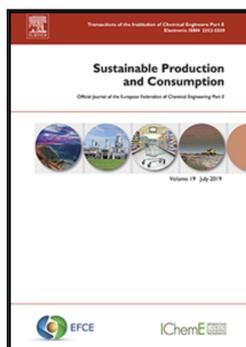## Journal Pre-proof

Relationship between Corporate Social Responsibility at the Micro-Level and Environmental Performance: The Mediating Role of Employee Pro-Environmental Behavior and the Moderating Role of Gender

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Relationship between Corporate Social Responsibility at the Micro-Level and Environmental Performance: The Mediating Role of Employee Pro-Environmental Behavior and the Moderating Role of Gender

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Abstract

Since Pakistan is vulnerable to changing climatic conditions, the country needs emergency measures at every level to mitigate their effect. Many studies have addressed Corporate Social Responsibility (CSR) at the macro or institutional level, but its effect at the micro-level is largely ignored in the contemporary literature. The present study aims at filling this gap by highlighting the role of micro-level CSR on Environmental Performance (ENP) and how it is influenced by employees' pro-environmental (PEB) behavior and gender. This study has been carried out in the context of deteriorating environmental conditions, scarce CSR activities and a male dominant society. Data were collected through a self-administered questionnaire targeting the manufacturing and the service sectors of Pakistan and analyzed through the structural equation modeling technique, using AMOS and SPSS software. The results of this study confirm that micro-level CSR initiatives directly (β = 0.39[**]) and indirectly (β = 0.031[**]) influence the environmental performance of an organization by means of employees' PEB. A conditional indirect gender effect on this interaction was also observed, with women (β =0.17[**]) exerting a stronger effect than men (β = 0.031[**]). These findings may be helpful for policymakers involved in environmental management: It is possible to reduce the environmental footprint of Pakistan's organizations by encouraging

employee's PEB and particularly by actively involving women which are systematically set apart from decision making in Pakistan.

Keywords: Micro-level CSR, pro-environmental behavior, environmental performance, environment management, gender

1. Introduction:

Many businesses around the world have been involved for decades in activities leading to the degradation of the environment (Vardhan et al., 2019). The severity of this degradation and the urgency to take action have been the topic of debate among researchers and policymakers for the last two decades (Yang et al., 2018; Zhang et al., 2020). To address environmental dilapidation and reduce their environmental footprint, organizations should undertake serious changes. Many scholars involved in environmental protection have been considering how to reduce the impact of environmental dilapidation by implementing new policies and methodologies like green human resource management (Alzgool, 2019), green organizational performance (El-Kassar and Singh, 2019) and green marketing (Groening et al., 2018). The raising concern about environment degradation among policymakers and the public are leading to a dramatic change in the companies and organizations' behavior. Businesses are now seeking out new ways to reduce their environmental footprint while reaching their economic objectives (Fernando et al., 2019). Among all economic entities, the manufacturing industry is the one with the most significant impact on the environment as it contributes significantly to climate change (Rivera and Clement, 2019), waste production (Paes et al., 2019), deforestation (Dahlmann and Bullock, 2020), water contamination (Dahlmann and Bullock, 2020) and air pollution (Goyal et al., 2019). Wang et al. (2020), observed a dramatic increase in CO_2 emissions and greenhouse gases in the atmosphere. Public awareness on the environmental impact of organizations, and particularly of the manufacturing companies, is rising more than ever. The public opinion demands that the organizations behave with responsibility towards the environment (Gaganis et al., 2019). This has pushed entrepreneurs to follow the Corporate Social Responsibility (CSR) business model (Han et al., 2019). Many researchers have foreseen the importance of CSR for decreasing the environmental impact of economic activities and studied different aspects of

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CSR like its impact on business' profitability or how they are affected by corporate governance (Lin et al., 2021; Yuan et al., 2020).

Indeed, A review of the literature shows that CSR is well acknowledged by the public opinion and its implementation in businesses is becoming more frequent every year (Fernández-Gago et al., 2020; Kong et al., 2020). The traditional business model, solely oriented towards profitability, is gradually being replaced by a new one, based on CSR that combines profitability with social responsibility (Chao and Hong, 2019). In this regard, the role of CSR in financial performance has been explored for a long time (Barauskaite and Streimikiene, 2020; Maqbool and Zameer, 2018), and recent results point at a positive effect of environmental investments in the company's profitability in the context of the manufacturing industry: environmental conscious companies showed a higher profitability than non-conscious ones (Shabbir and Wisdom, 2020).

It becomes clear that the companies need to place environmental concerns at the core of their business strategies for remaining profitable (Abbas, 2020; Abitbol and Lee, 2017). Likewise, past studies have made significant contributions in acknowledging the role of formal processes such as environmental safety (Hryhoruk et al., 2021), health management systems (Zeisel, 2020), and surveillance management systems (de Miranda Ribeiro and Kruglianskas, 2020) to improve environmental responsibility and sustainability. In this context, some researchers argued that complex environmental problems cannot be solved solely by adhering to the principles of good governance (Afsar and Umrani, 2020; Ahmed et al., 2020). To address environmental issues, efforts must target all the organizational levels, including both micro and macro levels. However the majority of the previous studies aiming at a reduction of environmental degradation have explored the role of CSR at the macro level or organizational level, only (Kim et al., 2019; Kraus et al., 2020). The role of CSR at the micro-level has been largely ignored. Only recently have some researchers started to investigate the effect of CSR at the micro level (Guzzo et al., 2020; Jones et al., 2019).

