

Article

Employee-Perceived Corporate Social Responsibility (CSR) and Employee Pro-Environmental Behavior (PEB): The Moderating Role of CSR Skepticism and CSR Authenticity

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Abstract: Despite the substantial attention given to pro-environmental behavior (PEB) by academicians, practitioners, and policymakers, few studies have investigated how employee-perceived corporate social responsibility (CSR) affects employees' PEB. Moreover, though the concept of PEB has been found to elicit a wide range of positive benefits for employee behaviors and attitudes, it has rarely been applied to the context of the manufacturing sector. Underpinned by the social identity theory (SIT) and the attitude-behavior-context (ABC) theory, the present study investigates the impact of employee-perceived CSR on employees' PEB through the moderating roles of employee-CSR skepticism and employee-CSR authenticity. The convenience sampling technique was used to select employees from Pakistani manufacturing firms to participate in the study's survey. Analysis results of data from 235 respondents across 115 manufacturing firms suggest that employee-perceived CSR positively drives employees' PEB. In addition, the findings offer valuable insights on employee-CSR skepticism and employee-CSR authenticity. Specifically, CSR skepticism weakens the link between perceived CSR and PEB, while CSR authenticity strengthens this link. By providing implications and limitations, the present study discusses that organizations can convey the message of their credible, genuine, and authentic CSR efforts to their employees for social, economic, and environmental wellbeing. The study's discussions and conclusions are presented.

Keywords: perceived CSR; CSR skepticism; CSR authenticity; pro-environmental behavior



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1. Introduction

In the 21st century, the concept of corporate social responsibility (CSR) has increasingly gained traction among academicians, practitioners, and policymakers [1]. According to Turker [2], CSR is described as “corporate behaviors that aim to positively affect social primary, social secondary, non-social primary, and non-social secondary stakeholders and go beyond their economic interests”. The macro aspects of CSR (e.g., environmentally sustainable development) and their effects on sustainable performance have been studied in detail [3]. However, the micro-aspects of CSR (e.g., employee-CSR perception) and their effects on individual actions and behaviors have not yet been fully developed and are still in the emerging stage. In this regard, employee-perceived CSR appears as a relevant concept, which is defined as “degree of employees' perception about the support provided by their employer to the CSR-related activities” [4]. The survey of literature indicates that most of the studies have examined the consumer-related perception to measure CSR [5–7]. Hence, the employee-related perceptions to measure CSR initiatives have not been discussed in detail. Given the converging nature of CSR and sustainable

performance, this study addresses the relationship between employee-perceived CSR and an employee's pro-environmental behavior (PEB). It is worth examining how employees' perceptions of CSR can affect their PEB, considering that employees are the most important stakeholders in terms of promoting CSR practices and modeling their behaviors to follow sustainable policies [8].

Today, the world is characterized by environmental degradation and accelerating global warming; in this scenario, the manufacturing industry is marked as one that must go "green" [9–12]. Indeed, growing concerns about compliance with environmental laws and regulations have created immense pressure for manufacturers to adopt environmental practices [13,14]. It is a win-win situation for manufacturers to create a green and competitive environment because they operate around the clock and use large amounts of water, power, electricity, and unsustainable materials [15]. Manufacturing firms are also under pressure to act more vigilantly towards environmental policies and issues; as such, they are now more focused on balancing environmental efficiency and limited resources to increase their legitimacy and profitability [16]. Consequently, over the last decade, CSR in the manufacturing industry has received much attention in the literature in the form of firms' environmental practices [17–19], as well as their different sustainability dimensions (e.g., environmental, economic, and social) [20,21]. Most manufacturing firms have corporate environmental policies, which encompass the formation and implementation of CSR programs [22]. In fact, by embracing CSR and promoting PEB, the manufacturing industry can be recognized as a frontrunner in sustainability.

However, though several studies have shed light on the impact of perceived CSR on the behavior and attitude of employees, they have rarely done so in the manufacturing industry context [23]. Therefore, it is important for manufacturing firms to understand whether their employees recognize and identify sustainable behaviors before they participate in green organizational actions, so as to effectively and efficiently run CSR programs. In Pakistan, particularly, the manufacturing sector is struggling to overcome its growing environmental problems and hazardous practices [24]. As such, Pakistani manufacturing firms face various pressures to address their environmental behaviors at the firm and employee level, which calls for these firms to understand and promote their employees' environmentally friendly behaviors. Moreover, workers are likely to support environmental protection efforts and operational efficiency based on their perceptions of their firms' environmental policies [25]. In addition, revisiting CSR issues in the manufacturing sector, by which conditions employee-perceived CSR enhanced and attenuated employees' pro-environmental behavior, is incomplete [26,27]. Further, in the case of a developing country context, the link between perceived CSR and PEB at the individual level and workplace pro-environmental behavior had been neglected. Additionally, most previous research in developing countries has addressed the impact of CSR perceptions on external stakeholders, such as consumers, competitors, suppliers, and government [28,29]. In contrast, far less attention has been given to the employee perspective. Thus, the present study investigated the relationship between employees' perceptions of CSR programs and their PEB in the manufacturing sector of Pakistan. Additionally, the present study contained employees' CSR skepticism and employees' CSR authenticity as moderators between perceived CSR–PEB links. In this study, we examined employees' CSR authenticity as a fundamental driving force which advances the employees' perceptions of CSR and fosters PEB. Contrary to CSR authenticity, the present study examined that employees' CSR skepticism is opposed to the employee perception towards CSR that further deepens PEB. Theoretically, these moderators were frequently used for the consumer-related perception to CSR activities [30–32], but were rarely taken into consideration for the employee-related perception. Specifically, this study aimed to answer the following three research questions:

1. Does perceived CSR influence PEB?
2. Does CSR authenticity moderate the relationship between perceived CSR and PEB?
3. Does CSR skepticism moderate the relationship between perceived CSR and PEB?

