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Article

Does Gender and Cultural Diversity Matter for Sustainability in Healthcare? Evidence from Global Organizations

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Abstract: Global healthcare organizations are fundamental in addressing the healthcare needs of local and global communities. This highly regulated sector means it is under constant scrutiny for health, safety, and ethical compliance risks by federal regulatory bodies. Despite higher monitoring, an increasing number of healthcare companies receive fines for their irresponsible practices, manifesting significant questions about their corporate governance and sustainability practices. Against this backdrop, this study examines the relationship between boardroom diversity on the sustainability performance of companies operating in healthcare. Utilizing a global sample of publicly listed healthcare companies, using panel regression data and the system-GMM estimator accounting for endogeneity, we find evidence of a positive association between board diversity (gender and culture) and sustainability performance. These findings support critical mass theoretical expectations for board diversity and sustainability performance, suggesting that a meaningful representation (three or more) of women and ethnic directors on the board of healthcare organizations significantly improves sustainability performance. The findings remain robust in a series of robustness tests and continue to hold after accounting for potential endogeneity concerns. This paper has important implications for global healthcare organizational policy concerning diversity management practices and their implications for sustainability performance.



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Keywords: board diversity; global healthcare; corporate social performance; sustainability; healthcare sustainability; ESG performance; healthcare management; critical mass theory

1. Introduction

There has been a growing interest from the academic community, policymakers, and organizational stakeholders concerning the antecedents that influence organizational sustainability outcomes and sustainability decision-making. This has resulted in a heightened focus on empirically examining the extent and consequences of board diversity on sustainability practices in global organizations [1]. Most studies have predominantly investigated one aspect of diversity, i.e., gender diversity, ignoring the other forms of board diversity, such as cultural diversity. The majority of gender diversity literature either completely ignores the industrial heterogeneity [2,3] or only acknowledges the industrial differences across financial and non-financial sector firms [4]. Such literature restrictions have resulted in our limited understanding of how other board dynamics, including gender and cultural diversity, act as antecedents to corporate sustainability practices (CSP), particularly in global healthcare organizations [5].

Healthcare organizations have distinct characteristics compared to traditional industries, including maintaining the mental, physical, and social wellbeing of the community and sustaining large networks of employees [6,7]. This merits a more holistic study. More recently, Zaman et al. [8], in examining the association between co-opted directors and

corporate misconduct, have mapped the monetary penalties imposed on firms due to their involvement in violations of stakeholder rights. Their findings related to industrial comparison reveal that companies operating in the healthcare sector have received the highest number of fines (USD 17.7 billion) for stakeholder-related violations. Such gross violations by healthcare firms pose serious questions concerning their corporate governance practices, providing strong motivation for this study and determining whether gender and cultural diversity can promote sustainability practices of healthcare organizations and limit stakeholder violations [9,10]. Against this research gap, this study aims to investigate the current boardroom diversity that includes gender and cultural diversity in global healthcare organizations' sustainability practices. It is also vague what quality of relationship exists between the exact number of women, the number of culturally diverse board members, and the resulting corporate sustainability practices. This is a critical research gap due to the highlighted focus on sustainability practices in global healthcare organizations.

We make several contributions to diversity management and sustainability performance literature in the healthcare sector. Firstly, by examining the unexplored upper echelons diversity, i.e., boardroom gender and culture diversity and responsible business practices of global healthcare organizations, we aim to contribute to global healthcare sustainability, board feminization, and board cultural diversity literature. Secondly, we address voids in the theoretical and practical insights on these synergetic and antagonistic topics, which have previously offered divergent results espousing the influence of board diversity on corporate sustainability and ESG controversies. Our study also aims to contribute to the current debate on a critical mass for board gender and board cultural diversity in global healthcare organizations. Therefore, our study aims to identify a calculated and definitive number of diverse board members required to perpetuate positive sustainability outcomes.

Our study is unique in that it also aims to address the limited scope of the previously mentioned studies. More specifically, it uses a large sample size of global healthcare organizations and addresses endogeneity, whereas previous studies have predominantly focused on the financial and banking sectors, whose concepts and antecedents of sustainability differ from those in the healthcare sectors. Moreover, because the healthcare sector business model is intrinsically linked to human life, wellbeing, and health concerns, corporate sustainability goals and measurements in healthcare are unlike any other industry [11]. Demir and Min [12] investigated the nature of reporting and disclosures in healthcare organizations and the transparency between the public, the organization, and stakeholders and found it to be divergent from other industries. Additionally, considering the global healthcare systems' fragmentation and strain due to the COVID-19 crisis [13], the need for sustainability in healthcare has rapidly advanced [14]. This study considers the specific corporate social responsibilities and board performance that are unique to the healthcare sector, where board composition influences sustainability outcomes.

The remainder of this paper is organized as follows. Section 2 discusses the theoretical rationale and hypothesis development, followed by Section 3, which presents the adopted methodology for this study. Then, Section 4 discusses the study findings; and Section 5 discusses the empirical results and study conclusions.