The micro-level CSR can be defined as "CSR activities concerned with CSR moves taken at individual level" (Rupp and Mallory (2015). Kollmuss and Agyeman (2002), gave another definition of micro-level CSR as being the "individual behavior that consciously intends to mitigate the negative impact of one's actions on environment". Examples of micro-level CSR at the workplace are employees consuming less energy (by using less the heating or air conditioner), printing on both sides of paper, etc. Past studies on CSR and employee ethics

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focused primarily on civic ethics including organizational citizenship behavior (Farid et al., 2019), organizational commitment (Farooq et al., 2014), organizational identification (Brammer et al., 2015; De Roeck et al., 2016), and organizational support (Kim et al., 2018). However, the role of CSR initiatives at micro level is scant in the existing literature. Although there are some recent researchers who highlighted its importance (Guzzo et al., 2020; Jones et al., 2019), it clears there is a daunting need to do more research in this field to understand the role of employees in reducing the organizations' environmental footprint.

Implementing CSR at all levels becomes even more necessary in countries that are more vulnerable to climate change, in order to mitigate its effects. It is the case of Pakistan which is one of the top 10 countries most vulnerable to climate change, according to a recent report of the Global Climate Risk Index (GermanWatch, 2020). As a consequence, the country, which accounts more than 200 million inhabitants, has been experiencing extreme temperatures, droughts and floods. In this context, micro-level CSR may be an effective strategy to decrease environmental dilapidation, and subsequently lower the impact of climate change. However, the influence of CSR on the employees' behavior towards the environment has not yet been addressed adequately. In the same way, the effect of gender on the employee's behavior towards environmental preservation is a matter of interest. Different studies performed in developed countries point at women being more engaged in environmental preservation than men (Laureti and Benedetti, 2018; Lv and Deng, 2019).

Pakistan is a patriarchal society where only men play a major role in decision making. It is worth mentioning that even females represent more than 48% of the total population, their contribution to the labor force is just above 22% (World Bank, 2019). Females' contribution to society remains largely passive due to male dominancy (Agha et al., 2018).

The aim of the present study is to investigate the impact of micro level CSR activities with the mediating role of employees' pro-environmental behavior on the organizations' environmental performance and how they are affected by gender, in the context of Pakistan. The present study aims at encouraging CSR implementation for decreasing environmental dilapidation which faces many problems. For instance, most of the developing nations including Pakistan spend more of their CSR funds to finance activities other than environment, in part because of the lack of environmental regulations and because CSR programs have just began to be implemented recently (Chatterjee and Mitra, 2017; Sharma, 2019; Waheed and Yang, 2019). Developing nations do not prioritize investing in the

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environment and rather make significant expenditures for community related activities, under the umbrella of CSR. The present study aims at establishing the CSR role on environment management to raise concern of the policymakers and promote environmental oriented CSR investments. This is the first study that attempts to explore CSR activities at micro-level to enhance environmental performance in the context of Pakistan, a developing country vulnerable to climate change (GermanWatch, 2020). Until now, the vast majority of similar research activities have been performed in developed countries (Guzzo et al., 2020; Kucharska and Kowalczyk, 2019). However there are important differences in terms of infrastructure, governmental support, capital structure, resources, and perception of CSR, between developing and developed nations. Hence, the findings from developed countries may not adequately reflect the context of developing countries. Additionally, prior studies considered CSR activities at the macro or institutional level while CSR activities at the individual level have been largely ignored. Furthermore, previous studies, even if scarce, did not identify employee pro-environmental behavior as a potential mediator between CSR and environmental performance (Suganthi, 2019; Tian and Robertson, 2019). Again, these studies were not conducted from the perspective of developing economies. In a similar way, the role of gender towards CSR activities has not been investigated but studies performed in western countries evidenced that women are more concerned by the environment than men (Strapko et al., 2016; Xiao and McCright, 2015). An extensive literature review revealed that gender's relation with micro-level CSR activities is yet to be explored, particularly in Asia. The present study intends to address the lack of results concerning micro-level CSR activities effect on environmental preservation and how they are affected by gender. This is achieved through a review of the related literature and embedding theories to frame hypotheses, followed by methodology section comprising sampling and data collection mechanisms, then the data analysis, conclusions and recommendations.

2. Literature Review

2.1 Theoretical Framework

The present study is grounded on the social exchange theory (Blau, 1964) and norm of reciprocity (Gouldner, 1960). The first proposes that social behavior is the result of an exchange process which purpose is to maximize benefits and minimize costs while the second states that people respond positively to each other by returning benefits for benefits and responding with either indifference or hostility to harm. According to these two theories,

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employees perceive their organization as a socially responsible entity and are encouraged to reciprocate by performing discretionary roles. The authors also make the use of the social role (Eagly et al., 2000) and gender role theories (Shimanoff, 2009). The social role theory articulates that sex differences and similarities in social behavior arise primarily from the distribution of men and women into social roles within their society. The gender role theory states that men and women are expected to perform different roles in line with specific social structures and are expected to be judged against a set of divergent expectations for their behavior. In this regard, the present study argues that society expects men and women to perform different roles with the latter being expected to be more caregiving than men.

