Driving Sustainable Change: The Power of Supportive Leadership and Organizational Citizenship Behavior in Fostering Environmental Responsibility

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Abstract: Change and environmental trends are enormously influencing the globe. Businesses, societies, and people are all attempting to do their part to safeguard the environment. This study examines the impact of supportive leadership on organizational citizenship behavior for the environment (OCBE) and the mediating effect of psychological empowerment and affective commitment. The survey method was utilized. Data were gathered from 362 employees of the banking and pharmaceutical sectors for the present research. This research employed AMOS-SEM to analyze data and test the formulated hypotheses. The empirical results established that supportive leadership significantly influences workers’ OCBE. The results further corroborate that psychological empowerment and affective commitment mediate between supportive leadership and organizational citizenship behavior for the environment. These findings have vital implications for managers and enterprises that seek to increase their sustainability and organizational citizenship behavior for the environment. The present research broadens our understanding of leadership style and its influence on OCBE. The theoretical and managerial implications of organizational environmental sustainability and future research prospects are highlighted.

Keywords: pro-environmental behavior; supportive leadership; psychological empowerment; affective commitment; organizational citizenship behavior for the environment

1. Introduction

As worldwide environmental prospects deteriorate and company management shifts its focus to sustaining viable ecological growth Bansal and Song [1], some notable experts have devoted time and effort to studying sustainable management in businesses. They deliberately tried to verify and balance environmental altering trends but neglected to draw attention to the level of employees [2]. This has received greater focus and diligence from workers. Because workers carry out corporate plans, their attitude toward the environment is critical to promoting business-level sustainability [3]. In this context, organizational citizenship behavior for the environment (OCBE) denotes workers’ ecological practices that companies do not expect and properly acknowledge. These practices supplement the social residents’ environmental protective approach and the green development strategic business analysis. Employees participate in OCBE at work, rigorously developing their environmental defense attitudes and conceptions to meet the company’s green strategic analysis and philosophy [4]. As a result, employees’ OCBE significantly impacts the business’s environmental presentation and practices [5–7].

Furthermore, because of previous experiences, it can be inferred that the employees who participate in OCBE are quite important. Interestingly, contemporary management
scholars are expanding their interests in forming employees’ institutional sustenance and development Paillé, Chen, Boiral, and Jin [6], environmental self-care Zhang et al. [8], business environmental security processes Paillé, Boiral, and Chen [5], business environmental issues Temminck, Mearns and Frühen [7], and business environmental behaviors [9]. The research validates moral leadership Zhang, Chen, and Liu [8], and the president as sustenance for ecological security Priyankara et al. [10], which can boost employees’ OCBE. While some academics investigated the effects of leaders on organizational citizenship behavior for the environment, some revealed the influence of “responsible leadership” on OCBE.

There is a substantial amount of literature on leadership and OCBE, but less is known regarding the impact of supportive leadership, which has received less emphasis. The present research aims to address this research gap. Nonetheless, other investigations have explored the influence of different leadership types, for instance, transformational leadership and authentic and supportive leadership on OCBE, but with a focus on society, for long-term environmental growth and good transformation [11]. Many studies focused on environmental behavior at the strategic and organizational levels of viable institutional growth but ignored it at the worker level [2]. A thorough examination of prior research revealed the significance of leadership in green behavior [8,12]. Individual discretionary behavior is the focus of OCBEs. A formal incentive system is not directly inside the institution, but it helps the natural environment collectively and quickly, eventually leading to organizational sustainable growth [13]. The current study contributes to the literature on the interface of supportive leadership, OCBE, PE, and AC. Empirical evidence reveals that supportive leadership behaviors are vital in boosting workers’ OCBE [14]. Iqbal et al. [15] conducted a study in the banking sector of Pakistan. The study’s findings show a positive association between authentic leadership and OCBE.

This research aims to explore the impact of supportive leadership on workers’ OCBE in the context of the pharmaceutical and banking sectors in Pakistan. Secondly, considering the pivotal role of leadership and PE and AC in affecting employees’ environmental behaviors on the environment at the job, this research investigates the influence of supportive leadership on employees’ PE and AC perception. To the best of our knowledge, no study has been conducted on exploring the association between supportive leadership and PE and AC perception. This is novel research that aims to explore said relationship. If workers perceive leadership and PE and AC activities as fair, they will exhibit better organizational citizenship behaviors for the environment. Finally, studies about supportive leadership and PE and AC perception have been mostly conducted in developed nations; this study will fill this gap by focusing on the developing country of Pakistan. The remaining paper is organized as follows: a review of the literature and hypotheses development in the following part, followed by the paper’s materials and methods. The study’s conclusions and findings are detailed in the following section, followed by a discussion of the practical ramifications and limitations.

2. Literature Review

2.1. Theoretical Background

According to schema theory, how people see and think about circumstances, take actions, and solve issues are based on their cognitive schemas, which represent a variety of knowledge structures and organize frameworks for thinking occurrences or social experiences that shape and define a domain [16]. Schema serves as a cognitive foundation for comprehending and responding to managerial action. Employees use the cognitive maps derived from these relational schemas to make sense of their situations. Weick [17] defines interpersonal relationships as “relationships with others”. Previous researchers have recognized the significance of schema theory as a widespread and useful paradigm for organizing knowledge clusters, explaining leadership, and framing an assessment of organizational cognitive issues [18], and subordinates encode and evaluate incoming data using these schemas information on the supporting actions of supervisors. Workers are more
likely to commit to firms and their green programs when they have supportive leadership. Supportive leaders emotionally, knowledge-wise, and instrumentally assist workers with their environmentally connected voluntary actions. Workers are more committed to the firm and its green behaviors due to psychological empowerment and affective commitment [19].