The objective of the study is categorized in three important ways. The first objective addresses the association between employee-perceived CSR and an employee's pro-environmental behavior. Most of the previous research addressed the perceived CSR and pro-environmental behavior link on external stakeholders' perspectives, such as consumers, competitors, suppliers, and government. In contrast, far less attention has been given to the employee-related perspective to measure CSR activities. To address the first research objective, the present study examined CSR at the micro level to consider the CSR perceptions of employees in shaping their PEB. The reason for selecting employees is because they are in the best position not only to understand CSR activities from within but also to witness organizations' real motives behind the implementation of specific CSR initiatives. Employees are assimilated in their organizational culture and know the basic realities of CSR policies in their firm. Consequently, they have more knowledge and engagement in organizational culture and policies than external stakeholders such as consumers, suppliers, and competitors. Examining their perspectives of CSR and PEB is thus valuable for the literature and the practice of environmental sustainability. As a result, the present study proposes PEB as an outcome of the perception of CSR. Although CSR perception has been linked to various employee behaviors, such as organizational citizenship behavior, work performance, and work engagement [33], significantly less attention has been directed to the specific effect of perceived CSR on employees' PEB. Second, this study examined CSR authenticity as a moderating effect between perceived CSR–PEB links. There is a compelling need to consider an employee's CSR authenticity as a factor that can impact how CSR programs affect that employee's PEB, given that CSR authenticity reflects an employee's perception of the trustworthiness, reliability, sincerity, and genuineness of CSR activities. Third, this study explores the moderating effect of CSR skepticism on the CSR–PEB link. Corporate social scandals can elicit cynical stakeholder responses to CSR activities; in this regard, it is necessary and noteworthy to look into how CSR skepticism affects employees' perceptions of CSR effectiveness. The remainder of this research paper is presented in the following order: The next section describes the theoretical background of the study and the relationships among the variables. Then, details about the study's methodology are outlined, followed by a discussion of the results of the study. Finally, the study's main contributions, limitations, and recommended future research directions conclude the paper.

2. Literature Review

2.1. Social Identity Theory (SIT)

The present study applied the social identity theory (SIT) to examine the impact of employee-perceived CSR on an employee's pro-environmental behavior. According to the social identity theory (SIT), employees are expected to promote their self-esteem and self-concept needs [34]. Hence, when employees' internal company image (what they think of their company) and external company image (what they think outsiders think of their company) are improved, they see their company image as more attractive and positive, which they take pride in [35]. According to social identity theory, an employee's valuation of their organization's internal and external image is, in fact, highly associated with their CSR perception [36] because this image helps them feel unique [37]. As per the SIT, CSR initiatives create a positive harmony among employees, which further combines with an employee's motivation to strengthen their pride in working there. Thus, employees strive to make their organization more distinctive and respectable by exhibiting behaviors consistent with their shared values [38,39]. This sequentially magnifies their self-esteem and self-reliance, as employees feel the reflection of the organization's distinctiveness in themselves [40]. According to SIT, CSR initiatives tend to foster green behaviors among their employees, such as pro-environmental and socially responsible behaviors, and organization CSR initiatives have greatly influenced their employees' pro-environmental behavior and enhanced value creation to their employees, both externally and internally [41]. The above theoretical discussion supports that socially responsible organizations and their CSR

initiatives are the sources of attraction for employees [42], since they presumably identify with this type of organization [43].

2.2. Attitude-Behavior-Context (ABC) Theory

The present study applied the attitude-behavior-context (ABC) theory to examine the impacts of CSR skepticism and CSR authenticity on the perceived CSR–PEB relationship. According to the ABC theory, the behavior of employees is a fundamental aspect of any organizational initiative (e.g., CSR), but is dependent on the varying levels of employees' attitudinal perceptions (e.g., skepticism, authenticity) in a specific context [44,45]. Thus, the ABC theory posits that employees' skepticism and authenticity towards their company's CSR depends on the context, which may cause changes in their behavior towards different CSR initiatives. Specifically, employees may inhibit their PEB if they are skeptical towards a particular CSR context that negatively affects their perception of CSR [30,46]. In contrast, they may exhibit more PEB if they perceive the CSR context to be authentic. As such, before starting any CSR activity, it is important to determine the situational context of employees [46]. However, few environmental management researchers have investigated the role of CSR perceptions, like skepticism and authenticity, in the context of employee behavior. To fill this gap, building on the ABC theory, the current study examined how the impact of CSR perception on employees' PEB varies across different levels of CSR skepticism and CSR authenticity.

2.3. Perceived Corporate Social Responsibility (CSR)

An environmentally friendly organization is committed to its social obligations, legal compliance, and business ethics to protect the natural environment and benefit society, while achieving financial gains [47]. Such an organization has the motive of achieving a profitable business model with positive sustainable elements, such as minimal environmental impacts, as well as social and economic betterment for society [48]. CSR is thus linked to multiple institutional, organizational, and individual outcomes [49,50]. At the institutional level, CSR promotes a strong ability to improve firm reputation [51] and firm relationships with external stakeholders, such as customers. At the organizational level, numerous studies have demonstrated the positive link between CSR and financial performance [20,52]. Moreover, CSR practices have non-financial benefits, such as increasing demographic diversity at the workplace [53].