2. Theoretical Rationale and Hypothesis Development

2.1. Sustainability in Healthcare

Sustainability conceptualizes that an organization's conduct has immediate ramifications and long-term consequences exceeding merely the environment but also including social and employee wellbeing outcomes [15,16]. From a board diversity perspective, Fuente et al. [17] and Boukattaya and Omri [18] posit that transparency concerning sustainability practices directly links with board diversity. By adopting agency theory to understand board diversity relationships and transactions, it follows that board composition influences board performance and decision-making [19]. The integration of sustainability practices are augmented by the presence of a heterogenous board [20]. Organizations with successful market resources and institutional-based sustainability strategies can reduce organizational

risk [21], enhance long-term performance [22], and embark on relationships with corporate stakeholders [23]. These advantages have encouraged researchers to examine the determinants and CSP outcomes of these practices. Researchers have investigated several determinants related to such practices, including board structure and several CEO characteristics. Most of these studies have ignored the healthcare sector; however, a few studies have attempted to map the sustainability practices of such organizations. The analysis of sustainability practices in healthcare organizations indicates that ‘sustainable techniques’ and ‘sustainable societies’ would be characteristics of responsible behaviors [15]. In healthcare, sustainable practices that engage socially responsible and sustainable behaviors have also included biotechnology innovations and responsible waste management practices [24,25]. CSP in healthcare organizations have focused on the environment, community, customers, and the employee environment [26,27]. Despite the significance of a well-structured board, and in particular, the role played by women and culturally diverse directors in influencing these practices, research examining board gender and cultural diversity, ESG practices, and CSP in healthcare organizations remain limited, if non-existent. See Figure 1.

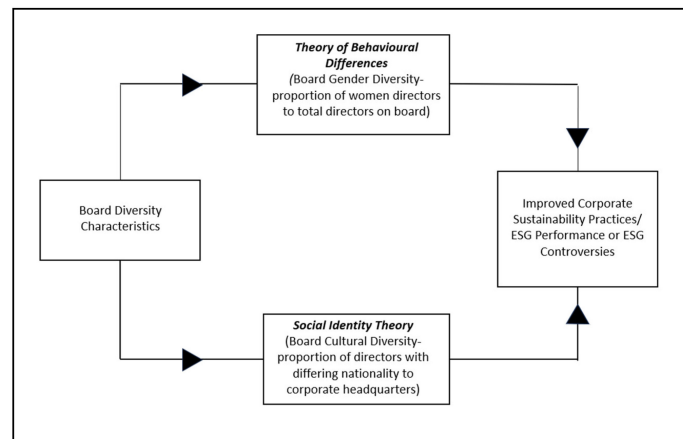


Figure 1. Theoretical Framework.

2.2. Gender-Linked Differences-Behaviour Theory

The theory of behavioral differences espouses biological origins as a means of shaping human behaviors [28]. Adult behaviors are commonly formed, learned, and adjusted as children progress through phases of socialization [29]. Bem [30] posits that cognitive and social development influences individual attitudes and cognitive frameworks towards gender. Schwartz and Rubel [31] examined the attributing points of gender differentiation as directing philosophies between men and women. Amongst these differences, attributes predominantly accredited to men include a persistent prioritization of power, accomplishment, hedonism, and self-determination. Contrastingly, woman’s directing principles exhibit behaviors such as compassion and inclusiveness. Due to historical social, political, and economic assertions of inequality and gender-role stereotyping, increasing studies focus on gender diversity, gender parity, and equal representation of genders in the workplace [32,33].

Scholars refer to gender diversity as an increased or equal presence of women in a workplace or in leadership positions, where women possess differing cognitive and perceptual views, knowledge, and decision-making potential [34–36]. The divergences in gender-linked behaviors become a barrier to career progression due to reinforced stereotypical dogmas and sustained gender-based beliefs [33,37]. Studies have shown that gender-linked traits such as risk aversion, prioritizing community, equality [38], and emphasizing the corporate social responsibility (CSR) of an organization are commonly associated with women [39,40]. Men and women also diverge in their approaches toward ethics, with women’s ethical standards surpassing men’s [41]. Divergences from male behaviors are advantageous, where gender-diverse climates promote decision-making discourse and

organizational resolutions [42,43]. This study adopts the theory of behavioral differences to establish the link between boardroom gender diversity and sustainability practices.

Kinateder et al. [4] found that female directors significantly reduce industry-specific risk in the banking and financial risk sectors. This implies that women place greater emphasis on benevolence and organizational integrity. Additionally, values such as compassion, deriving meaning, and purpose from one's work were highly prioritized among women [44–46].

Concerning board-level interactions and performance, gender diversity has been shown to influence the decision-making and risk-affinity attitudes of a board [43], relational responsiveness, and social acumen [47]. Additionally, Gul et al. [48] and Gul et al. [49] posit that gender diversity optimizes knowledge generation and innovation. This study anticipates that board gender diversity will positively influence ESG performance, leading to the formulation of the following hypothesis.

H1. *Board gender diversity is positively related to the sustainability practices of healthcare organizations.*

2.3. Cultural Diversity-Social Identity Theory

Board diversity antagonizes sustainability practices concerning transparency, disclosure, and discourse [17]. Firstly, directors from minority groups experience prejudice and perceptions of inequality, bolstering aversions to agency challenges [5]. Secondly, divergent values and attitudes of culturally diverse board members (race, age, gender, ethnicity, and religion) substantiate decision-making, sustainability outcomes, risk management, and organizational results [50–52]. The cognitive resources and social capital of a culturally heterogeneous board fortify problem-solving potential, corporate sustainability agendas, and organizational goal attainment of the group [53–55].

