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“The Impact of Green Servant Leadership on Pro Environmental Behavior with mediating role of Green Thinking and Environmental Commitment in Hospitality Industry in Twin cities of Pakistani small and medium enterprises.”



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ABSTRACT

This study examines the impact of Green Servant Leadership (GSL) on Pro-Environmental Behavior (PEB) among employees working in the hospitality sector of Pakistani small and medium enterprises. Guided by Social Learning Theory (SLT), the research investigates how Green Thinking (GT) and Environmental Commitment (EC) function as parallel mediators in this relationship. This study used a quantitative research approach and gathered data using a well-structured questionnaire. The Statistical analysis conducted using SPSS software to test the direct and indirect relationships among the variables.

This research adds to the body of literature on green leadership and sustainability, offering empirical evidence on how leadership influences employee behavior through both cognitive and commitment-based processes. It provides actionable insights for organizations seeking to enhance green leadership development, increase environmental awareness, and boost employee commitment toward sustainability. While limited by its cross-sectional approach and focus on a specific sector, the study lays a solid groundwork for future research across diverse industries and regions.

From a managerial perspective, the findings offer clear guidance for hospitality organizations seeking to improve environmental performance. The results suggest that managers can promote pro-environmental behavior by actively demonstrating eco-friendly practices, integrating environmental values into daily operations, and encouraging employees to reflect on the environmental consequences of their work activities. Developing green servant leadership capabilities through training and performance evaluation systems may strengthen employee's green thinking and environmental commitment, ultimately translating sustainability goals into practical workplace behaviors. Despite its cross-sectional design and sector specific focus, the study provides actionable insights that can support managers and policymakers in designing effective leadership driven sustainability initiatives.

Keywords: Green Servant Leadership, Pro-Environmental Behavior, Green Thinking, Environmental Commitment, Social Learning Theory.

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DEDICATION

This thesis is dedicated to the people whose support, kindness, and quiet strength made this journey possible. To my parents, whose endless encouragement, prayers, and firm faith in my capabilities have been my strongest source of motivation your support forms the cornerstone of every achievement in my life. I also dedicate this work to the employees and professionals in Pakistan's hospitality industry who continue to practice sustainability through their daily actions. Your willingness to think green, stay committed, and lead by example reflects the very essence of the concepts explored in this research. To all individuals who choose environmental responsibility whether through small habits or conscious decisions you are the real inspiration behind this study and finally, to our planet, whose resilience reminds us why sustainable behavior matters may this work contribute, even in a small way, to its well-being and future.

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CHAPTER 01

INTRODUCTION

1.1 Background

Pro-environmental behavior (PEB) has its roots in early environmental psychology research, first explored in the 1980s as behaviors aimed at conserving natural resources and minimizing environmental harm (Heslop et al., 1981; Steg & Vlek, 2009). It is commonly described as behavior that minimizes harm to the environment or actively contributes to its improvement, and it is considered essential for achieving sustainable development.

Pro-environmental behavior (PEB) plays a vital role in supporting the sustainability of Small and Medium Enterprises (SMEs) for multiple reasons. Although SMEs operate on a smaller scale, they collectively contribute a substantial share of global economic activity and exert a notable environmental impact. By implementing pro-environmental practices, SMEs can reduce waste generation, conserve natural resources, and decrease carbon emissions, thereby enhancing both environmental sustainability and operational effectiveness (Hossain et al., 2025).

One of the key reasons PEB is important for SMEs is its contribution to cost reduction. Sustainable initiatives such as energy-efficient operations, waste minimization, and the adoption of renewable resources can significantly lower operating expenses. Adopting sustainable practices, such as optimizing energy use and managing resources efficiently, can enhance SME performance while reducing operational costs (International Journal of Management & Entrepreneurship Research, 2024). For instance, energy-efficient machinery or water-saving techniques can directly reduce utility bills. This not only provides benefits to the environment but also strengthens the financial sustainability of SMEs.

In addition, pro-environmental behavior can improve an SME's public image. Modern consumers are increasingly environmentally conscious and tend to favor businesses that show a clear commitment to sustainability. SMEs that adopt eco-friendly practices can use these actions as a marketing tool to attract environmentally conscious consumers. This, in turn, may result in higher customer loyalty and an expanded market share and profitability.

Pro Environmental Behavior (PEB) also helps SMEs stay competitive in a world where environmental regulations are becoming harsher. Governments around the world are implementing policies that encourage sustainable practices (Porter & van der Linde, 1995; Parsons, 2025). By embracing PEB, SMEs can ensure regulatory compliance, avoid potential penalties or legal challenges, and benefit from innovation driven by environmental policies, which can enhance competitiveness. Moreover, SMEs that adopt green practices are often viewed as sustainability leaders, making them more appealing to investors who prioritize environmental, social, and governance (ESG) performance. Additionally, pro-environmental behavior is critical for long-term growth. SMEs that adopt sustainable practices are more capable of adjusting to evolving market conditions, shifting consumer preferences, and emerging environmental challenges. By fostering a culture of sustainability, SMEs can create a more resilient business model that can survive economic shifts and market instability.

Finally, SMEs are often seen as community leaders. When SMEs engage in pro-environmental behavior, they set an example for other businesses in the community and contribute to local environmental initiatives (Hossain et al., 2025). This fosters a sense of responsibility and collective action that can lead to broader societal changes. SMEs that prioritize Pro Environmental Behavior (PEB) can become motivation for sustainability in their communities, driving positive environmental change on a local level (Shah et al., 2023; Hossain et al., 2025).

Green Servant Leadership (GSL) is a leadership style that integrates servant leadership principles, which emphasize employee growth and well-being, with a strong commitment to environmental sustainability. Leaders who practice GSL motivate employees to engage in eco-friendly behaviors by leading through example, offering support, and fostering a workplace culture that prioritizes environmental responsibility (Mittal & Dhar, 2016; Benevene & Buonomo, 2020). By consistently displaying sustainable actions, green servant leaders encourage employees to align their behaviors with organizational environmental objectives.

Green Thinking (GT) refers to the environmental awareness and mindset that enable employees to consider the ecological consequences of their daily decisions and work activities. Employees with strong GT actively look for ways to minimize waste, conserve energy, and implement environmentally responsible practices. This mindset is often developed through leadership

influence, training programs, and organizational encouragement, helping employees transform awareness into practical sustainable actions (Shah et al., 2023).

Environmental Commitment (EC) represents the emotional and moral dedication of employees toward protecting the environment. Employees with a strong sense of environmental commitment tend to consistently practice eco-friendly behaviors, adhere to environmental policies, and actively support their organization's sustainability initiatives (Hossain et al., 2025). This commitment is strengthened when leaders demonstrate care for the environment and actively involve their teams in sustainability efforts.

By combining GSL with GT and EC, organizations create a framework where leadership shapes both the cognitive and emotional drivers of behavior. Employees guided by environmentally responsible leaders, encouraged to think green, and emotionally committed to sustainability are more likely to adopt Pro-Environmental Behavior (PEB). This study aims to investigate these relationships within SMEs in the hospitality industry of the twin cities of Pakistan, highlighting the critical role of leadership in promoting a sustainable organizational culture (Shah et al., 2023; Hossain et al., 2025).

1.2 Problem Statement

Why SMEs are important: Small and Medium Enterprises (SMEs) are fundamental to the global economic system as they generate employment, encourage innovation, and stimulate economic progress. SMEs account for a substantial share of total employment, particularly in developing economies where they often serve as the primary source of income. They also promote competition, which benefits consumers through lower prices and higher quality. In many regions, SMEs are a vital part of the supply chain, supporting larger enterprises and contributing to regional development. Therefore, SMEs are not only the backbone of local economies but also play an essential role in stability and flexibility of economies worldwide.

Why is the Dependent Variable “Pro-Environmental Behavior (PEB)” Important in SMEs: Pro-Environmental Behavior (PEB) is crucial in Small and Medium Enterprises (SMEs) because it aligns business practices with global sustainability goals, ensuring long-term success. SMEs, despite their size, collectively contribute a significant environmental footprint, making their

adoption of eco-friendly practices vital for environmental preservation. By integrating PEB into daily operations, SMEs can reduce waste, minimize energy consumption, and promote sustainability within their supply chains. This not only improves the environmental impact but also enhances cost efficiency through resource optimization. Furthermore, SMEs that practice PEB are more likely to comply with regulations, avoid penalties, and attract environmentally conscious customers, creating a competitive advantage. Ultimately, the widespread adoption of PEB among SMEs contributes to a more sustainable future.

Why is “Green Servant Leadership (GSL)” Important in Pro-Environmental Behavior (PEB), and Why Pro-Environmental Practices are Important in SMEs: Green Servant Leadership (GSL) is crucial in fostering Pro-Environmental Behavior (PEB) within SMEs because it sets the attitude or quality for organizational culture. Leaders who embrace GSL lead by example, inspiring their employees to adopt sustainability driven behaviors. They prioritize both the well-being of their employees and the environment, which creates a positive feedback loop where eco-conscious behaviors are encouraged and reinforced. GSL provides the necessary guidance, resources, and support for employees to integrate green practices into their work processes, thus creating a workplace culture that values environmental responsibility.

PEB practices in SMEs are essential as they help reduce operational costs through resource efficiency and waste reduction. They enhance the business reputation, improve employee satisfaction, and ensure compliance with regulations. SMEs that engage in PEB practices can also access government incentives, gain a competitive edge, and contribute to global sustainability efforts, fostering long-term business existence.

Green Thinking's Role Between Green Servant Leadership (GSL) and Pro-Environmental Behavior (PEB): Green Thinking serves as an important mediating mechanism between Green Servant Leadership (GSL) and Pro-Environmental Behavior (PEB) by influencing how employees understand and respond to environmental initiatives. GSL fosters green thinking by encouraging employees to view environmental responsibility as an integral part of their job roles. This shift in mindset promotes proactive actions, such as waste reduction, resource conservation, and the adoption of sustainable work practices. As green thinking becomes embedded within the organizational culture, employees are more likely to consistently engage in environmentally responsible behaviors, leading to improved PEB across the organization.

Environmental Commitment Role Between Green Servant Leadership (GSL) and Pro-Environmental Behavior (PEB) Environmental commitment (EC) plays a significant mediating role in the relationship between Green Servant Leadership (GSL) and Pro-Environmental Behavior (PEB). When leaders express strong commitment towards sustainability, they enhance the perception of responsibility of the employees. This commitment drives employees to take ownership of environmental initiatives, aligning their personal values with organizational goals. The more committed employees feel to environmental sustainability, the more likely they are to adopt pro-environmental behaviors in their work. This sense of commitment leads to long-term positive changes in organizational culture and practices, ultimately improving PEB.

Environmental sustainability has become a critical concern in today's business environment, particularly in the hospitality industry, which is considered a high impact sector due to its extensive consumption of energy, water, and resources and its contribution to waste generation. In Pakistan, the hospitality industry is experiencing rapid growth; however, this expansion is accompanied by increasing environmental challenges that require immediate attention. As a result, understanding and improving employee's Pro-Environmental Behavior (PEB) has become essential for ensuring sustainable operations in this sector.

Previous research suggests that employee's eco-friendly behavior is not driven only by organizational policies or regulations but is strongly influenced by leadership behavior. In this regard, Green Servant Leadership (GSL) has emerged as an important leadership approach that emphasizes environmental responsibility while prioritizing the well-being of employees and the environment. Leaders practicing GSL act as role models by adopting and promoting green practices within organizations.

Drawing on Social Learning Theory, employees tend to observe and imitate the behaviors of their leaders, which can encourage sustainable actions at the workplace. Despite the growing recognition of green leadership, there is limited empirical evidence explaining how Green Servant Leadership directly influences Pro-Environmental Behavior in Pakistan's hospitality sector. More importantly, the psychological mechanisms through which this influence occurs particularly the mediating roles of Green Thinking (GT) and Environmental Commitment (EC) remain unclear.

To address this gap, the present study investigates the direct and indirect effects of Green Servant Leadership on employee's Pro-Environmental Behavior by examining the mediating roles of

Green Thinking and Environmental Commitment. Using data collected from 385 hospitality employees in Pakistan and applying SPSS based regression and mediation analysis, this study aims to provide empirical evidence that explains how leadership can foster an environmentally responsible workforce. Overall, this research seeks to clarify the relationship between leadership and sustainability and to guide hospitality organizations in developing effective strategies for promoting eco-friendly behavior among employees.

1.3 Research Objective:

To examine the impact of Green Servant Leadership on Pro-Environmental Behavior. Green Servant Leadership (GSL) integrates servant leadership principles with a focus on environmental sustainability. Leaders practicing GSL prioritize the well-being of employees alongside environmental protection. Such leaders influence Pro-Environmental Behavior (PEB) by modeling sustainable actions and responsible decision making, which encourages employees to imitate these behaviors. When employees observe leaders engaging in environmentally conscious practices, they are more likely to adopt similar actions in their own work. GSL empowers employees to make environmentally responsible decisions, strengthening green initiatives within SMEs and fostering a workplace culture where eco-friendly practices are valued and supported.

To investigate the mediating role of Green Thinking (GT) between Green Servant Leadership (GSL) and Pro-Environmental Behavior (PEB). Green thinking functions as a cognitive mediator between GSL and PEB by shaping employee's perceptions and attitudes toward sustainability. When leaders promote green thinking, they encourage employees to internalize environmental values and prioritize sustainability in decision-making. This mediation occurs as employees transform leadership driven green thinking into observable eco-friendly behaviors, resulting in higher levels of PEB both at work and in daily life. Thus, green thinking acts as a psychological link that strengthens the relationship between GSL and PEB.