The present study portrays CSR as a set of voluntary actions by a firm to ensure the wellbeing of its stakeholders without losing long-term economic benefits [54]. Following this understanding, perceived CSR is defined as the “degree of employees' perception about the support provided by their employer to CSR-related activities” [4]. It is essential that an organization is transparent about its CSR efforts to stakeholders to assure the latter of the former's sincere and genuine efforts to improve the environment and society. Stakeholders' perceptions have serious consequences for organizations because, if stakeholders perceive the organization's CSR efforts to be symbolic rather than authentic, they can damage the firm's reputation and elicit negative behaviors from stakeholders. Employees are considered to be the most critical actors of all stakeholders; thus, they must be taken care of as their perceptions are crucial to firm success. However, scholars have emphasized the context of external stakeholders in CSR [55–57], while largely neglecting firms' internal stakeholders in the CSR literature, especially employees. Hence, the present study focuses on the role of employees' perceptions in firms' CSR outcomes. In particular, perceived CSR represents employees' subjective assessments of the firm's overall CSR activities, which is highly significant in understanding the micro-level mechanisms of CSR [58].

2.4. Pro-Environmental Behavior (PEB)

Nowadays, organizations are devising business strategies to protect the environment and provide sustainable business solutions. One of the most productive solutions organizations have put in place to improve employee engagement more frequently and consistently

is the promotion of PEB [59,60]. PEB refers to any computable environmental behavior that corresponds with the achievement of environmental sustainability [26,61], which reflects employees' willingness to connect with pro-environmental activities [62]. These behaviors are known as additional role behaviors that are not normally rewarded, yet exhibited by employees to contribute to organizational wellbeing and effectiveness [63]. Some examples include using stairs instead of the elevator, conserving energy by turning off unnecessary lights, double-sided printing, minimizing the usage of disposable cups, and creating ideas to improve the environment. Hence, organizations acknowledge the significance of individuals' efforts in strengthening environmental performance via PEB [64,65].

3. Hypothesis Development

3.1. *Perceived CSR and Pro-Environmental Behavior*

Today, organizations are fostering CSR initiatives for societal and environmental benefits [66]. In particular, the perception of CSR is gaining traction among organizational behavior and organizational psychology scholars [67,68]. It is known to affect employees' attitudes and behaviors, which are essential for business success [69]. Employees are seen as the most important stakeholders who "tend to support progressive policies on industrial relations, safety, financial security, and workplace conveniences" [70]. Scholars have observed that when an organization engages in CSR activities with social, environmental, and economic outlooks, the behavior of employees is positively triggered [59,64]. According to Lee and Park [71], when organizations share their CSR initiatives with their employees, it reflects the former's socially responsible behavior. As a result, employees gain more knowledge and awareness about current environmental and social issues and deepen their understanding about how their organization conducts CSR for social and environmental protection [60]. By learning about environmental issues, employees show a greater propensity to engage in CSR activities and promote their environmentally friendly values, in line with the SIT [72]. This subsequently changes the organizational climate into one where employees frequently engage in PEB [67]. Consistent with this, Zientara and Zamojska [73] stated that CSR activities develop an organizational culture where personal environmental values grow and transform into PEB. Simply put, CSR initiatives develop environmentally friendly behaviors among employees, which can shape a sustainable environment in the organization. In fact, evidence supports that perceived CSR affects employees' PEB, which includes recycling, reducing environmental impacts, creating green products and processes, and standing against harmful products and practices [74–76]. Similarly, according to Celma [77] and Tian and Robertson [8], individuals' perceptions of their firm's CSR strategy influence their intentions to adopt PEB. Therefore, based on the SIT, we proposed that:

Hypothesis 1 (H1). *Perceived CSR has a positive relationship with PEB.*

3.2. *The Moderating Role of CSR Authenticity*

CSR authenticity is defined as "stakeholders' opinion on the reliability, sincerity, and authenticity of the organization's CSR activities, if an organization is truly responsible and committed to CSR practices" [78]. Environmental and social issues put pressure on organizations to take severe actions for environmental protection, which has made authentic CSR activities a vital aspect of strategic planning. The authenticity of CSR has thus become a fundamental driving force in advancing the perception of CSR. As we mentioned earlier, organizations' CSR efforts are essential to promote PEB [79,80]. However, this does not mean that merely announcing CSR activities can benefit society and the environment. Rather, there is a compelling need to consider CSR authenticity as a factor that can impact how CSR programs affect PEB, given that CSR authenticity reflects stakeholders' perceptions of the trustworthiness, reliability, sincerity, and genuineness of the CSR activities [78]. Such perceptions are imperative if firms are to promote their legitimacy, protect the environment, and encourage PEB [81,82]. That is, if employees, as

key stakeholders, perceive their firms' CSR efforts to be fake or dishonest, they would be less motivated to perform PEB despite learning about their firms' CSR activities. Based on the ABC theory, CSR authenticity can act as a bridge that strengthens the positive effect of CSR initiatives on employees' PEB [83–85]. Thus, to engender PEB, firms' CSR-related initiatives must be genuine and truthful to validate stakeholder beliefs concerning their environmental efforts and lay the basis for CSR authenticity [78,86]. Despite the importance of the perceptions of CSR for sustainable performance, there is a lack of research that links CSR perceptions to PEB in terms of authenticity. In this regard, the current study elevates the literature by postulating that CSR authenticity fosters a more positive perception of CSR, which ultimately leads to higher PEB among employees. Examining the moderating role of CSR authenticity is a significant addition to the existing knowledge, particularly in the manufacturing industry, which can often be perceived as deceptive or uncaring about the environment. In line with the above arguments, we formulated the following hypothesis:

Hypothesis 2 (H2). *CSR authenticity strengthens the relationship between perceived CSR and PEB.*

