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Impact of Corporate Sustainability on Counterproductive Work Behavior in China Construction Industry

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ABSTRACT: This study examined how corporate sustainability practices influence counterproductive work behaviors (CWB) in the Chinese construction sector. Corporate sustainability was analyzed through environmental, social, and economic dimensions to understand its multifaceted impact on employee behaviors. A total of 417 responses were collected and analyzed to test the proposed hypotheses. Exploratory factor analysis was conducted to evaluate variable factorability, followed by confirmatory factor analysis to validate the measurement model's reliability and fit. Structural equation modeling was employed to assess the relationships between corporate sustainability and CWB. The findings reveal that comprehensive sustainability efforts can significantly reduce CWB by fostering ethical workplace climates and aligning organizational values with employee expectations. However, in high-pressure contexts like construction, sustainability initiatives may paradoxically increase CWB if perceived as burdensome or poorly managed. Employee responses to sustainability practices were found to vary depending on contextual and relational factors, either enhancing positive behaviors or exacerbating negative ones. These results highlight the importance of integrating ethical leadership, corporate values, and supportive work environments to achieve effective sustainability outcomes. Organizations are encouraged to design sustainability practices that balance employee well-being with organizational objectives, fostering a collaborative and ethically grounded workforce capable of driving long-term success.

Keywords: corporate sustainable, China, counterproductive work behavior corporate social responsibility.

I.INTRODUCTION

Global awareness of sustainable development has intensified in recent years, prompted by global frameworks such as the United Nations Sustainable Development Goals (SDGs), which encourage businesses to embed environmental stewardship, social welfare, and economic resilience into their core operations (United Nations, 2015). This shift toward responsible business practices has positioned corporate sustainability (CS) at the forefront of strategic considerations, where organizations recognize that sound environmental, social, and economic practices can not only bolster reputations and satisfy stakeholders but also foster long-term resilience [1, 2]. In this study, corporate sustainability is conceptualized through three key dimensions environmental sustainability, social responsibility, and economic sustainability to capture the multifaceted nature of sustainable business models.

Nevertheless, as companies strive to meet evolving regulatory mandates and market expectations, questions remain about how employees respond to these initiatives particularly in terms of counterproductive work behaviors (CWB). CWB is conceptualized here as intentional actions that harm legitimate organizational interests and is divided into interpersonal (directed at individuals) and organizational (targeting the organization itself) forms [3, 4]. In the construction industry, interpersonal

CWBs may include behaviors such as verbal abuse or harassment of colleagues, intentional non-cooperation with team members, and workplace bullying, which can disrupt project cohesion and morale. Organizational CWBs are often manifested in the form of deliberate safety violations, theft or misuse of materials, tardiness, and purposeful work slowdowns, which can lead to project delays, increased costs, and compromised safety standards. When employees perceive that their company authentically practices sustainability, they may be less inclined to engage in harmful conduct, yet under certain conditions such as excessive pressure—sustainability mandates could paradoxically spur frustration or resistance [5].

Furthermore, as China rapidly industrializes, it faces substantial environmental and social hurdles including pollution and labor rights issues, which the government has addressed through policies emphasizing responsible corporate conduct [6, 7]. Among various sectors, the Chinese construction industry stands out as a critical area for sustainability research due to its substantial environmental footprint, high energy consumption, and significant labor-intensive operations. The sector is a major contributor to greenhouse gas emissions, resource depletion, and occupational health risks, making sustainability efforts particularly pressing [3]. Moreover, the construction industry in China is known for its stringent deadlines, high-pressure work environments, and complex stakeholder dynamics, which may influence employee perceptions and behaviors. While sustainability endeavors in various Chinese industries have been documented [8], existing research predominantly focuses on the environmental impacts and regulatory compliance aspects, with little attention given to how sustainability initiatives affect employee behavior particularly counterproductive work behaviors (CWB). To date, no study has comprehensively examined the intersection of environmental, social, and economic sustainability practices and their combined influence on both interpersonal and organizational CWB within the high-pressure context of the Chinese construction industry. This research uniquely bridges that gap, offering a holistic view of how integrated sustainability efforts can shape employee conduct in one of China's most environmentally and socially impactful industries.

