

Sustaining the Earth: Unraveling the Synergy of Workplace Spirituality, Responsible Leadership, and Pro-Environmental Behavior in Pakistan's SMEs

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Purpose: The purpose of this research is to investigate the synergistic impact of workplace spirituality (WPS), responsible leadership (RL), and pro-environmental behavior (PEB) within the context of Pakistan's Small and Medium Enterprises (SMEs) along with the mediating mechanism of Affective commitment (AC).

Methods: Our study utilizes structural equation modeling (SEM) to analyze survey data collected from 390 employees within Pakistani SMEs. We develop a single unified framework to test the hypothesized relationships between RL, PEB, and AC as a mediator.

Results: Our results unveil significant positive relationships between WPS, RL, and PEB. Our findings endorse both the direct connections between WPS, RL, and PEB, as well as the mediating mechanisms through AC. This study offers novel insights into the influence of PEB in the context of Pakistan's SMEs.

Conclusion: The research significantly contributes to the existing literature by examining WPS, RL, PEB, and AC in the context of Pakistan's SMEs. The study's conclusions emphasize the potential benefits of integrating WPS and RL into business practices to encourage PEB. Additionally, we discuss the limitations of our research and suggest future avenues for further exploration in this vital area of sustainable business management.

Keywords: workplace spirituality, responsible leadership, affective commitment, pro-environmental behaviour

Introduction

The emerging climate changes are one of the serious threats to the sustainability of life on earth.¹ Therefore, nowadays, organizations are facing immense pressure for their environmental sustainability.^{1,2} Currently, organizations are focusing on their employees to engage them in pro-environmental behaviour (PEB).³ PEB positively influences pollution prevention and better environmental performance.^{4,5} Kim et al defines PEB as a "voluntary employee behaviour that is not part of any formal environmental systems and policies and helps to maintain environmental sustainability".⁶ It includes recycling, conservation of natural resources and developing green products and processes.⁷ Numerous studies suggested that PEB has a significant influence on financial performance, employee satisfaction and leader effectiveness.⁸ Researchers are currently focusing on predictors of PEB to understand environmental sustainability. Several studies have examined numerous factors to enhance employees' PEB such as perceived corporate social responsibility (CSR),⁹ organizational commitment (OC),¹⁰ leadership behaviour and institutional support.¹

There has been a rising trend of research studies on PEB in the businesses during the past ten years.^{1,11,12} Understanding the factors that contribute to PEB is important to build environmental sustainability and lessen the environmental difficulties such as carbon emissions, waste production, and energy consumption that the Small and

Medium Enterprises (SMEs) sector faces.¹³ The role of workplace spirituality (WPS) is becoming a focus for numerous scholars these days.¹⁴ According to Petchsawang and Duchon, WPS “is a feeling of connectedness and having compassion towards others; an experience of mindfulness in the pursuit of meaningful work that enables transcendence”¹⁵ and is also known as a meaningful workplace.¹⁶ It is a sense of community that encourages employees to show PEB, allows people to act in ways that go beyond what is required of them in their jobs and show care for others at work.¹⁷ This study intends to examine whether PEB is affected by WPS. Empirical studies advocate that WPS helps to motivate employees for PEB by giving them a sense of affiliation and connectedness to safe nature for the next generations.¹⁸ WPS can give employees a sense of affiliation to safe nature for the next generation in several ways. First, when employees experience a sense of compassion and meaningfulness in their work environment, they are more likely to feel a connection to something greater than themselves, such as the natural world and the well-being of future generations. This connection can inspire a sense of responsibility and a desire to act in ways that protect and preserve the environment for the benefit of future generations. Second, WPS can promote a culture of caring and compassion in the workplace, which can extend to the environment. When employees feel valued, they are more likely to adopt a caring attitude towards their surroundings, including the natural environment. This can translate into a desire to take actions that promote environmental sustainability. Finally, it helps employees to adopt a long-term perspective when it comes to their work and the impact it has on the environment. By emphasizing values, WPS can help employees to see from a broader perspective and the potential consequences of their actions to the environment. This can lead to a greater sense of responsibility to act and promote a safe and sustainable future for the next generation. However, only a few research on WPS and PEB in the SME business have been done. These variables have been researched along with others like environmental passion and intrinsic motivation,¹⁸ responsible leadership (RL)¹⁰ and perceived CSR.¹¹ This gap is filled by the current research, which looks at the impact of WPS on PEB in SMEs industry of Pakistan. With the same notion, Pakistan, as a developing country, is going through many environmental threats and challenges brought about by climate change and global warming as highlighted by IQAir and Al-Ghazali et al^{13,19} In response, SMEs are increasingly recognizing the need to address environmental degradation.^{13,20} Greening SMEs has been shown to be an effective approach in reducing carbon emissions, waste production, and energy consumption, as evidenced by research conducted by Bai et al and Awan et al^{21,22} Therefore, academic and industry research is focusing on this specific topic of PEB of employees as it is recognized as a critical factor in promoting environmental sustainability in the workplace.

Scholars are currently focusing on investigating workplace environmental behaviors and aligning organizational objectives, strategies, and practices with environmental ones. Employee behavior significantly influences a company's environmental management, as it contributes to organizational performance.²³ Leadership behavior plays a crucial role in encouraging employees to engage in PEB,¹ with a focus on making decisions, taking responsibility, establishing trust, and promoting sustainability.²⁴ RL is described as an ethical, relational, and social interaction process involving individuals who have a stake in the goal and purpose of the leadership relationship and who affect or are influenced by leadership.²⁵ RL is a leadership approach that connects theoretical and real-world leadership difficulties.²⁶ RL difficulties are to be addressed by emphasizing the importance of ethical decision-making, stakeholder engagement, and sustainability. RL recognizes that modern businesses operate in a complex and interconnected world, where their decisions and actions can have far-reaching impacts on society and the environment. Therefore, RL takes into account the perspectives of various stakeholders, including employees, customers, suppliers, and the community at large. Empirical research has shown that RL and PEB have a significant association,²⁷ however, research in this area is limited.²⁸ Other factors, such as perceived CSR,¹¹ spiritual leadership,¹⁸ green work climate,²⁹ and organizational citizenship behavior (OCB),¹⁴ greatly impact employees' PEB. The link between RL, affective commitment (AC) and PEB through the lens of social identity theory (SIT) which emphasizes on the social categorization and identity processes that influence individual behavior in groups. In the workplace context, further it states that employees' identification with their organization can be shaped by the leadership style of their managers which can build the sense of identification that employees have with their organization by promoting the values of environmental responsibility and sustainability. Similarly, social learning theory (SLT) also supports the notion by suggesting that individuals learn through observation, imitation, and reinforcement of the behaviors of others in their social environment.³⁰ In line with the above discussion, another theory of social exchange theory (SET) also supports the notion that employees reciprocate behaviours of their

leaders towards them.³¹ When a manager cares about the interest of stakeholders, those stakeholders reciprocate such behaviours and show PEB which builds an emotional bond between employees and manager.¹³ This study addresses the existing gap by exploring the influence of RL on employee PEB within Pakistan's SME industry.