3.3. The Moderating Role of CSR Skepticism

In the CSR literature, CSR skepticism has been defined by Skarmeas and Leonidou [30] as "individuals' level of doubt, uncertainty, and tendency to question CSR initiatives of firms in whatever form they may appear". While some skepticism studies have considered it a personality trait [87,88], Rim and Kim [89] argue that skepticism is a situational trait instead of a pre-dispositional one. Hence, in the context of CSR, employee CSR skepticism refers to employee perceptions of a company's CSR initiatives. Employees are usually the key enablers who are concerned about the real motives behind any CSR initiative [90]. Consequently, employees are more likely to be skeptical when a company communicates public service motives when pursuing CSR programs. In fact, employees today are more skeptical about CSR practices due to the frequent and recurring dishonest, fraudulent, false, and unethical behaviors of organizations. In line with this, Leonidou and Skarmeas [91] found that employee skepticism occurs when an organization's environmental efforts appear to be fraudulent and self-centered for profits. For example, when organizations pay more attention to advertising their CSR activities than performing them, employee skepticism worsens. According to Newman and Trump [92], employees can also become skeptical when an organization outsources CSR programs to third parties instead of conducting it themselves. Organizations must thus be cautious when hiring third parties, especially brand sponsors and endorsements, as dubious information about brand ambassadors can affect the perceptions of employees [71]. Further, when an organization tries to capitalize on its CSR program to promote a wide range of products, employees respond with higher levels of skepticism [30,90,93].

Skeptical employees think that CSR activities do not really contribute to the wellbeing of society and the environment. They also feel that CSR activities only have the purpose of earning money and operating on economic grounds. In addition, they believe that all CSR activities are implemented to gain support for profit-oriented objectives. If employees feel such negative responses towards firms' CSR initiatives, they exert a massive negative effect on the image and reputation of the company. To avoid these consequences, organizations must strive to implement CSR activities in a manner that increases employee confidence and decreases doubts and skepticism in CSR. Notably, CSR skepticism creates a major obstacle to employees' positive perceptions of CSR [31,89,94,95]. The impact of CSR perceptions on employees' willingness to engage in PEB thus greatly depends on CSR skepticism. In particular, contrary to CSR authenticity, CSR skepticism can weaken the likelihood that employees will respond favorably to CSR initiatives by promoting PEB, making skepticism a significant barrier to PEB despite strong CSR efforts. According to Afsar [96], employee CSR motive attributions moderate the relationship between perceived CSR and PEB. Ramasamy and Dara Singh [31] also state that CSR skepticism is validated as a

moderator in various research contexts. However, the moderating role of CSR skepticism between CSR and PEB has received little attention in the CSR literature. Hence, we hypothesized that:

Hypothesis 3 (H3). *CSR skepticism weakens the relationship between perceived CSR and PEB.*

3.4. Research Framework

The main objective of this study was to investigate the role of employee-perceived CSR on an employee's pro-environmental behavior among Pakistani SMEs. It further aimed to ascertain the moderating role of an employee's CSR skepticism and an employee's CSR authenticity in the relationship between employee-perceived CSR and an employee's pro-environmental behavior.

Figure 1 presents the framework of this study.

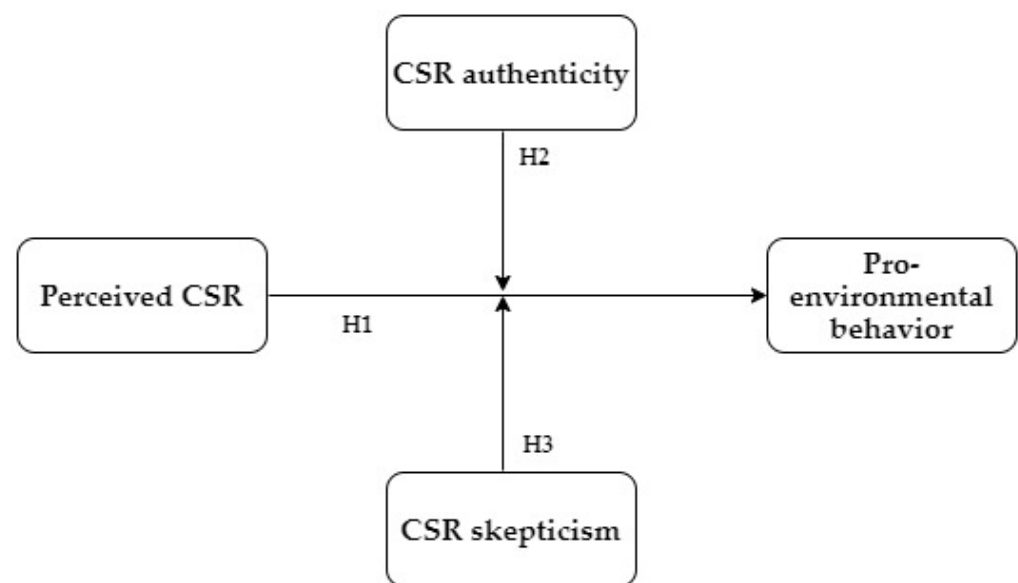


Figure 1. Research Framework.

4. Methodology

4.1. Population and Sampling

The population of this study consisted of employees of manufacturing companies registered under the Security and Exchange Commission of Pakistan (SECP). Manufacturing companies were selected mainly due to their significant impacts on the environment through air and noise pollution, chemical waste, hazardous substances, poor carbon emission practices, and depletion of natural resources [97]. Specifically, in developing countries like Pakistan, manufacturing companies are the main contributors of considerable environmental changes [98]. In addition, manufacturing firms are reportedly seeking a more diverse and dynamic work environment to foster the “clean and green” agenda [99]. This indicates that these firms understand the importance of CSR and sustainability, which is seen as a vital precedent for a competitive advantage. As primary stakeholders, employees in manufacturing companies are also better acquainted with environmental objectives and possess relevant information about “why and how” companies execute CSR programs [100]. These reasons, along with their direct link to CSR initiatives [71], strongly justify the ability of employees to provide accurate information for the present study. The study sample was drawn from manufacturing sector employees in Punjab, which is the second largest and most populous province in Pakistan. Punjab is also the main contributor to national GDP, providing almost 60%, or USD 173 billion, to Pakistan in 2019. We targeted five cities

in Punjab (Lahore, Faisalabad, Rawalpindi, Sialkot, and Multan) because they house the largest manufacturing companies in Punjab, according to a recent report by the SECP.