The current study thus fills this gap by investigating whether an integrated sustainability approach—focused on environmental greenness, social fairness, and economic viability is able to lessen CWB in Chinese construction organizations. By moving beyond isolated sustainability metrics, this study introduces a novel framework that considers the synergistic effects of environmental, social, and economic sustainability on employee behavior. Based on the literature that connects ethical leadership, corporate ethical values (CEV), and a supportive work environment to the positive behavior of employees [9], this research helps to clarify how sustainability programs, when properly managed, can discourage employees from engaging in counterproductive behaviors. In doing so, the study not only advances the theoretical understanding of the sustainability-behavior nexus but also provides actionable insights for an industry that is pivotal to China's sustainable development trajectory. The findings hold practical significance for managers and policymakers seeking to design interventions that harmonize sustainability objectives with employee well-being and performance. Ultimately, understanding the interplay of environmental, social, and economic sustainability with interpersonal and organizational CWB will offer actionable insights for fostering a resilient, ethically grounded workforce capable of driving long-term organizational success.

II. RELATED WORK

The concept of corporate sustainability (CS), sometimes used interchangeably with corporate social responsibility (CSR), underscores the obligation of organizations to address social and environmental concerns without depleting resources for future generations [10, 11]. This broader perspective goes beyond purely economic concerns by encouraging a holistic view that balances environmental protection and social welfare over time. As previous studies [12, 13] show, this mediated perspective is consistent with ongoing conversations regarding business-society dialectics, ethical corporate governance, and stakeholder theory at large, emphasizing that organizations must consider a suite of internal and external stakeholders in the design of sustainability-oriented strategies.

Moreover, understanding how sustainability initiatives are realized and interpreted within organizations is vital, particularly from the standpoint of employees, who serve as internal stakeholders and directly shape

corporate outcomes [14]. According to stakeholder theory, CS should permeate all organizational levels, ensuring that the promoted values and practices are consistently applied [15]. Since employee perceptions of CSR or sustainability can directly influence their subsequent behaviors, it is crucial to comprehend their viewpoint to effectively integrate sustainability into day-to-day operations [16].

In this regard, counterproductive work behavior (CWB) becomes a critical concern. CWB refers to intentional actions by employees aimed at harming the organization or its members and is often rooted in negative emotions such as anger, dissatisfaction, or perceived injustices [17-19]. Elevated levels of CWB can jeopardize resource efficiency, damage stakeholder relationships, and undermine team morale, thereby compromising an organization's ability to fulfill sustainability targets [20, 21]. Although research directly connecting CWB to sustainability performance remains limited, emerging evidence points to a link between positive perceptions of CSR and reduced CWB, suggesting that adverse behaviors erode sustainability objectives [22, 23].

Accordingly, the literature offers two competing scenarios in which CS relates to CWB in Chinese organizations. On the one hand, well-integrated CS initiatives might actually reduce CWB as a by-product of nurturing an ethical climate and aligning the values of the organization with employee concerns. On the other, especially in high-pressure industries like construction, sustainability mandates can replace employees' stress or workload too much, which can trigger types of CWB [24]. To reflect these opposing perspectives, the following hypotheses are proposed:

- H1: Corporate sustainability practices exert a negative influence on employees' counterproductive work behaviors in Chinese organizations.
- H2: Corporate sustainability positively influences counterproductive work behavior in Chinese construction organizations.

In summary, the integration of sustainability into an organization's strategic and operational framework can significantly shape employee conduct, with detrimental behaviors like CWB hindering long-term environmental, social, and economic objectives. By acknowledging these dynamics, organizations can develop tailored strategies to promote an ethical, sustainability-oriented workplace culture and thereby reinforce enduring value creation.

III. MATERIAL AND METHOD

A quantitative research design was adopted in this study to investigate the associations between corporate sustainability (CS) practices and counterproductive work behavior (CWB) within the construction sector in China. According to stakeholder theory, perceptions and behaviors of internal stakeholders must be understood in order to successfully implement sustainability initiatives [25], and therefore, employees were sought as key informants. Grounded in the literature indicating that employees' beliefs regarding socially responsible practices may influence future attitudes and behaviors [26], the methodology was designed to collect data from individuals currently working in Chinese construction companies.

A pilot study was first conducted to ensure clarity and appropriateness of the measurement items, covering corporate sustainability, corporate ethical values, leader-member exchange, and CWB [27]. A panel of experts in organizational behavior and sustainability reviewed the questionnaire to refine item wording, relevance, and conceptual alignment with established theoretical frameworks [28]. Following revisions, Cronbach's alpha was used to assess internal consistency, reflecting the importance of robust measurement tools for capturing complex constructs such as CS performance and its influence on employee behaviors [29, 30].