In response to the call for research studies on the mediating role of AC,^{32–37} This study aims to explore AC as a mediator between WPS, RL, and PEB in Pakistan's SME industry. AC refers to an employee's emotional connection and engagement with their organization³⁸ and is described as an employee's shared psychological state concerning their desire and loyalty to dedicate their mental and physical abilities towards achieving organizational objectives.^{11,39} Only a little amount of study has looked at the connection between WPS and AC,^{32,40,41} although numerous studies have investigated WPS with OC.^{14,40,42,43} AC is one component of OC, as defined by Meyer and Allen, who introduced a three-component framework—AC, continuance commitment (CC), and normative commitment (NC)—rather than types of OC.⁴⁴ Mowday et al defined OC as “the relative strength of an individual's identification with and involvement with a particular organization”.⁴⁵ Ng and Feldman demonstrated a relationship between OC and PEB,⁴⁶ and Fatoki revealed that PEB could be achieved by instilling OC among employees.¹ In light of the literature review, in this investigation, the mediating function of AC in the connection between WPS and PEB is being looked into.^{32,34,37}

Previous research has shown that a higher level of AC results in a better alignment between the values held by a person and those of the organization they work for.^{47–49} AC has been studied as a mediator in various research contexts, including its relationship with psychological empowerment, job satisfaction, and job stress.^{11,50,51} Haque et al discovered that RL is linked to AC,³⁶ which in turn mediates the relationship between RL and employees' intention to quit their jobs. Afsar et al examined RL in relation to OC and found that RL has a significant positive impact on OC.¹⁰ However, there is a limited number of studies that have investigated the influence of AC on RL and PEB. With the same notion, the role of AC is crucial and significant for employees better performance and organizational environmental performance.^{34,46,52} From theoretical linkage, when leaders demonstrate responsible behaviors, such as social and environmental responsibility, employees may feel an obligation to reciprocate by demonstrating AC to the organization.³¹ In addition, RL can promote trust and respect between leaders and employees, which can further strengthen AC.⁵³ WPS and RL exhibit behaviors such as fairness, transparency, accountability, and concern for the welfare of their followers, which in turn can promote a WPS culture.⁵⁴ In addition, WPS can enhance employees' moral development and ethical decision-making, which can further reinforce employee PEB.⁵⁵ RL style of leadership emphasizes being attentive and responsive to the needs and concerns of employees and stakeholders.⁵⁶ While humble and transformational leadership are also important leadership styles, RL can be particularly effective in promoting PEB in organizations. Compared to humble leaders, who may be modest and unassuming, RL is actively engaged with their followers, looking for their feedback and input in decision-making and adjusting their leadership style as per requirement.⁵⁷ This can create a more open and inclusive culture, where employees feel valued and empowered and such initiatives encourage them towards environmental friendly behavior. Similarly, in comparison with humble leaders may be less likely to seek out feedback and may be less visible in promoting environmental stewardship.⁵⁸

With the same notion, compared to transformational leaders, who inspire and motivate followers through their vision and charisma, RL prioritizes building relationships and creating a collaborative environment.^{59–62}

To address the above gaps in the literature, the aim of this study is to explore the role of AC in the relationship between RL and PEB. By doing so, it seeks to provide a more comprehensive understanding of how employees' emotional attachment to their organizations can affect their engagement in environmentally responsible actions, and how RL can contribute to fostering this commitment. This research will not only expand the current knowledge on AC, RL, and PEB but also help organizations identify effective strategies for promoting environmentally responsible behaviors among their employees.

This study aims to investigate the impact of WPS and RL on PEB with the inclusion of AC as a mediator in Pakistan's SME industry. The study contributes to literature in several ways. Firstly, it addresses a gap by exploring the mediating role of AC between WPS and PEB, providing new insights into the AC literature. Secondly, this research examines the influence of AC on RL and PEB, building upon previous studies that have analyzed the impact of OC on RL and PEB.^{10,63,64} Thirdly, as the Pakistani SME industry has received limited attention from researchers in the past, this study focuses on the middle management of this sector.⁹ The rationale behind choosing middle management because

of their critical role as intermediaries between top management and operational staff. Middle managers possess valuable insights into the practicalities of day-to-day operations and harbor a realistic perspective on organizational dynamics. Moreover, they wield the authority to implement policies, make decisions, and are empowered to take necessary actions. Lastly, middle managers provide valuable feedback and insights to top management, contributing to the formulation of policies and procedures that directly influence employee behavior, ultimately impacting PEB and overall organizational performance. Fourthly, the current research combines the scholarly work of various researchers into a single framework, examining the proposed model within the context of Pakistan's SME industry. Lastly, the study contributes to the existing literature by providing empirical evidence from emerging nations, such as Pakistan, thereby enriching the understanding of WPS, RL, PEB, and AC in different cultural and industrial contexts.

Industry Context

SME industry is the one that runs around the clock, where employees and guests consume a large quantity of water, food and electricity.⁶⁵ Therefore, SMEs are under increased pressure to be more careful about environmental challenges.⁶⁶ SMEs are expected to produce more waste in terms of biodegradable and non-biodegradable waste. Such waste of SMEs causes deleterious impacts on the natural environment. Thus, it is the heavy responsibility of SME management to protect the natural environment for the next generations. Therefore, SMEs industry's current focus is to decrease environmental threats and become more environmentally responsible. When organizations engage in policy formation to address environmental challenges such as effective waste management system, tree plantation, and arrangement of seminars on environmental awareness programs to protect natural environment and energy conservation, employees engage themselves in such activities by showing PEB.⁶⁷

The SME industry in Pakistan faces numerous challenges in promoting PEB. Although there have been studies on the impact of WPS on PEB¹ and RL on PEB,^{10,27} research in the SME industry remains relatively limited.^{68–70} Similarly, AC has been explored in conjunction with various other variables such as transformational leadership, perceived CSR, and organizational identification,⁷¹ intention to quit,³⁶ and green organizational climate and OCB.⁷² The role of middle management is vital in promoting PEB among employees within the SME industry.^{73,74} This study aims to examine the relationship between WPS, RL, and PEB in the context of Pakistan's under-researched SME industry, focusing on department managers and exploring the mediating role of AC in these associations.