G*Power software was used to calculate the minimum sample size required [101]. Based on its calculation with set parameters ($f^2 = 0.15$, $\alpha = 0.05$, $\beta = 0.20$), this research required a sample size of 145. Based on the non-probability convenience sampling technique, we distributed 625 questionnaires to 115 manufacturing firms in the aforementioned cities in October 2020. A much larger sample size was selected due to the high non-response rate in survey research [102]. After several follow-up calls and reminders, we received 275 questionnaires, out of which 40 were incomplete. Thus, the final sample size was 235, yielding an overall response rate of 37.6%. Table 1 presents the demographic profile of the respondents, most of whom were males. A majority of the employees' firms were chemical and pesticide manufacturers, state-owned, and aged one to 10, and employed 1001 to 1500 people.

Table 1. Respondents' demographic profile (N = 235).

	Frequency	Percentage (%)
Gender		
Male	217	92.3
Female	18	7.7
Industry type		
Chemical and pesticide	98	41.7
Fertilizer	81	34.5
Textile	26	11.1
Food and beverage	30	12.8
Ownership structure		
State owned and collective firms	128	54.5
Private firms	33	14.0
Foreign invested firms	74	31.5
Firm age (year of establishment)		
1–10	116	49.4
11–20	84	35.7
21–30	30	12.8
Above 30	5	2.1
Firm size (number of full-time employees)		
1–500	23	9.8
501–1000	55	23.4
1001–1500	119	50.6
Above 1500	38	16.2

4.2. Measures

The present study employed the questionnaire survey method to collect quantitative data on employee perceptions and behaviors [103]. The survey method has been used extensively in investigating individuals' behaviors and has various benefits, such as greater reach, shorter duration, and higher response rates. Moreover, employee behaviors would be challenging to measure using other data collection methods, such as a field experiment. Hence, based on past research findings, the survey method was deemed suitable for the present study. The measures were adopted from the previous studies' validated items. Nine items of CSR perception were adopted from [104–106]. Four items of CSR skepticism were adopted from [30]. Eight items of CSR authenticity were adopted from [78]. Four items of pro-environmental behavior were adopted from [107–109].

4.3. Common Method Bias (CMB)

The present study collected data on the independent, moderator, and dependent variables at a single point of time using the questionnaire survey method. This made

the data vulnerable to common method bias (CMB), which could impact the results of the study [110–112] and wrongly represent the associations between the measured variables [113]. Hence, we conducted Harman’s single factor analysis for CMB, wherein the total variance should be less than 50%. Table 2 shows that the highest variance reported by a single factor was 45.321; therefore, CMB issues did not exist in the present study.

Table 2. Common method bias test.

	Initial Eigenvalues ValuesComponents			Extraction Sums of Squared Loadings		
	Total	% Of Variance	Cumulative %	Total	% Of Variance	Cumulative %
1	15.830	45.321	45.321	15.830	45.321	45.321
2	2.374	9.498	72.819	2.374	9.498	72.819
3	0.818	3.274	76.093	0.818	3.274	76.093
4	0.577	2.308	78.401	0.577	2.308	78.401
5	0.536	2.145	80.545	0.536	2.145	80.545
6	0.513	2.050	82.595	0.513	2.050	82.595
7	0.499	1.997	84.593	0.499	1.997	84.593
8	0.413	1.652	86.245	0.413	1.652	86.245
9	0.400	1.601	87.846	0.400	1.601	87.846
10	0.370	1.480	89.326	0.370	1.480	89.326
11	0.334	1.336	90.662	0.334	1.336	90.662
12	0.316	1.264	91.926	0.316	1.264	91.926
13	0.295	1.179	93.104	0.295	1.179	93.104
14	0.290	1.160	94.265	0.290	1.160	94.265
15	0.267	1.067	95.332	0.267	1.067	95.332
16	0.241	0.963	96.295	0.241	0.963	96.295
17	0.226	0.905	97.201	0.226	0.905	97.201
18	0.205	0.821	98.021	0.205	0.821	98.021
19	0.167	0.667	98.688	0.167	0.667	98.688
20	0.150	0.601	99.289	0.150	0.601	99.289
21	0.080	0.322	99.611	0.080	0.322	99.611
22	0.063	0.252	99.863	0.063	0.252	99.863
23	0.020	0.080	99.943	0.020	0.080	99.943
24	0.011	0.044	99.987	0.011	0.044	99.987
25	0.003	0.013	100.000	0.003	0.013	100.000

5. Results

AMOS 23 software was used to perform covariance-based structural equation modeling (CB-SEM). First, confirmatory factor analysis (CFA) was applied to determine the measurement model and thereby confirm the reliability and validity of the data. We then conducted hierarchical regression analysis with SPSS version 25 to determine the causal relationships.

5.1. Reliability and Validity

Table 3 shows that composite reliability values for each construct were at least 0.959, Cronbach’s alpha values were at least 0.946 [114], and average variance extracted (AVE) values were at least 0.854, indicating strong reliability and convergent validity [115,116]. Table 4 shows the mean, standard deviation, and Pearson correlation values of the variables. The square root of the AVE (for all latent factors) is shown on the diagonal of the correlation matrix (see Table 5). For all factors, this value exceeded any correlation with another factor, confirming discriminant validity among the latent factors [117]. Multiple factor analysis models were also assessed to validate factor structure and comparison using CFA. The present study compared goodness of fit of the measurement model with different alternative models. In all cases, the results suggested that CMV did not exist among the variables used in the study and provided preliminary evidence of discriminant validity (see Table 6). The expected four-factor model explained 78% of the total variance and best fit the data (see Table 4).