This study adopts the social identity theory, framed in social-cognitive psychology, which has been sought to elucidate collaborative organizational level dynamics such as language, identity symbols, and behaviors that order an individual's external environment [56–58]. Concerning group and self-categorization, individual behaviors, preferences, and performance are based on the antagonism of impartiality, group think, and perceived membership [59–61]. Studies of corporate governance have noted a positive influence of cultural arrangements and norms on corporate social responsibility and reporting outcomes [62]. By embracing culturally-diverse expertise, board members optimize organizational standards and corporate sustainability quality [63].

However, Cao et al. [64] show that divergent boards also hinder decision-making. Unfavorable outcomes, as a consequence of group diversity and salient characteristic self-categorization, have also been noted [65]. For example, a culturally diverse board can endure conflicts, power struggles, miscommunication, or perceptions of tokenization for minority group board members [66,67]. Board member inter-relational engagements are influenced by and measured against perceptions of cultural philosophies and identity [68]. Based on the theory of social identification, this study anticipates that board cultural diversity (BCD), defined as divergent ethnic and cultural backgrounds, will positively influence CSP, leading to the formation of the next hypothesis.

H2. *Board cultural diversity (BCD) is positively related to the sustainability practices of healthcare organizations.*

2.4. Board Diversity and Sustainability Practices—Testing for Critical Mass Theory

Minority representations of culturally and gender-diverse directors to satisfy legislative and politically driven quota systems are a topic of scholarly debate. Studies have shown that perfunctory and symbolic representations of diverse directors are ineffective in activating significant change [69]. The tokenism literature portrays women or culturally

diverse directors' leadership or governance roles as ineffective ways of achieving parity of performance objectives and desired behaviors [70,71].

The mechanisms that diverse boards utilize to influence the performance outcomes of organizations, from a regulatory and governance perspective, are a point of interest to researchers and stakeholders [72,73]. Applying a critical mass or model ratio of women directors as a means of optimizing performance outcomes has been explored [74]. Arena et al. [75] posit that reaching a critical mass of female directors is not an isolated factor for performance-based gender relationships; other regulatory factors should also be investigated [43,76]. Accordingly, CSR is positively influenced by the administration, strategic contributions, and composition of the board [34,77,78]. Some studies also indicate potentially negative organizational performance consequences due to increased board diversity [79,80]. Consequently, appointments of female and culturally diverse directors' appointments remain a valid question. For instance, higher board diversity representation would enable uninhibited opinion sharing, thereby influencing board decision-making.

Torchia et al. [69] have tested critical mass in gender diversity and firm innovation with a sample of 151 Norwegian companies. Their findings reveal that attaining a critical mass (i.e., going from one or two to at least three women directors) significantly enhances firm innovation. Likewise, Ahmed et al. [81] show that whilst female directors can adversely affect an organization's return on assets, women's increased representation on the board has positive implications via intellectual contributions. Despite such explicit outcomes, the number of female directors required to strategically influence corporate governance mechanisms in healthcare organizations has not been analyzed and tested using the critical mass theory concept, nor has the proportion of culturally diverse board appointments required been commented on. See Figure 1.

In contrast to the critical mass concept and what may be perceived as tokenized diversity representation in organizations, Daniels [82] questions the efficacy of placing a solitary female or culturally diverse member on the board to optimize organizational sustainability practices, prompting this research study to propose the following hypothesis:

H3. *Greater female and culturally diverse board director representation is positively related to the sustainability practices of healthcare organizations.*

3. Research Methodology

3.1. Data and Sample

To examine the extent of gender diversity on organizational sustainability practices of healthcare organizations, this study has relied on secondary data from the Thomson Reuters Eikon database. This database has been used in prior studies related to sustainability [8,83]. Since the focus of this study is on healthcare organizations, only the financial reporting data pertaining to the dependent, independent, and control variables in the healthcare organizations across a five-year period (i.e., 2015–2019) was obtained. Firms with an average total asset size of over USD 30 billion were included. Firms with missing information related to governance, sustainability, and financial characteristics were excluded from the analysis, resulting in a final sample of 451 firm-year observations from global healthcare organizations. The sample extracted for this study includes pharmaceutical firms, managed health care, biotechnology firms, health care equipment, health care services, health care suppliers, and health care facilities. The dominant geographic regions in the data set are represented by North America, Europe, and the United Kingdom. Other countries included in the data set were Australia, Japan, and Brazil.

3.2. Variable Definitions

3.2.1. Dependent Variable—Corporate Sustainability Practices (CSP)

Several prior studies have used environmental, social, and governance (ESG) scores to capture sustainability performance [84]. ESG scores feature as indicators of an organization's engagement in responsible business practices [85]. Literature has used numerous

indices to contribute to the calculation of an organization's social responsibility and sustainability practices, such as the Dow Jones Sustainability Index (DJSI), Financial Times Stock Exchange FTSE4Good, Jantzi Social Index, Calvert Social Index, and KLD also known as the Risk Metric Group [83,86]. Following these studies, this study has assessed CSP using Thomson Reuters Eikon ESG score. This score emphasizes an organization's position concerning social, environmental, and governance behaviors, predicting future financial results [87,88].

