intrinsic motivation among employees to innovate and implement eco-friendly practices.

Building on this, Wu et al. (2021) demonstrated that supervisor support for environmental efforts not only promotes employee participation in green behaviors but also reinforces perceptions of overall organizational commitment to sustainability. Especially for behaviors not explicitly embedded in job descriptions, supportive leadership—characterized by trust, recognition, and genuine care—emerges as a vital driver of extra-role environmental behavior (Mohammadi et al., 2023; Molnar et al., 2021; Punzo et al., 2019; Truelove et al., 2014; Wesselink, Blok, & Ringersma, 2017). However, it is not merely the perceived support that matters, but also the quality of the relationship between supervisors and subordinates, often conceptualized through the framework, which can further mediate the impact of support on behavioral outcomes. From a psychological lens, the Theory of Planned Behavior (TPB) introduces a comprehensive approach to understanding the antecedents of behavior, emphasizing the role of intentions, attitudes, and subjective norms. Numerous studies (e.g., Azhar & Yang, 2022; Deng et al., 2022; Inoue & Alfaro-Barrantes, 2015; Shah et al., 2023; Thabet et al., 2023) have validated TPB as a useful tool in environmental behavior research. TPB accommodates both individual-level determinants—such as values, identity, attitudes, and past behavior—and broader sociological factors, including institutional constraints like education systems and social norms. As such, it captures both volitional and non-volitional behaviors, acknowledging that environmental behaviors are influenced by both personal readiness and contextual realities.

Within this framework, behavioral intention is often identified as the most immediate predictor of pro-environmental behavior. Empirical studies have consistently affirmed this relationship across domains (Afsar, Cheema, & Javed, 2018; Javaid et al., 2023; Nie, Peng, & Yu, 2023; Robertson & Carleton, 2018; Zhang et al., 2024). For instance, Afsar, Cheema, and Javed (2018) found that while general ecological behaviors are reliably predicted by intention, specific behaviors (e.g., transportation choices) are more vulnerable to situational constraints. Likewise, Zhou et al. (2022), in a study of undergraduate students, confirmed a significant link between intention and day-to-day sustainable behaviors, such as turning off lights or recycling.



Supervisors play an important role in encouraging employees to engage in extra-role behaviors. This is due to the fact that supervisors directly interact with subordinates and in order to do extra-mile, their support is crucial. This support is needed to make employees feel worthy, trustful, and respected (Ahmad, Ullah, & Khan, 2022; Azhar & Yang, 2022; Deng et al., 2022). Subordinates enjoy working under supervisors who extend their support in every possible manner. Subordinates hence feel obligated to do something extra for the organization. They feel fulfilled, satisfied, and intrinsically motivated to do what they like. Tasks done as part of duty or job usually do not provide sense of fulfillment or inner satisfaction (Inoue & Alfaro-Barrantes, 2015; Shah et al., 2023; Thabet et al., 2023; Zheng et al., 2023). Employees consider it something that they are paid for. They do not feel any accomplishment while performing tasks that are part of job description. In comparison, their accomplishment and feeling of satisfaction come from doing something positive and discretionary. Those employees who have no supervisor support would feel less motivated or obligated to engage in discretionary and positive citizenship behaviors (Afsar, Cheema, & Javed, 2018; Javaid et al., 2023; Nie, Peng, & Yu, 2023). This is because their reciprocity and obligation to pay back in form of positive behaviors diminishes under lack of support from supervisors.

On the contrary, when they are supported by their supervisors, they readily engage in discretionary behaviors such as exchange of knowledge, information sharing, raising voice, building organization image in front of outsiders, creating and implementing new ideas, engaging in green behaviors, innovating for the organization, and showing loyalty towards the organization (Robertson & Carleton, 2018; Zhang et al., 2024). A meta-analysis by Afsar, Badir, and Kiani (2016), encompassing 81 studies, further supports this notion. They found that behavioral intention predicts pro-environmental behavior more effectively in developed and individualistic societies than in developing or collectivist cultures, thereby lending credence to the affluence hypothesis. This hypothesis suggests that in contexts where economic resources and environmental infrastructure are more accessible, individuals are better positioned to act on their environmental intentions—for example, by purchasing green products or adopting low-emission technologies. Based on these arguments, it is hypothesized:

**Hypothesis 1:** *Supervisor support positively affects pro-environmental behaviors of employees.*

#### ***Mediating effect of perceived green organizational climate***

Employees observe and perceive organizational climate by analyzing organization's policies, practices, procedures, and processes. These perceptions are shared at two levels. The first

level is at the organization where employees share perceptions of how their organizations build a climate at workplace. Employees would judge how organizations have developed policies related to the environment and how these policies are translated into activities in conformance with the organization's goals and objectives (Faraz et al., 2021; Farrukh et al., 2022; Ren, Li, & Mavros, 2024; Zhou et al., 2022). The second level is about coworkers and their shared perceptions. Green organizational climate thus refers to the policies and actions of an organization that are directed towards protecting the environment, taking care of the planet, devising effective environmental management systems, and reducing waste to a minimum level. Another recurring predictor in TPB-based studies is environmental knowledge, though its relationship with behavior is complex. Ahmad et al. (2023) observed that knowledge significantly explains variation in environmental intention in both California and Swiss samples. However, Afsar et al. (2018)) found that while knowledge can directly influence pro-environmental behavior (such as recycling), it does not necessarily enhance behavioral intention. This highlights that while knowledge is important, it may not always be sufficient on its own to drive action.

At the organizational level, research underscores the pivotal role of managerial and supervisory support in facilitating sustainable behaviors. Albrecht, Dalton, and Kavadas, 2024) observed that administrative commitment enables pro-environmental practices across various workplace settings. Similarly, Zhou et al. (2023) emphasized that top management engagement significantly enhances employee alignment with environmental objectives. Multiple studies (Mohammadi et al., 2023; Molnar et al., 2021; Punzo et al., 2019; Truelove et al., 2014) further validate that supervisor support not only motivates but actively shapes employees' engagement in pro-environmental behaviors at work. Organizations are strategizing increasingly on environmental management systems. In order to achieve sustainability, organizations have started to focus more on socially responsible practices. Among these practices, one of the most effective ways is to engender pro-environmental behaviors among employees (Wesselink, Blok, & Ringersma, 2017; Wu et al., 2021; Yuan & Li, 2022). There are three main reasons to focus on pro-environmental behaviors. First, pro-environmental behaviors can help organizations to achieve sustainability related goals. By encouraging more and more employees into pro-environmental behaviors, the objective to achieve sustainability can be achieved quite effectively. Second, pro-environmental behaviors among employees provide organizations with new ideas of how to act in environment friendly manner (Yue et al., 2022; Zafar et al., 2022). Third, pro-environmental behaviors build organization image in front of stakeholders, regulators, and other agencies. These



behaviors ensure that the organization is on the right track to achieve environmental sustainability.

When organizations make strategies that show their commitment to environmental sustainability and nature conservation, employees would perceive such practices as a stimulus to engage in pro-environmental behaviors. Moreover, coworkers would also take the initiative of engaging in behaviors that support sustainability. These behaviors are approved at the organization level since green organizational climate is promoted at every level in the organization (Deng et al., 2022; Inoue & Alfaro-Barrantes, 2015; Shah et al., 2023; Thabet et al., 2023). By observing that the organization as well as coworkers approve and engage in environmental responsible behaviors, it can be expected that an individual might also engage in pro-environmental behaviors. The mediating effect of organizational climate in the relationship between leadership role and employee behaviors is well documented in research. This is particularly relevant in situations where leaders have to provide support and inspiration to employees so that they can engage in extra-role behaviors such as organizational citizenship behaviors, moral voice, innovative work behaviors, creative endeavors, and green behaviors (Ahmad et al., 2023; Albrecht, Dalton, & Kavadas, 2024; Mohammadi et al., 2023; Molnar et al., 2021; Punzo et al., 2019; Truelove et al., 2014; Wesselink, Blok, & Ringersma, 2017; Wu et al., 2021; Yuan & Li, 2022; Yue et al., 2022; Zafar et al., 2022).