Table 3. Results of measurement model.

Constructs	Items	Standardized Factor Loading	Cronbach's Alpha	Composite Reliability	AVE
Perceived CSR	Per_CSR01	0.874 ***	0.930	0.942	0.644
	Per_CSR02	0.820 ***			
	Per_CSR03	0.784 ***			
	Per_CSR04	0.801 ***			
	Per_CSR05	0.805 ***			
	Per_CSR06	0.791 ***			
	Per_CSR07	0.830 ***			
	Per_CSR08	0.764 ***			
	Per_CSR09	0.748 ***			
CSR authenticity	CSR_auth01	0.812 ***	0.946	0.959	0.746
	CSR_auth02	0.846 ***			
	CSR_auth03	0.850 ***			
	CSR_auth04	0.773 ***			
	CSR_auth05	0.888 ***			
	CSR_auth06	0.947 ***			
	CSR_auth07	0.837 ***			
	CSR_auth08	0.943 ***			
CSR skepticism	CSR_skep01	0.971 ***	0.942	0.954	0.854
	CSR_skep02	0.941 ***			
	CSR_skep03	0.878 ***			
	CSR_skep04	0.903 ***			
Pro-environmental behavior	Pro_eb01	0.860 ***	0.899	0.930	0.768
	Pro_eb02	0.868 ***			
	Pro_eb03	0.882 ***			
	Pro_eb04	0.895 ***			

Abbreviations: CSR, corporate social responsibility; PEB, pro-environmental behavior; AVE, average variance extracted. Significant at *** $p < 0.001$.

Table 4. Total Variance Explained (Extraction Method: Principal Component Analysis.).

Component	Total Variance Explained					
	Total	Initial Eigenvalues % of Variance		Extraction Sums of Squared Loadings % of Variance		
			Cumulative %	Total		Cumulative %
1	15.830	63.321	63.321	15.830	63.321	63.321
2	2.374	9.498	72.819	2.374	9.498	72.819
3	0.818	3.274	76.093	0.818	3.274	76.093
4	0.577	2.308	78.401	0.577	2.308	78.401
5	0.536	2.145	80.545			
6	0.513	2.050	82.595			
7	0.499	1.997	84.593			
8	0.413	1.652	86.245			
9	0.400	1.601	87.846			
10	0.370	1.480	89.326			
11	0.334	1.336	90.662			
12	0.316	1.264	91.926			
13	0.295	1.179	93.104			
14	0.290	1.160	94.265			
15	0.267	1.067	95.332			
16	0.241	0.963	96.295			
17	0.226	0.905	97.201			
18	0.205	0.821	98.021			
19	0.167	0.667	98.688			
20	0.150	0.601	99.289			
21	0.080	0.322	99.611			
22	0.063	0.252	99.863			
23	0.020	0.080	99.943			
24	0.011	0.044	99.987			
25	0.003	0.013	100.000			

Table 5. Mean, standard deviation, and correlation (N = 235).

Sr.	Variable	Mean (SD)	Correlation									
			1	2	3	4	5	6	7	8	9	
1	Gender	1.07 (0.27)	1									
2	Firm size	2.73 (0.85)	0.016	1								
3	Firm age	1.68 (0.78)	−0.004	−0.093	1							
4	Industry types	1.95 (0.89)	0.125	−0.125	−0.107	1						
5	Ownership structure	1.77 (0.90)	−0.069	0.126	−0.058	−0.139 *	1					
6	Perceived CSR	4.36 (0.68)	0.051	−0.064	0.013	0.026	−0.055	0.802				
7	CSR authenticity	4.31 (0.70)	0.064	−0.077	0.045	0.030	−0.026	0.782 ***	0.864			
8	CSR skepticism	4.24 (0.84)	0.076	−0.109	0.060	0.007	−0.027	0.703 ***	0.834 ***	0.924		
9	PEB	4.21 (0.83)	0.074	−0.144 *	0.024	0.069	−0.067	0.716 ***	0.621 ***	0.726 ***	0.876	

Abbreviations: CSR, corporate social responsibility; PEB, pro-environmental behavior. The square root of AVE is shown as bold at diagonal. * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Table 6. Model comparison using CFA.

Model	λ^2/df	CFI	NFI	IFI	SRMR	RMSEA
Baseline four-factor model	399.44	0.961	0.975	0.981	0.062	0.037
Three-factor model; CSR authenticity and CSR skepticism combined	459.97	0.931	0.927	0.914	0.077	0.086
Two-factor model; CSR authenticity, CSR skepticism, and PEB combined	551.95	0.786	0.871	0.891	0.114	0.013
One-factor model; CSR authenticity, CSR skepticism, PEB, and perceived CSR combined	767.02	0.819	0.823	0.849	0.156	0.134

Abbreviations: CSR, corporate social responsibility; PEB, pro-environmental behavior; CFI, comparative fit index; NFI, normed fit index; IFI, incremental fit index; SRMR, standardized root-mean-square residual; RMSEA, root mean square error approximation.

Table 5 shows the means, standard deviations, and Pearson correlation results for the variables. The square roots of the AVE (for all latent factors) are presented on the diagonal of the correlation matrix in Table 5. For all factors, this value exceeds any correlation with another factor, indicating satisfactory discriminant validity [117].