2.2 CSR and environmental performance

The implementation of CSR practices in a given organization is explained by different reasons. It can be due to the pressure exerted by different stakeholders (Kowalczyk and Kucharska, 2020) or to competition (Hoque et al., 2018). The businesses are more inclined to encourage CSR initiatives in response to consumers' expectations for eco-friendly products and services. An eco-entrepreneur refers to an entrepreneur that is committed with protecting the environment, limiting actions that produce environmental hazards, and introducing eco-friendly goods and services to the market (Arafat and Buchdadi, 2019). Many organizations are under constant pressure from stakeholders (such as workforce, competitors, consumers and the administration) to be proactively engaged in CSR activities to minimize their environmental impact (Gligor-Cimpoieru et al., 2017).

Contemporary researchers agree that CSR is one of the most promising business strategies that produces multiple benefits for organizations (Fornes et al., 2019; Franco et al., 2020). CSR is a complex and contextual concept perceived differently depending on the region, which may be the reason to the lack of unanimous CSR definition. Nevertheless, most scholars agree with Carroll's definition Carroll (1979): "Corporate social responsibility encompasses the economic, legal, ethical, and discretionary (philanthropic) expectations that society has of organizations at a given point in time". A large part of the state-of-the-art literature regarding CSR is concerned with the impact of CSR activities on the economic organizations' performance (Belu and Manescu, 2013; Nakamura, 2015). Recently, the relation between CSR and environment management has attracted significant interest (Halme et al., 2020; Kraus et al., 2020). For instance, Shabbir and Wisdom (2020), reported that CSR has a significant impact on organizational environmental performance in the Nigerian

manufacturing sector. Other studies have also shown that CSR positively affects organizational environmental performance (Halme et al., 2020; Nazari et al., 2017). Organizations can expand their social capital by selling shares to consumers who support green activities. Additionally, it has been reported that CSR implementation in a company can lead to an increase of its competitive advantage (Ruggiero and Cupertino, 2018). In the present study, the authors agree with the statement that CSR activities may decrease organizations' environmental impact and propose the following alternate (true) hypothesis:

H[1]: *Micro-level CSR activities are positively related to environmental performance*

2.3 CSR and pro-environmental behavior

Contemporary businesses use CSR as a tool for facing the pressures stemming from the state laws and the requirements from different stakeholders such as the consumers, who feel that organizations must be held accountable for their negative impact on the environment (Islam et al., 2019). In current workplace settings, dynamics such as long working hours, competition in the labor market, labor contracts, technological pressures, global cooperation, multiplicity of workers and environment-related issues are affecting the workers' behavior (Tian and Robertson, 2019). Therefore, organizations encourage the employees to behave with ethic. At the same time CSR is a way for the employees to influence their organizations by adopting voluntary roles, making choices, and acting with social responsibility.

A sustainable society depends on organizations making significant investments to preserve the environment (Afsar and Umrani, 2020). Employees are key players in supporting labor relations, safety practices, financial security, and job policies. When a firm participates in CSR processes, employees get motivated and are encouraged to develop ethical behaviors (Suganthi, 2019). Socially responsible organizations communicate their CSR initiatives to their workforce by different means, (e-mail, newsletters, seminars, etc.), so that the employees understand how their organization intends to reduce environmental impact (Afsar et al., 2020). This will likely enhance the employee's commitment for creating and implementing environment-friendly initiatives (Afsar and Umrani, 2020). This behavior is in line with both the social exchange and the norm of reciprocity theories. By receiving positive support from their organization, workers tend to act with positive reciprocity and adopt a voluntary and discretionary behavior (Norton et al., 2015). CSR activities have been found to stimulate emotions, attitudes, and behavioral outcomes at the workplace (Lu et al., 2020). Fernández-Gago et al. (2020), found that workers who perceive their organizations as socially

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responsible are more likely involved in pro-environmental behavior. Hence, the following alternate (true) hypothesis is proposed:

H_2: *Micro-level CSR activities are positively related to employee's pro-environmental behavior*

2.4 Micro-Level CSR, Pro-environmental behavior, and environmental performance

Although the concept of CSR has been debated for decades, organizations have not started to implement it to improve environmental sustainability until recently (Shahzad et al., 2020). One of the main reasons for the organizations' involvement in using CSR for environment-related activities is the increasing pressure from different stakeholders like consumers or NGOs, (Adeyemi et al., 2020). Literature backs that CSR has a positive impact on the employee's environment related behavior (Bouraoui et al., 2019; Farid et al., 2019). For example, CSR activities could involve organizations' socially responsible behavior (Ferri and Pini, 2019) that are likely to induce positive emotions among their employees (Shin and Hur, 2020) because when employees perceive their organization as a socially responsible entity, they tend to develop a sense of responsibility towards the society and the environment (Afridi et al., 2020). Hence, they are likely to practice pro-environmental behavior by their own, leading to a better performance in reducing the organization's environmental impact. Therefore, according to the social exchange (Homans, 1974) and norm of reciprocity (Gouldner, 1960) theories the authors expect a positive reciprocal response of the employees towards their organization when implementing CSR. The study thus proposes the following set of alternate (true) hypotheses:

H_3: *Employee's pro-environmental behavior is positively related to environmental performance*

H_4: *Employee's pro-environmental behavior mediates the relationship between micro-level CSR activities and environmental performance.*

2.5 Gender as moderator

The socialization theory sets the basis for understanding how gender affects pro-environmental behavior. The theory states that individuals are more influenced by their peer's group than by their parents and that gender socialization refers to the learning of behavior and attitudes considered appropriate for a given sex (Baldwin, 2002). Women are expected to be

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more caring, dependent, cultivated, and men are likely to be more aggressive and competitive. Studies have shown that women from different cultures have a sense of well-being to help in expressive, caring, nurturing and cooperative roles. On the contrary, men are more individualistic and competitive (Birindelli et al., 2019). It appears that people are associated with different roles depending on their gender (Kamau, 2020). Society tends to assign a home-maker role to women while men are assigned with a money-making role.