2.2. Supportive Leadership and OCBE

House established and expanded the notion of supportive leadership in 1981 with three primary elements: emotional, informational, and instrumental assistance. Supportive leadership (SL) is characterized as “SL occurs when a leader states concern for, and takes care of, the desires and inclinations of followers while making decisions” [20]. Trust, respect, collaboration, and emotional support are all fostered by supportive leaders. Supportive leaders assist their followers in resolving tough circumstances by being transparent, honest, and fair in relationships [21]. Supportive leadership includes three components: emotional, informational, and instrumental assistance. Leaders provide emotional assistance to their adherents by listening to their personal and family worries Tiippana [22], showing sympathy, and attempting to comprehend their adherents’ concerns [20]. Examples of informational assistance include army officials informing soldiers about the goal of impending operations, including workers in policymaking, and discussing the group’s policies [22]. Instrumental assistance can include but doesn’t have to be restricted to when a boss makes time and resources available to assist followers in executing activities that will help them advance in their careers [22]. Schema theory concerns how individuals think about their issues and take measures to solve them. Their behaviors are supported by cognitive-perceptual schemas that describe and exhibit the range of knowledge and understanding systems. In addition, they arrange frames for comprehending circumstances or social occurrences and offer a domain structure and meaning [16]. All knowledge and experiences are arranged into information units according to the schema. Accepting, comprehending, and returning to managerial conduct is a schema. Staff members form relationships with managers using the intellectual maps generated by these interactive schemas [23]. Previous academics acknowledged schema theory’s position and worth as a consistent and valued environment for clarifying and systematizing information, elucidating leadership, and structuring the study of reasoning and intellectual challenges in institutes. Workers utilize these knowledge schemas to analyze and analyze information regarding the leader’s supporting actions. Workers are more likely to commit to firms and their green programs when they have supportive leadership. Supportive leaders emotionally, knowledge-wise, and instrumentally assist workers with their environmentally connected voluntary actions. Workers are more committed to the firm and its green behaviors as a consequence of psychological empowerment and emotional support [19].

According to schema theory and academic assistance, supportive leadership has a direct and considerable impact on the OCBE. As a result, the subsequent hypothesis may be assumed:

**H1. SL has a positive association with OCBE.**

2.3. Supportive Leadership and Affective Commitment

Mercurio [24] proposes a conceptual paradigm in which affective commitment (AC) to the company is viewed as the essential element of organizational commitment in a current review. We assert that supportive leaders impact their followers’ sense of connection to and participation with the company, which is consistent with the existing leadership-commitment research. Social exchange theory (SET), as stated by Ribeiro et al. [25], provides the foundation for understanding the association between supportive leadership and AC. Particularly, trust and connection with leaders are established by constant contact with workers and an exchange of values, implying workers identify with leaders and the values these leaders inculcate in them in the business, grounded in the norm of reciprocity. According to Jeon and Choi [26], this identification with and connection to the leader leads to enhanced AC in workers. Likewise, Pillai and Williams [27] contend that supportive leaders are critical in
generating greater affective commitment. This is particularly relevant in a service-oriented firm like Ghana’s savings and lending institutions (SLCs).

Moreover, Ribeiro et al. [28] found that supportive leadership is significantly connected to affective commitment. Nevertheless, regarding the influence of supportive leadership on the emotive, normative, and continuous components of commitment, there is little evidence in the existing research, mainly in Pakistan. A small number of empirical research have discovered that supportive leadership favors followers’ affective commitment [29,30], given the importance of these two variables in a service-oriented organization. We seek to investigate their connection from the perspective of a collectivist culture, as there has been little study in his field. As a result, we contend that supportive leadership will have a favorable impact on affective commitment and participation with the institute:

**H2. SL has a positive association with AC.**

### 2.4. Affective Commitment and OCBE

Employee organizational citizenship behavior, such as assisting teammates who are overburdened with work, coaching freshmen in the company, or implying instructive improvement, is critical in any company as such actions may provide companies with extra resources [31]. Prior study on management has shown the relevance of workers’ organizational citizenship behavior for the efficacy and competence of work groups and companies [32]. According to researchers, workers might engage in OCB in various ways [33]. Sun and Yoon [34] identified two aspects of OCB: OCB-Individual (OCBI) and OCB Organization (OCBO). Even though voluntary helpful activities are essential components of both dimensions, the aims of those behaviors differ. Helpful behaviors are displayed toward specific coworkers in OCBI, while these actions are displayed towards organizations in OCBO. Managers who assist teammates in filling up any lost work because of their absence, for example, are regarded to be conducting OCBI, but managers who offer to complete extra duties to assist the manufacturing department are thought to be performing OCBO. However, since the company is the target of affective commitment, citizenship activities tend to be oriented toward the organization [35]. Many investigations on the link between affective commitment and organizational citizenship behavior for the environment have found that affective commitment has a substantial and positive association with OCBE in various organizational contexts [36]. Founded on a SET, emotionally connected managers will likely demonstrate OCB reciprocal conduct. Employees are more inclined to get involved in OCBE in a high-quality social exchange relationship characterized by a high level of commitment since they have an ethical responsibility to provide beneficial outcomes that benefit their relational partners. [37].