To investigate the mediating effect of Environmental Commitment (EC) between Green Servant Leadership (GSL) and Pro Environmental Behavior (PEB). Environmental commitment serves as a key emotional mediator between GSL and PEB by enhancing employee's dedication to sustainability. When leaders display genuine concern for environmental issues, employees are encouraged to align their personal values with organizational environmental goals. This sharp

commitment increases employee's motivation to engage in consistent pro-environmental behaviors, translating leadership initiatives into practical actions that improve organizational environmental performance and promote long-term sustainability.

1. To examine the impact of Green Servant Leadership on Pro-Environmental Behavior.
2. To investigate the mediating role of Green Thinking (GT) between Green Servant Leadership (GSL) and Pro-Environmental Behavior (PEB).
3. To investigate the mediating effect of Environmental Commitment (EC) between Green Servant Leadership (GSL) and Pro Environmental Behavior (PEB).

1.4 Research Questions:

What is Green Servant Leadership (GSL) on Pro Environmental Behavior (PEB)? Green Servant Leadership (GSL) refers to a leadership approach that blends servant leadership principles with a strong commitment to environmental sustainability. It involves leaders who serve their followers by developing a culture of environmental consciousness, promoting eco-friendly practices, and supporting sustainability initiatives. Green Servant Leaders are committed to using their influence to reduce environmental harm and drive sustainability efforts within their organizations.

Pro Environmental Behavior (PEB) encompasses actions undertaken by individuals or groups that contribute positively to environmental protection. These behaviors may include energy conservation, waste minimization, sustainable consumption, and participation in environmental initiatives. PEB reflects an individual's or organization's dedication to reducing environmental impact and supporting the preservation of natural resources.

Does Green Thinking mediate the relationship between Green Servant Leadership (GSL) and Pro-Environmental Behavior (PEB)? Yes, Green Thinking can act as a mediating mechanism between Green Servant Leadership (GSL) and Pro-Environmental Behavior (PEB). Leaders who adopt GSL encourage employees to reflect on environmental consequences and long-term sustainability outcomes. This mindset, referred to as green thinking, reshapes employee's values, attitudes, and perceptions toward environmental responsibility. As employees internalize these values, they become more inclined to translate awareness into concrete pro-environmental actions. Thus, green

thinking functions as a psychological bridge that converts leadership influence into observable PEB.

Does Environmental Commitment mediate the relationship between Green Servant Leadership (GSL) and Pro-Environmental Behavior (PEB)? Yes, Environmental Commitment also serves as a mediator between Green Servant Leadership (GSL) and Pro-Environmental Behavior (PEB). Through GSL, leaders foster a sense of personal and shared responsibility for environmental sustainability among employees. As employees develop stronger environmental commitment, they become more motivated to consistently engage in sustainable behaviors. This commitment encourages long term dedication to eco-friendly practices, explaining how leadership-driven sustainability values are transformed into consistent pro-environmental behaviors.

1. What is the effect of Green Servant Leadership (GSL) on Pro-Environmental Behavior (PEB)?
2. Does Green Thinking mediate the relationship between Green Servant Leadership (GSL) and Pro-Environmental Behavior (PEB)?
3. Does Environmental Commitment mediate the relationship between Green Servant Leadership (GSL) and Pro-Environmental Behavior (PEB)?

1.5 Research Gap:

Green Servant Leadership (GSL) as a Direct Influence on Pro-Environmental Behavior (PEB): While studies have investigated general leadership styles or green leadership in environmental contexts, there is limited practical evidence on how green servant leadership (GSL) specifically enhances pro-environmental behavior (PEB) in organizational settings.

Mediating Role of Green Thinking: There is a noticeable lack of research investigating green thinking as a mediating variable between leadership styles and pro-environmental behavior. Examining how green servant leadership shapes employee's cognitive environmental awareness, which subsequently drives PEB, can provide deeper insights into leadership driven sustainability learning processes.

Mediating Role of Environmental Commitment: Similarly, insufficient attention has been given to environmental commitment as a mediator between green servant leadership (GSL) and pro-

environmental behavior (PEB). Research could explore whether leadership practices that emphasize service and sustainability lead to greater commitment to environmental goals, which, in turn, shapes sustainable actions and attitudes.

Interaction Between Green Thinking (GT) and Environmental Commitment (EC): There is limited understanding of how green thinking (GT) and environmental commitment (EC) interact. Specifically, how does a change in an individual's cognitive environmental awareness (green thinking) lead to stronger commitment to sustainability, and how both jointly mediate the relationship between GSL and PEB, remains unclear.

Contextual and Organizational Factors: Many existing studies fail to sufficiently consider contextual, cultural, and industry-specific influences. Research examining how green servant leadership operates within different sectors, organizational cultures, and geographical settings particularly in developing economies remains rare.

1.6 Conclusion:

In conclusion, there exists a significant gap in the literature concerning the role of green servant leadership in promoting pro-environmental behavior through the mediating mechanisms of green thinking (GT) and environmental commitment (EC). Addressing these gaps through empirical investigation, particularly in diverse organizational and cultural contexts, is essential. By doing so, this study contributes to both theoretical advancement in green leadership research and the practical implementation of sustainability initiatives within organizations.

1.7 The Scope of Study

The scope of this study is limited to Small and Medium Enterprises (SMEs) within the hospitality industry operating in the twin cities of Pakistan. The research focuses on employees and managerial staff, recognizing that leadership behavior plays a critical role in shaping workplace values and environmental actions. Specifically, the study examines the impact of Green Servant Leadership (GSL) on Pro-Environmental Behavior (PEB), with Green Thinking (GT) and Environmental Commitment (EC) considered as mediating variables.

The study employs a quantitative, cross-sectional research design, with data collected through a structured questionnaire to assess employee's perceptions and sustainability-related behaviors. The findings are intended to provide insights into how leadership-driven learning and commitment can promote sustainable practices within hospitality SMEs. The scope is confined to the selected sector and geographical area; therefore, the results may not be generalized to other industries or regions without further research.

1.8 Significance of the Study

This study holds substantial significance for academia, management practice, and policy formulation, particularly within Pakistan's hospitality SME sector. First, it contributes to the existing body of knowledge on green leadership (GT) and sustainability by positioning Green Servant Leadership (GSL) as a key antecedent of Pro-Environmental Behavior (PEB). While prior research has explored various leadership styles, limited attention has been given to how servant-oriented green leadership influences employee behavior in Pakistani hospitality SMEs, making this research timely and relevant.

Second, the study is important because it explains how leadership influences environmental behavior by introducing Green Thinking and Environmental Commitment as mediating mechanisms. By applying Social Learning Theory, the research shows that employees learn and adopt eco-friendly behaviors by observing leaders and developing both awareness and commitment toward environmental responsibility. This adds theoretical clarity by highlighting the learning-based process through which sustainable behaviors emerge in organizations.

From a practical standpoint, the findings provide actionable insights for SME owners, managers, and hospitality leaders. The study emphasizes that promoting sustainability is not limited to policies or technologies but also depends on leadership behavior. By encouraging green thinking and strengthening employee's commitment to environmental values, leaders can foster consistent pro-environmental actions at the workplace. These insights can support the design of leadership training programs and sustainability initiatives suited to resource-constrained SMEs.

Furthermore, the study is significant for policymakers and regulatory bodies concerned with environmental sustainability. Understanding the role of leadership and employee behavior can help in developing more effective awareness programs and sustainability frameworks for the hospitality sector. Finally, this research provides a foundation for future studies by offering an empirically tested model that can be extended to other sectors, regions, or through longitudinal research designs.

CHAPTER 02

LITERATURE REVIEW

2.1 Independent Variable:

Robert K. Greenleaf was the very person who introduced the (Greenleaf, 2023, September 26). Servant leadership is a nontraditional framework of management (Greenleaf R. , 2025) that includes a set of behaviors and practices at the core of which the primary focus is on the well-being of those being served. There are two extremes (Greenleaf R. , 2023, September 26): servant leadership exists along two contrasting orientations: servant-first and leader-first. A servant-first leader prioritizes the personal development, welfare, and success of individuals and the communities to which they belong.

Unlike traditional leadership approaches that rely on hierarchical control and power concentrated at the top, servant leadership redistributes authority and emphasizes collaboration, empathy, and empowerment. Servant leaders place the needs of others above their own interests and actively support followers in achieving their highest potential.

Environmental performance refers to the extent to which organizations operate in ways that align with society's increasing demand for environmentally friendly and sustainable practices (Anon, 2025)). It reflects how organizational activities and production processes utilize resources in accordance with environmental standards and how effectively companies reduce pollution and ecological damage (Asfahani, 2023). A company's success in being environmentally friendly is closely linked to how well it can minimize pollution.

Furthermore, green organizational practices, particularly green human resource management (GHRM) and resource management initiatives, play a critical role in supporting sustainability goals. The role of leadership is central to the successful implementation of these practices, as leaders significantly influence organizational values, employee attitudes, and behavioral outcomes. Therefore, leadership acts as a crucial driving force in shaping both environmental performance and employee engagement in green initiatives.

Drawing on the above literature, it is evident that servant leadership emphasizes ethical responsibility, employee well-being, and collective growth, while recent extensions of this approach highlight its relevance to environmental sustainability. Prior studies suggest that leaders who prioritize service, empowerment, and moral values can significantly influence employee's attitudes and behaviors toward organizational goals, including sustainability initiatives. However, although servant leadership has been widely discussed in leadership and management research, its environmentally focused form Green Servant Leadership has received comparatively limited empirical attention, particularly in relation to employee level pro-environmental outcomes. In response to this gap, the present study positions Green Servant Leadership as the key independent variable and empirically examines its direct influence on Pro-Environmental Behavior, as well as its indirect influence through Green Thinking and Environmental Commitment. This approach allows the study to directly link leadership theory with employee environmental behavior within an organizational context.

2.2 Dependent Variable

In recent years, the challenges posed by climate change have become more severe, threatening both human life and the planet. According to UN Climate Change News, climate-related disasters forced 30 million people to leave their homes in 2020 alone. In the following year, extreme weather events led to approximately USD 120 billion in insured damages. As various environmental issues continue to gain importance, finding ways to address these concerns and promote sustainability has gathered significant attention. Ultimately, many environmental problems arise from human actions. Changing these behaviors is critical for improving the state of the environment. Pro-environmental actions (Honh Tian, 2022) play a vital role in reducing resource waste, lowering pollution levels, and minimizing environmental harm. This makes them an essential approach to tackling environmental issues and ensuring the protection of the planet's sustainability. As a result, researching PEB has become a vital area of study, attracting the interest of scholars from diverse academic fields.

Researchers have examined (Honh Tian, 2022) the pro-environmental behaviors of various groups, including students, employees, tourists, and residents. These studies research into topics like the

definition of pro-environmental behavior, how it develops, and its impacts. In an effort to better organize knowledge on this subject and guide future research, some scholars have provided summaries and projections of research on pro-environmental behavior from different angles. The main areas of focus in these summaries include: First, identifying antecedents and consequences of PEB; Second, examining the relationship between PEB and related constructs, such as social norms and well-being; Third, developing theoretical models that explain PEB, including voluntary workplace behaviors. These studies are important for gaining a more thorough understanding of pro-environmental behavior research. However, the field is still developing rapidly. Researchers continue to explore the causes, effects, and theoretical underpinnings of this behavior, but no unified conclusions have been reached. Theoretical development, which is key for deepening research and ensuring the long-term growth of this field, has gathered considerable attention in recent years. However, there is a clear gap in the literature to summarizing and analyzing the theoretical progress in PEB, which presents an obstacle for further research development in this field.

Based on the reviewed literature, Pro-Environmental Behavior has been widely recognized as a critical outcome of environmental sustainability; however, existing studies lack consensus regarding the organizational factors that effectively promote PEB in workplace settings. After examining both supportive and critical perspectives, the present study positions PEB as the key dependent variable and focuses on leadership driven mechanisms to explain how employee environmental behaviors can be strengthened. Specifically, this research investigates how Green Servant Leadership influences PEB through psychological and value-based factors, thereby addressing an important gap in the current literature.

2.3 Mediating Variables:

2.3.1 Green Servant Leadership and Pro Environmental Behavior:

Servant leadership places a strong emphasis on the interests, well-being, and development of employees, encouraging leaders to demonstrate empathy, selflessness, and moral responsibility (Shah, 2023). While servant leadership has been widely studied in relation to organizational, group, and individual outcomes, its application to environmental contexts has received limited attention. Scholars have broadly studied the impact of servant leadership on various organizational, group, and individual outcomes. Luu Trong tuan presented the idea of incorporating an environmental element into servant leadership, suggesting that pro-environmental behavior (PEB) should demonstrate qualities like humility, sincerity, and stewardship, helping employees achieve pro-environmental goals (Tuan, 2019). Leaders should also offer guidance, encourage individuals to become environmentally responsible, and inspire others to adopt similar behaviors. This approach reflects a form of leadership known as “green leadership”, which is the foundation of what we call green servant leadership. Moreover, green practices, especially those linked to green human resource management (GHRM), are integral to organizational strategies. The role of leadership is critical in effectively implementing these green practices, as leaders have a significant influence on both the organization and its employees. Research by Robertson and Barling (2017) highlighted the importance of servant leadership in encouraging PEB, prompting further exploration into the concept of GSL (Jennifer L. Robertson, 2017). Pro-environmental behavior among employees is reflected in actions such as energy conservation, responsible resource use, recycling, and environmental protection (Shah et al., 2023). These behaviors positively affect organizational performance and environmental outcomes. Drawing on servant leadership theory, this study conceptualizes GSL as a leadership approach that cultivates green values and sustainable practices among employees.