Davidson and Freudenburg (1996), stated that gender dissimilarities towards the environment are not the same everywhere around the world. Evolutionary psychology proposes a way to explain how gender differences affect individual behaviors (Hyde, 2014). Some scholars mentioned the importance of gender diversity in environmental issues (Boeve-de Pauw and Van Petegem, 2017; Jones III et al., 2017). Some sociological researchers suggest that women's reproductive role is the reason why they care more about others and are more concerned by preserving the environment (Rand et al., 2016). Although there have been many studies examining the effects of gender on green behavior, to date, no agreement has yet been reached (Briscoe et al., 2019; QASIM, 2014). Hence, the present study considers the moderating effect of gender on the indirect relationship of CSR, environmental performance via pro-environmental behavior due to the fact that the socio-demographic factors have been identified as potential moderators, in the prior literature, between attitudes and behaviors (Burkhardt et al., 2020; Nhamo and Mukonza, 2020). The gender role is important to understand the different engagement of the employees with the environment protection which is, in turn dependent on the individuals' cultural background (Folberg and Kaboli-Nejad, 2020). In this context, the authors have applied the social role theory and stated that women are more inclined to discretionary behaviors than men. Therefore, women are more likely to be engaged in protecting the environment than men. Hence, the following alternate (true) hypothesis is proposed:

H_5: Gender moderates the indirect relationship of micro-level CSR activities and environmental performance via employees' pro-environmental behavior such that the relationship is expected to be stronger in the case of women in comparison to men.

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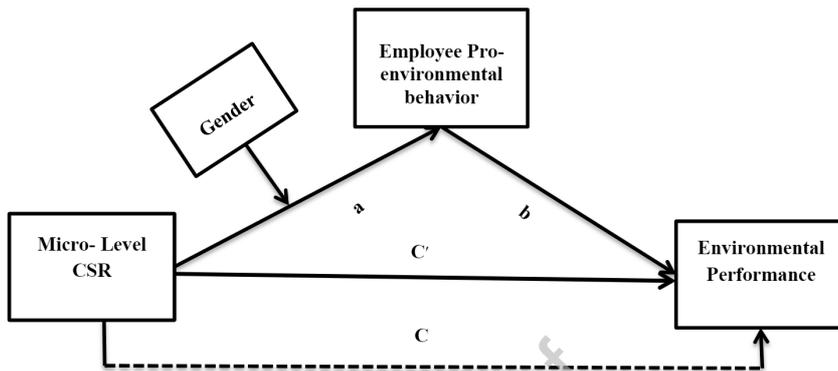
Figure 1: Proposed path model for mediation. Micro-Level CSR (X) = the independent variable, Environmental Performance (Y) = the dependent variable, Employee's pro-environmental behavior (M) = the mediating variable, Gender = moderating variable, C′ = indirect direct effect of X on Y in the presence of mediator, C = direct effect of X on Y without mediator.

3. Methods

3.1 Sample, Data Collection Procedure and Common Method Bias

Data were collected from both the manufacturing and the service organizations operating in different cities of Pakistan. The authors targeted three metropolitan cities: Karachi the biggest city of Pakistan, Lahore, the second biggest city and Faisalabad. It is worth mentioning that these three cities concentrate most of the industrial activities of the country. Additionally, Lahore has been ranked as the world most polluted city in 2020, and Karachi and Faisalabad are listed in the top five most polluted cities of Pakistan (IQAir, 2020). These are the reasons why the authors have selected these cities for the study. Furthermore, the targeted areas belong to the industrial poles of the cities. The neighborhoods where the study was carried out were Quaid-e-Azam and Sunder industrial estates in Lahore, Bin Qasim industrial estate in Karachi, and Allama Iqbal Industrial City in Faisalabad. Before the formal data collection phase, the authors identified organizations (both manufacturing and service) involved in CSR activities. After contacting several organizations, the authors selected a group of companies from the ones that agreed on participating in the study. The individuals who participated in the study were randomly selected. They were then asked to fill a

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questionnaire. Women were particularly encouraged to participate because of the gender aspects of the study. The questionnaires were distributed physically and electronically among the respondents according to their convenience.

To avoid the common method bias, the authors collected the data in two successive waves separated by a period of 4 weeks. Consent to data collection was given by both the organizations and the individuals participating in the study. Furthermore, the authors visited the organizations at different times (morning, evening, etc.). Additionally, to reduce the issues of common method bias and social desirability, the authors remained present during data collection in the selected organizations. The participants were protected by confidentiality. Moreover, the items in the scale were carefully observed by the experts from academia and industry in order to avoid any confusion or misunderstanding. The authors distributed a total of 800 questionnaires in the selected organizations. A total of 510 responses were received in the first wave and 449 in the second which were used for the data analysis. The authors had to drop 13 questionnaires from the final data file because some data were missing and to perform data analysis with the 436 questionnaires. Demographic details are given in Table 1.