**H3. AC has a positive impact on OCBE.**

### 2.5. Psychological Empowerment and Affective Commitment

According to the leader–member exchange theory, Dansereau Jr et al. [38], Workers who are given the authority to complete tasks and address difficulties on their own while upholding a positive atmosphere at the workplace will demonstrate more great reciprocal behaviors toward their job tasks, unit, and organization. Employees may also take on more responsibility and dedication to the organization as a result of this. It may assist other organizational members since they are not required to participate in job duties or leave unmanaged concerns. The individual in charge will take on more responsibility, which will help the division or the overall organization. Several empirical studies support this theoretical position of a considerable link between psychological empowerment and engagement. Alotaibi et al. [39] discovered, for example, that when an organization offers a harmonized work environment, it is far more possible to have engaged workers in conditions of meaningfulness (i.e., job enrichment, work-role fit), safety (i.e., supportive management and coworkers), and availability (i.e., resources availability). As a result, workers feel recognized at work, which improves employee psychological security and contributes to better engagement [40]. Psychologically empowered employees are more
likely to encourage proactive behavior and behave freely [41]. Psychologically empowered employees are more dedicated to their jobs and companies [42,43]. Other researchers have found that empowered workers are more interested in their organizations and have lower quitting rates [44–46]. Salminen and Miettinen [46] demonstrate that supervisory support for growth improves affective commitment (AC), raising their chance of remaining in their present position. The greater the number of PEs experienced by nurses, the higher their affective commitment and the lower their desire to quit [47,48]. Other research has found that PE can assist employees in making good adjustments to their jobs and work units [43,49]. As a result, we suggest the following hypothesis:

**H4. There is a significant association between PE and AC.**

### 2.6. Supportive Leadership and Psychological Empowerment

Over the past few years, scholars and business professionals have been interested in research on psychological empowerment (PE) and leadership traits. Prior study has revealed a positive association between the two concepts, with the majority indicating that leadership culture affects a company’s culture. Experimental research in this area has revealed that supervisors who utilize a supportive leadership style are more likely to psychologically empower their coworkers [46,47]. According to a research study conducted by Barroso Castro et al. [50], supportive leadership considerably benefits psychological empowerment. Jong and Faerman [51] discovered a substantial association between the two leadership types (transformational and transactional) and PE while researching the effect of leadership types (transformational, transactional, non-interference) on employee PE. According to Seibert et al. [52] recent meta-analysis, supportive leadership favors PE. Based on the facts presented above, we predicted:

**H5. There is a positive association between SL and PE.**

### 2.7. Mediating Influence of Psychological Empowerment and Affective Commitment

The notion of psychological empowerment (PE) is derived from industrial-organizational psychology. Empowerment is a person’s ability to practice autonomy, choice, responsibility, and involvement in organizational decision-making [53]. The core concept of PE is psychologically linked to an object. Psychological empowerment is a subset of positive organizational behaviors under psychological behavior. Psychological empowerment boosts optimism and the pursuit of achievement and success [54]. It acts as a motivator and motivates people to achieve better levels of performance [55]. A prior study has found a link between PE and employee behavior [56]. They went on to say that PE considerably influences workers’ in-role and extra-role activities. Past study has found that leadership influences the psychological behavior of workers [57,58]. Leaders are agents that aim to link people and companies and change staff behavior to promote organizational success. On the other hand, the cultural viewpoint from high powers at a distance and workers’ behavior modification controlled by their manager’s behavior is a powerful foster of workers’ behavior and PE in the company [59].

Identifying and addressing basic wants, for instance, home “self-efficacy and self-identification”, are the origins of PE [57]. In addressing these basic demands, supportive leadership has a big advantage; this leadership type increases workers’ trust and safety. These “leaders” are also concerned about their workers’ personal lives and make every attempt to meet their needs or fulfill their demands. PE also fosters institutional effectiveness and instills a robust sense of responsibility in personnel. Affective commitment denotes a worker’s emotional desire to stay with the firm due to attachment sentiments [60,61]. It depicts the strong attitude that workers acquire toward their employers [46,62]. Workers extremely loyal to the company are more likely to attain institutional objectives and exhibit positive behaviors and higher performance [61,63].

Prior research has found that affective commitment (AC) can improve positive behaviors, e.g., OCBE [31,32,64]. Because PE is one of the characteristics that might raise AC, empowered workers are more emotionally engaged in their companies, which can improve
their OCBE display [52]. According to Kaur and Mittal [65], if workers believe their job is relevant and meaningful, they shall display more favorable behaviors toward their job if the firm applies policies that increase their AC. Qing et al. [66] discovered some evidence relating to the above debate in their research, which revealed that AC partially plays a mediator role in the association between ethical leadership and AC.

Hence, if workers have a sense of psychological empowerment and affective commitment to an institute, they could be involved in more active and positive behaviors. Such as this could take in organizational citizenship behavior for the environment. Therefore, in this study, we hypothesized psychological empowerment and affective commitment as potential mediators. Figure 1. Hypothesized model is given below.

**Figure 1. Hypothesized model.**

H1

H2

H3

H4

H5

H6

H7

**H6. PE mediates the effect of SL on OCBE.**

**H7. AC mediates the effect of SL on OCBE.**

3. Methods

3.1. Sample and Procedure

The present study aims to shed light on the relationship between supportive leadership and OCBE. Researchers generated seven study hypotheses to investigate the direct and mediated connections between supportive leadership and OCBE. The present research used a cross-sectional design. The present research employed a sample of 473 individuals from the banking and pharmaceutical industries in Punjab, Pakistan, who completed a self-administered questionnaire. The survey was split into two parts. The first part discussed the demographical features of the respondents, which comprised age, gender, and education. In part two, Participants were requested to complete a questionnaire regarding supportive leadership and OCBE, psychological empowerment, and affective commitment. Data were gathered after the respondents’ voluntary permission and an overview of the research’s aims. The study was quantitative and deductive. The data were collected from February to April 2023 using a convenient sampling method.