Although prior studies highlight the positive influence of servant leadership on employee outcomes, limited empirical work has examined its environmental dimension. After reviewing both traditional and emerging perspectives, this study adopts the concept of Green Servant Leadership to explain how leadership behavior can directly encourage Pro-Environmental Behavior among employees. Therefore, this research focuses on examining the direct relationship

between GSL and PEB to provide empirical evidence within an organizational context, contributing to the growing body of green leadership literature. Based on the points discussed earlier, the following hypothesis is developed:

Hypothesis:

H1: The Green Servant Leadership (GSL) is positively related to Pro Environmental Behavior (PEB).

2.3.2 Mediating Role of Green Thinking:

Green Servant Leadership (GSL) combines servant-oriented values with a strong emphasis on environmental sustainability. Leaders practicing GSL not only care for employee well-being but also model environmentally responsible behaviors, such as energy conservation, recycling, and sustainable decision-making (Luu, 2017). They serve as role models, demonstrating humility, empathy, and stewardship, thus influencing their followers to integrate sustainability into their work habits and personal lives. Green Thinking is an environmental mindset that emphasizes awareness and responsibility for the ecological consequences of one's actions. This cognitive framework encourages individuals to consider the long-term impacts of their behavior on the environment and adopt sustainable practices in daily life. It includes practices like reducing waste, keeping resources, and supporting eco-friendly initiatives. Pro-environmental behavior (PEB) encompasses the actions individuals undertake to minimize harm to the natural environment, including practices such as recycling, conserving energy, and choosing environmentally friendly products.

Green Servant Leadership (GSL) contributes significantly to the development of environmental awareness among employees by embedding sustainability into the organization's core values and leadership practices. When green thinking is reinforced through GSL, employees feel empowered to translate their beliefs into concrete sustainable actions (Luu, 2017). Leaders who adopt GSL are not only focused on the well-being of their followers but also act as role models of sustainable practices. As Robertson and Barling explain, servant leaders who integrate sustainability into their leadership style help create a culture that prioritizes environmental awareness (Jennifer L. Robertson, 2017). By modeling green behavior, these leaders influence their followers to adopt a

similar mindset, which encourages green thinking across all levels of the organization. As green thinking becomes adopted, employees become more conscious of their environmental impact, leading to enhanced pro-environmental behaviors (PEB).

Furthermore, green thinking directly affects pro-environmental behavior (PEB). Employees who adopt a green mindset are more likely to participate in actions that benefit the environment, like: reducing waste and conserving energy. Moser (2015) Research suggests that individuals with a strong green mindset are more likely to make environmentally responsible decisions in both personal and professional contexts (Moser, 2015). This shift in mindset results in behaviors that helps to the organization's overall sustainability goals, improving the organization's ecofriendly performance. Thus, green thinking not only enhances personal ecological responsibility but also drives collective action towards environmental sustainability.

When green thinking is promoted by GSL, it creates an effect where employees are motivated to act on their sustainable beliefs. As Luu (2017) suggests, green servant leaders help foster a work culture where environmental responsibility is encouraged, and employees feel empowered to contribute to organizational sustainability goals. This transformation from green thinking to PEB is key for organizational success in addressing environmental challenges. By promoting green thinking through GSL, organizations can improve their environmental performance and contribute to global sustainability efforts.

Existing literature suggests that leadership influences employee behavior largely through cognitive mechanisms; however, the mediating role of Green Thinking remains underexplored. After analyzing previous positive and limited findings, this study focuses on Green Thinking as a key psychological pathway through which Green Servant Leadership translates into Pro-Environmental Behavior. By positioning Green Thinking as a mediator, the present research aims to explain how leadership-driven environmental awareness is transformed into consistent and meaningful environmental actions among employees.

In summary, Green Servant Leadership (GSL) plays a key role in encouraging green thinking, which in turn drives pro-environmental behavior (PEB). By fostering a culture of sustainability and modeling eco-friendly behaviors, GSL leaders inspire their employees to think critically about their environmental impact, leading to actions that reduce waste, conserve resources, and improve

overall environmental outcomes. The combination of green thinking and GSL results in a more sustainable organization and a positive impact on the environment.

Hypothesis:

H2: The GSL is positively relating to Green Thinking.

H4: The Green Thinking is positively related to (PEB).

H6: Green thinking mediates the relationship in between Green Servant Leadership (GSL) and Pro Environmental Behavior (PEB).

2.3.3 Mediating Role of Environmental Commitment:

Environmental Commitment refers to an individual's or organization's long-term dedication to environmental protection, reflected through sustainable actions such as energy efficiency, waste reduction, and support for environmental initiatives. This commitment influences decision-making by prioritizing long-term ecological well-being.

Green Servant Leadership (GSL) integrates servant leadership qualities such as empathy, humility, and stewardship with a focus on promoting environmental sustainability. Leaders who practice GSL actively promote sustainability by modeling environmentally responsible behaviors and motivating their followers to engage in sustainable actions. The core of GSL is not only about serving the needs of employees but also guiding them towards environmentally conscious behaviors, which in turn, enhances their commitment to environmental protection (Luu, 2017).

The influence of "GSL on environmental commitment" is significant, as it encourages a culture of sustainability within the organization. Leaders who highlights the importance of environment and demonstrate environmentally friendly values inspire employees to internalize these principles, fostering a stronger sense of responsibility towards the environment. By empowering individuals to act sustainably, GSL creates a work environment where environmental protection becomes a shared responsibility. Through these leadership practices, employees are more expected to prioritize sustainability in their professional and personal lives.

Once environmental commitment is established, it directly influences PEB, PEB refers to activities that individuals take to minimize harm to the environment, such as recycling, using energy-efficient products, reducing waste, or supporting sustainable practices. Environmental commitment creates a basic motivation to engage in these behaviors, as individuals feel a moral concern to protect the environment.

In organizations, employees with a strong environmental commitment are more expected to adopt PEB, such as reducing resource consumption and actively participating in sustainability initiatives. Green Servant Leadership, by promoting environmental commitment, plays a vital role in shaping these performances. When employees observe that their leader's value environmental sustainability then they are more motivated to follow suit, which leads to a developed level of PEB within the organization. This creates a positive feedback loop where "Environmental commitment encourages PEB", and as employees engage in sustainable practices, they reinforce their own commitment to the environment.

Prior research emphasizes the importance of environmental values and responsibility in shaping sustainable behavior, yet the role of Environmental Commitment as a mediating mechanism has received insufficient attention. Based on the reviewed literature, this study focuses on Environmental Commitment as a value-based mediator that explains how Green Servant Leadership fosters employee Pro-Environmental Behavior. By integrating this mediator into the research framework, the study addresses a theoretical gap and provides a clearer understanding of how leadership encourage commitment leads to sustained environmental actions in organizations.

In essence, green servant leadership not only fosters environmental commitment but also influences the behaviors that lead to greater sustainability, creating an environment where pro-environmental actions are the norm rather than the exception.

In Summary:

- Environmental commitment involves a long-term dedication to preserving the environment and adopting sustainable practices.
- Green Servant Leadership (GSL) influences this commitment by guiding individuals and organizations to prioritize sustainability and lead by example.

- This commitment significantly impacts pro-environmental behavior (PEB) by motivating individuals to engage in actions that contribute to environmental protection, such as recycling, reducing waste, and conserving resources.

Through this integrated approach, GSL not only fosters environmental commitment but also shapes the actions individuals take to minimize their ecological footprint, contributing to a more sustainable future.

Hypothesis:

H3: The GSL is positively relating to Environmental Commitment.

H5: The EC is positively relating to PEB.

H7: EC is mitigating the relationship among the GSL and PEB.

2.4 Social Learning Theory:

Social Learning Theory (SLT) provides a theoretical foundation for understanding how pro-environmental behaviors develop within organizations. According to SLT, individuals learn behaviors by observing others, particularly those in leadership positions, and imitating actions that they perceive to be beneficial or rewarded. In workplace settings, employees may adopt behaviors such as recycling, energy conservation, and waste reduction by modeling the actions of leaders and peers. This theory highlights the importance of social influence and reinforcement in encouraging sustainable behaviors, making it an essential lens through which to explore how PEBs are cultivated within workplaces.

Pro-Environmental Behaviors (PEBs) are defined as actions that individuals engage in to minimize environmental harm or promote sustainability (Zongbo Li, 2020). These behaviors also include engaging in activities that benefit the environment and avoiding actions that harm it (Florian Lange, 2019). In some research, PEBs have been described as environmentally friendly behaviors exhibited by employees in organizational contexts, PEBs often take the form of voluntary, discretionary actions, such as conserving energy or recycling materials (Robertson, 2013).

Additionally, PEBs contribute to the preservation of ecosystems and conservation of resource (Stern, 2000). The environmentally friendly behavior of employees is essential in helping organizations meet sustainability objectives and prevent further environmental degradation (Stern, 2000). Additionally, it is suggested that actions within an organization, which may separate from formal policies and established procedures, are carried out voluntarily by employees (Sun Hwa Kim, 2017). In essence, employees have the freedom to engage in proactive environmental actions on an individual basis (Lopin Kuo, 2011). Businesses are increasingly recognizing the connection between environmental preservation and organizational success, including long-term viability and performance.

Encouraging PEBs can provide strategic benefits to organizations, such as boosting efficiency, enhancing profitability, improving brand perception, meeting sustainability goals, and gaining a competitive advantage (Ma Ying, 2020). However, the topic of employee PEBs has often been overlooked in both academic research and practice.

Employee engagement in PEB contribute to their willingness to participate in environmental initiatives (Charles A. Scherbaum, 2008). One of the main predictors of employee PEBs (Zongbo Li J. X., 2020), according to previous studies, is the leadership style within an organization (Bial Afsar, 2016).

2.5 Theoretical Framework

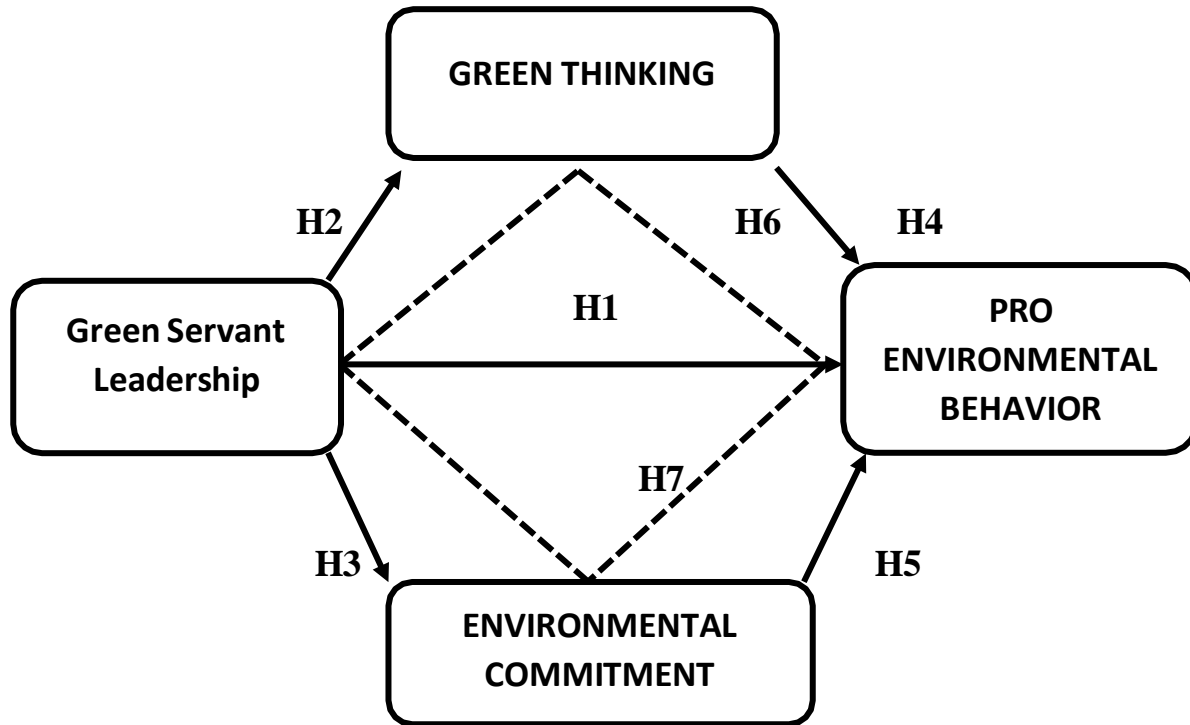


Figure 1: Theoretical Framework

CHAPTER: 03

RESEARCH METHODOLOGY

Introduction

This chapter outlines the methodological framework adopted to investigate the influence of Green Servant Leadership (GSL) on Pro-Environmental Behavior (PEB) among managerial-level employees working in the hospitality sector of Islamabad and Rawalpindi. It further examines the mediating roles of Environmental Commitment (EC) and Green Thinking (GT) in this relationship. The methodology emphasizes a quantitative research design, chosen for its suitability in testing hypotheses derived from established theories such as Social Learning Theory and Servant Leadership Theory. A positivist research philosophy guides the study, focusing on objective measurement and empirical validation. The research adopts a deductive approach, utilizing structured surveys to collect data from managers and supervisors who are key agents in implementing sustainable practices. Convenience sampling is employed to select participants, ensuring practical access to relevant respondents. Data is gathered through an online questionnaire featuring validated Likert-scale instruments and analyzed using statistical software including SPSS. The data was collected through a questionnaire survey over a period of two months. The required work experience for this research ranges from 3 to 6 years, with a maximum of 15 years or more. The cross-sectional design allows for a snapshot of current attitudes and behaviors, while ethical considerations ensure participant confidentiality and voluntary involvement. Overall, this methodology provides a rigorous, replicable, and transparent framework to explore the causal pathways linking leadership styles to environmental behavior in Pakistan's hospitality sector.