Literature Review

Theoretical Background of the Study

Previous literature highlighted that obtaining deep insights and comprehensive understanding of the role by utilizing multiple theories is crucial.⁷⁵ Therefore, this study endeavors to develop a cohesive theoretical framework that elucidates the adoption of workplace spirituality responsible leadership by SMEs. This framework aims to integrate two widely recognized theories, thereby providing a comprehensive understanding reading PEB. By utilizing the perspective of social identity theory (SIT), which focuses on the impact of social categorization and identity processes on individual behavior within groups, this study examines how this theory applies to the workplace context. Moreover, it suggests that employees' affiliation with their organization can be influenced by the leadership style exhibited by their managers. Specifically, managers can foster a stronger sense of identification among employees with their organization by actively promoting the values of environmental responsibility and sustainability.^{76,77} Social learning theory (SLT) reinforces this concept by proposing that individuals acquire knowledge and behavior through the process of observation, imitation, and reinforcement of others' actions within their social environment.³⁰ In accordance with the above discussion, the theory of social exchange theory (SET) further substantiates the idea that employees tend to reciprocate the behaviors demonstrated by their leaders towards them.³¹ SCT provides a valuable framework that asserts the existence of an implicit agreement between individuals and their organizations. This agreement entails the fulfillment of certain responsibilities by individuals in exchange for specific benefits provided by the organization. When viewed through the lens of self-determination theory (SDT), the phenomenon can be illuminated. SDT posits that individuals are more inclined to engage in behaviors that align with their values and beliefs when they experience a sense of autonomy and control over their

actions.⁷⁸ Therefore, it can be contended that, in line with above theories, managers of SMEs endeavor to foster the PEB by adopting WPS and RL to enhance sustainable performance across environmental, economic, and social dimensions. Moreover, these practices have the potential to cultivate AC which ultimately translates into better PEB and sustainable performance.⁷⁹

Workplace Spirituality (WPS) and Pro-Environmental Behaviour (PEB)

Various theories suggest a connection between WPS and PEB. The link between WPS and PEB through the lens of self-determination theory (SDT) can be explained as SDT suggests that when individuals feel a sense of autonomy and control over their actions, they are more likely to engage in behaviors that align with their values and beliefs. Moreover, it further states that individuals are driven to evolve and grow by three inherent psychological needs: competence, connection, and autonomy.⁷⁸ According to them, certain workplace characteristics such as WPS create an environment that enhances an employees' intrinsic motivation to show care about others and society, fulfill their needs and engage them in PEB. Similarly, this can create a sense of ownership and commitment to environmental initiatives, which can further enhance intrinsic motivation. Research has shown that when individuals feel a sense of autonomy, competence, and relatedness in their work environment, they are more likely to engage in PEB. Another theory that predicts the relationship between WPS and PEB is the social contract theory (SCT). The link can also be seen through the lens of SCT which emphasizes reciprocity and mutual obligations to abide by certain norms and values in exchange for benefits and protections. In the workplace context, this can translate into a sense of obligation to act in an environmentally responsible manner in exchange for the benefits and protections provided by the organization. An individual's ethical, political and moral obligations depend upon the contract he makes with the society. When an organization inculcates a sense of moral obligation among employees to protect the environment through WPS, those employees make the same contract with the society for environmental protection.

An increasing number of organizations have adopted green policies and practices to improve environmental performance and economic benefit as world is facing devastating environmental challenges day by day.^{1,80} Currently, researchers show interest to inquire PEB of employees (Saeed et al, 2019; Norton et al, 2015).^{81,82} It is a volunteer behaviour of individuals to deal with environmental issues such as global warming, ozone depletion and climate change.⁸³ PEB is not obligatory but a pro-social behaviour. It is a genuine concern to secure nature and mankind.²⁷ There are numerous factors which impact PEB of employees. One of them is WPS. It pervades feelings of purpose and meaning with community and greater understanding of personal spirituality.⁸⁴ A spiritual perspective of an individual motivates him to conserve nature.⁸⁵

Numerous studies asserted that WPS positively influences people's pro-social attitudes and behaviours.⁸⁶ According to Fairholm,⁸⁷ WPS nourishes employees' spirits in multiple ways and enables them to care about the well-being of society and natural environment. WPS enlightens employees with a feeling that they make a difference through their unique characteristics, behaviours, and acts.⁸⁸ Chalofsky and Krishna displayed that WPS significantly impacts PEB.⁸⁹ Fatoki also showed that WPS has a positive influence on PEB of employees.¹ Rezapouraghdam et al investigated WPS with OCB and showed a notable association with each other.¹² Latif and Aziz conducted a study to explore the link between WPS and PEB, and they discovered that there is a substantial correlation between WPS and employees' PEB.⁹⁰ The results also suggest that employee engagement mediates the relationship between WPS and PEB. On the basis of above discussion, following hypothesis is proposed:

H1: WPS has a positive association with PEB.

Responsible Leadership (RL) and Pro-Environmental Behaviour (PEB)

The link between RL and PEB through the lens of SLT can be explained by the theory's focus on observational learning and modeling behavior. SLT suggests that individuals learn by observing and imitating the behavior of others around them. RL can play a crucial role in promoting PEB by modeling and reinforcing environmentally responsible behavior as an expected norm. Through their actions and words, leaders can provide a positive example and encourage employees to engage in sustainable behavior. SLT predicts the association between RL and PEB. It states that human behaviour is the

result of modeling and observation of behaviour.³⁰ When employees closely observe their manager's behaviour who have concern with sustainability of the environment, they imitate such behaviour to conserve the environment. Based on this theory, it is suggested that RL influences PEB of employees. Another theory that claims to provide support to the association is SET. SET states that employees reciprocate behaviours of their leaders towards them.³¹ When a manager cares about the interest of stakeholders, those stakeholders reciprocate such behaviours and show PEB which builds an emotional bond between employees and manager.