We obtained 390 replies from the disseminated questionnaires; 362 out of 390 were relevant (response rate of 76%), and 28 were incomplete, which were omitted from the study. In addition, around 62% of the participants were males and 38% were females. Furthermore, we used Harman’s single-factor test to exclude the risk of bias. The overall variation explained throughout the test is 22.57%, just under 50%, indicating no bias in the study [67].
3.2. Measurement Development

The questionnaire items were adopted from earlier research. The Rafferty and Griffin [68] scale, which consists of three questions, was used to assess supportive leadership; the sample question was “My supervisor considers my personal feelings when implementing actions that will affect me.” The scale created by Boiral and Paillé [69] was used to assess organizational citizenship behavior for the environment. This scale contains five questions. The sample question was, “I undertake environmental actions that contribute positively to the image of my organization”. Spreitzer [70] created a 12-item four-dimensional empowerment scale for assessing psychological empowerment. Recent research has commonly used this scale [71,72]. A five-point Likert scale was used to rate all items. This scale is divided into four parts: meaning (“The work I do is meaningful to me.”), competence (“I have the skills necessary for my job.”), Self-determination (“I can decide on my own how to go about doing my work.”), and impact (“I have significant influence over what happens in my department.”). Meyer et al. [73] developed a 6-item scale to assess affective commitment. This scale has been widely utilized in various research and accurately evaluates the desired outcomes [74,75]. On a 5-point Likert scale, employees were asked to rate their Affective commitment. A sample question is: “I would be happy to spend the rest of my career with this organization”.

4. Data Analysis and Results

We employed AMOS 25.0 to evaluate the research hypotheses using SEM. We followed Anderson and Gerbing’s [76] advice of a two-step SEM strategy, starting with CFA to ensure model adequacy. A final hypothesized structural model was then examined to assess the links between all variables. “2/df, comparative fit index (CFI), standardized root mean square residual (SRMR), Tucker-Lewis index (TLI), and root mean square error of approximation (RMSEA)” were among the fit indices used.

4.1. Descriptive Statistics

Table 1 shows the statistical values for each observed variable’s mean, standard deviation, and Pearson’s correlations. The mean values varied from 2.56 to 3.32, with standard deviations ranging from 0.62 to 0.81. p value is ** p < 0.01 and * p < 0.05.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Mean</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Supportive Leadership</td>
<td>2.56</td>
<td>0.71</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Psychological Empowerment</td>
<td>3.01</td>
<td>0.62</td>
<td>0.45 **</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Affective Commitment</td>
<td>2.84</td>
<td>0.81</td>
<td>0.27 **</td>
<td>0.23 **</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>4. OCBE</td>
<td>3.32</td>
<td>0.72</td>
<td>0.33 **</td>
<td>0.42 **</td>
<td>0.19 *</td>
<td>-</td>
</tr>
</tbody>
</table>

** p < 0.01, * p < 0.05.

4.2. Measurement Model Assessment

In this research, the measurement model was tested using “Confirmatory Factor Analysis (CFA)” [77], and the “standard factor loadings, Cronbach’s alpha, and composite reliability” of every component are shown in Table 2 Supportive leadership, Psychological empowerment, Affective commitment, and Organizational citizenship behavior for the environment have alpha coefficients of 0.91, 0.95, 0.74, and 0.86, respectively. These alpha exceed the proposed value of 0.70 [78]. The standardized loadings for Supportive leadership varied from 0.807 to 0.916, 0.706 to 0.953 for Psychological empowerment, 0.746 to 0.916 for Affective commitment, and 0.772 to 0.851 for OCBE. All factor loadings are more than 0.50 [78] and strongly contribute. The “composite reliability (CR)” varied from 0.73 to 0.87 for Supportive leadership, Psychological empowerment, Affective commitment, and OCBE, which is above the recommended value of 0.60 [79,80]. Discriminant validity of each component for which the empirical values of “average variance extracted (AVE)” are higher than the “inter-correlational values”, and values of AVE are also greater than 0.5 [81].
Table 2. Measurement Model for All Four Factors.

<table>
<thead>
<tr>
<th>Construct</th>
<th>Items</th>
<th>Loading</th>
<th>A</th>
<th>AVE</th>
<th>CR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supportive Leadership</td>
<td>SL1</td>
<td>0.916</td>
<td>0.67</td>
<td>0.87</td>
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</tr>
<tr>
<td></td>
<td>SL2</td>
<td>0.861</td>
<td></td>
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<tr>
<td></td>
<td>SL3</td>
<td>0.807</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychological Empowerment</td>
<td>PE1</td>
<td>0.772</td>
<td></td>
<td>0.95</td>
<td>0.84</td>
</tr>
<tr>
<td></td>
<td>PE2</td>
<td>0.839</td>
<td></td>
<td>0.53</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PE3</td>
<td>0.933</td>
<td></td>
<td>0.87</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PE4</td>
<td>0.953</td>
<td></td>
<td>0.76</td>
<td></td>
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<tr>
<td></td>
<td>PE5</td>
<td>0.824</td>
<td></td>
<td>0.74</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PE6</td>
<td>0.727</td>
<td></td>
<td>0.88</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PE7</td>
<td>0.929</td>
<td></td>
<td>0.92</td>
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<td></td>
<td>PE8</td>
<td>0.923</td>
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<td>0.82</td>
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<tr>
<td></td>
<td>PE9</td>
<td>0.911</td>
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<td>0.70</td>
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<tr>
<td></td>
<td>PE10</td>
<td>0.738</td>
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<td>0.68</td>
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<td></td>
<td>PE11</td>
<td>0.823</td>
<td></td>
<td>0.70</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PE12</td>
<td>0.706</td>
<td></td>
<td>0.70</td>
<td></td>
</tr>
<tr>
<td>Affective Commitment</td>
<td>AC1</td>
<td>0.916</td>
<td>0.74</td>
<td>0.73</td>
<td>0.83</td>
</tr>
<tr>
<td></td>
<td>AC2</td>
<td>0.907</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>AC3</td>
<td>0.758</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>AC4</td>
<td>0.932</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>AC5</td>
<td>0.911</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>AC6</td>
<td>0.746</td>
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<tr>
<td>OCBE</td>
<td>OCB1</td>
<td>0.772</td>
<td>0.86</td>
<td>0.76</td>
<td>0.73</td>
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<td></td>
<td>OCB2</td>
<td>0.848</td>
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<tr>
<td></td>
<td>OCB3</td>
<td>0.851</td>
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<tr>
<td></td>
<td>OCB4</td>
<td>0.772</td>
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<td></td>
<td></td>
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<tr>
<td></td>
<td>OCB5</td>
<td>0.826</td>
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</tbody>
</table>