Research Design

The research design follows the Research Onion framework proposed by Saunders, Lewis, and Thornhill (2007). The Research Onion which provides a layered and structured approach to research planning. The framework includes research philosophy, approach, strategy, methodological choice, time horizon, and data collection techniques. This structured approach ensures internal consistency across all elements of the research design and guides the researcher in aligning methodological decisions with the overarching research aims and objectives. The aim

of this study is to explore how GSL influences PEB among employee's, with Environmental Commitment (EC) and Green Thinking (GT) serving as mediating variables.

3.1 Research Philosophy

This study is guided by a positivist philosophy, which assumes that reality can be objectively observed and quantified through empirical methods. Positivism supports the use of structured instruments and statistical analysis to identify patterns and relationships among variables (Bryman, 2016). Given the study's focus on hypothesis testing using numerical data, positivism is the most appropriate philosophical attitude.

This philosophy emphasizes the collection of observable and numerical data, making it highly suitable for research that uses surveys and statistical models. The philosophy promotes researcher neutrality and emphasizes measurable outcomes, making it suitable for survey-based research (Saunders et al., 2019).

In the context of Pakistan's hospitality industry where environmental challenges such as high energy consumption, waste, and water usage are common applying a positivist approach enables a difficult and objective investigation into how leadership influences employee behavior toward sustainability.

3.2 Research Approach

A deductive research approach is adopted, meaning it begins with existing theories and moves toward testing specific hypotheses. This approach is especially useful for examining whether the proposed theoretical relationships between variables hold true (Creswell & Creswell, 2018). Given that the research is based on established theories such as Social Learning Theory, the deductive approach supports the structured testing of predefined hypotheses. It supports a direct and logical flow from theory to data analysis, providing a clear path to either confirm or reject these hypotheses using empirical data. Given that environmental initiatives are increasingly being introduced in Pakistani hotels and resorts, a deductive approach allows for systematic testing of whether leadership styles truly influence employee behavior in these service environments. This method also enhances the study's generalizability within similar hospitality contexts.

3.3 Research Strategy

The study employs a survey strategy, which is widely used in quantitative research for collecting standardized data from large samples. Surveys are appropriate for examining attitudes, perceptions, and behavioral patterns and align well with the deductive approach.

This study is conducted online, involving managerial level employees working in the hospitality sector of the twin cities Islamabad and Rawalpindi. Participants are invited to complete a structured questionnaire survey during their regular work hours. The online format enables wider geographic reach and offers convenience to respondents. Participation is voluntary, with no financial or material incentives provided. Gathering data within the participant's actual work environment allows for more genuine and contextually meaningful insights into organizational practices and environmental behaviors.

Using an online survey corresponds with current research trends and offers several advantages. It allows access to participants across a large geographic area without the logistical difficulties and costs associated with face-to-face data collection. For busy managerial staff, the option to complete the survey at a suitable time during work hours helps improve response rates and reduce fatigue.

Surveys are used to measure important ideas like Green Servant Leadership (GSL), Environmental Commitment (EC), Green Thinking (GT), and Pro-Environmental Behavior (PEB) by asking participants to respond to statements on a Likert scale. This method has been used before in studies like Dinasti (2023), which looked at how servant leadership influences pro-environmental behavior, with motivation playing a role in between (Dinasti, *International Journal of Management Science*, 2023). Using surveys also helps test hypotheses in real workplace settings, making the results more useful and relevant. This method enhances the study's validity and contributes to the generalizability of findings within the hospitality industry context.

3.4 Methodological Choice

A monomethod quantitative approach has been selected, using a single quantitative tool (structured questionnaire) for data collection. This approach is suitable for studies aiming to test hypotheses and quantify relationships between variables.

Quantitative data allows the researcher to apply statistical techniques such as regression and mediation analysis. It also enables the evaluation of how much influence one variable has over another, which is key in understanding the impact of leadership on behavior.

In hospitality industry, especially in service-based environments like hotels, employee behavior can significantly affect environmental sustainability efforts. A quantitative approach helps capture these behaviors in measurable terms. Similar research approaches have been used successfully in environmental studies within the service sector (Hou et al., 2022).

3.5 Time Horizon

The study follows a cross-sectional time horizon, collecting data at a single point in time. This approach is appropriate given time and resource constraints and is commonly applied in survey research. Cross-sectional research doesn't show changes over time but gives a clear picture of the variables at one specific point.

For hospitality organizations in Pakistan, where staff turnover is often high and operational schedules are tight, a cross-sectional approach enables the researcher to capture a snapshot of employee's environmental attitudes and behaviors efficiently. Though this design does not track changes over time, it provides a clear snapshot of current leadership practices and environmental behaviors in hospitality organizations.

3.6 Techniques and Procedures

In this research, data is collected with structured questionnaire distributed to the sample population. The gathered data were analyzed with suitable statistical tools (e.g., SPSS and Excel) to test the hypotheses and examine the relationships among variables.

3.6.1 Data Collection

Data were gathered using a structured online questionnaire based on validated measurement scales from previous studies. Responses were recorded using a 5-point Likert scale ranging from strongly disagree to strongly agree. The questionnaire consisted of five sections: demographics, GSL, GT, EC, and PEB. Measurement sources included:

- Green Servant Leadership: Based on Zafar et al. (2025).
- Environmental Commitment: Adapted from Begum, S., et al. (2022).
- Green Thinking (Yu, Lin, Kao, & Yu, 2019).
- Pro-Environmental Behavior: Shah et al. (2023).

Green Servant Leadership (GSL) having these questions: My leader highlights the importance of contributing to environmental improvement, my leader encourages me to volunteer for environmental activities, my leader prioritizes my environmental initiatives, my leader would not compromise environmental principles to achieve success, my leader maintains high standards for environmental responsibility Zafar et al. (2025). Green Thinking (GT) having these questions: I care about the environment, I think about saving energy and resources while working, the condition of the environment makes me think about the quality of my life, I am willing to find ways to protect the environment, I often think of new eco-friendly ideas and ways to protect the environment Adapted from Yu, Lin, Kao & Yu (2019). Environmental Commitment (EC) having these questions: I donate money to environmental protection groups to stop new harmful things from causing problems, I work as an environmental volunteer to help stop new harmful things from happening, I do not actively look for information about protecting the environment from new harmful things, I watch videos about protecting the environment and new harmful things, I read government publications about new harmful things Begum, S., et al. (2022). Pro-Environmental Behavior (PEB) having these questions: At work, I participate in eco-friendly programs, I suggest new methods that could improve my organization's impact on the environment, I consider the effects of my activities before doing anything that could affect the environment, I switch off lights when I leave the office, I avoid wasting resources like electricity and water during work Shah et al. (2023).

The sample consists of employees from hotels, restaurants and cafes in twin cities of Islamabad and Rawalpindi. These participants include individuals from operational departments that play direct roles in sustainability practices. The data was collected by using a questionnaire survey over a period of two months. A goal-directed sampling technique is used to target hospitality employees who are aware of or involved in environmental programs.

3.6.2 Data Analysis

Collected data will be analyzed using SPSS to perform:

- Descriptive Statistics (mean, SD, frequency)
- Reliability and Validity Tests (Cronbach's alpha, AVE)
- Correlation Analysis
- Regression and Mediation Analysis (e.g., using PROCESS macro)

The required work experience for this research ranges from 3 to 6 years, with a maximum of 15 years or more. This methodology aligns with best practices in quantitative organizational research. The exact number of questionnaires distributed was not recorded because the study used an online/self-administered survey. Therefore, the analysis is based on 385 complete and usable responses. Collected data was analyzed by using SPSS (Version 26) for initial statistical procedures and PROCESS Macro (Model 4) by Hayes (2018) to test mediation effects. SPSS was used for descriptive, mean, standard deviation, skewness, and kurtosis, to examine the distribution and normality of the data. Furthermore, Pearson correlation analysis was conducted to explore bivariate relationships between the constructs. To test the direct and indirect effects hypothesized in the study, PROCESS Macro was applied, which allows for the estimation of mediation models using Bootstrapping with 5,000 resamples was used to assess indirect effects. Mediation was confirmed when confidence intervals excluded zero (Preacher & Hayes, 2008). Reliability analysis, multi-collinearity diagnostics (VIF and tolerance values), and common method bias (Harman's single factor test) were also shown to validate the integrity of the data. This dual-software approach enhanced analytical rigor, allowing for robust hypothesis testing and greater confidence in the generalizability of findings across the hospitality sector in Pakistan.

3.7 Population of the Study

The population comprises managers, supervisors, and executive-level personnel employed in hotels, restaurants, and related service establishments in the hospitality industry of Pakistan's twin cities (Islamabad and Rawalpindi). These managerial level employees are selected because they play a key role in implementing sustainable leadership practices and influencing employee behavior toward environmental goals

Managers and supervisors occupy pivotal roles that connect strategic decision-making with operational implementation A total of 385 valid responses were collected. The data was collected by using a questionnaire survey over a period of two months. Their perceptions shape how green leadership practices are interpreted, communicated, and enacted at the ground level.

Managers and supervisors hold key positions that link strategic leadership with day-to-day operations. Their perceptions shape how green leadership practices are understood, communicated, and carried out in hotels and resorts. Because they influence departmental routines and employee behavior, their viewpoints are essential for assessing leadership's impact on environmental practices. The study focuses on hospitality businesses in the twin cities Islamabad and Rawalpindi, including both local and branded hotels. Including managers from these areas ensures both diversity of operations and representation of regional hospitality contexts.

Islamabad and Rawalpindi, as twin cities, are experiencing a rising demand in the hospitality sector due to increased domestic tourism, business travel, and improved infrastructure. Islamabad in particular has seen growth in hotel development and occupancy as traveler activities increase post COVID Pakistan Today (Malik, 2025). Sampling managers from hotels and resorts in these cities allows this study to examine how local economic and cultural variables influence perceptions of green leadership and pro environmental behavior.

3.8 Subject, Respondents, and Key Informants

The respondents in this research are middle managers, operational supervisors, and department heads from hospitality organizations in Islamabad and Rawalpindi. These individuals are selected because they play a vital role in practicing Green Servant Leadership (GSL) they influence how Environmental Commitment (EC) and Green Thinking (GT) develop among staff and ultimately shape employees' Pro-Environmental Behavior (PEB). Their perceptions and behaviors are essential for understanding how GSL is interpreted, communicated, and implemented both strategically and operationally within hospitality firms.

Middle managers serve as important bridges between senior leadership and front-line employees. They receive strategic guidance and translate it into daily actions. Because of their dual roles, they often influence the formation of departmental policies, behaviors, and the work norms that embed environmental values. They are therefore ideal sources for gathering insights on how environmental leadership practices Green Servant Leadership (GSL) operate in real workplace settings.

These respondents come from a variety of levels within management—from frontline supervisors to department heads allowing the study to capture a range of experiences. They report on how committed their organization is to environmental goals (EC), how much green thinking is encouraged in their teams (GT), and how these all-influences observable pro-environmental behaviors (PEB).

By focusing on managerial employees in the twin cities, the study captures both local organizational intent and on-the-ground practical challenges. Islamabad and Rawalpindi include hotels and resorts of differing sizes and resources, which allows for variation in how GSL and related mediators are expressed. Including this diversity strengthens the reliability of responses because it includes voices from both larger branded hotels and smaller local establishments.

Overall, concentrating on this managerial tier improves the study's validity by integrating multiple perspectives from within organizations, enhancing understanding of how green leadership transforms individual attitudes into lasting behavior change in the hospitality sector.

3.9 Sample Technique and Research Procedure

This research utilized a convenience sampling method, whereby participants were selected based on their availability and willingness to take part in the study. Due to the lack of an official or comprehensive sampling frame for hospitality employees in Islamabad and Rawalpindi, this non-probability sampling approach was considered the most practical option. Although this method may restrict broad generalization, it is widely used in organizational behavior and sustainability studies because of its feasibility and efficiency.

Data were collected using a structured questionnaire based on previously validated measurement scales. Responses were measured using a five-point Likert scale, ranging from Strongly Disagree to Strongly Agree, to assess participant's attitudes, perceptions, and behaviors related to green leadership and sustainability practices. The questionnaire was distributed electronically through email and online survey platforms to employees working in operational units such as housekeeping, maintenance, kitchen services, and front office departments across various hotels and resorts in the twin cities.

Ethical principles guided the entire research process. Participants were clearly informed about the purpose of the study, and participation was entirely voluntary. Strict measures were taken to protect respondent confidentiality and anonymity, in accordance with accepted ethical standards in social science research.

3.10 Unit of Analysis

The unit of analysis for this study is the individual managerial employee operating within the hospitality sector of Islamabad and Rawalpindi. This includes frontline supervisors, departmental managers, and senior executives who play a vital role in influencing environmental practices within their organizations.