Table1: Demographic profile of respondents (*N = 436)*

Age group	(25-30)	(31-35)	(36-40)	(Above 40)
Men	**46**	**39**	**103**	**69**
Industry Type				
Chemical	04	04	11	12
Insurance	05	06	09	06
Leather	04	06	17	09
Bank	07	03	26	11
Plastic	04	04	14	05
Footwear	09	08	09	03
Textile	11	04	10	14
Health	02	04	07	09
Women	**27**	**42**	**76**	**34**

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Industry Type				
Chemical	03	04	08	05
Insurance	02	04	07	04
Leather	02	07	12	05
Bank	04	06	14	07
Plastic	02	05	09	04
Footwear	04	03	09	04
Textile	07	08	15	03
Health	03	05	02	02
Employee level	**Junior (78)**	**Middle (128)**	**Senior (136)**	**Executive (94)**
Industry type				
Chemical	11	14	18	08
Insurance	08	12	17	06
Leather	09	19	23	11
Bank	16	22	27	13
Plastic	08	17	13	09
Footwear	06	11	13	19
Textile	14	21	16	21
Health	06	12	09	07

3.2 Measures

The authors adapted existing instruments for measuring the variables in order to avoid reliability and validity issues. For instance, the items for CSR were adapted from Turker (2009). The scale consisted of six items (a sample item: "my company participates in activities which aim at protecting and improving the environment"). The scale of pro-environmental behavior was adapted from Bissing-Olson et al. (2013), which consisted of three items (a sample item: I adequately complete assigned duties in environmentally-friendly ways). Finally, the scale of environmental performance was adapted from Blok et al. (2015), consisting of five items (a sample item: "my company has significantly reduced its solid wastes generation"). All the items were rated on a five-point Likert scale. The questionnaire items are available in supplementary material. In order to analyze the data, the authors used different statistical tools using SPSS and AMOS software, for example, descriptive statistics

(to describe the sample characteristics), reliability test (for inter-item consistency), factor analysis (to assess if items are well loaded on their respective factor), confirmatory factor analysis (to confirm the factor using AMOS) and structural equation modeling (for hypotheses testing and to validate the proposed model).

4. Results and Analysis

In the data analysis phase, the authors first checked factor loadings of all items in order to assess whether there are some factors with cross loadings or poor loadings. For this purpose, SPSS version 23 was used, and the authors used exploratory factor analysis (EFA) by choosing varimax rotation. The results are reported in Table 2, where the initial assessment showed that all factors were loaded on to their respective factors. However, one item of CSR variable (CSR3) was dropped (Hair et al., 2010) due to poor factor loading and due to the overall value of convergent validity of this item not being good. Hence, the analysis was taken to the next level with the remaining five items of CSR. Table 2 also shows the results for convergent validity for each variable, which can be observed through the values of average variance extracted (AVE). The rule of thumb is that if AVE value is greater than 0.5, then the criteria of convergent validity is maintained. Reliability values are also reported in Table 2.

Table 2: Factor Loadings, Reliability and AVE

Variable	Original items	Retained Items	FL[b] (min–max)	t-Value (min–max)	α[b]	CR[b]	AVE[b]	MSV	ASV
CSR	6	5	0.67- 0.87	09.11-15.23	0.81	0.82	0.57	0.08	0.07
PEB	3	3	0.74-0.83	12.39-17.89	0.75	0.77	0.61	0.12	0.11
ENP	5	5	0.72-0.77	14.38-20.91	0.83	0.83	0.55	0.11	0.08

[b] FL= factor loading; α[b]= Cronbach's α coefficient; CR [b]= composite reliability; AVE [b]= average variance extracted; MSV= maximum shared variance; ASV= average shared variance; CSR= corporate social responsibility; PEB= pro-environmental behavior; ENP= environmental performance

4.1 Model Assessment and Re-Specification

To detect model misspecification, AMOS yields important diagnostic information, which can be obtained by clicking on the "Analysis Properties" icon and checking the item "Modification Indices (MIs)" in the "Output" session. Then the AMOS output file generates a set of MIs which provide essential information for model modification. MIs of values>80 and 50 deserve attention for covariance and regression weights, respectively. In this regard, to re-specify the measurement model, the authors, first of all, deleted the items which were not

loaded (CSR3) well on their respective factor, and then built different co-variations among error terms as observed from the output of Modification Indices in AMOS (see figure 2). Eventually, the measurement model produced suitable model fit results as specified by different model fit indices after repeated efforts of model re-specification. The results of model fit indices are shown in Table 2 which shows different model fit indices values. There are mainly two sets of model fit indices: absolute fit indices and incremental fit indices. Absolute fit indices are direct measures of how well the model specified by the researcher reproduces the observed data. In this set, the authors have reported three model fit index values. CMIN/DF is the value of chi-square divided by the degree of freedom. Goodness of Fit Index (GFI) is a measure of fit between the hypothesized model and the observed covariance matrix, and Root Mean Square Error of Approximation (RMSEA) is one of the most widely used measures that attempt to correct the tendency of the chi-square. Incremental fit indices, the most common baseline model, is referred to as a null model and analyzed by Tucker Lewis Index (TLI), and is actually a comparison of the normed chi-square values for the null and specified model. The Normed Fit Index (NFI) is a comparison between the proposed model and the null model. Similarly, comparative fit index (CFI) represents the ratio of the discrepancy of the target model to the discrepancy of the independent model.