3.2.2. Independent Variables

Boardroom gender diversity (BGD): Board gender diversity is the proportion of women directors to total directors on a board [3,4].

Boardroom cultural diversity (BCD): Board cultural diversity is measured as the proportion of directors with differing nationality, ethnic, and cultural backgrounds or citizenship compared to the organization's corporate headquarters [89,90].

3.2.3. Control Variables

An organization's corporate sustainability may be dependent on other board and firm-level characteristics [73,77]. Additional control variables have been inserted to control for organizational board and governance features. Prior research has documented that other board-level characteristics, such as a smaller board with many directors that are independent (BIND), having experience (BTENURE), skills (BSKILL), and meeting more frequently (BMEET), are associated with a higher level of CSP [2,83]. Organizations that are governed by hybrid CEOs (CEO Duality) focus more on financial performance and pay less attention to sustainability practices [91]. In terms of firm financial characteristics, it has been argued that large-sized organizations exhibiting higher financial (ROA) and market performance (MTB) with lower external (LEVERAGE) are in a better position to incorporate sustainability practices [92]. Concerning country-level control variables, this study has utilized World Governance Indicators (WGI) [93], listed in Appendix A, included based on previous literature including voice and accountability, political stability, government effectiveness, regulatory quality, rule of law, and control of [8].

3.3. Estimation Methodology

To examine the impact of gender diversity on corporate sustainability practices in healthcare organizations, in this study, the following regression model was used, Model (1):

$$\begin{aligned} \text{Corporate Sustainability Practices}_{it+1} &= \beta_0 + \beta_1 \text{Board Diversity}_{it} + \beta_z \text{Controls}_{it} \\ &+ \text{Year Fixed Effect} + \text{Industry Fixed Effect} + \text{Country Fixed Effect} + \varepsilon_{it} \end{aligned} \quad (1)$$

Similarly, to examine the impact of board cultural diversity on corporate sustainability practices in healthcare organizations, Model (2) was used:

$$\begin{aligned} \text{Corporate Sustainability Practices}_{it+1} &= \beta_0 + \beta_1 \text{Board Cultural Diversity}_{it} + \beta_z \text{Controls}_{it} \\ &+ \text{Year Fixed Effect} + \text{Industry Fixed Effect} + \text{Country Fixed Effect} + \varepsilon_{it} \end{aligned} \quad (2)$$

This study's key independent variable is board diversity captured using two variables; (i) gender diversity, measured as the proportion culturally diverse representation to total board size, and (ii) cultural diversity, captured as the proportion of directors with differing ethnic and cultural backgrounds compared to the organization's headquarters of origin. All control variables have been defined in Section 3.2.3. The study uses OLS estimation with organizations, years, and country fixed effect. Of note, the system generalized method of moment (SGMM) has also been used as an alternate estimation model for robustness testing and to address any form of inclusion or omission bias.

4. Research Findings

4.1. Descriptive Statistics

Table 1 provides the descriptive statistics of the study variables. The results for the dependent variable suggest that the average score for CSP across the sample period is 61.7%. Interestingly, despite a decent score for CSP, our sample organizations' involvement in ESG controversies are also very high, reflected by the average score of 84%. The results for explanatory variables suggest 22.4% of directors are female, with only 10.3% of total directors identified as being culturally diverse. These results reflect a lower overall board diversity across global healthcare companies. Additional statistics indicate that 76.5% of directors are independent, with 48% having the relevant skills and industrial expertise. On average, the board of directors was shown to meet nine times (before log value) across the sample period. In terms of board tenure, the average board tenure of all directors in the firm was approximately eight years. For board size, on average, there were 11 directors in a typical healthcare organization. This study used a sample of large firms, suggesting that, on average, the companies in the sample held a total asset of USD 31.7 billion. All other country-level characteristics are in line with the previous literature (see [83]).

Table 1. Descriptive Statistics.

	N	Mean	Std.	P25	Median	P75
Panel A: Dependent Variable						
ESG Performance	451	0.617	0.200	0.482	0.662	0.776
ESG Controversies	451	0.840	0.274	0.833	1.000	1.000
Panel B: Independent variables						
BGD	451	0.224	0.111	0.154	0.222	0.300
BCD	451	0.103	0.194	0.000	0.000	0.100
Panel C: Control Variables						
BIND	451	0.765	0.210	0.714	0.833	0.909
BSKILL	451	0.480	0.286	0.217	0.500	0.702
BMEET	451	2.223	0.354	1.946	2.197	2.398
BTENURE	451	2.169	0.340	1.967	2.190	2.375
BSIZE	451	2.431	0.217	2.303	2.485	2.565
CEO DUAL	451	0.581	0.494	0.000	1.000	1.000
FSIZE	451	23.221	1.552	22.191	23.220	24.433
MTB	451	1.109	0.200	0.986	1.079	1.155
ROA	451	0.058	0.121	0.036	0.058	0.107
LEVERAGE	451	0.541	0.217	0.402	0.539	0.654
Voice and Accountability	451	0.986	0.597	1.003	1.051	1.110
Political Stability Government Effectiveness	451	1.500	0.262	1.477	1.489	1.577
Regulatory Quality	451	1.406	0.413	1.327	1.497	1.628
Rule of Law	451	1.515	0.360	1.514	1.596	1.622
Control of Corruption	451	1.374	0.455	1.329	1.381	1.475