Questionnaire is adapted from previous studies. Respondents filled the questionnaire, 5-point Likert's scale used in survey questionnaire.

These managerial employees are selected because of their critical role in implementing and promoting Green Servant Leadership (GSL), which shapes employees' Pro-Environmental Behavior (PEB). Their perceptions of Environmental Commitment (EC) and Green Thinking (GT)

provide important insights into how these factors mediate sustainable behaviors in hospitality operations.

The Likert scale was coded as follows:

- 5 = Strongly Agree
- 4 = Agree
- 3 = Neutral
- 2 = Disagree
- 1 = Strongly Disagree

Focusing on individual managerial employees allows the analysis of micro-level attitudes and behaviors that collectively influence organizational culture and sustainability outcomes. The Likert scale helps quantify subjective perceptions, enabling careful and detailed statistical techniques such as mediation and regression analysis.

3.11 Justification and Alignment with Research Objectives

All methodological choices were made to ensure alignment with the research objectives and questions to examine how Green Servant Leadership (GSL) impacts Pro Environmental Behavior (PEB) through the mediators of Environmental Commitment and Green Thinking.

The positivist philosophy ensures an objective, empirical investigation and deductive approach support hypothesis testing. The use of a survey strategy and quantitative method allows data collection from a relatively large population, increasing the reliability of the findings. The cross-sectional approach provides a timely overview of current trends or behaviors. The monomethod quantitative design provides the means for statistical accuracy and replicability. Together, these elements form a suitable research design that supports the generation of generalizable, valid, and reliable findings, enriching the understanding of environmental leaderships role in shaping employee behavior. These components ensure methodological consistency and reliability of the study.

Focusing on the hospitality industry in Pakistan adds practical value to the study. Hotels and resorts are high-impact businesses when it comes to sustainability, and staff behavior plays a vital role in

achieving environmental goals. By grounding the study in this sector, the research becomes directly applicable to real-world environmental challenges faced by service-based organizations.

3.12 Ethical Considerations

Ethical integrity is a critical component of academic research, especially when human participants are involved. All data collection procedures complied with the ethical guidelines approved by Bahria University. Participants were fully informed about the purpose of the study, and their participation was entirely voluntary.

Confidentiality and secrecy were strictly maintained throughout the research process. Participants were informed of their right to withdraw at any stage, and all data were collected exclusively for academic purposes. An introductory statement in the questionnaire clearly communicated these details. No incentives were offered that could influence responses or place participants under pressure.

To safeguard confidentiality, no personally identifiable information was collected. Responses were recorded anonymously, and all digital and physical data were stored securely with restricted access limited only to the researcher and academic supervisor.

The study also took care to avoid any form of dishonesty, coercion, or psychological harm. Questions were framed respectfully and avoided sensitive or potentially disturbing content.

Formal ethical approval was obtained prior to data collection. By observing these ethical principles, the study ensured that the dignity, rights, and safety of all participants were protected, in line with best practices in social science research ethics.

3.13 Limitations of the Research Design

While the chosen research design is appropriate for the study's aims, certain limitations are acknowledged. The cross-sectional nature of the study restricts the ability to observe behavioral changes over time. Additionally, reliance on a survey-based approach may limit the depth of understanding compared to qualitative methods. The use of self-reported data also carries the risk of response bias. These limitations will be considered when interpreting the results.

CHAPTER: 04

RESULTS OF STUDY

INTRODUCTION

After establishing the conceptual framework and hypotheses in Chapter Two and outlining the research methodology in Chapter Three, this chapter reports the findings derived from the statistical analysis of data collected from 385 respondents working in Pakistan's hospitality industry. The main objective of this chapter is to present and interpret the analytical results used to assess the proposed research model and to examine the relationships between Green Servant Leadership (GSL), Green Thinking (GT), Environmental Commitment (EC), and Pro-Environmental Behavior (PEB).

The chapter starts with descriptive statistical analysis, providing a summary of respondents' demographic characteristics and an overall profile of the sample. This is followed by correlation analysis to determine the direction and strength of relationships among the study variables. Subsequently, regression analysis is employed to test the direct effects of GSL, GT, and EC on PEB. Finally, mediation analysis using the PROCESS Macro is conducted to evaluate the indirect effects of Green Thinking and Environmental Commitment within the proposed research model.

Additionally, reliability analysis is conducted to assess the internal consistency of all constructs used in the questionnaire, ensuring the robustness and accuracy of the measurement tools. Together, these analyses validate the conceptual framework and provide empirical evidence to support the hypothesized relationships among leadership, cognition, commitment, and environmentally responsible behavior.

4.1 Descriptive Statistics

Descriptive Statistics of Respondents (n = 385).

| Demographic Variable | Category | Frequency | Percentage (%) |
|---------------------------------|-----------------|------------------|-----------------------|
| Gender | Male | 196 | 50.9% |
| | Female | 189 | 49.1% |
| Age | Under 25 | 142 | 36.9% |
| | 25–34 | 117 | 30.4% |
| | 35–44 | 41 | 10.6% |
| | 45–54 | 55 | 14.3% |
| | 55 & above | 30 | 7.8% |
| Education | Intermediate | 12 | 3.1% |
| | Bachelor’s | 204 | 52.9% |
| | Master’s | 130 | 33.8% |
| | M.Phil./PhD | 39 | 10.1% |
| Experience | 3–6 years | 35 | 9.1% |
| | 7–10 years | 90 | 23.4% |
| | 11–14 years | 50 | 13.0% |
| | 15+ years | 210 | 54.5% |
| Job Role | Frontline Staff | 77 | 20.0% |
| | Supervisor | 82 | 21.3% |
| | Manager | 105 | 27.3% |
| | Executive | 121 | 31.4% |
| Hospitality Organization | Hotel | 111 | 28.8% |
| | Restaurant | 157 | 40.8% |
| | Café | 46 | 12.0% |
| | Other | 71 | 18.4% |

Table 1: Descriptive statistics.

Interpretation:

The demographic analysis of the 385 respondents indicates a diverse workforce in Pakistan's hospitality sector. 50.9% males and 49.1% females, reflecting reasonable participation. Age analysis shows that younger professionals dominate the workforce, with 36.9% under 25 and 30.4% in the 25–34 age bracket. This suggests that the hospitality industry relies heavily on young and early-career employees. The educational profile of the respondents shows that most participants possess either a bachelor's degree (52.9%) or a master's qualification (33.8%), demonstrating a well-educated workforce capable of understanding environmental sustainability concepts. Experience levels are distributed across 3–6 years (9.1%), 7–10 years (23.4%), 11–14 years (13.0%), and 15+ years (54.5%), showing that over half of the sample are highly experienced personnel, providing credible insights into leadership practices and pro-environmental behaviors. Job roles are represented across frontline staff (20%), supervisors (21.3%), managers (27.3%), and executives (31.4%), ensuring a comprehensive perspective from operational to strategic levels. Regarding organizational types, respondents primarily come from restaurants (40.8%) and hotels (28.8%), with cafes (12%) and other organizations (18.4%) also represented. In general, the descriptive data indicate that the sample includes a varied mix of age groups, professional experience, educational backgrounds, and organizational positions, which enhances the applicability of the study's findings across the hospitality sector.

Overall, the demographic diversity of respondents suggests that Green Servant Leadership can influence pro-environmental behavior across age groups, education levels, and job roles. According to Social Learning Theory (Bandura, 1977), employees learn behaviors by observing role models, particularly leaders. The mix of young, educated, and experienced personnel provides fertile ground for leaders to model environmentally responsible behavior. Consequently, leadership interventions targeting sustainability can effectively foster eco-friendly actions across the hospitality workforce.

4.2 Correlation Analysis

| Variable | GSL | GT | EC | PEB |
|------------|---------|---------|---------|-----|
| GSL | 1 | | | |
| GT | 0.574** | 1 | | |
| EC | 0.537** | 0.506** | 1 | |
| PEB | 0.603** | 0.591** | 0.558** | 1 |

p < 0.01

Table 2: Correlation analysis of study.

Interpretation:

The correlation analysis showed meaningful positive associations between all the variables, suggesting both theoretical relevance and practical interconnections. Green Servant Leadership (GSL) correlates moderately too strongly with Green Thinking (GT, $r = 0.574$), Environmental Commitment (EC, $r = 0.537$), and Pro-Environmental Behavior (PEB, $r = 0.603$), demonstrating that employees perceive leadership as a critical driver of both their cognitive and behavioral environmental engagement. GT and EC also correlate positively with PEB ($r = 0.591$ and 0.558 , respectively), suggesting that employee’s eco-conscious mindset and commitment directly influence their sustainable behaviors. These correlation results provide evidence for the proposed conceptual framework, indicating that leadership affects employee’s pro-environmental behavior directly as well as indirectly via cognitive (GT) and attitudinal (EC) mechanisms. The strength of these relationships provides preliminary support for the proposed mediation hypotheses (H6 and H7), warranting further regression and mediation analysis.

The positive correlations between GSL, GT, EC, and PEB indicate that employee’s perception of green leadership strongly influences their environmental mindset and actions. Consistent with Social Learning Theory, employees observe and replicate behaviors demonstrated by leaders (Bandura, 1977). Literature supports that Green Servant Leaders act as role models, guiding followers toward adopting green thinking and environmental commitment (Robertson & Barling, 2017; Shah, 2023). These findings confirm that leadership-driven modeling fosters both cognitive

and behavioral engagement with sustainability, creating a culture that reinforces pro-environmental practices throughout the organization.

4.3 Regression Analysis Results

| Hypothesis | Path | B | β (Beta) | t | R ² | p-value | Result |
|------------|----------------|-------|-------------------|-------|----------------|---------|-------------------------------|
| H1 | GSL → PEB | 0.412 | 0.603 | 10.85 | 0.364 | < .001 | Supported |
| H2 | GSL → GT | 0.574 | 0.574 | 14.23 | 0.329 | < .001 | Supported |
| H3 | GSL → EC | 0.537 | 0.537 | 13.41 | 0.288 | < .001 | Supported |
| H4 | GT → PEB | 0.341 | 0.591 | 8.92 | 0.349 | < .001 | Supported |
| H5 | EC → PEB | 0.265 | 0.558 | 7.15 | 0.311 | < .001 | Supported |
| H6 | GSL → GT → PEB | 0.195 | — | — | — | < .001 | Supported (partial mediation) |
| H7 | GSL → EC → PEB | 0.142 | — | — | — | < .001 | Supported (partial mediation) |

Table 3: Regression analysis results.

Interpretation:

The regression results validate all hypothesized direct and indirect relationships. H1 confirms that GSL positively predicts PEB ($\beta = 0.603$, $p < .001$), indicating that leaders who practice green servant behaviors effectively encourage employees to adopt eco-friendly practices. H2 and H3 show that GSL significantly predicts GT ($\beta = 0.574$, $p < .001$) and EC ($\beta = 0.537$, $p < .001$), illustrating that environmentally oriented leadership enhances employees' green thinking and fosters a sense of environmental responsibility. H4 and H5 confirm that both GT ($\beta = 0.591$, $p < .001$) and EC ($\beta = 0.558$, $p < .001$) positively predict PEB, highlighting their critical roles in

translating cognitive and attitudinal factors into sustainable actions. The indirect paths (H6 and H7) demonstrate that GT and EC partially mediate the GSL → PEB relationship, signifying that leadership affects behavior not only directly but also by shaping employee's thoughts and commitment toward environmental practices. Overall, these findings align with Transformational Leadership Theory, which emphasizes leaders influence on followers' motivation and values, and the Social Exchange Theory, illustrating reciprocal relationships between leadership support and employee pro-environmental conduct.

The regression analysis confirms that GSL significantly predicts PEB both directly and indirectly through GT and EC. This supports the idea that leaders' behaviors serve as models for employees, consistent with Social Learning Theory (Bandura, 1977). By practicing Green Servant Leadership, leaders cultivate a mindset and commitment among employees that translates into concrete sustainable actions. Prior literature also suggests that servant-oriented leadership enhances employee's eco-consciousness and moral responsibility, encouraging behaviors such as energy conservation, recycling, and waste reduction (Luu, 2017; Robertson & Barling, 2017; Shah et al., 2023). These results highlight the theoretical and practical significance of leadership-driven interventions to improve organizational sustainability.

4.4 Mediation Analysis

| Model | Path | Effect (B) | SE | T | p-value | LLCI | ULCI | Significance |
|-------------------------|-----------|------------|-------|-------|---------|-------|-------|--------------|
| Total Effect | GSL → PEB | 0.412 | 0.038 | 10.85 | .000 | 0.337 | 0.487 | Significant |
| Mediation via GT | GSL → GT | 0.574 | 0.040 | 14.23 | .000 | 0.495 | 0.653 | Significant |
| | GT → PEB | 0.341 | 0.038 | 8.92 | .000 | 0.266 | 0.416 | Significant |
| Direct Effect | GSL → PEB | 0.217 | 0.042 | 5.17 | .000 | 0.134 | 0.300 | Significant |
| Indirect Effect | via GT | 0.195 | 0.042 | — | — | 0.124 | 0.266 | Significant |
| Mediation via EC | GSL → EC | 0.537 | 0.040 | 13.41 | .000 | 0.458 | 0.616 | Significant |
| | EC → PEB | 0.265 | 0.037 | 7.15 | .000 | 0.192 | 0.338 | Significant |
| Direct Effect | GSL → PEB | 0.270 | 0.041 | 6.59 | .000 | 0.189 | 0.351 | Significant |
| Indirect Effect | via EC | 0.142 | 0.038 | — | — | 0.067 | 0.217 | Significant |

Table 4: Mediation analysis of study.