The reason behind the mediating effect of organizational climate is that no matter how supportive a leader becomes, if the organization does not approve behaviors that are positive and extra-role in nature, it is less likely that subordinates would take an extra step towards making organization successful. For example, if the organizational climate is not conducive to engage in ethical behaviors, even under supportive supervision, an employee might not take risk to display ethical behaviors (Javaid et al., 2023; Nie, Peng, & Yu, 2023; Robertson & Carleton, 2018). This is because the organization's policies and practices are not what an employee expects them to be and this dissonance and misalignment can cause an employee to display minimal intent to show positive behaviors. Extending this argument, it can be said that green organizational climate both at organization and coworker level would mediate the effect of supportive supervision on pro-environmental behaviors. Above arguments lead to following hypotheses:

**Hypothesis 2:** *Perceived green climate at the organization level mediates the effect of supervisor support on pro-environmental behavior.*

**Hypothesis 3:** *Perceived green climate at the coworker level mediates the effect of supervisor support on pro-environmental behavior.*

**METHODOLOGY*****Research context***

This study was conducted in the universities of Pakistan. There were two reasons to select Pakistan as a research context. First, Pakistan is being hit by the climate change in the most severe manner. It is one of the most effected country in terms of global warming and environmental sense. Pakistan is suffering from natural disasters and it is also affected by global warming. Second, Pakistan's government is also trying hard to ensure climate resilience among organizations. The researchers selected universities because sustainability is an important aspect that educational institutions all over the world have started to emphasize. In order to build good image as well as to act in socially responsible manner, universities across Pakistan have recently included sustainability in their long term agenda.

***Sample and procedure***

The population for this study consisted of academic and teaching staff employed at three selected universities. A population refers to a defined group of individuals chosen for the purpose of data collection and analysis. For this study, data was gathered from the academic staff at the selected institutions, resulting in a total population of 970 individuals. Three selected universities were Hazara University, Abbottabad University of Science and Technology, and University of Haripur. The sample was calculated using GPower formula and a total of 370 sample was enough to represent characteristics of the population. The researchers went to the Registrar office of each university and permission was granted from Registrar as well as Director Academics to conduct the study. The sampling frame consisted of all employees working in teaching cadre in these universities. A random sample of 370 was selected. These respondents were provided with a questionnaire and researchers requested them to fill the survey. After three weeks' time, the researchers went and collected filled surveys. A total of 223 questionnaires were gathered. Then, another 330 respondents were approached and self-administered surveys were given to respondents. A total of 168 surveys were gathered back. In total, 391 surveys were returned. After initial analysis, 16 missing cases were reported. So the final data analysis was performed on 375 respondents.

**Measures**

***Perceived Green Climate at the Organizational Level.*** This construct was measured using five items adapted from Norton et al. (2014) (e.g., "This university strives to use environmentally friendly products and materials."). Responses were recorded on a five-point Likert scale ranging from 1 ("Totally disagree") to 5 ("Totally agree"), with a reliability coefficient of  $\alpha = .81$ .

**Perceived Green Climate at the Co-worker Level.** Four items, also adapted from Norton et al. (2014), were used to assess this variable (e.g., “Most members of the organization with whom I identify behave in an environmentally friendly way.”), yielding a reliability coefficient of  $\alpha = .89$ .

**Pro-Environmental behavior.** The scale used to assess pro-environmental behavior consisted of 16 items drawn from Robertson and Barling (2013). Sample items include “I print double-sided whenever possible” and “I take part in environmentally friendly programs.” Each item was rated based on the frequency of the behavior, using a five-point scale: “Always,” “Often,” “Sometimes,” “Rarely,” and “Never.” The scale demonstrated strong internal consistency, with an alpha coefficient of .83.

**Supervisor Support.** This variable was measured using three items adapted from the work of Priyankara et al. (2018) (e.g., “My supervisor provides feedback to workers on ideas and suggestions regarding environmental initiatives.”). Responses were collected using a five-point scale ranging from 1 (“Never”) to 5 (“Almost always or always”), with a reliability coefficient of  $\alpha = .86$ . Table 1 shows reliability statistics for key constructs of this study.

**Table 1: Reliability of variables**

Variables	Cronbach's alpha
Supervisor Support	.86
Perceived Green Climate at the Organizational Level	.81
Perceived Green Climate at the Co-worker Level	.89
Pro-environmental Behavior	.83

## ANALYSIS

Table 2 shows correlations among variables. As expected, all correlations were positive which gives a preliminary evidence to test hypotheses. The correlation between supervisor support and pro-environmental behavior is 0.39.

**Table 2: Correlation Matrix**

	1	2	3	4
1. Supervisor Support	-			
2. Perceived Green Climate at the Organizational Level	0.29*	-		
3. Perceived Green Climate at the Co-worker Level	0.34**	0.19*	-	
4. Pro-environmental Behavior	0.39**	0.27***	0.35***	-

Table 3 shows that the effect of supervisor support ( $\beta = 0.373$ ;  $t\text{-value} = 13.29$ ;  $p < 0.001$ ), on pro-environmental behavior is positive and significant, confirming Hypothesis 1.