4.2. Correlation Analysis

The Pearson's correlation results in Table 2 indicate the correlation between ESG performance to be positively and significantly correlated with BGD. This finding provides initial support to the study's hypothesis that BGD influences sustainability practices in global healthcare organizations. Further, Table 2 shows a negative coefficient for CSP controversies. This result confirms our initial hypothesis that BGD and BCD restrain ESG controversies. Nevertheless, results concerning the control variables show no correlations with ESG performance. Board independence (BIND) and board meetings (BMEET) were mildly positively and significantly associated. In contrast, board skills (BSKILL), board tenure (BTENURE), CEO duality, and firm size (FSIZE) showed a slightly negative but significant relationship with BGD. Further, none of the coefficients between the two variables was more than 0.80, indicating multicollinearity to not be an issue in the study.

Table 2. Pearson Correlation.

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
(1) ESG Performance	1.00																			
(2) ESG Controversies	−0.08	1.00																		
(3) BGD	0.28 *	−0.01 *	1.00																	
(4) BCD	0.23 *	−0.15 *	0.20 *	1.00																
(5) BIND	0.11 *	−0.09 *	0.29 *	−0.22 *	1.00															
(6) BSKILL	−0.12 *	−0.08	0.16 *	0.06	0.14 *	1.00														
(7) BMEET	0.12 *	−0.04	−0.14 *	−0.05	−0.28 *	−0.14 *	1.00													
(8) BTENURE	−0.11 *	−0.09 *	0.07	0.02	0.09 *	0.21 *	−0.22 *	1.00												
(9) BSIZE	0.43 *	−0.14 *	−0.02	0.07	0.04	−0.12 *	0.01	−0.13 *	1.00											
(10) CEO DUAL	−0.13 *	−0.11 *	0.09 *	−0.20 *	0.07	0.05	−0.04	0.17 *	−0.13 *	1.00										
(11) FSIZE	−0.14 *	0.00	0.07	0.12 *	−0.06	−0.01	−0.07	0.17 *	0.00	0.00	1.00									
(12) MTB	−0.07	−0.01	0.08 *	0.05	0.05	0.23 *	−0.18 *	0.09 *	−0.08 *	0.02	0.40 *	1.00								
(13) ROA	−0.08 *	0.18 *	0.05	0.10 *	−0.17 *	−0.12 *	−0.04	−0.08 *	0.05	0.00	0.27 *	−0.01	1.00							
(14) LEVERAGE	−0.08	−0.06	0.07	−0.02	0.14 *	0.20 *	−0.22 *	0.14 *	−0.04	0.09 *	0.33 *	0.55 *	−0.02	1.00						
(15) VA Index	−0.06	0.09 *	0.10 *	−0.21 *	0.06	0.01	−0.04	−0.06	0.03	−0.06	−0.06	0.06	−0.03	−0.03	1.00					
(16) PS Index	−0.04	0.12 *	−0.16 *	−0.16 *	−0.49 *	−0.20 *	0.18 *	−0.18 *	−0.07	−0.10 *	−0.10 *	−0.08 *	0.08	−0.20 *	0.54 *	1.00				
(17) Govt. Effect.	−0.10 *	0.09 *	−0.10 *	−0.24 *	−0.10 *	−0.07	0.02	−0.07	−0.05	−0.07	−0.06	0.03	−0.04	−0.07	0.86 *	0.68 *	1.00			
(18) Reg Quality	−0.09 *	0.07	0.06	−0.25 *	0.16 *	0.01	−0.07	−0.04	−0.01	−0.06	−0.05	0.10 *	−0.09 *	0.00	0.92 *	0.43 *	0.87 *	1.00		
(19) Rule of Law	−0.15 *	0.08 *	0.03	−0.19 *	−0.10 *	0.04	−0.06	0.01	−0.11 *	0.03	−0.02	0.05	−0.06	0.00	0.80 *	0.58 *	0.81 *	0.78 *	1.00	
(20) Cont. Corrupt	0.03	0.09 *	0.08 *	−0.11 *	−0.05	−0.05	−0.03	−0.13 *	0.01	−0.17 *	−0.09 *	0.09 *	−0.02	−0.06	0.91 *	0.65 *	0.88 *	0.87 *	0.79 *	1

This Table reports the correlation coefficient of variables used in this study. * Denote significance at the 1% level.

4.3. Regression Analysis—Baseline Results

Table 3 below reports the baseline results to test the proposed relationship between board diversity and ESG performance in global healthcare organizations. After controlling for World Governance Indicators (WGI) and organization-level effects, the study finds that BGD is significantly and positively ($\beta = 0.173$ and $\beta = 0.151$) related to ESG performance at a 1% and 5% significance, as evident in Columns 1 and 3. Further, BCD is significantly and positively linked to ESG performance ($\beta = 0.136$ and $\beta = 0.155$) at 5% significance in Columns 2 and 5. These results are consistent with our hypotheses H1 and H2 and advocate the BGD and BCD cases for sustainability promotion across healthcare firms. Column 5 reports the bundling effect, i.e., the presence of both types of diversity (gender and culture) on the CSP of global healthcare firms. Consistent with H1 and H2, our results suggest that companies with a larger proportion of female and culturally diverse directors have significantly higher sustainability practices.