Interpretation:

Mediation analysis using PROCESS Macro confirms the indirect effects of GSL on PEB through GT and EC. The analysis indicates that GT partially mediates the relationship ($B = 0.195$, $p < .001$), indicating that GSL enhances personnel environmental thinking, which subsequently promotes seasoned-environmental conduct. In addition, EC partly mediates the connection ($B = 0.142$, $p < .001$), demonstrating that management fosters an emotional and ethical dedication to sustainability that translates into motion. The direct effects of GSL on PEB remain significant in both models, confirming partial mediation rather than full mediation. These findings highlight the dual pathways cognitive (GT) and attitudinal (EC) through which green servant leadership influences employee's behavior. Practically, this underscores that organizations should cultivate

both environmental awareness and emotional commitment among employees, alongside green leadership practices, to maximize sustainable outcomes.

Mediation analysis confirms that GT and EC partially mediate the relationship between GSL and PEB, indicating dual cognitive and attitudinal pathways. From a Social Learning Theory perspective, employees observe green leadership behaviors and internalize both the practices and underlying values (Bandura, 1977). Literature suggests that inexperienced Servant control encourages inexperienced questioning and increases environmental commitment, which in flip drives seasoned-environmental conduct (Luu, 2017; Robertson & Barling, 2017; Moser, 2015). This highlights that management not best version’s sustainable behavior but additionally cultivates the mental and cost-based mechanisms that preserve employee’s engagement with environmental tasks.

4.5 Reliability Analysis

| Construct | Number of Items | Cronbach’s Alpha (α) | Reliability Level |
|----------------------------------|-----------------|-------------------------------|-------------------|
| Green Servant Leadership (GSL) | 5 | 0.912 | Excellent |
| Green Thinking (GT) | 5 | 0.898 | Excellent |
| Environmental Commitment (EC) | 5 | 0.885 | Excellent |
| Pro-Environmental Behavior (PEB) | 5 | 0.907 | Excellent |

Table 5: Reliability analysis of study.

Interpretation:

An analysis of reliability was performed to assess the internal consistency of the constructs utilized in this research. Cronbach’s Alpha (α) values were computed for each scale to ensure that the items consistently measure the intended latent constructs. The Green Servant Leadership (GSL) scale, comprising 5 items, demonstrated excellent reliability with $\alpha = 0.912$, confirming that all items

effectively assess environmentally responsible leadership behaviors. The Green Thinking (GT) scale showed strong reliability ($\alpha = 0.898$), indicating that the items reliably capture employee's eco-conscious mindset and sustainable thinking patterns.

The Environmental Commitment (EC) scale also reported excellent internal consistency with $\alpha = 0.885$, showing that employee's dedication and sense of responsibility toward environmental protection are measured consistently across items. Similarly, the Pro-Environmental Behavior (PEB) scale achieved $\alpha = 0.907$, suggesting that employee's eco-friendly actions and behaviors are captured reliably. All Cronbach's alpha values are above the acceptable benchmark of 0.70, indicating that the measurement tools are reliable and produce consistent results. These results confirm that the scales are suitable for hypothesis testing and further statistical analysis, ensuring the validity and robustness of the study's findings.

The excellent reliability of all constructs confirms that the scales consistently measure leadership, cognition, commitment, and pro-environmental behavior. Reliable measurement allows organizations to evaluate the effectiveness of leadership-driven sustainability initiatives. According to Social Learning Theory (Bandura, 1977), accurate assessment of modeled behaviors ensures that observed environmental practices can be reinforced and adopted systematically. Supporting literature highlights that well-described and reliable measurement equipment are vital for connecting management practices to employee's green wondering and environmental determination (Robertson & Barling, 2017; Shah et al., 2023).

CHAPTER 05

Discussion and Hypothesis Summary

DISCUSSION

This chapter provides an in-depth interpretation of the research results, aligning them with the study's objectives, research questions, hypotheses, and theoretical framework. The research focused on examining how Green Servant Leadership (GSL) affects Pro-Environmental Behavior (PEB) among employees in Pakistan's hospitality sector, with Green Thinking (GT) and Environmental Commitment (EC) acting as mediators. Grounded in Social Learning Theory, the study highlights how leader's function as role models whose behaviors influence employees' environmental awareness and actions, underlining the importance of observation, imitation, and reinforcement in promoting pro-environmental practices within organizations. The primary aim was to assess both the direct and indirect effects of GSL on PEB, and the results provide strong support for the proposed hypotheses, confirming the significance of leadership modeling in fostering sustainable employee behaviors.

Demographic analysis of the 385 participants showed a balanced and varied sample, enhancing the generalizability of the results. Males 50.9% and females 49.1%. The age indicated a mainly younger workforce, with 36.9% below 25 years and 30.4% in the 25–34 age group. Regarding educational background, the majority of respondents held bachelor's degrees (52.9%) or master's degrees (33.8%), suggesting a well-educated workforce capable of comprehending environmental practices and leadership influences. Experience levels varied considerably, with more than half (54.5%) having 15+ years of experience, ensuring that insights were grounded in both practical knowledge and professional maturity. Job roles and organizational types were diverse, with participants spanning frontline staff (20%), supervisors (21.3%), managers (27.3%), and executives (31.4%), primarily from restaurants (40.8%) and hotels (28.8%). This diversity ensures a comprehensive perspective on how green leadership impacts both operational and strategic employee's, which enhances the strength and reliability of the results.

The correlation analysis indicated notable positive associations among all study variables, offering initial evidence in favor of the proposed conceptual framework. GSL was moderately to strongly correlated with GT ($r = 0.574$), EC ($r = 0.537$), and PEB ($r = 0.603$), highlighting that employee's perceive leadership behaviors as central to developing their own environmental thinking and commitment. Similarly, GT and EC were positively correlated with PEB ($r = 0.591$ and 0.558 , respectively), indicating that employee's cognitive and attitudinal engagement with environmental sustainability directly influences their pro environmental actions. These results correspond with Social Learning Theory, which posits that individuals acquire suitable behaviors by observing and replicating trusted role models, especially leaders who consistently exhibit desirable actions. In this setting, Green Servant Leadership (GSL) serves as a behavioral model, offering employees both guidance and motivational cues to adopt environmentally responsible practices.

The regression analysis further validated the direct impact of GSL on PEB. Hypothesis H1, which suggested that GSL positively influences PEB, received strong support ($\beta = 0.603$, $p < .001$), indicating that employees who witness and experience environmentally responsible behaviors from their leaders are more inclined to engage in eco-friendly practices themselves. This outcome aligns with the core principles of Social Learning Theory: leaders' demonstration of sustainable behaviors encourages employees to emulate these actions in their own work. Likewise, H2 and H3 were confirmed, revealing that GSL significantly predicts GT ($\beta = 0.574$, $p < .001$) and EC ($\beta = 0.537$, $p < .001$). These findings imply that leadership not only drives behavioral adoption but also enhances employees' cognitive awareness of environmental issues (GT) and strengthens their affective and ethical commitment to sustainability (EC). Consequently, leadership exerts both direct and indirect influence, cultivating a workplace where sustainable behavior is acquired through observation, reinforcement, and replication.

The mediation hypotheses (H6 and H7) explored the indirect pathways through which GSL affects PEB via GT and EC. Mediation analysis using PROCESS Macro revealed that GT partially mediates the GSL and PEB relationship ($B = 0.195$, $p < .001$), indicating that GSL enhances employees' environmental thinking, which subsequently promotes pro environmental behavior. Similarly, EC partially mediates the relationship ($B = 0.142$, $p < .001$), demonstrating that leadership modeling fosters an emotional and moral commitment to sustainability, which translates into observable actions. The direct effect of GSL on PEB remained important in both mediation

models, confirming partial mediation rather than full mediation. These findings highlight the dual pathways cognitive (GT) and attitudinal (EC) through which green servant leadership influences employee's behavior. Practically, this emphasizes that organizations should cultivate both environmental awareness and emotional commitment among employees, alongside promoting green leadership practices, to maximize sustainable outcomes. These results provide empirical evidence that Social Learning Theory is a strong framework for understanding how leadership behaviors drive environmentally responsible actions within the workplace.

The results of the study closely correspond with Social Learning Theory, which highlights the critical role of influential models in guiding individual behavior by means of observation and emulation. Leaders demonstrating green servant behaviors provide visible signs for employees to follow. Employees observe these behaviors, internalize the associated values, and reproduce them in their own work context. The positive relationships between GSL, GT, EC, and PEB indicate that such modeling is effective in motivating both cognitive engagement and emotional commitment to environmental goals. The dual mediation pattern suggests that while cognitive modeling (GT) enhances knowledge and understanding, attitudinal modeling (EC) strengthens emotional investment, thereby reinforcing behavior in a sustained manner. In other words, leadership serves as a live demonstration of pro-environmental conduct, which employees learn to replicate through observation and repeated practice, validating the mechanism proposed by Social Learning Theory.

The reliability assessment verified that all constructs were evaluated with consistency and precision, with Cronbach's Alpha values surpassing 0.88 for each scale (GSL = 0.912, GT = 0.898, EC = 0.885, PEB = 0.907). This indicates that the tools employed to measure GSL, GT, EC, and PEB were dependable, ensuring that the relationships identified are credible and accurate. The high reliability reinforces the validity of the mediation results, confirming that the indirect effects through GT and EC accurately represent the impact of leadership modeling on employee's environmental behaviors. Consequently, the results are statistically and conceptually robust, forming a solid foundation for both practical applications and theoretical insights.

In terms of practical implications, the study highlights the significance of cultivating green servant leadership in the hospitality industry. Organizations should train leaders to actively demonstrate environmentally responsible behaviors, as these serve as observable models for employees to

imitate. Leadership development programs should emphasize both cognitive engagement (encouraging green thinking) and emotional investment (fostering environmental commitment) to ensure that employees not only understand sustainability concepts but also internalize them as personal and organizational values. Policies and practices that reinforce leadership modeling such as recognition of green initiatives, feedback on environmental performance, and participatory sustainability programs can further strengthen employee's pro-environmental behaviors. Furthermore, the integration of green practices into everyday operations ensures that learning through observation is continuous and reinforced across different organizational levels.

Demographically, the diverse composition of the sample adds strength to the findings. The significant representation of young and educated employees indicates that interventions promoting green servant leadership can have significant effects across different age groups and educational backgrounds. Similarly, the presence of employees with varying levels of experience ensures that leadership modeling impacts both early career and senior staff, highlighting the generalizability of the results within the Pakistani hospitality sector. The diversity of organizational types (hotels, restaurants, cafes, and other hospitality entities) further supports the applicability of green leadership interventions across multiple contexts, reinforcing that Social Learning Theory can explain employee learning in varied organizational settings.

The findings also provide theoretical contributions by extending the application of Social Learning Theory in organizational sustainability research. While Social Learning Theory has traditionally been applied to general workplace behaviors, this study demonstrates its relevance in environmental contexts, highlighting the mechanisms through which leadership behavior can shape employee's cognitive, attitudinal, and behavioral engagement with sustainability. The dual pathways observed through GT and EC illustrate how at the same time modeling can influence knowledge, emotional commitment, and behavior, providing a fine understanding of the leadership behavior linkage. By focusing on leadership as a behavioral model, this study expands theoretical understanding of how employees get pro-environmental practices beyond policy implementation or top-down directives.

Furthermore, the study highlights the practical significance of employing a dual-mediator framework to investigate pro-environmental behavior. The partial mediation effects suggest that while employees may adopt pro-environmental behaviors directly in response to leadership, these

behaviors are further reinforced when leaders cultivate both green thinking and environmental commitment. This insight is particularly important for hospitality organizations, where day-to-day operational decisions, such as energy usage, waste management, and resource conservation, are influenced by both cognitive awareness and emotional engagement. These findings highlight the need for structured involvements at the same time that address green thinking (GT) and Environment commitment (EC) to enhance sustainable behaviors effectively.

The findings of the study carry significant implications for shaping organizational policies and enhancing sustainability strategies. Inserting green servant leadership at all levels frontline staff, supervisors, managers, and executives can create a flowing effect that fosters a culture of sustainability. Leaders serve not only as ethical role models but also as social agents who normalize environmentally responsible behavior, making it a standard part of organizational practice. This is especially critical in hospitality, where environmental impacts are often direct and highly visible to employees and customers alike. Training programs, mentorship initiatives, and recognition schemes can be leveraged to enhance leader's capacity to model sustainable behaviors effectively, ensuring that employees internalize these practices. By observing and interacting with leaders who consistently demonstrate green behaviors, employees develop a clear understanding of acceptable practices which according to Social Learning Theory, encourages the replication of these behaviors.

Culturally, the study adds understandings into how leadership modeling functions in a collectivist, developing economy such as Pakistan. Employees are highly responsive to leaders who demonstrate consistent green behaviors, suggesting that leadership influence is particularly effective when employees perceive alignment between organizational values and observable role models. Social Learning Theory emphasizes that behavior is learned in social contexts, and the Pakistani hospitality sector, with its team based operational structures, provides a encouraging environment for such learning to occur. Leader's modeling of green behavior in this context not only promotes environmental action but also reinforces social standards, creating a shared sense of responsibility among employees. The results indicate that both organizational culture and the surrounding social environment are crucial in amplifying the impact of leadership modeling, thereby reinforcing the relevance of the theoretical framework applied in this research.