Table 3: Results of Absolute and Incremental Fit Indices

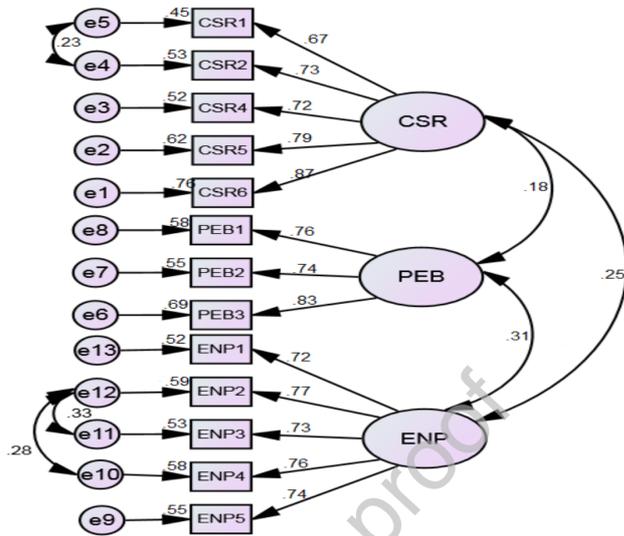| Type	Measures	Cut-off Value	Obtained Value	Type	Measures	Cut-off Value	Obtained Value
Absolute Fit Indices	CMIN/DF	<3	2.43	**Incremental**	CFI	>0.9	0.939
	RMSEA	<0.08	0.063	**Fit Indices**	NFI	>0.9	0.918
	GFI	>0.9	0.931		TLI	>0.9	0.908

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Figure 2: The Measurement Model

Table 4 presents the results of correlation and discriminant validity analysis. The correlation values range from +1 through 0 to -1. A perfect correlation between a pair of variables is expressed by +1 (if the relationship is positive) or -1 (if the relationship is negative). Further, the correlation values between, 0.2 to 0.39 are considered weak, 0.40 to 0.59 are considered as moderate and 0.6 to 0.79 are considered strong correlation values (Fancher, 1989; Pearson, 1920). In this regard the values of correlation, reported in Table 4, show that the variables are positively correlated with each other. Furthermore, the results of the discriminant validity for each variable is calculated by taking the square root of AVE for each variable and then comparing this value (bold in table 4) to the values of correlation. For example, the square root of AVE for the variable CSR is 0.75, which is greater than the correlation values between CSR and PEB (0.18[**]) and CSR and ENP (0.25[**]). This means that all three variables are dissimilar and hence discriminate with each other. Furthermore, Average Variance Extracted (AVE) values exceeded the minimum criterion of .50 suggested by Hair et al. (1998), and these values were greater than the correlation between a pair of study variables. This result provided evidence of convergent and discriminant validity (Fornell and Larcker, 1981). Such convergent and discriminant validity is a major part of construct validity testing (Adèr and Mellenbergh, 1999; Nachmias and Nachmias, 1976;

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Sekaran, 1992; Selltiz et al., 1976). Construct validity, which refers to the ability of a measurement tool to actually assess the psychological concept being studied, was evident in the present study (Adèr and Mellenbergh, 1999; Nachmias and Nachmias, 1976; Sekaran, 1992; Selltiz et al., 1976). For these reasons, the assessment tools performed trusted measurements.

Table 4: Discriminant validity and correlations

Variable	Mean	SD	CSR	PEB	ENP
CSR	3.43	0.71	**(0.75)**[a]		
PEB	3.49	0.78	0.18[**]	**(0.78)**[a]	
ENP	3.72	0.82	0.25[**]	0.31[**]	**(0.74)**[a]
Gender	1.59	0.53			

[a] Squared root of AVE ; **= significant values; CSR = corporate social responsibility; PEB = pro-environmental behavior; ENP = environmental performance

4.2 Hypotheses Testing

For hypotheses testing, the authors performed three types of structural analyses in AMOS. First of all, the authors tested the direct effects of CSR to ENP ($\beta = 0.39^{**}$, $p < 0.05$), CSR to PEB ($\beta = 0.19^{**}$, $p < 0.05$) and PEB to ENP ($\beta = 0.23^{**}$, $p < 0.05$). The results were positive and significant. Moreover, the results showed acceptable fitting to the data. All these results statistically lead to a rejection of null hypotheses 1, 2 and 3 and acceptance of alternate hypotheses H_1, H_2 and H_3.

Secondly, the authors tested the mediation effect in the structural model by introducing PEB as a mediator (see figure 3) between CSR and ENP. In order to test whether the results of mediation are significant, the authors used the bootstrap option by choosing a large bootstrap sample of 5000 in AMOS software. The results of the bootstrapping test showed that after the inclusion of PEB into the structural model, the direct effect between CSR and ENP was reduced from 0.39^{**} to 0.044^{**}, but it still was significant as the values of bootstrapping lower limit confidence interval (LLCI), and the upper limit confidence interval (ULCI) did not include zero. Likewise, the p value was significant ($p<0.05$), which means that the mediation effect is significant. Hence, the authors rejected null Hypothesis 4 and accepted the alternate (true) hypothesis and established that PEB partially mediates the relationship of CSR and ENP.

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Lastly, the authors introduced gender as a moderator between the indirect relation of CSR and ENP through PEB. For this purpose, the authors used multi-group option in AMOS and created two groups (men and women). After creating these groups, the authors assigned data to both groups (men = 257 cases, women = 179) by using the grouping variable option in AMOS. The authors used the bootstrapping option again and observed the output results for conditional indirect effects. The authors evaluated the beta values for both groups (men and women) and came to the conclusion that both groups produced significant results for the conditional indirect effect (p-values <0.05, LLCI and ULCI were nonzero), but the beta value in the case of women was higher as compared to men, for conditional indirect effects (see Table 5). Based on these results, it was established that groups, men, and women, moderate the mediated effect of PEB between CSR and ENP, and that the women's role was higher than the one for men. The structural model extracted from AMOS is given in Figure 3.