Table 3. Boardroom diversity and corporate sustainability performance baseline results.

DV	ESG Performance _{t+1}				
	(1)	(2)	(3)	(4)	(5)
BGD	0.173 *** (2.83)		0.151 ** (2.38)		0.149 ** (2.38)
BCD		0.136 ** (2.02)		0.155 ** (2.31)	0.153 ** (2.30)
BIND			0.207 *** (3.68)	0.246 *** (4.39)	0.222 *** (3.94)
BSKILL			0.036 * (1.78)	0.029 (1.44)	0.033 * (1.66)
BMEET			0.008 (0.59)	0.007 (0.53)	0.005 (0.38)
BTENURE			−0.014 (−0.62)	−0.014 (−0.58)	−0.010 (−0.44)
BSIZE			−0.087 ** (−2.23)	−0.086 ** (−2.20)	−0.090 ** (−2.32)
CEO DUAL			−0.054 *** (−3.09)	−0.053 *** (−3.03)	−0.056 *** (−3.19)
FSIZE			−0.004 (−0.63)	−0.006 (−0.85)	−0.005 (−0.67)
MTB			0.095 ** (2.44)	0.101 *** (2.61)	0.094 ** (2.44)
ROA			0.006 (0.12)	0.013 (0.27)	0.008 (0.16)
LEVERAGE			−0.027 (−0.76)	−0.028 (−0.78)	−0.032 (−0.89)
Voice and Accountability			−0.009 (−0.11)	−0.039 (−0.45)	−0.009 (−0.11)
Political Stability			−0.020 (−0.72)	−0.005 (−0.19)	−0.012 (−0.44)
Government Effectiveness			0.041 (1.07)	0.023 (0.61)	0.039 (1.04)
Regulatory Quality			−0.043 (−1.28)	−0.036 (−1.08)	−0.041 (−1.22)
Rule of Law			0.033 (0.52)	0.024 (0.38)	0.027 (0.43)
Control of Corruption			0.050 (0.93)	0.038 (0.70)	0.038 (0.70)
Year FE	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes	Yes
Observations	451	451	451	451	451
Adjusted R-squared	0.912	0.911	0.917	0.917	0.918

The *t*-statistics are reported in parentheses. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

In terms of control variables (see column 5), the study finds that small-sized boards ($\beta = -0.090$) that are dominated by many independent directors ($\beta = 0.222$) with independent board chairs ($\beta = -0.056$) significantly improve CSP. At the outset of the financial characteristics, the results indicate that companies with better market performance (MTB) exhibit higher ESG performance.

4.4. BGD and Corporate Sustainability Performance—Testing for Critical Mass Theory

In this section, the study presents the results that test the third hypothesis (H3) related to critical mass theory, i.e., three or more female and culturally-diverse directors significantly increase the sustainability practices of healthcare organizations. The results reported in Table 4, column 3, suggest that the co-efficient for BGD and BCD is significantly and positively associated with ESG performance, at 1% significance, only for the organizations where there are three or more women and culturally diverse directors present on boards, supporting hypotheses H3. This result is in contrast with tokenism literature that argues the influential presence of one woman and culturally diverse directors matters for CSP. This study confirms the theory of critical mass and the need for three or more women and culturally diverse directors on boards to make a meaningful change in healthcare organizational sustainability practices.

Table 4. Boardroom diversity and corporate sustainability performance—testing for critical mass theory.

	ESG Performance _{t+1}		
	(1)	(2)	(3)
BGD—I	−0.010 ** (−2.02)		−0.010 ** (−2.08)
BGD—II	0.002 (1.05)		0.002 (0.97)
BGD—III	0.003 *** (3.06)		0.003 *** (2.90)
BCD—I		0.005 (0.18)	0.002 (0.08)
BCD—II		0.010 (0.35)	0.010 (0.35)
BCD—III		0.086 *** (2.80)	0.079 *** (2.63)
BIND	0.276 *** (3.96)	0.371 *** (5.39)	0.300 *** (4.28)
BSKILL	−0.048 * (−1.66)	−0.051 * (−1.74)	−0.050 * (−1.75)
BMEET	0.095 *** (3.90)	0.091 *** (3.70)	0.096 *** (3.95)
BTENURE	0.043 * (1.79)	0.050 ** (2.02)	0.036 (1.49)
BSIZE	0.349 *** (9.19)	0.340 *** (8.87)	0.352 *** (9.29)
CEO DUAL	0.012 (0.73)	0.029 * (1.68)	0.016 (0.93)
FSIZE	−0.017 *** (−2.92)	−0.015 ** (−2.56)	−0.018 *** (−3.16)
MTB	0.011 (0.22)	0.013 (0.26)	0.010 (0.21)
ROA	−0.164 ** (−2.41)	−0.180 ** (−2.59)	−0.159 ** (−2.33)
LEVERAGE	−0.003 (−0.08)	0.004 (0.08)	0.007 (0.18)
Voice and Accountability	−0.207 (−1.06)	−0.244 (−1.23)	−0.182 (−0.93)
Political Stability	0.004 (0.06)	0.026 (0.38)	−0.012 (−0.18)
Government Effectiveness	0.127 (1.36)	0.096 (1.01)	0.133 (1.42)
Regulatory Quality	−0.096 (−1.18)	−0.077 (−0.92)	−0.104 (−1.29)
Rule of Law	0.005 (0.12)	0.017 (0.36)	0.012 (0.25)
Control of Corruption	0.221 ** (2.33)	0.185 * (1.87)	0.223 ** (2.30)
Year FE	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes
Country FE	Yes	Yes	Yes
Observations	451	451	451
Adjusted R-squared	0.917	0.917	0.918