Moreover, we performed a serial-wise CFA to ensure that the model captured distinct constructs. The hypothesized four-factor model (SL, PE, AC, and OCBE) provided an acceptable fit to the data: \( \chi^2 = 2815.42, \) df = 1013, \( \chi^2/df = 2.779, \) CFI = 0.93, TLI = 0.94, RMSEA = 0.05 and SRMR 0.06 (Table 3). The hypothesized four-factor measurement model is the best-fitted model among all other models in Table 3.

Table 3. CFA Results.

<table>
<thead>
<tr>
<th>Model</th>
<th>( \chi^2 )</th>
<th>df</th>
<th>( \chi^2/df )</th>
<th>CFI</th>
<th>TLI</th>
<th>RMSEA</th>
<th>SRMR</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-factor model (hypothesized model)</td>
<td>2815.42</td>
<td>1013</td>
<td>2.779</td>
<td>0.93</td>
<td>0.94</td>
<td>0.05</td>
<td>0.06</td>
</tr>
<tr>
<td>3-factor model (SL &amp; AC combined)</td>
<td>8589.54</td>
<td>1108</td>
<td>7.752</td>
<td>0.72</td>
<td>0.71</td>
<td>0.13</td>
<td>0.17</td>
</tr>
<tr>
<td>2-factor model (SL, PE &amp; AC combined)</td>
<td>9788.2</td>
<td>1166</td>
<td>8.394</td>
<td>0.70</td>
<td>0.70</td>
<td>0.15</td>
<td>0.16</td>
</tr>
<tr>
<td>1-factor model</td>
<td>11,974.35</td>
<td>1319</td>
<td>9.078</td>
<td>0.58</td>
<td>0.59</td>
<td>0.23</td>
<td>0.24</td>
</tr>
</tbody>
</table>

Each observed item exhibited substantial loadings on its corresponding latent variables (Table 3). The hypothesized four-factor model was compared to other confirmatory factor analysis models. Table 3’s fit indices illustrate the components’ convergent and discriminant validity, giving a solid foundation for assessing the suggested four-factor model.
4.3. Hypothesis Testing

We employed a comprehensive SEM model with maximum likelihood estimation in “AMOS” software to evaluate our research hypotheses. At the same time, correlations (given in Table 2) and SEM results corroborated Hypotheses 1–5 (shown in Table 4). As indicated by H1, there is a substantial connection between supportive leadership and OCBE. We discovered evidence for the first Hypothesis ($\beta = 0.26$, $t = 4.82$, $p < 0.01$), as shown in Tables 2 and 4. The second hypothesis anticipates a positive relationship between SL and AC. Hypothesis 2 had support ($\beta = 0.47$, $t = 8.41$, $p < 0.01$). The H3 anticipates a positive relationship between SL and OCBE. Hypothesis 3 had support (standardized $\beta = 0.29$, $t = 5.63$, $p < 0.01$). The fourth hypothesis of our study anticipates a positive association between PE and AC. Hypothesis 4 had support ($\beta = 0.33$, $t = 6.72$, $p < 0.01$). The H5 of our research anticipates a positive association between SL and PE. H5 had support ($\beta = 0.41$, $t = 7.11$, $p < 0.01$).

Table 4. $\beta$ Coefficients for Testing Hypotheses 1 and 5.

<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>Path</th>
<th>$\beta$ Estimate</th>
<th>T</th>
<th>LLCI</th>
<th>ULCI</th>
<th>$p$-Value</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1</td>
<td>SL $\rightarrow$ OCBE</td>
<td>0.26</td>
<td>4.82</td>
<td>0.145</td>
<td>0.485</td>
<td>$&lt;$0.01</td>
<td>(**)</td>
</tr>
<tr>
<td>H2</td>
<td>SL $\rightarrow$ AC</td>
<td>0.47</td>
<td>8.41</td>
<td>0.278</td>
<td>0.526</td>
<td>$&lt;$0.01</td>
<td>(**)</td>
</tr>
<tr>
<td>H3</td>
<td>AC $\rightarrow$ OCBE</td>
<td>0.29</td>
<td>5.63</td>
<td>0.129</td>
<td>0.456</td>
<td>$&lt;$0.01</td>
<td>(**)</td>
</tr>
<tr>
<td>H4</td>
<td>PE $\rightarrow$ AC</td>
<td>0.33</td>
<td>6.72</td>
<td>0.223</td>
<td>0.375</td>
<td>$&lt;$0.01</td>
<td>(**)</td>
</tr>
<tr>
<td>H5</td>
<td>SL $\rightarrow$ PE</td>
<td>0.41</td>
<td>7.11</td>
<td>0.219</td>
<td>0.499</td>
<td>$&lt;$0.01</td>
<td>(**)</td>
</tr>
</tbody>
</table>

** $p < 0.01$.

In the second stage, Hypotheses 6 and 7 are analyzed by reviewing the 4 Baron and Kenny [82] prerequisites for mediating analysis: (1) the explanatory variable has to forecast the dependent variable, (2) the projected mediating variable has to be forecasted by the explanatory variable, (3) the projected mediating variable forecast the dependent variable, and (4), the direct relationship between the explanatory variable and the dependent variable has to lessen (if possible need to be not significant for complete mediation) once the mediating variable is inserted.