Table 5: Hypotheses testing

Path	Beta value	LLCI/ULCI	Supported/Not-supported
Model 1: Standardized Direct effects (without mediator)			
CSR→ENP	0.39[**]	0.172/0.291	Supported
CSR→PEB	0.19[**]	0.632/1.209	Supported
PEB→ENP	0.23[**]	0.422/0.935	Supported

(χ^2/df = 3.09, CFI= 0.90, GFI= 0.89, IFI= 0.92 and RMSEA= 0.070)[***]

[***] model fit indices for two factor model

Model 2: Standardized indirect effect (mediation model)			
CSR→PEB→ENP	0.0437**	0.239/0.531	Supported

χ^2/df = 2.43, CFI = 0.93, GFI = 0.91, IFI = 0.97 and RMSEA= 0.063)[***]

[***] model fit indices for mediated (three factor) model

Model 3: Moderated mediation model			
Standardized direct effects (men)			
CSR→ENP	0.33[**]	0.276/0.498	Supported
CSR→PEB	0.22[**]	0.404/0.782	Supported

PEB→ENP	0.14[**]	0.422/0.935	Supported
Standardized indirect effect (men)			
CSR→PEB→ENP	0.031[**]	0.133/0.469	Supported
Standardized direct effects (women)			
CSR→ENP	0.43[**]	0.181/0.328	Supported
CSR→PEB	0.36[**]	0.561/0.709	Supported
PEB→ENP	0.74[**]	0.809/1.138	Supported
Standardized indirect effect (women)			
CSR→PEB→ENP	0.17[**]	0.349/0.524	Supported

χ^2/df = 2.43, CFI = 0.94, GFI = 0.91, IFI = 0.97 and RMSEA = 0.063)[***]

[***] model fit indices for mediated (three factor) model

CSR= corporate social responsibility; PEB = pro-environmental behavior; ENP = environmental performance
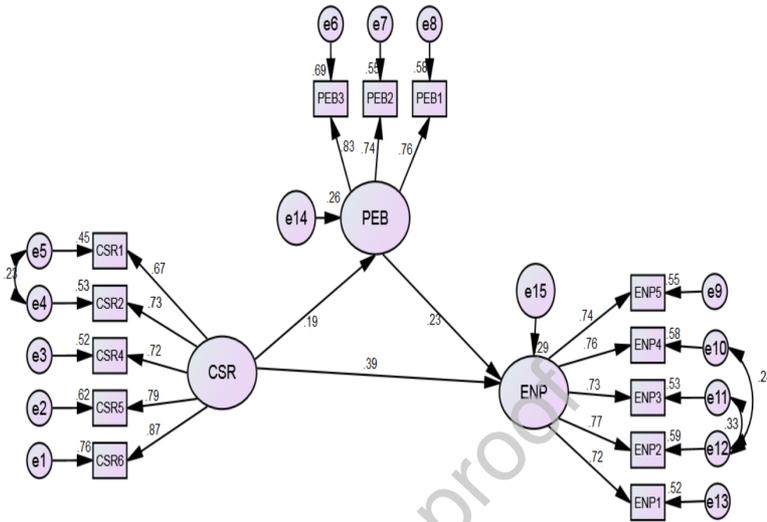
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Figure 3: Structural Equation Model

5. Discussion

Over the last two decades, the topic of CSR has gained a great deal of attention from scholars and policymakers around the globe. The majority of the studies dealing with CSR investigated the impact of CSR initiatives on the financial performance of organizations (Barauskaite and Streimikiene, 2020; Maqbool and Zameer, 2018; Theodoulidis et al., 2017). More recently, contemporary researchers have paid attention to other aspects of CSR, like its use in environmental conservation (Anser et al., 2020; Dahlmann and Bullock, 2020). Furthermore, most of the CSR studies have explored its role at the macro or institutional level (Kong et al., 2020; Kowalczyk and Kucharska, 2020), while CSR's role at micro or individual level has been largely ignored. In this regard, the objective of this study was to investigate the effect of micro-level CSR activities on environmental performance through employees' pro-environmental behavior, as a mediator in the context of Pakistan. The empirical results point at micro-level CSR initiatives directly and indirectly positively influencing environmental performance in the manufacturing and the service sectors of Pakistan. Current literature also supports the relationship between micro-level CSR and environmental performance (Afsar et al., 2020). Different studies are however in line with the

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findings of the present study as they conclude that employees are key players in reducing the organization environmental footprint (Islam et al., 2019; Tian and Robertson, 2019).

The present study also confirmed that micro-level CSR activities are important in shaping the positive behavior of employees, such as pro-environmental behavior as stated in previous studies described in the literature (Hameed et al., 2019; Kong et al., 2021). The respondents affirmed that when they observe that the organization, they worked for was trying to reduce its environmental impact they felt concerned about the problem and willing to help.