RL plays a significant role in cultivating PEB.⁹ They lead by an example for their followers by adopting and implementing sustainable practices in their organizations and encouraging their employees to exhibit environmental friendly practices in their actions and decisions.^{91,92} By prioritizing environmental concerns, RL is mainly involved in building a culture of sustainability within the organizations.⁹³ With the same notion, by placing the environmental friendly practices, organizations can enhance their image, goodwill and reputation among all stakeholders including attracting the customers who are environmentally conscious and care for the environment.⁹⁴

Managers' role is significant while developing PEB among employees. According to Bandura,³⁰ employees learn by observing their managers and show similar pattern of behaviours. According to Schein,⁹⁵ managers play role models to inculcate organizational culture among employees. Therefore, RL is the most pivotal factor in a firm's success in implementing green practices.^{96,97} It has desirable consequences for different parts of organizations. For instance, RL positively impacts an organization's performance⁹⁸ and helps to retain employees by increasing their job satisfaction.⁹⁹

Numerous studies proved the association between RL and PEB. Miska et al showed that RL is an important determinant of PEB as it focuses on environmental issues.¹⁰⁰ Afsar et al also revealed that RL has a positive influence on PEB of employees.¹⁰ Fatoki disclosed positive association between leadership behaviour and PEB.¹ According to Paille' and Boiral RL can increase employees' PEB by promoting green practices.²⁷ Blok et al suggested that leadership that is not able to change employees' behaviour and make them responsible cannot cause a significant influence on PEB.²⁸ Thus, this study proposes that:

H2: RL has a positive relationship with PEB.

Workplace Spirituality (WPS), Affective Commitment (AC) and Pro-Environmental Behaviour (PEB)

SET predicts the association between WPS, AC and PEB. It is an exchange process and asserts that employees reciprocate behaviours of their leaders towards them which they witnessed beneficial for them,³¹ as a result, they become affectively committed to their organization and pay back in the form of desired behaviours to the organization. In the workplace context, employees may engage in environmentally responsible behavior as a way to reciprocate the support, recognition, and respect that they receive from the organization through its commitment to WPS and AC. Moreover, SIT also predicts the relationship between WPS, AC and PEB. According to this theory, groups and organizations to which people belong are important sources of pride and self-esteem.⁷⁶ When a leader has feelings of connectedness and compassion towards others, employees prefer to belong with such groups that have concern about the well-being of society. These groups and organizations provide a sense of social identity to employees. Employees feel more attached to such groups and organizations that have a high level of commitment and they contribute positively for protection of the environment, resultantly employees PEB enhances.

Organizations' success highly depends upon the positive response of employees towards their environment.⁶ According to Kollmuss and Agyeman PEB can reduce negative impacts of human activities on natural environment and even benefit the environment.⁸³ WPS critically contributes to PEB by positively influencing employee's spiritual needs.⁸⁹ It is all about the sense of belongingness and connectedness with each other at the workplace and leaders and followers understand one another as a spiritual being.¹

Previous studies manifested that employees who have high levels of WPS are more inclined to show pro-social behaviour.⁸⁶ Stead and Stead suggested that environmental sustainability can be achieved through spirituality.¹⁰¹ It is a strong influencer of employees voluntary indulgence in social work and welfare of others and the community.¹⁰² WPS

has a meaningful correlation with environmental concerns and sustainability.¹⁰³ Past studies do not provide much evidence of the intervening role of AC; however, most of the studies examined OC as a mediating variable.

According to Devece et al, OC is an important variable that predicts PEB of employees.¹⁰⁴ More committed employees care more for their organization and overall environment. OC is the relative attachment and involvement of an employee with his organization. An employee who is attached to the organization and has feelings to contribute positivity towards his organization is more inclined to show responsible environmental behaviour. OC helps to build feelings of obligation to protect the environment.¹⁰⁵ Djafrı and Noordin displayed that WPS has a direct and significant association with OC.⁴² Chawla and Guda found that WPS significantly influences OC.¹⁰⁶ A few studies have been conducted on WPS and AC. Rego and Cunha showed that WPS is significantly associated with AC.⁴¹ Garg (2017) also revealed a positive and significant influence of WPS on AC.¹⁰⁷ Kazemipour et al conducted a study on healthcare professionals and found that AC mediates the relationship between WPS and OCB.³³ Similarly, past studies investigated the influence of OC on PEB. Ng and Feldman disclosed that employees who have a high level of OC engage in OCB such as recycling materials,⁴⁶ savings papers and energies as PEB is a type of OCB.⁶ Fatoki suggested that responsible managers instill OC among employees by showing their own commitment to protect the environment.

Based on the above discussion, following hypothesis is proposed:

H3: AC mediates the association between WPS and PEB.

Responsible Leadership (RL), Affective Commitment (AC) and Pro-Environmental Behaviour (PEB)

The link between RL, AC and PEB through the lens of SIT which emphasizes on the social categorization and identity processes that influence individual behavior in groups. In the workplace context, further it states that employees' identification with their organization can be shaped by the leadership style of their managers which can build the sense of identification that employees have with their organization by promoting the values of environmental responsibility and sustainability. SIT predicts the relationship between RL and PEB in the presence of AC as a mediating variable.⁷⁶ According to SIT, an individual likes to identify himself with a specific social group which shows his inclination to behave in a specific way in terms of group membership.⁷⁷ When an organization's leadership behaves responsibly to protect the stake of stakeholders, employees of such organization desire to relate themselves with such prestigious group; employees show attachment with their organization and show the same behaviour as their leadership does which helps to promote pro-social behaviour among employees. SLT also predicts the association between RL, AC and PEB. This theory states that human behaviour is the result of observation of others' behaviour.³⁰ When AC acts as a mediator, it makes them emotionally attached with the organization which improves their PEB.