The *t*-statistics are reported in parentheses. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

4.5. Board Diversity and Corporate Sustainability Performance—Robustness Tests

This study demonstrates several robustness checks to confirm whether the baseline findings hold using the alternative variables approach or after accounting for endogeneity concerns in the board diversity and CSP nexus.

4.5.1. Alternative Variables and Robustness Tests

Firstly, to validate the baseline results, to illustrate that higher board diversity improves the sustainability performance of the company, not contingent on a good ESG score, we replace the traditional dependent variable, i.e., ESG Performance with ESG Controversies and re-ran the baseline regression including industry, fixed year, and firm year effects. Panel A of Table 5 shows a significant negative relationship between both proxies of board diversity (gender and culture) and ESG controversies. This indicates that the presence of a higher proportion of women and culturally diverse directors lowers organizations' violations of responsible business practices.

Table 5. Boardroom diversity and corporate sustainability performance: robustness tests.

Panel A: Evidence from Alternative Dependent Variables: ESG Controversies			
	ESG Controversies		
	(1)	(2)	(3)
BGD	−0.096 *** (−2.62)		−0.143 ** (−1.97)
BCD		−0.311 ** (−3.44)	0.357 *** (3.45)
Other Controls	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes
Country FE	Yes	Yes	Yes
Observations	451	451	451
Adjusted R-squared	0.509	0.510	0.511
Panel B: Boardroom Diversity and Corporate Sustainability Performance-Alternative Independent Variable			
	ESG Performance _{t+1}		
	(1)	(2)	(3)
Blau GD Index	7.555 ** (2.38)		7.224 ** (2.31)
Blau CD Index		0.224 *** (3.54)	0.220 *** (3.49)
Other Controls	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes
Country FE	Yes	Yes	Yes
Observations	451	451	451
Adjusted R-squared	0.917	0.919	0.920
Panel C: System GMM Regression—Addressing Endogeneity in Boardroom Diversity (Gender and Cultural) and Corporate Sustainability Performance			
	ESG Performance _{t+1}		
	(1)	(2)	(3)
BGD	0.147 *** (4.38)		0.186 *** (4.65)
BCD		0.031 ** (2.34)	0.035 *** (2.65)
ESG Performance _t	0.991 *** (72.99)	0.936 *** (58.93)	0.982 *** (72.02)
Other Controls	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes
Country FE	Yes	Yes	Yes
Observations	356	356	356
AR (1) <i>p</i> -value	0.000	0.000	0.000
AR (2) <i>p</i> -value	0.984	0.757	0.927
Hansen J test	0.506	0.407	0.507

The *t*-statistics are reported in parentheses. *** and ** denote significance at the 1%, 5% levels, respectively.

We further ensure that our baseline results are not prone to gender diversity measures, i.e., the proportion of women directors and culturally diverse to the total directors on the board. Accordingly, an alternative measure of gender diversity and cultural diversity, the Blau Index, has been applied. More specifically, the Blau index captures how equally men

and women, and culturally divergent directors are represented on a board. This study replaced the standard BGD and BCD measure with the Blau diversity index and re-ran Equation (1), with results reported in Panel Table 5 suggesting that the coefficient estimates of the Blau GD Index and Blau CD Index on CSP continue to be positive and statistically significant, at a 1% level of significance—confirming the baseline results as robust.

4.5.2. Endogeneity Concerns

A recent review by Zaman et al. [83] has revealed that numerous studies linking corporate governance to ESG performance have ignored endogeneity concerns. The results produced by these studies have remained biased [94]. To overcome these issues, scholars such as Zaman et al. [83] adopted more sophisticated research methodologies, including system GMM. The current study has estimated Model (1) and Model (2) by applying system GMM, reporting the results in Panel C Table 5. The coefficient estimated for BGD and BCD on ESG performance remained positive and statistically significant at 1%. This type of result confirms the initial findings of this study, where even after controlling for endogeneity concerns, BGD and BCD are influential in promoting CSP. This study also undertook instrument validity tests for system GMM techniques. The statistically insignificant AR (2) *p*-value confirms the absence of autocorrelation in the board diversity and ESG performance nexus. The insignificant *p*-value of the Hansen-J test confirms the internally used system GMM instruments to be valid and robust.

5. Discussion and Conclusions

This study empirically examines the relationship between board gender diversity, board cultural diversity, and ESG controversies or CSP in global healthcare organizations. This study advances the field of board composition and sustainability outcomes in global healthcare organizations by demonstrating that board diversity is positively associated with CSP. By analyzing panel data, ESG performance, ESG controversies data (or CSP controversies), and several measures of board gender and cultural diversity, we measured and produced robust findings.