The robust positive effects of GSL on GT, EC, and PEB indicate that leadership modeling is a powerful mechanism for translating environmental policies into actionable employee behavior. Employees who observe and internalize green leadership behaviors are more likely to engage in environmentally responsible actions, both cognitively and emotionally. This reinforces the idea that leadership is not only about formal authority or policy enforcement but also about demonstrating desired behaviors consistently and authentically, allowing employees to learn by observation, a core principle of Social Learning Theory.

Finally, the research emphasizes the need to align leadership modeling with organizational structures, policies, and everyday practices to maximize its impact. While leaders play a critical role as role models, sustainable behavior is best reinforced when added by policies that facilitate environmental engagement, such as providing resources, recognition, and feedback. The combination of role modeling, supportive structures, and social reinforcement creates an environment where pro-environmental behavior becomes habitual, self-sustaining, and surrounded in organizational culture. The dual influence of GT and EC demonstrates that employees learn not only by seeing what to do (cognitive learning) but also by connecting emotionally to the importance of doing it (affective learning), emphasizing the comprehensive impact of leadership modeling.

In conclusion, this study successfully addressed its main aim of exploring how Green Servant Leadership (GSL) affects Pro-Environmental Behavior (PEB) through GT and EC. The findings confirm that Social Learning Theory is useful for understanding how leadership encourages sustainability. Leaders' behavior helps employees think, feel, and act sustainably, while partial mediation shows two pathways for leadership influence. Observation, imitation, and reinforcement are key, proving that sustainable leadership is a social learning process, where employees learn from leaders, leading to long-term environmental responsibility in organizations.

Hypothesis Summary

This part provides a concise overview of the hypotheses, illustrating how the results substantiate or clarify the relationships outlined in the conceptual model.

Hypothesis H1:

Green Servant Leadership (GSL) is positively related to Pro-Environmental Behavior (PEB).

The regression results showed a significant positive impact of GSL on PEB ($\beta = 0.603$, $p < .001$), indicating that employees exposed to environmentally responsible behaviors from their leaders tend to mirror these actions. This outcome is consistent with Social Learning Theory, which posits that people replicate behaviors demonstrated by respected and influential role models. In this study, green servant leaders acted as behavioral role models whose environmentally responsible actions encouraged employees to integrate sustainability into their daily routines. The strength of this relationship shows that leadership modeling is a significant driver of pro-environmental behavior within Pakistan's hospitality sector.

These results demonstrate that Green Servant Leadership serves as a critical driver of pro-environmental behavior in the hospitality sector. Consistent with Social Learning Theory (Bandura, 1977), employees observe and replicate the eco-friendly behaviors of leaders. Literature suggests that leaders who model sustainable practices encourage employees to internalize and adopt these behaviors (Robertson & Barling, 2017; Luu, 2017). This highlights that leadership behavior alone can initiate tangible sustainability outcomes, making it a key mechanism for promoting organizational environmental performance.

Hypothesis H2:

Green Servant Leadership (GSL) is positively related to Green Thinking (GT).

The findings indicated that GSL has a significant positive effect on GT ($\beta = 0.574$, $p < .001$). This indicates that when leaders demonstrate environmental awareness and responsibility, employees develop stronger cognitive engagement with environmental issues. Employees learn not only what

sustainable actions look like but also why they matter. Through observation and reinforcement, green servant leaders shape employee's thought processes, encouraging them to evaluate their work decisions through an ecological perspective. This finding confirms that leadership behavior influences employee's environmental cognition, consistent with Social Learning Theory.

The positive influence of GSL on Green Thinking confirms that leadership shapes employee's cognitive engagement with sustainability. According to SLT, employees not only imitate observed behaviors but also learn the reasoning behind them (Bandura, 1977). Previous studies emphasize that servant-oriented leaders who incorporate environmental values into their leadership style foster green thinking among personnel (Luu, 2017; Robertson & Barling, 2017). This demonstrates that leadership can cultivate an eco-conscious mindset, which is essential for translating awareness into practical pro-environmental actions.

Hypothesis H3:

Green Servant Leadership (GSL) is positively related to Environmental Commitment (EC).

The study found a significant positive effect of GSL on EC ($\beta = 0.537$, $p < .001$), demonstrating that green servant leaders enhance employees' emotional and moral connection to sustainability. When employees observe their leaders consistently prioritizing environmental values, they internalize these principles, leading to a stronger commitment to ecological responsibility. This aligns with Social Learning Theory, which posits that attitudes and commitments are shaped through the observation of trusted role models. The results show that leadership behavior not only boosts cognitive awareness but also deepens emotional engagement with sustainable practices.

The findings indicate that GSL strengthens employee's emotional and moral commitment to sustainability. In line with Social Learning Theory, employees internalize values and attitudes demonstrated by respected leaders (Bandura, 1977). Literature highlights that Green Servant Leaders promote a culture of environmental responsibility, where employees' commitment to sustainability becomes both personal and organizational (Shah, 2023; Luu, 2017). This underscores that leadership not only model's behavior but also shapes the values and ethical motivations that drive long-term environmental engagement.

Hypothesis H4:

Green Thinking (GT) is positively related to Pro-Environmental Behavior (PEB).

The analysis showed a significant positive relationship between GT and PEB ($\beta = 0.591, p < .001$), confirming that employees who actively consider environmental issues are more likely to engage in eco-friendly behaviors. When individuals understand the environmental impact of their actions, they are more motivated to act responsibly. Green Thinking (GT) thus plays a crucial cognitive role in shaping employee's decision-making and behaviors. This supports the notion that sustainable actions are more likely to occur when individuals are informed, aware, and consistently reflecting on the environmental consequences of their actions.

The significant link between Green Thinking and pro-environmental behavior shows that employee's cognitive awareness directly translates into eco-friendly actions. Consistent with prior research (Moser, 2015; Luu, 2017), when employees understand the environmental consequences of their actions, they are more likely to engage in sustainable practices. SLT suggests that modeling and cognitive processing together enhance the adoption of behaviors (Bandura, 1977). This demonstrates that promoting green thinking is an effective pathway for organizations to achieve sustainable outcomes.

Hypothesis H5:

Environmental Commitment (EC) is positively related to Pro-Environmental Behavior (PEB).

The results indicated a significant positive effect of EC on PEB ($\beta = 0.558, p < .001$), demonstrating that employees who have a strong emotional and moral commitment to sustainability are more likely to engage in environmentally responsible actions. This finding emphasizes the importance of attitudinal engagement in driving pro-environmental behavior. Employees who feel a personal connection to environmental objectives are more consistent in adopting eco-friendly practices. Thus, Environmental Commitment (EC) serves as a powerful motivational force, encouraging employees to convert their concern for the environment into tangible actions.

Environmental Commitment is shown to be a powerful motivator for pro-environmental behavior. Employees who internalize sustainability values, guided by leaders, consistently translate concern into action. Literature supports that moral and emotional engagement strengthens voluntary green practices in workplace settings (Robertson & Barling, 2017; Shah et al., 2023). According to Social Learning Theory, employees emulate both behaviors and underlying values from leaders, highlighting the importance of attitudinal pathways in fostering organizational sustainability.

Hypothesis H6:

Green Thinking (GT) mediates the relationship between Green Servant Leadership (GSL) and Pro-Environmental Behavior (PEB).

The mediation analysis showed that GT partially mediates the relationship between GSL and PEB (Indirect effect $B = 0.195$, $p < .001$). This finding suggests that GSL fosters employees' environmental thinking, which in turn increases their likelihood of engaging in environmentally responsible actions. However, the direct effect of GSL on PEB remained significant even after accounting for GT, indicating that the mediation is partial. This suggests that leadership influences PEB through both direct behavioral modeling and indirect cognitive engagement with sustainability. Thus, Green Thinking (GT) serves as a crucial cognitive pathway through which leadership enhances pro-environmental behavior.

The partial mediation of Green Thinking confirms that cognitive engagement is a key pathway through which leadership influences behavior. Employees learn not only by observing leader's actions but also by internalizing the reasoning behind sustainable practices (SLT, Bandura, 1977). Literature suggests that when leaders integrate green practices into daily work, personnel increase more potent environmental cognition, which then interprets into tangible pro-environmental movements (Luu, 2017; Robertson & Barling, 2017). This underscores the importance of targeting both behavioral modeling and cognitive development to maximize sustainability outcomes.

Hypothesis H7:

Environmental Commitment (EC) mediates the relationship between Green Servant Leadership (GSL) and Pro-Environmental Behavior (PEB).

The mediation results revealed that EC partially mediates the relationship between GSL and PEB (Indirect effect $B = 0.142$, $p < .001$). This finding shows that GSL enhances employees' emotional and moral commitment to environmental values, which subsequently motivates them to engage in pro-environmental actions. Since the direct effect of GSL on PEB remained significant even after considering EC, the mediation is partial. This suggests that leadership influences behavior through two distinct channels: direct behavioral influence and indirect emotional influence. Thus, Environmental Commitment (EC) serves as an important attitudinal pathway that connects leadership modeling to sustainable behavior.

The partial mediation of Environmental Commitment highlights the attitudinal pathway linking leadership to pro-environmental behavior. Leaders foster a moral and emotional connection to sustainability that motivates employees to engage in eco-friendly actions. Supporting literature emphasizes that value-based leadership enhances employee's environmental responsibility (Shah, 2023; Luu, 2017). From a Social Learning Theory perspective, employees internalize both behaviors and values modeled by leaders (Bandura, 1977), confirming that fostering commitment is as critical as demonstrating actions in achieving lasting sustainability outcomes.

CHAPTER 06

CONCLUSION

This study examined the influence of Green Servant Leadership (GSL) on Pro-Environmental Behavior (PEB) among employees in Pakistan's hospitality sector, focusing on the mediating roles of Green Thinking (GT) and Environmental Commitment (EC). Drawing upon Social Learning Theory, the research highlights the role of leaders as models whose behaviors impact employees' environmental cognition, attitudes, and actions through processes of observation, imitation, and reinforcement. The findings confirm that employees are more likely to engage in pro-environmental behaviors when they observe their leaders consistently demonstrating responsible environmental practices.

The results show that GSL has a positive and direct impact on PEB, supporting the main hypothesis of the study. Employees who view their leaders as environmentally responsible are more likely to adopt sustainable practices themselves and cultivate higher levels of GT and EC. The mediation analysis revealed that both GT and EC partially mediate the relationship between GSL and PEB, suggesting that leadership influences employees' behavior in two ways: by enhancing their environmental awareness (GT) and by fostering emotional and moral commitment (EC). These findings underline the significance of leadership modeling in promoting both cognitive and emotional engagement with sustainability.

Practically, the study underscores the need for hospitality organizations to promote green servant leadership across all levels. Leaders should demonstrate eco-friendly behaviors, encourage employee's green thinking, and foster commitment to environmental goals. Training programs, recognition systems, and participatory sustainability initiatives can reinforce these behaviors and help employees internalize environmental responsibility.

The study also makes a theoretical contribution by applying Social Learning Theory to organizational sustainability, demonstrating that leadership behaviors serve as models for employees' environmental knowledge, attitudes, and actions. Overall, this research confirms that Green Servant Leadership (GSL) is a key driver of Pro-Environmental Behavior (PEB), functioning through two distinct pathways: Green Thinking (GT) and Environmental Commitment

(EC). By modeling sustainable practices, leaders foster both cognitive understanding and emotional commitment, helping to create a workforce that is genuinely engaged in environmental responsibility.

6.1 Recommendations

Based on the findings of this study, several practical recommendations are proposed for organizations in the hospitality industry, including small and medium-sized enterprises (SMEs):

- 1. Invest in Green Leadership Development:** Hospitality organizations such as hotels, resorts, restaurants, and SMEs, should provide leadership programs that emphasize Green Servant Leadership (GSL) behaviors. Leaders should be trained not only in environmental policies but also in demonstrating and modeling sustainable practices that inspire employees. By showing GSL in action, leaders can enhance employees Green Thinking (GT) and Environmental Commitment (EC), which are key drivers of Pro-Environmental Behavior (PEB) in the hospitality context.
- 2. Enhance Employees Green Thinking (GT):** HR departments in hospitality organizations, including SMEs should create initiatives that improve employees understanding and awareness of environmental sustainability. This can include training sessions, workshops on eco-friendly hospitality practices (like energy-efficient operations or waste reduction in hotels and restaurants), and sharing success stories of sustainable initiatives. Strengthening GT ensures that employees make informed decisions and adopt eco-friendly behaviors at work.
- 3. Strengthen Environmental Commitment (EC):** Hospitality organizations and SMEs should cultivate emotional and moral engagement in sustainability. This can be achieved by encouraging employee participation in green projects, promoting eco-volunteering, and providing recognition for environmental contributions, such as reducing food waste or conserving water in hotels. Developing EC ensures that employees not only understand green practices but also care about and feel responsible for implementing them.
- 4. Integrate Green Leadership into Performance Systems:** Performance appraisals and key performance indicators (KPIs) should include green leadership competencies and

employee contributions toward sustainability. This reinforces the importance of GSL, GT, and EC at all organizational levels and motivates employees to consistently engage in PEB.

- 5. Promote a Culture of Sustainability:** By combining leadership modeling (GSL), cognitive engagement (GT), and emotional commitment (EC), hospitality organizations and SMEs can integrate environmental responsibility into everyday practices. Such a culture encourages employees to internalize sustainability as part of their professional values, resulting in long-term adoption of pro-environmental behaviors in hotels, resorts, restaurants, and other small hospitality enterprises.