Although some studies have examined the association between RL and PEB, few have analyzed this relationship in the presence of AC as a mediator. However, several studies have shown that RL has the potential to promote PEB among employees. While limited studies have investigated the association between RL and AC, the literature supports the relationship between RL and OC. For example, Mousa found a positive association between RL and AC,⁶³ while Doh and Quigley showed that RL significantly influenced the OC of employees.¹⁰⁸ Mousa and Puhakka investigated the impact of RL on OC, considering organizational inclusion as a mediating variable.¹⁰⁹ They used the three-component framework introduced by Meyer and Allen,⁴⁴ which includes AC, CC, and NC, and found that RL had a significant association with AC, CC, and NC through organizational inclusion as a mediator. Haque et al also found that AC acted as a mediator between RL and intention to quit.³⁶ A few studies have investigated the association between AC and PEB. According to Paille' et al leadership and OC enable employees to build PEB.¹⁰⁵ Employees feel more emotionally attached with high level of OC and consider their personal goals similar with organizational goals.¹¹⁰ After analyzing the above literature, following hypothesis is proposed:

H4: AC mediates the association between RL and PEB.

Conceptual Framework

The conceptual framework of this study is shown in Figure 1.

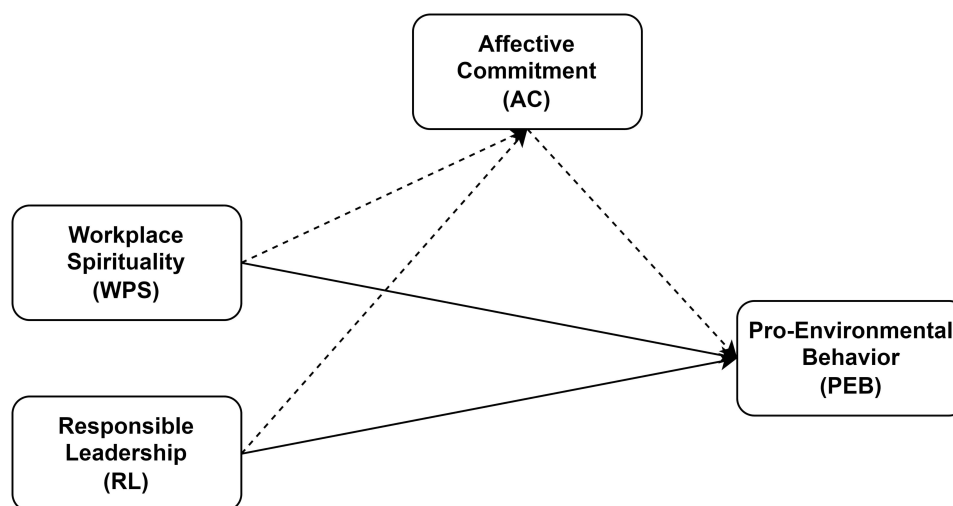


Figure 1 Conceptual framework. Straight lines show the direct relationships. Dotted lines show the indirect effects.

Method

Participants and Procedure

In Pakistan's Punjab Province, SMEs account for over 66% of all SMEs¹³ and according to SEMDA's (2022), there were 17,789, registered SMEs in the province. The study collected data from the middle-level managers of SMEs operating in the Punjab province of Pakistan. The study selected 390 enterprises from six industries: Textile, Leather/Footwear, Sports, Metal, and Wood and Furniture. A cluster sampling technique was employed, and 460 middle-level managers were surveyed.¹¹¹ Moreover, according to Krejcie and Morgan, the sample size is enough to represent the population.¹¹² The six industries were grouped to form clusters, and a total of 950 questionnaires were distributed in each cluster according to their proportion in the total population. The aim was to get a representative sample from these industries and gather data about their views on WPS, RL, AC, and PEB. Table 1 and Table 2 present the industry profile, questionnaire distributed and collected.

Measures

This study utilized a five-point Likert scale, with 5 indicating "strongly agree" and 1 indicating "strongly disagree", to measure all variables. The scale developed by Robertson and Barling consisting of 12 items, was adopted to measure PEB.¹¹³ Sample items include: "At work, I take stairs instead of elevators to save energy" The scale developed by Milliman et al consisting of 21 items, was used to measure WPS,¹¹⁴ the sample item is "Spirit is energized by work". The scale developed by Voegtlin consisting of five items was used to measure RL,¹¹⁵ the sample item is "involves the affected stakeholders in the decision-making process". To measure AC, the scale developed by Meyer et al consisting of six items was used,¹¹⁶ the sample item is I really feel as if this organization's problems are my own". These scales have been used

Table 1 Industry Profile

Sr. No.	Industry	%	Firms
1	Textile	19.54	77
2	Leather/Footwear	17.52	68
3	Sports	14.03	54
4	Food & Beverages	15.11	59
5	Metal	18.05	72
6	Wood & Furniture	15.30	60
Total		100	390

Table 2 Questionnaires Distributed and Collected

Cluster	Questionnaires Distributed	Questionnaires Received
Lahore	250	105
Multan	180	90
Sialkot	150	85
Gujrat	120	70
Faisalabad	110	75
Gujranwala	100	55
Total	950	480

by various researchers in previous studies, such as Shah et al, Fatoki, Rezapouraghdam et al, Afsar and Rehman, Zhao and Zhou.^{1,11,12,26}

Data Analysis and Results

To ensure accurate analysis, it is important to prepare the data appropriately. This involves addressing missing values, which can be achieved through techniques such as mean substitution. Additionally, it is important to check for extreme values using the Mahalanobis D2 value. There were no extreme values discovered in this study. To confirm that the dataset was normally distributed, the skewness and kurtosis values were also examined. The widely used Harman's single factor test was employed to screen for common method bias. A common factor with the highest explanatory power is found in this test, and if it accounts for a sizeable proportion of the overall variance, common method bias may be present. The findings of this investigation demonstrated that common technique bias was not present, as the common factor's characteristic root only partially explained the whole variation.

Table 3 displays the descriptive statistics, internal consistency, and intercorrelations of the variables under investigation. The Cronbach's alpha values for WPS, RL, AC, and PEB were computed as 0.801, 0.827, 0.814, and 0.833, respectively, indicating high internal consistency reliability for each construct. This suggests that the items within each construct are measuring the same underlying construct consistently. The means and standard deviations indicate the average scores and variability of responses for each construct. The correlations between the variables are all positive and significant, providing initial support for the proposed hypotheses. The significant positive correlations between WPS and PEB, RL and PEB, and AC and PEB suggest that higher levels of WPS, RL, and AC are associated with higher levels of PEB. These findings are consistent with previous studies that have found positive relationships between these variables.^{10,90,109} Overall, the descriptive statistics, internal consistency, and intercorrelations provide a solid foundation for further analyses.