Based on a global sample from 2015 to 2019, with potential causes of endogeneity considered, our analysis yields several important theoretical contributions for research in this area, which have been previously limited. Expanding on the results of Sila et al. [43], Nadeem et al. [95], and Ouyang et al. [96], our hypothesis draws on the behavioral theory of gender-linked divergences and social identity theory, showing a strongly positive relationship between board gender diversity and board cultural diversity with CSP.

Our theoretical framework of gender-linked differences and social identity theory expands on the current theories of board diversity, more frequently used in the financial sector [97]. Our study findings confirm that the innate behavior differences between women and culturally diverse board members have a positive influence on board-level CSR and ESG controversies outcomes concerning deep-level information sharing and cognitive differences. Similar to studies on board diversity and sustainability practices such as those by Khatri [98], Martinez-Ferrero et al. [10], and Harjoto et al. [20], our study confirms the strategic importance of board gender and cultural diversity to achieve sustainability outcomes in the intimate and complex healthcare sector. In contrast, our study findings contradict those of Guest [5], who found no positive association between board ethnic diversity and firm monitoring outcomes. One possible reason for this contrast could be that the context of the organizations measured were not globally representative, as is the sample from our study.

Our third hypothesis extends to critical mass theory and CSP and is similar to studies by Joubert [99] and Kyaw [100]. However, our results are specific to healthcare organizations. We then tested critical mass for both board gender and board cultural representation and concluded that both board diversities are incrementally beneficial to bolster ESG performance, but only when a definitive representative number has been reached. Our results find that only 10.3% of total directors were culturally diverse during the measured

period, and 22.4% of the directors were female. This highlights the importance of regulating board placements, pursuing the 'magic number' [74], and appointing adequate numbers of diverse candidates to influence sustainability change, as opposed to the tokenized representation of just one diverse director. However, advocating equity quotas from a legal perspective is outside the scope of this paper.

Our study finds that by representing a larger variety of stakeholder viewpoints and interests through diverse board representation, a definitive minimum number of women and ethnic directors on the board is required to make a positive impact on ESG outcomes in healthcare. Consistent with Torchia et al. [69] and Bruna et al. [101], the tokenistic representation of women board members in the healthcare sector will not transcend a meaningful threshold effect and add limited value. This tokenistic representation of board diversity and CSP outcomes has not been measured in previous studies for both cultural and gender diversity in healthcare.

Board cultural diversity representation is lower in healthcare compared to other large publicly listed organizations [102]. In contrast to other studies evaluating board cultural diversity, results have been limited both geographically and contextually, where demographic diversity includes age, education, tenure, and industry experience [103,104]. This emphasizes the need to increase sustainability studies, social identity theories, and board diversity characteristics, including ethnic, racial, cultural, and religious board appointments, where the majority of board diversity studies have emphasized the role of gender diversity [97].

This study makes several practical contributions to diversity and sustainability practices in global healthcare organizations. From a managerial perspective, our findings suggest that calculated attention should be given to board diversity composition to enhance numerous fundamental areas of sustainability in healthcare. Appointing both women and culturally diverse directors will positively influence different sustainability agendas, where healthcare organizations focus on environmental, social, employee, and economic performance, governance, and ethical standards [105]. This study can also guide the organizational policies and shareholder decisions that oversee and endorse adequate and measured board placements that recognize cognitive and cultural diversity on the board to achieve sustainability outcomes. Finally, our findings legitimize the feminized value contributions of women and culturally diverse board members beyond perfunctory representation concerning healthcare-specific sustainability initiatives.

6. Limitations

This study was not without limitations. The data set was limited to global healthcare organizations with an average total asset size of USD 31.7 billion. This excludes small-sized healthcare organizations and organizations from developing markets. The generalizability of results is restricted. Future studies should include a broader scope of global healthcare organizations. Future research could expand to include these organizations. Further, organizations with non-Westernized cultures would more accurately mirror the cultural diversity of local board compositions. Future studies investigating the influence of board religious diversity on CSP are needed.

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Appendix A. Definition of Variables

Table A1. Control variables and measurement.

<i>BIND</i>	Percentage of independent board members
<i>BSKILL</i>	Relevant industry knowledge and skills of board members (percentage score)
<i>BMEET</i>	Number of board meetings
<i>BTENURE</i>	Length of time served as a director (in years)
<i>BSIZE</i>	Total number of board members
<i>CEO DUAL</i>	When the CEO simultaneously chairs the board (nominal variable)
<i>FSIZE</i>	Natural logarithm of total firm assets
<i>MTB</i>	Market to book value
<i>ROA</i>	Return on assets ratio
<i>LEVERAGE</i>	Total liabilities divided by total assets
<i>World Bank Governance Indicators</i>	
<i>Voice and Accountability</i>	Perceptions of the extent to which a country's citizens can participate in selecting their government, as well as freedom of expression, freedom of association, and a free media
<i>Political Stability</i>	Perceptions of the likelihood of political instability and/or politically motivated violence, including terrorism
<i>Government Effectiveness</i>	Perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies
<i>Regulatory Quality</i>	Perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development
<i>Rule of Law</i>	Perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular, the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence
<i>Control of Corruption</i>	Perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests

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