5.2. Hypothesis Testing Results

As shown in Model 4 (see Table 7 and Figure 2), there is a significant positive relationship between perceived CSR and employees' PEB ($\beta = 0.592$, $p < 0.001$). Thus, H1 was supported. Table 7 also shows that the interaction effect of perceived CSR and CSR authenticity had a moderate positive effect on PEB ($\beta = 0.250$, $p < 0.001$), thereby confirming H2. Thus, for H3, higher perceptions of CSR authenticity strengthen the positive relationship between perceived CSR and PEB. Likewise, H3 was supported as the interaction effect of perceived CSR and CSR skepticism exhibited a moderate negative effect on PEB ($\beta = -0.166$, $p < 0.05$). This indicates that higher perceptions of CSR skepticism weaken the positive relationship between perceived CSR and PEB.

Table 7. Hierarchical moderated regression analysis results.

Variable	Pro-Environmental Behavior			
Model Path	Model 1	Model 2	Model 3	Model 4
Control variables				
Gender	0.212 (0.300)	0.107 (0.457)	0.047 (0.692)	−0.008 (0.909)
Firm size	−0.131 * (0.044)	−0.091 * (0.040)	−0.077 * (0.042)	−0.040 (0.088)
Firm age	0.015 (0.832)	0.010 (0.833)	−0.020 (0.621)	−0.029 (0.259)
Industry types	0.032 (0.553)	0.028 (0.464)	0.025 (0.431)	0.038 (0.062)
Ownership structure	−0.036 (0.558)	−0.008 (0.848)	−0.031 (0.384)	−0.024 (0.284)
Independent variable				
Perceived CSR		0.860 *** (0.000)	0.475 *** (0.000)	0.592 *** (0.000)
Moderators				
CSR authenticity			0.998 *** (0.000)	0.568 *** (0.000)
CSR skepticism			−0.385 *** (0.000)	−0.477 *** (0.000)
Interaction terms				
Perceived CSR × CSR authenticity				0.252 *** (0.000)
Perceived CSR × CSR skepticism				−0.166 * (0.044)
R ²	0.030	0.525	0.684	0.878
Change in R ²	0.009	0.512	0.673	0.873
F	1.42	41.9 ***	61.2 ***	70.3 ***

Note: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

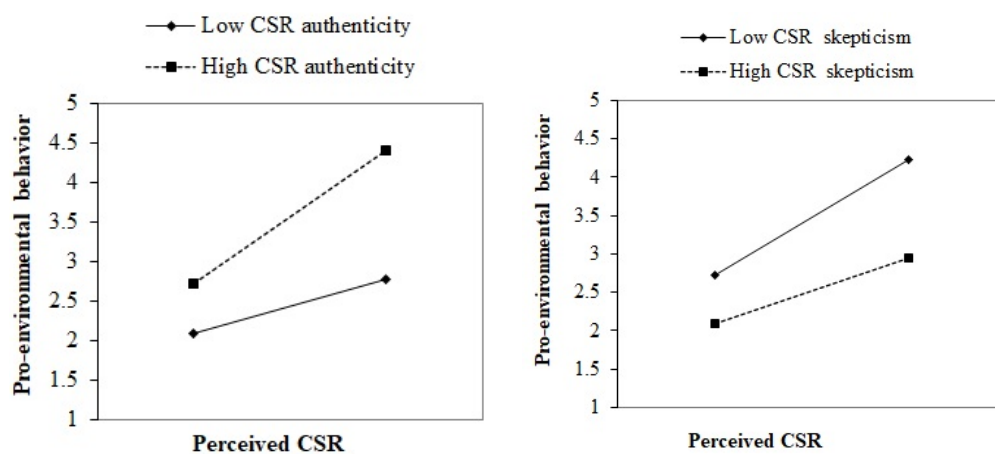


Figure 2. Presents the moderation effects.

6. Discussion

Over the last decade, the topic of perceived CSR has gained tremendous attention from academicians and policymakers. Nevertheless, it has largely been debated at the

institutional and organizational levels, somewhat neglecting the micro-level of employees. Moreover, previous research has widely examined the association between perceived CSR and employee behaviors, but rarely in the manufacturing industry [27,118,119]. For example, numerous studies have addressed the relationship between perceived CSR and PEB in restaurants [120,121], while this relationship remains unclear in the manufacturing industry. Therefore, a significant contribution of the present study is its investigation of the role of perceived CSR in employee PEB in the manufacturing industry. Specifically, we proposed a model in which perceived CSR is positively associated with PEB. We also predicted that this relationship is moderated by CSR authenticity and CSR skepticism. Our research framework further contributes to the green literature by addressing PEB at the individual level rather than the organizational level [62,122].

The first research question pertained to the effect of perceived CSR on employees' PEB. Our significant positive result is consistent with past research [8,59,69,118], highlighting that when organizations implement CSR activities in an environmentally friendly manner, employees' positive perceptions of their firm's CSR image triggers their PEB. This is in line with the SIT, which states that employees strive to uphold the unique image of their organization to preserve the congruence between their identity and values and those of the organization. Hence, perceived CSR has important implications for employee behavior, and is thus essential for business success [59].

The second research question highlighted the positive moderation of CSR authenticity between perceived CSR and PEB. In line with previous findings [123], we found that CSR authenticity acts as a bridge that strengthens the effect of CSR fits on brand attitude. Based on the ABC theory, it is evident that perceptions of CSR authenticity create a context of trustworthiness, reliability, sincerity, and genuineness of CSR activities [78], which legitimizes firms' CSR efforts. In this context, employees' positive perceptions of CSR activities can greatly facilitate their environmentally friendly behaviors [8]. It can be surmised that in Pakistani manufacturing firms, the importance of CSR authenticity encourages the genuine implementation of CSR-related activities to promote PEB. In this manner, CSR-related initiatives must provide the basis for CSR authenticity to enhance PEB.