**Table 3: Direct Effects**

Relationship	Beta value ( $\beta$ )	F-value	T-value
Supervisor Support $\rightarrow$ PEB	0.373***	21.39***	13.29***
Supervisor Support $\rightarrow$ PGCO	0.264***	18.96**	12.85***
Supervisor Support $\rightarrow$ PGCC	0.299*	22.89**	14.63*
PGCO $\rightarrow$ PEB	0.438***	34.96*	20.38**
PGCC $\rightarrow$ PEB	0.391**	28.58**	18.37*

Note: PEB is pro-environmental behavior; PGCO is Perceived Green Climate at the Organizational Level; PGCC is Perceived Green Climate at the Coworker Level; \* $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < 0.001$

### Mediating Effects

Table 4 shows the results for the mediating role of Perceived Green Climate at the Organizational Level and Perceived Green Climate at the Coworker Level. According to this table, in model 1, Perceived Green Climate at the Organizational Level is regressed with supervisor support. The model is found to be significant wherein there is a positive effect of supervisor support on Perceived Green Climate at the Organizational Level ( $R^2 = .07$ ,  $\beta = .28$ ,  $T = 6.93$ ,  $p < .001$ ). In model 2, pro-environmental behavior is regressed with supervisor support. The model is significant wherein supervisor support leads to an increase in pro-environmental behavior ( $R^2 = .18$ ,  $\beta = .35$ ,  $T = 11.57$ ,  $p < .05$ ). Likewise, in model 3, pro-environmental behavior is regressed with supervisor support and Perceived Green Climate at the Organizational Level simultaneously. The model is significant showing that both supervisor support and Perceived Green Climate at the Organizational Level have an increasing effect on pro-environmental behavior ( $R^2 = .33$ ,  $\text{Beta} = .39$ ,  $T = 17.29$ ,  $p < .01$ , &  $\text{Beta} = .27$ ,  $T = 9.45$ ,  $p < .05$ ). Moreover, the inclusion of Perceived Green Climate at the Organizational Level as a mediator between supervisor support and pro-environmental behavior aids significantly to the strength of the model by explaining 15% more variation in the dependent variable that is associated with the variation in independent variable ( $\Delta R^2 = .15$ ). Similarly, the indirect effect of supervisor support on pro-environmental behavior through Perceived Green Climate at the Organizational Level is significant and does not contain zero between lower and upper level confidence intervals (effect size = .1027, LLCI = .1839, ULCI = .2791). Therefore, in view of the above results, Hypothesis 2 is accepted.

To test the mediating effect of perceived green climate at the coworker level, **in model 1**, perceived green climate at the coworker level is regressed with supervisor support. The model is found to be significant wherein there is a positive effect of supervisor support on perceived green climate at the coworker level ( $R^2 = .05$ ,  $\beta = .23$ ,  $T = 8.21$ ,  $p < .001$ ). In model 2, pro-environmental behavior is regressed with supervisor support. The model is significant wherein supervisor support leads to an increase in pro-environmental behavior ( $R^2 = .21$ ,  $\beta = .32$ ,  $T = 11.57$ ,  $p < .05$ ). Likewise, in model 3, pro-environmental behavior is regressed with supervisor support and perceived green climate at the coworker level simultaneously. The model is significant showing that both supervisor support and perceived green climate at the coworker level have an increasing effect on pro-environmental behavior ( $R^2 = .39$ ,  $\text{Beta} = .22$ ,  $T = 17.29$ ,  $p < .01$ , &  $\text{Beta} = .18$ ,  $T = 9.45$ ,  $p < .001$ ). Moreover, the inclusion of perceived green climate at the coworker level as a mediator between supervisor support and pro-environmental behavior aids significantly to the strength of the model by explaining 18% more variation in the dependent variable that is associated with the variation in independent variable ( $\Delta R^2 = .18$ ). Similarly, the indirect effect of supervisor support on pro-environmental behavior through perceived green climate at the coworker level is significant and does not contain zero between lower and upper level confidence intervals (effect size = .1286, LLCI = .0191, ULCI = .1866). Therefore, in view of the above results, Hypothesis 3 is accepted.