Table 4 presents the demographics of the respondents participating in the study. The table provides a breakdown of the number of respondents and the corresponding percentages for each demographic category. Regarding gender, the data reveals that out of the total respondents, 320 individuals identified as male, accounting for approximately 67% of the sample. On the other hand, 160 respondents identified as female, representing about 33% of the sample. In terms of age,

Table 3 Means, Standard Deviations, Cronbach's Alphas and Intercorrelations

Sr. No.	All Variables	Mean (SD)	1	2	3	4
1	WPS	3.61 (0.77)	(0.801) α			
2	RL	3.27 (0.79)	0.485**	(0.827) α		
3	AC	3.72 (0.83)	0.581**	0.547**	(0.814) α	
4	PEB	3.59 (0.85)	0.436**	0.423**	0.457**	(0.833) α

Note: Correlations are significant at the 0.01 level (**two-tailed).

Abbreviations: WPS, Workplace Spirituality; RL, Responsible Leadership; AC, Affective Commitment; PEB, Pro-Environmental Behaviour; SD, Standard Deviation; α , Cronbach alphas values.

Table 4 Demographics of the Respondents

Demographics	No. of Respondents	Percentage (%)
Gender:		
Male	320	67
Female	160	33
Age:		
Less than 40 years	335	69
More than 40 years	145	31
Education:		
Bachelors	360	75
Masters.	120	25
Experience:		
< 5 years	155	33
5–10 years	210	44
>10 years	115	23

the study found that a significant proportion of the respondents were less than 40 years old. Specifically, 335 individuals fell into this age category, making up approximately 69% of the sample. Conversely, 145 respondents were more than 40 years old, constituting approximately 31% of the sample. When considering education levels, the majority of respondents held a Bachelor's degree. The data shows that 360 individuals in the sample had completed their Bachelor's degree, accounting for approximately 75% of the respondents. In contrast, 120 respondents had a Master's degree, representing approximately 25% of the sample. The data provides insights into the professional experience of the respondents. Among the respondents, 155 individuals reported having less than 5 years of experience, comprising approximately 33% of the sample. Furthermore, 210 respondents had 5 to 10 years of experience, accounting for approximately 44% of the sample. Finally, 115 individuals had over 10 years of experience, representing approximately 23% of the sample. [Table 4](#) offers a comprehensive overview of the demographic characteristics of the respondents, providing valuable insights into the composition of the study sample.

Measurement Model

Several confirmatory factor analyses (CFAs) were used in the study to establish discriminant and convergent validity. To assess the goodness-of-fit for each variable, the researchers employed SPSS AMOS 24. The findings demonstrated that the three-factor models of RL, AC, and PEB, as well as WPS, AC, and PEB, provided a better match to the data than the one-factor and two-factor models, which loaded all items onto a single factor. All of the factor loadings were above the suggested level of 0.60 (t value > 1.96), and they were significant at the 0.001 level when the researchers analyzed the factor to determine the convergent validity of the constructs. These findings support the Anderson and Gerbing (1988) guidelines' convergent validity. [Tables 5-7](#), and 8 are where the researchers' findings from the CFAs were presented.

Using AVE and composite reliability values, the study evaluated the proposed model's convergent and discriminant validity (see [Table 7](#) and [Table 8](#)). The composite reliability values were found to be higher than the AVE values, and the AVE values were found to be larger than 0.50, confirming the convergent validity of the model. The maximum shared

Table 5 Results of Model Comparisons Using CFA Approach

Model	χ^2	df	TLI	CFI	IFI	NFI	RMSEA	SRMR
Three-Factor Model	471.657	284	0.932	0.939	0.934	0.927	0.035	0.037
Two-factor model	567.603	292	0.911	0.891	0.878	0.865	0.069	0.063
One-factor model	663.894	306	0.897	0.872	0.867	0.853	0.083	0.122

Abbreviations: CFA, Confirmatory Factor Analysis; TLI, Tucker–Lewis Index; CFI, Comparative Fit Index; IFI, Incremental Fit Index; NFI, Normed Fit Index; RMSEA, Root Mean Square Error of Approximation; SRMR, Standard Root Mean Square Residual.

Table 6 Comparisons Using CFA Approach

Model	χ^2	df	TLI	CFI	IFI	NFI	RMSEA	SRMR
Three-Factor Model	531.986	306	0.919	0.915	0.917	0.914	0.049	0.027
Two-factor model	669.456	313	0.913	0.907	0.912	0.911	0.057	0.051
One-factor model	773.997	321	0.889	0.825	0.823	0.830	0.078	0.895

Abbreviations: CFA, Confirmatory Factor Analysis; TLI, Tucker–Lewis Index; CFI, Comparative Fit Index; IFI, Incremental Fit Index; NFI, Normed Fit Index; RMSEA, Root Mean Square Error of Approximation; SRMR, Standard Root Mean Square Residual.

variance and average shared variance values, which were lower than the AVE values, were compared in order to verify the discriminant validity. The variance inflation factor, which was used in the study to assess multicollinearity concerns and ranged from 1.64 to 4.23, showed no issues with multicollinearity. These findings demonstrate the suggested model's strong convergent and discriminant validity, making it trustworthy for further investigation.

Structural Model

According to Hair et al, the proposed model demonstrated a strong fit between the hypothesized three-factor model and the data of WPS, AC, and PEB.¹¹⁷ The fit indices TLI = 0.932, CFI = 0.939 and IFI = 0.934 are more than the benchmark ie 0.90 (Tabachnick & Fidell, 2001). The model fit was further strengthened through $\chi^2/df = 471.657/284 = 1.66$ which was lower than the benchmark. Table 5 shows that the three-factor model (TLI = 0.932, CFI = 0.939, IFI = 0.934, RMSEA = 0.035) fitted the data better than any of the alternative models. In Table 6, the impact of WPS on PEB was found statistically significant ($\beta = 0.642$, $p < 0.001$); hence, H1 is supported. Moreover, the conceptual model proposed that WPS significantly and positively affects PEB through AC. In Table 7 the value of standardized estimate of indirect relationship was found significant in the presence of AC as an intervening variable which supports H3 ($\beta = 0.356$, $p < 0.011$).