The third research question was on the negative moderating effect of CSR skepticism on the CSR–PEB link. Similar to earlier scholars [31], we discovered that skepticism weakens the potential of perceived CSR to promote PEB. This means that once an organization's activities become doubtful, the behavior of its employees is affected. Based on the ABC theory and the SIT, when organizational CSR activities become questionable, it creates a negative context that goes against employees' identities, which may develop a bad reputation and discourage employees' environmentally friendly actions. Indeed, Skarmias and Leonidou [30] asserted that CSR skepticism is a liability for CSR activities, as it implies that organizations are more concerned about their personal (rather than environmental or societal) benefits. To address employee skepticism, manufacturing firms in Pakistan should endeavor to implement CSR activities in a genuine and transparent manner that mitigates any doubts and skepticism.

6.1. Theoretical Implications

The current study offers two theoretical implications. First, it extends the research on perceived CSR by providing valuable insights into its impacts on an employee's PEB [8]. PEB at the employee level has rarely been taken into consideration, as most previous research examined this concept at the organizational level [76,124]. This is notable because PEB is an important theme in the CSR literature. In addition, PEB binds individuals to stay and promotes sustainable behavior within an organization. This study affirms the significance of an employee's perspective by establishing that employee-perceived CSR positively influences employee pro-environmental behavior, which was an ambiguous area of the CSR literature [125]. Moreover, the present study explains the boundary conditions under which employee-perceived CSR has a stronger impact on employee pro-environmental behavior. Second, our research contributes to the emerging understanding of PEB by

shedding light on the moderating roles of CSR authenticity and CSR skepticism. For employees, their perceptions of CSR efforts' high authenticity and low skepticism act as prominent determinants of PEB, underscoring the significance of CSR's perceived legitimacy and sincerity for internal stakeholders. Specifically, if employee CSR authenticity is favorable and stable, pro-environmental behaviors are better poised to achieve a sustainable development agenda [78]. Confronting and incorporating CSR authenticity can thus strengthen the perceived CSR and pro-environmental behavior nexus. Contrary to CSR authenticity, an employee's level of doubt and tendency to question the CSR initiatives can diminish employee CSR perceptions [89], which then translate into weakened employee pro-environmental behavior. Considering these arguments together, CSR authenticity plays a vital role in developing employee-perceived CSR, employee pro-environmental behavior, and employee CSR skepticism, making a significant barrier to PEB despite strong CSR efforts.

6.2. Practical Implications

In terms of managerial implications, the current study's findings suggest that managers of manufacturing firms should prioritize their communication of CSR strategies and programs with their employees. Such transparent sharing would prevent employee CSR skepticism and strengthen CSR authenticity, thereby promoting PEB. In addition, this research provides insights for managers to undertake CSR as a strategic tool by developing specific CSR activities that minimize employee skepticism and promote perceptions of authenticity. Our findings are also a reminder of the danger of employee CSR skepticism for PEB. As a result, managers must always be accountable and answerable to any doubts and uncertainties about their CSR programs. Further, managers must design a win-win approach to their CSR programs to project their authenticity and usefulness to employees. In this win-win approach, employees would gain valuable insights that reinforce their favorable CSR perceptions. Another way for managers to increase their CSR authenticity is by providing third-party validation to their employees, such as eco-label certificates, that legitimize their efforts and showcase employee-friendly eco-behavior. Additionally, firm managers should encourage their employees to discover business opportunities for sustainable development and engage in pro-environmental activities, and avoid an employee's level of doubt, skeptical thoughts, and tendency to question the CSR, which leads to failures of CSR initiatives in the firm. To develop employees' knowledge combinations, managers should also adopt the best usage of instruments (e.g., documents, databases, and routines) under a larger knowledge-based environment. Broader employee knowledge and awareness regarding CSR activities can boost the employee's CSR perception, thereby leading to pro-environmental behavior. By providing such information to employees, organizations can convey the message of their credible, genuine, and authentic CSR efforts for social, economic, and environmental wellbeing.

6.3. Limitations and Future Research Directions

Despite its theoretical and practical contributions, the present study has a few limitations. First, various types of CSR messages (e.g., philanthropic, charitable, community, etc.) exist that can affect employees' CSR skepticism and authenticity differently. Therefore, future research should examine the positive and negative attitude of employees towards specific and different types of CSR activities. Second, the current study did not account for other demographic characteristics, such as income and education, that would increase the understanding of the CSR-PEB relationship. Scholars should include such characteristics and aspects in the future. Third, this study examined CSR perception and PEB in the context of manufacturing companies, though the level of employees' CSR skepticism and authenticity can vary greatly across sectors such as tourism and hospitality, airlines, and more. Thus, future studies should examine CSR perceptions in various sectors to elicit more findings on the CSR perception context. The causal relationship between the different interdisciplinary approaches is systemically complex. Future research should shed light on

different disciplines to address the multiple environmental and social issues of employees to measure CSR perception. In addition, further research should enlighten more control variables based on the personal characteristics of employees, which may improve the internal validity of a study by limiting the influence of different individual-based level control variables. This can help to establish a deeper correlational or causal relationship between different variables.

7. Conclusions

In the setting of the Pakistani manufacturing industry, this research applied the SIT and ABC theory to investigate the influence of perceived CSR on PEB via the moderating roles of CSR skepticism and CSR authenticity. To the best of our knowledge, this is an early attempt to explore the moderating effects of CSR skepticism and CSR authenticity, especially from the perspective of employees. The findings of the study revealed that perceived CSR has a positive and significant impact on PEB, wherein CSR skepticism weakens this relationship and CSR authenticity strengthens it. Therefore, CSR authenticity and CSR skepticism have emerged as powerful influencers of perceived CSR, which should be given serious consideration by manufacturing firms in developing countries.

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