It is shown in Table 4 that SL accomplished Baron and Kenny [82] first prerequisite (1), as SL exhibited substantial paths to OCBE ($\beta = 0.26$, $p < 0.01$) and affective commitment ($\beta = 0.47$, $p < 0.01$). Concerning the 2nd prerequisite of mediation, PE and AC accomplish Baron and Kenny [82] criteria. In Figure 2, SL considerably anticipated PE ($\beta = 0.39$, $p < 0.01$) and AC ($\beta = 0.15$, $p < 0.01$), whereas in the third criterion, the first mediating variable, PE predicted dependent variable ($\beta = 0.35$, $p < 0.01$) and second mediating variable AC considerably predicted dependent variable OCBE ($\beta = 0.52$, $p < 0.01$). In the last prerequisite, the direct association between supportive leadership and affective commitment in the attendance of mediating variable psychological empowerment is reduced (from $\beta = 0.47$ to $\beta = 0.15$) and is numerically significant. It offered partial mediation. Likewise, the direct association between transformational leadership and OCBE in the attendance of mediating variables vanishes and turns insignificant ($\beta = 0.08$, see Figure 2), exhibiting the whole mediation effect. Altogether, these outcomes were statistically backed. Furthermore, we evaluated the indirect effects of mediation Preacher and Hayes [83]. We conducted a bootstrapping test with 10,000 samples at 99% confidence to identify the bottom and upper limits and z values. The bootstrapping findings are shown in Table 5, and they reveal that psychological empowerment has a strong indirect influence on the supportive leadership-OCBE connection. (Estimate = 0.13; $z = 4.56$ and $p < 0.01$) and AC has a significant indirect effect on the supportive leadership-OCBE association (estimate = 0.21; $z = 2.88; p < 0.01$).
We investigated the role of PE and AC as mediators using AMOS-SEM. The statistical analysis demonstrates the mediating influence of PE and AC in the relationship between SL and OCBE. The findings are consistent with the work of Raineri and Paillé [85], who researched business schools in France and discovered that “leadership” is favorably connected with workers’ organizational citizenship behavior towards the environment in response to the calls of earlier studies [8,10,13,84]. The favorable impact of a leader’s environmental support via OCBE aligns with the findings of Raineri and Paillé [85], who researched business schools in France and discovered that “leadership” is favorably connected with workers’ organizational citizenship behavior for the environment.

### Table 5. Bootstrapping Results for Indirect Effects.

<table>
<thead>
<tr>
<th>Path</th>
<th>Estimate</th>
<th>S.E.</th>
<th>Z</th>
<th>Sig</th>
<th>LLCI</th>
<th>ULCI</th>
<th>LLCI</th>
<th>ULCI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct effects</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SL → OCBE</td>
<td>0.08</td>
<td>0.07</td>
<td>1.14</td>
<td>0.57</td>
<td>-0.09</td>
<td>0.21</td>
<td>-0.11</td>
<td>0.21</td>
</tr>
<tr>
<td>SL → AC</td>
<td>0.15</td>
<td>0.06</td>
<td>2.5</td>
<td>(**)</td>
<td>0.12</td>
<td>0.25</td>
<td>0.12</td>
<td>0.25</td>
</tr>
<tr>
<td>AC → OCBE</td>
<td>0.52</td>
<td>0.06</td>
<td>8.67</td>
<td>(**)</td>
<td>0.28</td>
<td>0.60</td>
<td>0.28</td>
<td>0.60</td>
</tr>
<tr>
<td>PE → AC</td>
<td>0.35</td>
<td>0.06</td>
<td>5.83</td>
<td>(**)</td>
<td>0.74</td>
<td>0.85</td>
<td>0.74</td>
<td>0.85</td>
</tr>
<tr>
<td>SL → PE</td>
<td>0.39</td>
<td>0.04</td>
<td>9.75</td>
<td>(**)</td>
<td>0.32</td>
<td>0.55</td>
<td>0.32</td>
<td>0.55</td>
</tr>
<tr>
<td>Indirect effects</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SL → PE → OCBE</td>
<td>0.13</td>
<td>0.046</td>
<td>2.82</td>
<td>(**)</td>
<td>0.16</td>
<td>0.41</td>
<td>0.16</td>
<td>0.40</td>
</tr>
<tr>
<td>SL → AC → OCBE</td>
<td>0.21</td>
<td>0.045</td>
<td>4.66</td>
<td>(**)</td>
<td>0.25</td>
<td>0.54</td>
<td>0.25</td>
<td>0.54</td>
</tr>
</tbody>
</table>

SL: Supportive Leadership, AC: Affective Commitment, PE: Psychological Empowerment, OCBE: Organizational Citizenship Behavior for the Environment, CI: Confidence Interval, LLCI: Lower Level Confidence Interval, and ULCI: Upper-Level Confidence Interval. ** p < 0.01.