In the same way, the proposed model of RL, AC and PEB showed a good fit between the hypothesized three-factor model based on the values suggested by Hair et al.¹¹⁷ The fit indices TLI = 0.919, CFI = 0.915, IFI = 0.917 exceeded the 0.90 benchmark. The model fit was also assessed through $\chi^2/df = 531.986/306 = 1.74$ that was also lower than benchmark. Table 6 reveals that the three-factor model (TLI = 0.919, CFI = 0.915, IFI = 0.917, RMSEA = 0.049) fitted the data better than two- and one-factor models. Table 9 shows that RL significantly and positively influences employees' PEB therefore, H2 is supported ($\beta = 0.57$, $p < 0.001$). Moreover, Table 10 also shows that the values of standardized estimate of indirect association were found significant in the presence of AC as a mediating variable which supports H4 ($\beta = 0.289$, $p < 0.017$).

Discussion

This study looked at how WPS and RL affected PEB via AC. Previous studies of PEB across various service and manufacturing sectors were examined, although there have not been many studies done on Pakistan's SME industry.¹⁰ The results of the current study indicate that there are significant positive relationships between WPS, RL and PEB in the presence of AC as a mediating variable. PEB has been affected by four paths: first path is the direct effect of WPS on PEB; second path is the direct effect of RL on PEB; third path is the indirect effect of WPS on PEB through AC and fourth path is another indirect effect of RL on PEB through AC.

This study proposed that WPS and RL may increase PEB directly and indirectly through AC. Findings of the current study suggest that when organizations engage in WPS and RL practices, it ultimately triggers PEB. The findings of current study are consistent with previous studies that report the direct association of WPS with PEB^{1,90} and RL with PEB,^{10,27} but previous studies did not investigate the indirect relationship of WPS, RL and PEB through AC. Previous studies investigated AC with other variables such as Kazemipour et al found that AC mediates the relationship between WPS and OCB.³³ Haque et al examined RL with turnover intentions through AC and found that AC partially mediates the relationship between RL and turnover intentions.³⁶

Table 7 Construct Validity

Construct	Number of Dimensions	Factor Loading	AVE	CR	Cronbach's Alpha (α)
Workplace Spirituality (WPS)	WPS-1	0.75	0.61	0.87	0.80
	WPS-2	0.86			
	WPS-3	0.84			
	WPS-4	0.76			
	WPS-5	0.69			
	WPS-6	0.68			
	WPS-7	0.77			
	WPS-8	0.67			
	WPS-9	0.72			
	WPS-10	0.78			
	WPS-11	0.67			
	WPS-12	0.63			
	WPS-13	0.76			
	WPS-14	0.68			
	WPS-15	0.70			
	WPS-16	0.75			
	WPS-17	0.73			
	WPS-18	0.66			
	WPS-19	0.71			
	WPS-20	0.64			
	WPS-21	0.77			
Responsible Leadership (RL)	RL-1	0.79	0.62	0.85	0.82
	RL-2	0.79			
	RL-3	0.85			
	RL-4	0.78			
	RL-5	0.74			
Affective Commitment (AC)	AC-1	0.86	0.65	0.83	0.81
	AC-2	0.84			
	AC-3	0.79			
	AC-4	0.81			
	AC-5	0.86			
	AC-6	0.78			
Pro-Environment Behavior (PEB)	PEB-1	0.61	0.69	0.90	0.83
	PEB-2	0.64			
	PEB-3	0.72			
	PEB-4	0.69			
	PEB-5	0.67			
	PEB-6	0.75			
	PEB-7	0.69			
	PEB-8	0.72			
	PEB-9	0.73			
	PEB-10	0.78			
	PEB-11	0.66			
	PEB-12	0.69			

Abbreviations: AVE, Average Variance Extracted; CR, Composite Reliability.

The findings of this study portray a significant impact of WPS and RL on PEB and it can be explained by these factors. WPS and RL can enhance the three innate psychological needs of autonomy, competence, and relatedness, which are central to SDT. By providing a sense of community, growth opportunities, and alignment with personal values,

Table 8 Discriminant Validity

Constructs	CR	AVE	MSV	MaxR (H)	WPS	RL	PEB	AC
WPS	0.871	0.613	0.381	0.943	0.789			
RL	0.852	0.624	0.432	0.932	0.687	0.695		
PEB	0.903	0.691	0.443	0.845	0.693	0.673	0.809	
AC	0.832	0.652	0.479	0.887	0.657	0.654	0.765	0.793

Abbreviations: AVE, Average Variance Extracted; MSV, Maximum Shared Variance.; MaxR(H), McDonald Construct Reliability; WPS, Workplace Spirituality; RL, Responsible Leadership; AC, Affective Commitment; PEB, Pro-Environmental Behaviour.

Table 9 Regression Results of the Structural Model and Hypotheses Test Outcomes

Hypothesis	Predicted Relationship	Standard Path Loadings	Standard Error	t value	p value	Decision
H1	WPS and PEB	0.64	0.83	6.719	0.001	Supported
H2	RL and PEB	0.57	0.88	6.931	0.001	Supported

Abbreviations: WPS, Workplace Spirituality; RL, Responsible Leadership; PEB, Pro-Environmental Behaviour.

Table 10 Standard Mediation Effects: Parameter Estimate and Bootstrap Percentile Method Confidence Intervals

Hypothesis	Parameter	Estimate	Lower Bound	Upper Bound	p value	Decision
H3	Panel I ^a WPS, AC and PEB	0.356	0.273	0.439	0.011	Supported
H4	Panel II ^b RL, AC and PEB	0.289	0.193	0.384	0.017	Supported

Notes: ^aGoodness of fit $\chi^2/df= 1.857$, RMSEA= 0.055, GFI=0.904, CFI= 0.963 ("WPS and AC" was constrained to be zero). ^bGoodness of fit $\chi^2/df= 2.231$, RMSEA= 0.061, GFI= 0.903, CFI= 0.947 ("RL and AC" was constrained to be zero).