6.2 Limitation of Study

Although this study provides important insights into the effects of Green Servant Leadership (GSL) on Green Thinking (GT), Environmental Commitment (EC), and Pro-Environmental Behavior (PEB) within Pakistan's hospitality sector, several limitations should be acknowledged. First, Geographical Limitation: The data were collected from only one province of Pakistan, which restricts the generalizability of the findings, as leadership practices and environmental awareness may differ across other regions. Second, the study focused solely on the hospitality sector, and therefore the results may not be applicable to other industries such as education, banking, manufacturing, or healthcare. Third, this research did not examine heterogeneity within different types of hospitality organizations (e.g., hotels, restaurants, cafés), even though organizational structure and operational policies may influence environmental behavior differently. Fourth, cultural factors were not considered, despite the fact that cultural values can significantly shape employee's perceptions of leadership and sustainability. Lastly, the cross-sectional design limits the ability to draw causal inferences or observe changes over time. Future studies should therefore adopt longitudinal methods and collect data from multiple provinces and industries to enhance the applicability and robustness of the findings.

6.3 Future Directions

Based on the limitations identified, several opportunities remain for future research to expand and strengthen the understanding of how Green Servant Leadership (GSL) influences Green Thinking (GT), Environmental Commitment (EC), and Pro-Environmental Behavior (PEB). Future studies

should collect data from different provinces and regions of Pakistan so the results become more useful and clearly show how environmental practices may differ. Additionally, the same conceptual model can be examined in other industries such as education, banking, healthcare, and manufacturing, as environmental behavior may differ depending on sector-specific structures and operational requirements. Future researchers may also investigate the impact of differences within hospitality organizations for example, comparing hotels, restaurants, and cafés to understand whether organizational characteristics influence the effectiveness of GSL. Another important direction is to consider cultural factors, as cultural values play an important role in shaping both leadership perceptions and employee's environmental responses. Furthermore, Long term studies should be conducted to observe how the effects of GSL, GT, and EC develop or change over time, offering deeper insight into the long-term sustainability of leadership influence. Finally, incorporating additional variables such as organizational climate, employee autonomy, or green HR practices may help identify contextual factors that strengthen or weaken the leadership–behavior relationship.

6.4 Theoretical Implications

This study provides several theoretical contributions within the framework of Social Learning Theory (SLT). First, it confirms that Green Servant Leadership (GSL) acts as a role model, influencing employees not only by what they observe but also by the behaviors they replicate, highlighting the core SLT principle of learning through observation and replication. Second, the study proves the dual pathways through which leadership shapes behavior: the cognitive pathway via Green Thinking (GT), showing how leaders help employees develop awareness and understanding of sustainable practices, and the affective pathway via Environmental Commitment (EC), showing how employees internalize the importance of environmental responsibility. This dual-pathway framework extends SLT by showing that leadership at the same time can influence employees thinking and emotional engagement, leading to stronger Pro-Environmental Behavior (PEB). Third, by observationally validating that both GT and EC partly mediate the relationship between GSL and PEB, the study provides strong evidence that learning through observation and adopting behaviors personally is an effective way to promote sustainable practices in organizations. Overall, these findings reinforce the relevance of Social Learning Theory in understanding how leaders influence employee environmental behavior and provide a solid

theoretical foundation for future research on the social processes of learning and behavior adoption in sustainability settings.

6-5 Practical Implications

From a practical perspective, this research provides valuable recommendations for organizations in Pakistan's hospitality industry seeking to improve their sustainability efforts. The study underscores the importance of cultivating leaders who are environmentally conscious at all levels within the organization, as Green Servant Leadership (GSL) was found to significantly influence Pro-Environmental Behavior (PEB). Organizations should invest in leadership development programs that focus on teaching leaders how to effectively communicate environmental values, demonstrate sustainable behaviors, and motivate employees to adopt eco-friendly practices.

Furthermore, the mediating role of Green Thinking (GT) suggests that fostering a culture where employees are encouraged to actively reflect on sustainability issues and engage in environmental awareness is essential for reinforcing sustainable practices. This includes providing resources, guidance, and opportunities for employees to contribute ideas for green practices. Similarly, the influence of Environmental Commitment (EC) emphasizes that emotional engagement should be encouraged. Leaders can strengthen commitment by sharing sustainability goals, recognizing employee contributions, and creating a workplace culture where environmental responsibility is valued and emotionally meaningful.

Additionally, integrating green leadership behaviors into performance appraisals, promotion criteria, and leadership development programs ensures that sustainability becomes a traditional part of organizational operations. By combining Green Thinking (GT) and Environmental Commitment (EC), organizations can maximize employee's pro-environmental behavior, leading to both operational improvements and a stronger culture of sustainability.

6.6 Reflection

Reflecting on the journey of this thesis, the research process has been both intellectually enriching and personally transformative. This research aimed to explore the impact of Green Servant Leadership (GSL) on employees' Pro-Environmental Behavior (PEB) within Pakistan's hospitality

industry, investigating the mediating roles of Green Thinking (GT) and Environmental Commitment (EC). These objectives were successfully achieved through a carefully structured conceptual framework, methodologically reliable data collection, and analysis of responses collected through questionnaires. The findings not only validated the hypothesized relationships but also provided deeper insight into how employees internalize and adopt sustainable behaviors under the influence of green leadership.

The study was well-planned, particularly in aligning the Social Learning Theory with the research objectives. The hypotheses were logically derived from theory and tested using the questionnaire data. One of the main challenges was time management, especially in coordinating survey distribution to hospitality professionals who had limited availability. Ensuring accuracy and completeness of responses required careful attention and persistence.

While the study utilized a cross-sectional design, which restricts the ability to draw causal conclusions, the findings remained consistent and aligned with theoretical expectations. One aspect that contributed positively was the clarity and relevance of the topic, as sustainability in the hospitality sector has become increasingly urgent. The focus on both cognitive (GT) and affective (EC) mechanisms provided a distinctive contribution to green leadership literature, demonstrating how employees learn from leaders through observation and internalization of values.

In recollection, the study could have been further enriched by incorporating qualitative insights such as interviews or focus groups with employees and managers. A mixed methods approach would have added depth and captured contextual or cultural tones within Pakistani organizations. Moreover, adopting a longitudinal approach could offer valuable insights into the progression of leadership behaviors and the development of employees' pro-environmental actions over an extended period.

Throughout the research, ethical considerations were strictly followed, including confidentiality of survey responses and respectful engagement with participants. This thesis also contributed significantly to my personal development in academic writing, research ethics, time management, and analytical thinking. Organizing the survey, managing deadlines, and ensuring data integrity offered lessons in project planning, flexibility, and resilience.

If given the opportunity to improve this research, future studies could explore comparative analysis across industries or countries, adopt mixed-method approaches, and involve organizational leaders directly to understand challenges in promoting sustainable leadership practices.

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APPENDIX:

Survey Questionnaire of Study:

The Impact of Green Servant Leadership on Pro-Environmental Behavior: Mediating Roles of Green Thinking and Environmental Commitment in the Hospitality Industry of Pakistan's Twin Cities.

Introduction:

Dear Participant, I am conducting a study to understand how leadership can encourage employees to behave in eco-friendly ways within the hospitality industry, such as hotels, restaurants, and cafes. Your honest responses will help us find better ways for organizations to promote green practices and protect the environment.

Please note that all your answers will be kept completely confidential and will only be used for academic purposes. The survey will take about **10 minutes** to complete.

Your participation is truly valuable and greatly appreciated!

Section A: Demographic Information

Please answer the following questions regarding your demographic information.

- | | | | | | |
|----------------------------------|--|--|--|--------------------------------------|-------------------------------------|
| Gender: | <input type="checkbox"/> Male | <input type="checkbox"/> Female | <input type="checkbox"/> Prefer not to say | | |
| Age Group: | <input type="checkbox"/> Under 25 | <input type="checkbox"/> 25-34 | <input type="checkbox"/> 35-44 | <input type="checkbox"/> 45-54 | <input type="checkbox"/> 55 & above |
| Education: | <input type="checkbox"/> Intermediate | <input type="checkbox"/> Bachelor's Degree | <input type="checkbox"/> Master's Degree | <input type="checkbox"/> M.Phil./PhD | |
| Job Role: | <input type="checkbox"/> Frontline Staff | <input type="checkbox"/> Supervisor | <input type="checkbox"/> Manager | <input type="checkbox"/> Executive | |
| Experience: | <input type="checkbox"/> 3-6 years | <input type="checkbox"/> 7- 10 years | <input type="checkbox"/> 11-14 years | <input type="checkbox"/> 15+ years | |
| Hospitality Organization: | <input type="checkbox"/> Hotel | <input type="checkbox"/> Restaurant | <input type="checkbox"/> Cafe | <input type="checkbox"/> Other | |
-

Section B: Green Servant Leadership (GSL)

In this part of the survey, we aim to understand how your supervisor or manager supports and serves others while promoting environmental responsible practices in the workplace. Green servant leaders lead by putting people and the planet first. Empowering their teams, fostering collaboration, and guiding sustainable change from the ground up.

We're interested in how this leadership style influences your values, motivation, and actions toward environmental protection in the hospitality industry.

Scale by: Zafar et al. (2025).

Reference: [Zafar, H., Cheah, J. H., Ho, J. A., Suseno, Y., & Tian, F. \(2025\). How green servant leadership influences organizational green performance? The roles of employee green creativity, voluntary pro-environmental behavior and green psychological climate. Personnel Review, 54\(4\), 971-995.](#)

Please indicate your level of agreement regarding leadership's role in promoting environmental sustainability. (1= Strongly Disagree, 2= Disagree, 3=Neutral, 4= Agree, 5= Strongly Agree).

| Statements | 1 | 2 | 3 | 4 | 5 |
|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| My leader highlights the importance of contributing to environmental improvement. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| My leader encourages me to volunteer for environmental activities. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| My leader prioritizes my environmental initiatives. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| My leader would not compromise environmental principles to achieve success. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| My leader maintains high standards for environmental responsibility. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Section C: Green Thinking (GT)

This section explores your mindset and thought patterns related to environmental sustainability in your workplace. We want to understand how your awareness, beliefs, and attitudes shape the way you think about eco-friendly practices and their importance.

Scale by: Begum, S., et al. (2022).

Reference: [Begum, S., Ashfaq, M., Xia, E., & Awan, U. \(2022\). Does green transformational leadership lead to green innovation? The role of green thinking and creative process engagement. Business Strategy and the Environment, 31\(1\), 580-597.](#)

| Statements | 1 | 2 | 3 | 4 | 5 |
|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| I care about the environment. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| I think about saving energy and resources while working. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| The condition of the environment makes me think about the quality of my life. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| I am willing to find ways to protect the environment. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| I often think of new eco-friendly ideas and ways to protect the environment. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Please indicate your level of agreement regarding leadership's role in promoting environmental sustainability. (1= Strongly Disagree, 2= Disagree, 3=Neutral, 4= Agree, 5= Strongly Agree).

Section D: Environment Commitment (EC)

This section focuses on your dedication and sense of responsibility toward protecting the environment. We are interested in understanding how your commitment to environmental sustainability influences your consistent adoption of eco-friendly behaviors in your daily work.

Scale by: Yu, Lin, Kao & Yu (2019).

Reference: [Yu, T. K., Lin, F. Y., Kao, K. Y., & Yu, T. Y. \(2019\). Encouraging environmental commitment to sustainability: An empirical study of environmental connectedness theory to undergraduate students. *Sustainability*, 11\(2\), 342.](#)

| Statements | 1 | 2 | 3 | 4 | 5 |
|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| I donate money to environmental protection groups to stop new harmful things from causing problems. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| I work as an environmental volunteer to help stop new harmful things from happening. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| I do not actively look for information about protecting the environment from new harmful things. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| I watch videos about protecting the environment and new harmful things. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| I read government publications about new harmful things. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Please indicate your level of agreement regarding leadership’s role in promoting environmental sustainability. (1= Strongly Disagree, 2= Disagree, 3=Neutral, 4= Agree, 5= Strongly Agree).

Section E: Pro-Environmental Behavior (PEB)

This section focuses on your actual behaviors and actions aimed at protecting the environment. We are interested in understanding how often you engage in eco-friendly practices and contribute to environmental sustainability in your daily work activities.

Scale by: Shah et al. (2023).

Reference: [Shah, S. H. A., Al-Ghazali, B. M., Bhatti, S., Aman, N., Fahlevi, M., Aljuaid, M., & Hasan, F. \(2023\). The impact of Perceived CSR on employees’ pro-environmental behaviors: The mediating effects of environmental consciousness and environmental commitment. *Sustainability*, 15\(5\), 4350.](#)

Please indicate your level of agreement regarding leadership’s role in promoting environmental sustainability. (1= Strongly Disagree, 2= Disagree, 3=Neutral, 4= Agree, 5= Strongly Agree).

| Statements | 1 | 2 | 3 | 4 | 5 |
|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| At work, I participate in eco-friendly programs | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| I suggest new methods that could improve my organization’s impact on the environment. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| I consider the effects of my actions before doing anything that could affect the environment. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| I switch off lights when I leave the office. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| I avoid wasting resources like electricity and water during work. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

We appreciate your time and efforts in completing this research questionnaire. Your response will contribute to valuable research on sustainability in organizational leadership.