5. Discussion

This study examined the framework that explains how supportive leadership (SL) improves OCB in Pakistani organizations’ environments. Several hypotheses were tested. We investigated the role of PE and AC as mediators using AMOS-SEM. The statistical findings support that psychological empowerment and affective commitment influence the relationship between supportive leadership and OCBE. The outcomes of this research demonstrate that leaders’ environmental assistance has a good influence on workers’ organizational citizenship behavior towards the environment in response to the calls of earlier studies [8,10,13,84]. The favorable impact of a leader’s environmental support via OCBE aligns with the findings of Raineri and Paillé [85], who researched business schools in France and discovered that “leadership” is favorably connected with workers’ organizational citizenship behavior for the environment. While making decisions, SL considers adherents’ goals and inclinations and is also held accountable for workers’ proactive, good behaviors [20]. Trust, admiration, emotional backing, and collaboration are created in light of SL behavior. This collaboration and psychological assistance assist workers in resolving difficult problems, being open and truthful, and openly interacting with institutional and societal challenges, such as environmental issues. According to the present study, emotive, informational, and instrumental backing helps workers participate...
in good behaviors, i.e., organizational citizenship behavior for the environment, consistent with earlier findings [20,21].

Supportive leadership and affective commitment are directly related. Previous research in Ghana’s services industry found that supportive leaders play a vital role in producing higher levels of commitment [27,86]. Affective commitment correlates favorably with OCBE, consistent with earlier research [35]. Another hypothesis in our study claimed that psychological empowerment is connected to affective commitment. It is also supported by prior research; for example, Salminen and Miettinen [46] found that supervisory support for growth promotes affective commitment (AC), increasing their chances of staying in their current employment. Workers’ affective commitment increases, and their inclination to resign decreases as PE increase [47,48]. Supportive leaders psychologically empower their personnel; these findings align with the results of Barroso Castro, Villegas Perinan, and Casillas Bueno [50], who discovered that supportive leadership significantly influences psychological empowerment.

Moreover, the research includes a mediation framework of PE and AC of workers about supportive leadership and organizational citizenship behavior for the environment, which improves workers’ ecological performance and is also seen to be important for ecological concerns. The leader encourages his supporters to be involved in specific good behaviors. Followers’ “self-efficacy”, or psychological empowerment, when linked to the behaviors of a leader, multiplies these behaviors Ren and Chadee [87], enhancing the leader’s inventiveness and faith in himself. Employees who feel more psychologically empowered are more likely to think of themselves as important, involved, and devoted. They can deal with obstacles more successfully and engage in demanding voluntary behavior. In a similar vein, the present study’s findings experimentally confirmed that psychological empowerment plays a favorable mediation effect in supportive leadership for OCBE.

Affective commitment, as a state of mind, fosters attachment to a desired object and organization, sharing optimism and striving for achievement and success [57]. It motivates workers to perform at a greater. Leaders, as agents, link people and organizations by encouraging employees’ affective commitment, hence changing workers’ behavior toward organizational success. Affective commitment also promotes individuals to be more productive in the workplace and fosters a robust sense of responsibility for the company. The present study employed affective commitment as a mediator for supportive leadership and OCBE. Workers with an affective connection to the organization might participate in more pre-emptive and positive behaviors, such as organizational citizenship behavior for the environment. The study’s important findings demonstrated that affective commitment influences the relationship between SL behaviors and organizational citizenship behavior for the environment. This is also consistent with earlier research findings [58,88]. According to the preceding discussion, OCBE is highly connected with supportive leadership among Pakistani banking and pharmaceutical personnel. Furthermore, psychological empowerment and affective commitment serve as mediators in this interaction.

5.1. Theoretical Implications

The findings of the present research offer significant additions to the literature. Initially, this research shows a link between supportive leadership and OCBE. According to “social learning theory (SLT)”, individual behavior is mostly learned through observation; consequently, direct and indirect learning happens. Individuals might learn by their behavior by witnessing others, according to SLT. According to SLT, workers learn by concentrating on a role model and assuming behavior by finding what actions are rewarded [89]. This study assists in the understanding of how leaders’ support results in OCBE. Theoretically, SLT explains leadership’s complicated mechanism, notably supportive leadership with organizational citizenship behavior for the environment. The supportive leader takes extra care of the participants’ interests, exerts his influence on them, and motivates staff members, affecting their beliefs and self-assessment toward leaders and identification.
with the institution. Workers are affected and agree with the standards and principles of leaders as they identify with leaders and institutions and observe leaders and institutional environmental problems. They also work on behalf of leaders to ensure the organization’s long-term development and environmental preservation [85]. Supportive leaders aim to incorporate and safeguard each stakeholder’s best interests and benefits, including their environmental interests. In line with the scope of social identity theory, this facilitates employee participation in the OCBE. Supportive leadership and leader identification could be effective explanatory processes in such instances. Moreover, “optimal distinctiveness theory”, an expansion of “social identity theory”, emphasizes how people must constantly be both different from and similar to others simultaneously.

Furthermore, schema theory claims that it is a means of thinking about workers’ conditions and making efforts to solve their difficulties. Workers’ activities are supported by cognitive-perceptual schemas, which embody and demonstrate the diversity of awareness and knowledge structures, provide structures for comprehending circumstances, and give shape and meaning to a domain [16]. Previous academics considered schema theory a useful framework for systematizing information, describing leadership, and examining rational and intellectual difficulties in institutes. Workers utilize this knowledge schema to analyze and comprehend information regarding leaders’ supportive behaviors. Workers are more likely to be dedicated to organizations and their green initiatives when they have supportive leadership. Supportive leaders emotionally, knowledge-wise, and instrumentally assist workers with their environmentally connected voluntary behaviors. Trust, respect, PE, and emotional backing are all fostered by supportive leaders [90]. Employees exhibit OCBE due to their psychological empowerment and AC to the company and its green behaviors.