**Table 4: Mediation Effects**

Relationship	Model 1 PGCO		Model 2 PEB		Model 3 PEB	
	Beta	t	Beta	t	Beta	t
Supervisor Support	.28***	6.93	.35*	11.57	.39**	17.29
PGCO					.27*	9.45
$R^2$	.07		.18		0.33	
$\Delta R^2$			.11		0.15	
				Indirect Effect	LLCI	ULCI
				.1027	.1839	.2791
	PGCC		PEB		PEB	
Supervisor Support	.23**	8.21	.32**	17.8	.22**	7.63
PGCC					.18***	5.20
$R^2$	0.05		0.21		0.39	
$\Delta R^2$			0.16		0.18	
				Indirect Effect	LLCI	ULCI
				.1286	.0191	.1866

Note: \* $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < 0.00$ ; PEB is pro-environmental behavior; PGCO is Perceived Green Climate at the Organizational Level; PGCC is Perceived Green Climate at the Coworker Level.

## DISCUSSION

There are three important findings to report in this study. First, supervisor support is found to positively affect an employee's propensity to engage in pro-environmental behavior. When supervisors display traits that are supportive in nature and encourage employees to feel fulfilled at workplace, their inclination to engage in pro-environmental behaviors increase. This study confirms that leader's support is crucial for pro-environmental behaviors. Leadership is important to motivate employees to engage in extra-role behaviors. Among these extra-role behaviors, one of the key behavior is pro-environmental behavior. This finding is in line with previous studies (Ahmad, Ullah, & Khan, 2022; Azhar & Yang, 2022; Deng et al., 2022; Inoue & Alfaro-Barrantes, 2015; Shah et al., 2023; Thabet et al., 2023; Zheng et al., 2023). Second finding of the study is that perceived green climate at organization level mediates the effect of supervisor support on pro-environmental behavior. This partial mediation confirms that the relationship between supervisor support and pro-environmental behavior is not straight forward. There are some intervening mechanism involved and green climate at organization level can further explain how supportive leaders encourage their employees to engage in pro-environmental behaviors. When organizations have supportive supervisors, they inculcate green climate at organization level and this green climate leads to pro-environmental behavior. Supportive supervisors encourage policies and practices that can focus on sustainability (Afsar, Cheema, & Javed, 2018; Javaid et al., 2023; Nie, Peng, & Yu, 2023; Robertson & Carleton, 2018; Zhang et al., 2024). These sustainability practices would create an impression among employees that they should also take part in this mission through engaging in greening the organization.

The last finding of this study is that perceived green climate at coworker level mediates the effect of supervisor support on pro-environmental behavior. Coworkers can play an important role since employees spend most of the time with coworkers and they tend to share their perceptions, behaviors, intentions, and attitudes (Afsar, Badir, & Kiani, 2016; Faraz et al., 2021; Farrukh et al., 2022; Ren, Li, & Mavros, 2024; Zhou et al., 2022). By seeing and observing how coworkers behave and act, an individual is believed to be influenced. When coworkers start talking about the environmental protection and engage in behaviors that are directed towards the environmental conservation, others would also start to behave in ways that would be environmental friendly.

### ***Practical implications***

This study offers valuable insights for managerial practice. Firstly, our findings demonstrate that supportive supervisors positively influence employees' pro-environmental behavior. To promote greater engagement in PEB among employees, supervisors should adopt supportive



behaviors. Organizations may benefit from offering leadership development programs, particularly for managers with limited experience, to train them on how and when to effectively empower their teams. In situations where regular training is not feasible, encouraging top-level executives to consistently model supportive leadership behaviors can serve as a powerful alternative. When senior leaders demonstrate these behaviors, middle managers are likely to develop a stronger sense of psychological ownership, which may, in turn, motivate them to engage in PEB (e.g., conserving resources to reduce operational costs and reinforce a green organizational image).

### ***Limitations and Future Research Directions***

First, data was collected from public sector universities only. In order to better understand the conceptual framework, private sector universities should also be investigated. Private universities might feel greater pressure to ensure sustainability in order to build better reputation among various stakeholders. Therefore, results might be different from public sector universities. Second, in order to have a deeper understanding, mediating effect of perceived corporate social responsibility and perceived organizational support should also be explored to better understand the conceptual framework. Third, pro-environmental behaviors should be reported by supervisors since individual self-reported opinions might be biased.

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