Abbreviations: WPS, Workplace Spirituality; RL, Responsible Leadership; AC, Affective Commitment; PEB, Pro-Environmental Behaviour.

individuals are more likely to experience intrinsic motivation and engage in behaviors that benefit the environment. Therefore, organizations that prioritize and focus on the WPS and RL practices are not only improving the employee well-being but also contributing to a more sustainable future. Similarly, the findings of this study provided the empirical evidence that SET is a useful framework to understand how WPS and RL can impact PEB. In the context of sustainability, individuals may engage in PEB when they perceive that it will result in benefits for themselves, their colleagues, or their organization. WPS and RL can enhance these perceptions by fostering a positive work environment, creating a sense of community, and providing opportunities for growth and development. With the same notion, SIT is another useful framework to understand the above relationships. The findings are in line with theory directions and portray that when employees identify with a group that values sustainability, they may be more likely to engage in PEB in order to maintain a positive social identity. Moreover, WPS and RL contribute to building a culture of sustainability to engage in PPEB as a way of maintaining a positive social identity.

SCT is a useful framework that states that individuals have an implicit agreement with their organization to fulfill certain responsibilities and receive certain benefits in return. The findings provided the empirical evidence that when organizations prioritize sustainability, and it is backed by leadership practices, then employees may perceive that their organization has a social contract to protect the environment and act in socially responsible ways. In line with the previous studies, this study also proved and provided the empirical evidence that supports the notion of SLT, which states that individuals learn through observation, imitation, and reinforcement of the behaviors of others in their social environment. When WPS and RL prioritize sustainability, employees may observe and imitate these behaviors, especially if they perceive that these behaviors are valued and rewarded by the organization. Reinforcement can also play a role, as individuals may be more likely to engage in PEB if they receive positive feedback or incentives from their organization.

or colleagues. Therefore, organizations that consider WPS and RL can help them in promoting PEB by modeling and reinforcing positive environmental practices.

The present research provides useful information about the intricate relationship among WPS, RL and PEB. It does so by combining different studies and merging them into a single framework, while taking into account AC as a mediating variable. This approach goes beyond previous models that only focus on a direct association between WPS, RL and PEB, or an indirect relationship through a basic mediation of AC. For example, earlier research conducted by Fatoki and Afsar et al only focused on one of these relationships.^{1,10}

Theoretical Contribution

By focusing on PEB at the individual level, the current study emphasizes various theoretical insights and adds to the body of literature on environmental management. First, the findings of the current study support theoretical arguments derived from SIT, SDT, SCT, SLT and SET. Second, the current study extends the research studies on PEB and its antecedents. This study integrates the dispersed scholastic work of WPS, RL, and AC into one conceptual framework to eventually affect PEB. Third, the current study advocates that WPS and RL predict AC which ultimately enhances PEB. Limited studies have investigated the impact of WPS and RL on PEB.^{27,90} This argument is of vital importance because AC is a valuable theme in order to show PEB.^{33,72} Fourth, the current study adds a new theoretical process of WPS, RL, AC and PEB and extends the existing literature. The findings of the current study suggest that WPS and RL enhance the AC of employees which ultimately triggers their PEB.^{1,10}

Managerial Implications

The current study suggests managers and human resource (HR) practitioners cultivate PEB through WPS and RL practices by making individuals affectively attached particularly in SME industry of Pakistan. Findings of the current study provide evidence that WPS and RL have a positive and significant impact on PEB which encourages the implementation of WPS and RL practices at the individual level. Human resource strategists should incorporate WPS and RL initiatives to change employees' behaviour rather than to force them to comply with such environmentally friendly behaviour through financial penalties. The current study also indicates that WPS and RL activities promote AC. Organizations have the ability to create practices that help employees develop an emotional attachment to the organization, which can increase their perception of the importance of pro-environmental values and their ability to implement those values in their daily activities. Additionally, through WPS and RL, SMEs can cultivate PEB in several ways. First, SMEs can involve employees in sustainability initiatives and decision-making processes, which will indicate a sense of ownership and commitment to sustainability. Second, SMEs can provide training and development programs to help employees to develop the knowledge and skills which will ultimately build their AC towards the organization as well will result in better engagement in the PEB. Finally, SMEs through RL can set clear expectations for employees and model sustainable behavior and provide feedback and recognition for sustainability-related initiatives. By implementing these, SMEs can cultivate PEB, and contribute to a more sustainable future for all. Similarly, managers should be equipped with skills to encourage their subordinates and colleagues to engage in pro-environmental behavior. It is important for employees to take the initiative and engage in pro-social behavior themselves rather than just promoting it. Organizations should also foster an environment that encourages employees to generate ideas for conserving energy and being more pro-social.

Limitation and Future Research

The first limitation is that the department managers self-reported their PEB instead of being evaluated by senior managers or peers, which could have affected the accuracy of the data. However, this study did not have the problem of common method variance. Future research should think about gathering information from several sources to guarantee accuracy. The study's use of cross-sectional data, which is consistent with prior studies, is the second drawback. A similar approach should be used for longitudinal study designs in the future. Third, only those SMEs were chosen who were operating in Punjab province of Pakistan. In order to get more generalized results, SMEs from other cities in Pakistan should also be selected. Moreover, the same research framework can be applied on other industries of different countries of the world.

Fourth, other intervening mechanisms can also be used to get better an understanding of PEB such as environmental awareness, connectedness to nature, environmental passion and intrinsic motivation. Future researchers should also investigate the moderating role of AC. Moreover, the role of green HR management, green commitment and green servant leadership can also be examined to trigger employees' PEB.

Data Sharing Statement

The datasets in the study are available from the corresponding author on reasonable request.

Ethics Approval and Informed Consent

Bahria University approved the study in collaboration with Bina Nusantara University. The study adhered to the principles of the Declaration of Helsinki and followed its ethical codes regarding the treatment of individuals, handling of samples, and data collection methods in each research procedure. Before commencing the study, we presented the research topic to the Ethics Committee of Bahria University and submitted a detailed proposal stating the purpose of the study, proposed samples, data sources, and a thorough explanation of the written informed consent for respondents.

The committee approved all the presented documents. As a precursor to the actual study, the researchers asked the respondents to carefully read the written informed consent, outlining the aim of the study. The team made it clear that the data collected would be used strictly for research purposes and that all respondent information would be treated with utmost confidentiality. All respondents were fully informed of these conditions and voluntarily agreed to complete the questionnaire.

Author Contributions

All authors made a significant contribution to the work reported, whether that is in the conception, study design, execution, acquisition of data, analysis and interpretation, or in all these areas; took part in drafting, revising or critically reviewing the article; gave final approval of the version to be published; have agreed on the journal to which the article has been submitted; and agree to be accountable for all aspects of the work.

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