The results of this study have some important theoretical and practical implications. For instance, it shows the moderating effect of gender on the relationships between micro-level CSR initiatives and environmental performance via employee pro-environmental behavior for the first time. It also points at the need to rethink the CSR initiatives to reduce the level of environmental degradation. The study further argues that employees devote a sufficient amount of time at their workplaces, and hence their role at the individual level in mitigating the environmental footprint of an organization is important. The participation of an organization in CSR activities builds positive emotions in employees and they feel a sense of responsibility on their part to positively contribute toward the environment. Hence, CSR initiatives are encouraging for employees to develop pro-environmental behavior, which in turn is likely to induce environmental performance of an organization. The present study also establishes that the employee's perception that his/her organization is actively involved in environmental CSR activities influences his/her behavior towards the environmental behavior. Therefore, organizations implementing CSR are encouraged to consider personnel as an important part of the process and to encourage employees to participate to such activities.

This study has some relevant implications for policymakers, as it highlights the importance of micro-level CSR initiatives in improving organizations environmental performance. In the context of the manufacturing and the service sectors, the last is not particularly contaminant but can significantly contribute to the protection of the environment by implementing an efficient use of resources, such as energy consumption. It is worth mentioning here that a better and sustainable future can be achieved if everybody recognizes that his or her role is important to preserve the environment. Environmental sustainability is not only the matter of big corporations anymore but concerns all the organizations' stakeholders at individual and collective levels.

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Concerning the gender effect, women were found to be more involved in environmental CSR than men. This finding is in accordance with the findings of Nhamo and Mukonza (2020) and Birindelli et al. (2019). The policymakers are encouraged to promote the presence of women at Pakistan workplaces. The results of the present study are consistent with the natural Resource Based View (RBV) theory which state that CSR strategy focuses in improving the sustainability performance (Taylor et al., 2018). Improving environmental performance remains an important issue for many organizations which are requested by consumers and community for being more sustainable. Even though many measures have been adopted to reduce environmental impact, such as the adoption of new technologies and employees have been encouraged to participate in CSR, the organizations' environmental impact is growing.

6. Conclusions and Limitation

The issue of environmental dilapidation is alarmingly high in Pakistan, and is likely to worsen in the future if serious measures are not taken. In this regard, the findings of the present study are important for policymakers and government officials in the sense that they now know that employees are key players to preserve the environment and should be engaged in environmental CSR. The millions of workers of Pakistan have an opportunity to participate in reducing their organization's environmental impact and can, if they work together, generate important positive outcomes for the environment. Another important result is pointing at recognizing the women's involvement with CSR and the environment to promote their presence at the workplaces of Pakistan's organizations.

Unfortunately CSR have been rarely adopted in Pakistan for different reasons like a deficient environmental legislation, the low involvement of the government in sustainability and the lack of knowledge about CSR. In this regard, the government is required to frame strict environmental laws to overcome the current disappointing environmental situation of the country. Furthermore, there is a need to raise the population awareness regarding CSR activities and the individuals' involvement in environmental sustainability. In this regard, different training sessions and seminars should be organized to increase the level of CSR awareness among employees at the workplace. It is important for them to understand that their behavior can significantly contribute to environmental sustainability. It should be clear that the potential for successful environmental change arises when organizations integrate sustainability or CSR processes into their key business functions, such as human resource management and organizational management.

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The results of the present study acknowledge the important role of CSR in environmental performance. In particular, the employees that feel that their organization is involved in the environment preservation are more prone to participate in environmental protection activities. Consequently companies implementing environmental CSR measures should adequately inform their employees to make them participate in the process. This study may serve as a stepping stone for corporate executives for setting a CSR implementation strategy. For instance, by reporting their environmental sustainability initiatives in their annual reports/business liability reports/CSR reports and extensively keeping the employees informed in order to urge them to perform their duties in a socially responsible manner.

Nevertheless the present study needs to address some shortcomings. Firstly, even though the use of time-lagged data decreases the probability of common method bias, it does not prevent some causal extrapolations. In order to improve causality, future researchers should use longitudinal data. Secondly, the data for the present study has been collected from Pakistan, a country where CSR implementation is still at an early stage, especially environment oriented CSR. Hence, generalizing the results to other countries should be avoided as CSR is perceived differently in different cultures. Future research conducted in other developing nations, may lead to a generalization of the results of the present study or on the contrary, indicate their exceptionality. Thirdly, even though the predictive relations were statistically significant, there is a need for more variables to be used in proposed model to deal with CSR complexity. For example, the future research may consider employees' interest as a potential moderator for improving CSR practices and environmental performance relation. Additional mediators that can influence employees' attitudes towards pro-environmental behavior may be introduced, (e.g., accountability, ethical outcomes, and commitments). Finally, the employee's age role in environmental CSR has not been considered and should be assessed in future studies.

Questionnaire items

Corporate social responsibility (Turker, 2009)

1. My company participates in activities which aim to protect and improve the quality of the natural environment

2. My company makes investment to create a better life for future generations

3. My company implements special programs to minimize its negative impact on the natural environment

4. My company targets sustainable growth which considers future generations

5. My company supports nongovernmental organizations working in problematic areas

6. My company contributes to campaigns and projects that promote the wellbeing of the society

Pro-environmental behavior (Bissing-Olson, Iyer, Fielding & Zacher, 2013)

1. I adequately complete assigned duties in environmentally-friendly ways

2. I fulfill responsibilities specified in my job description in environmentally friendly ways

3. I perform tasks that are expected of me in environmentally-friendly ways

Environmental performance (Blok, Wesselink, Studynka, and Kemp 2015)

1. The company has reduced its carbon emission

2. The company has reduced its waste water generation

3. The company has reduced its solid wastes generation

4. The company has decreased its consumption of hazardous/harmful/toxic materials

5. The frequency of environmental accidents has reduced

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