Lastly, this research contributed to the “value-belief-norm theory” as a norm of assisting pro-societal behavior that stems from one’s principles and feels that these principles are under threat. These threats could be reduced by proactive action and values restored [91]. A leader’s incentive for their supporters’ good behavior boosts their innovation and efficiency, as well as their faith in themselves or self-efficacy. Situational variables influence self-efficacy beliefs, which are influenced by the adjacent environment. Unfavorable ecological changes increase workers’ drive, “self-efficacy, and self-responsibility”, encouraging them to participate in efforts that might reverse these unfavorable events. This is especially true of environmental deterioration. Pro-environmental behavior creates the impression that one is more skilled and capable of dealing with more challenging environmental chores and obstacles in the future. As a result, we contributed that this shall increase the impression of self-efficacy, and workers shall use it for pro-environmental behaviors such as OCBE.

5.2. Managerial Implications

The present study investigation has significant significance for managers, policy formulators, and human resource development practitioners in several ways. First, statistical data from this study revealed that supportive leadership is likely to bring up OCBE. Workers can benefit from supportive leadership by changing their attitude toward the environment and becoming more liable and pre-emptive in environmental-saving behaviors. Moreover, organizational citizenship behavior for the environment is a necessary byproduct of a worker’s success and well-being. As a result, by selecting SL and giving proper training to current managers, the attributes of these leaders may be used to make workers more proficient in practicing organizational citizenship behavior for the environment and changing workers’ perceptions of their values. Secondly, psychological empowerment, sentiments, and trust in environmental concerns are important in creating ecologically beneficial behaviors. Management and policy formulators should develop policies and teach staff in ways that increase workers’ self-efficacy and empowerment toward the environment. Thirdly, the present research emphasizes affective commitment. It also explains how supportive leadership improves employee OCBEs via affective commitment. Moreover, it provides a novel theoretical lens to flesh out worker OCBEs by complementing current techniques from the SET, self-determination, and the theory of planned behavior. Conclusions
6. Conclusions

This study examined the framework that explains how supportive leadership (SL) improves OCB in Pakistani organizations’ environments. Several hypotheses were tested. We investigated the role of PE and AC as mediators using AMOS-SEM. The data acquired from personnel in Pakistan’s service and industrial industries were examined using AMOS-SEM. The empirical findings show SL is favorably and significantly related to worker OCB. Positive organizational behavior promotes proactive behavior by workers towards the organization and society. The study highlighted supportive leaders as playing a favorable influence in facilitating workers’ OCBs. Moreover, the use of PE and AC as mediating variables in the association between supportive leadership and OCB was examined. The statistical findings of the research revealed that as workers’ levels of psychological empowerment and affective commitment improved, their level of OCB also improved.

7. Limitations and Future Research

The current research has certain limitations. To begin, the data used for this study was acquired from a unitary source that might be the cause of common method variance CMV [92], even though we delivered the questionnaire, ensured the confidentiality of the replies, and arbitrarily organized all of the items for every survey [92]. Furthermore, we used Harman’s single-factor approach to assess for bias and discovered no substantial impact. The findings of the CFA show that the “four-factor model” had good-fit indices when contrasted to the supplementary models, with a substantial two difference ($p < 0.05$). It offered a compelling indication of reduced common method variance impacts [93].

Though we admit that to mitigate the problems instigated by common method variance, forthcoming research must adopt various approaches to employee behavior. Second, we developed our study from theories offered in European nations, collected data, and tested the suggested model in Pakistani private institutions. Despite previous studies confirming the links between SL and OCB [94,95], no studies have been undertaken to employ PE and AC as possible mediating variables. As a consequence, the findings of this research must be used cross-culturally, and imitation of our findings shall offer productive results.

Third, because research participants were recruited from industries in Punjab province, future studies should recruit people from other regions to generalize the results.

These limitations can be used to guide future studies. Firstly, the present research is cross-sectional, with data gathered at a single moment. Scholars are recommended to perform longitudinal research with several data sources to investigate the causality of the links between various types of leadership and OCB.

Future scholars must experimentally evaluate our model utilizing samples from different locations and Asian cultures to generalize the validity of our findings. More study is required in this area. Finally, our study might be replicated in other industries to investigate the fundamental linkages between SL and OCB. While we employed structural equation modeling to conduct a concurrent analysis of complete conceptual schemes in the private sector, the results should be interpreted cautiously. We propose that a forthcoming study tackle this subject by collecting data from investigational and longitudinal studies in various sectors to enhance the fundamental association between SL and OCB using various mediating and moderating variables.

**Author Contributions:** Conceptualization, A.J.; Methodology, Z.M., M.A., P.L. and A.H.; Formal analysis, A.J.; Investigation, M.L.; Writing—original draft, A.J., P.L., M.A. and A.H.; Writing—review & editing, A.J., M.L., P.L., M.A. and A.H. All authors have read and agreed to the published version of the manuscript.

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**Institutional Review Board Statement:** Ethical approval was obtained from the School of Management Research Ethics Committee (Jiangsu University, China).
Informed Consent Statement: Before data collection, all eligible respondents were informed about the aims of the study, voluntary participation, and the right to withdraw at any time without giving any reason. They were also assured of the confidentiality of the information to be collected.

Data Availability Statement: The raw data supporting the conclusions of this article will be made available by the authors without undue reservation.

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