1. DATA COLLECTION

We used a questionnaire for this study. Once validated, the final survey with 20 questions (each offering four response options) was administered to a sample of 417 employees through both online and paper-based formats to accommodate diverse accessibility preferences. Participants were assured of confidentiality and anonymity to promote honest responses [31]. The study targeted employees who had worked at least one year with their current employer, ensuring sufficient familiarity with the firm's sustainability practices and

ethical climate [32, 33]. Strategically timed follow-up reminders were sent to non-respondents, aiming to minimize response bias and enhance generalizability.

Data on key constructs such as corporate sustainability practices and counterproductive work behavior (CWB) were collected using a structured questionnaire. The questionnaire was tailored such that every segment was closely aligned with the aims of the study, and the five-point Likert scale was used to standardize responses. The scale we used starts at 1 ("Strongly Disagree") and ends at 5 ("Strongly Agree"), and this allows participants to share not only whether they agree or disagree but the strength of their feelings, which allows for a more in-depth analysis of their attitudes and perceptions. Similar to questions on Corporate Sustainability Practices are parts of environmental, social, and economic initiatives taken by the company [34]. Counterproductive Work Behavior (CWB): Items assessing how often negative behaviors are exhibited towards the organization or coworkers [35].

Additionally, Content validity is ensured through a thorough literature review and expert consultations. This process ensures that the questionnaire comprehensively covers all relevant aspects of the constructs being measured. For this purpose, a panel of three experts in organizational behavior and sustainability reviews the questionnaire to ensure it covers all relevant constructs and is free from bias. The experts provide feedback on the relevance and clarity of each item. This review helps ensure that the questionnaire is grounded in existing theory and empirical research. Therefore, based on feedback from the panel, necessary modifications are made to improve the clarity and relevance of the questions. These modifications ensure that the questionnaire accurately captures the constructs of interest and is understandable to participants. This iterative process enhances the instrument's validity.

After data collection, structural equation modeling (SEM) was employed to examine the direct and indirect effects of CS on CWB, consistent with literature advocating comprehensive analytical approaches for multifaceted variables [36, 37]. Visual tools such as graphs and path diagrams were used to elucidate the complex relationships among sustainability factors, ethical contexts, and employee behavior [38]. This systematic methodology ensured that the resulting insights credibly illuminate how corporate sustainability practices influence CWB in the construction domain.

2. RESEARCH DESIGN

The Research Design subsection encapsulates the strategic framework and methodology that underpins the entire research endeavor. It serves as the structural backbone guiding the systematic approach to investigating the research questions or hypotheses. This section meticulously outlines the overarching blueprint employed to conduct the study, delineating the chosen research paradigm, approach, and strategy. This subsection explains the reasons behind the selected type of research design, whether qualitative, quantitative, mixed-method, experimental, observational, or underpinned by a theoretical model. It demonstrates the strong foundations and logic that led to the choice of a specific methodology, clarifying how the study was conceived, conducted, and how data was collected and interpreted. Also, this section highlights the conformability of the research objectives and the established design, emphasizing how the employed methodology ensures the completeness, reliability, and validity of the study. The Research Design subsection provides a guiding light, allowing the auditor to understand the framework and the processes leading to insights and contributions to the discourse in the field.

IV.DATA ANALYSIS

This section details why the chosen research design was qualitative, quantitative, mixed-method, experimental, or observational and what was the guiding theoretical model for the research. In this research, we use structural equation model to test the relationship of corporate sustainability and counterproductive world behavior. Joint multiple regression analysis, which SEM is based on, is appropriate for this type of problem, and SEM has the advantage of being able to analyze multiple outcome variables simultaneously and/or mediated relationships. In this research, we conceptualize corporate sustainability (CS) with three dimensions (environmental, social, and economic), and counterproductive work behavior (CWB) with interpersonal and organizational dimensions. SEM is a multivariate procedure that estimates both

measurement errors and the structural relationships between constructs, making simultaneous analysis possible and allowing for more precise results. Other similar cross-sectional studies, like [39] within the manufacturing sector and [40] within the service sector have adopted SEM to better understand the relationship between sustainability initiatives and employee behavior, confirming its appropriateness for this study.

It demonstrates the strong foundations and logic that led to the choice of a specific methodology, clarifying how the study was conceived, conducted, and how data was collected and interpreted. Also, this section highlights the conformability of the research objectives and the established design, emphasizing how the employed methodology ensures the completeness, reliability, and validity of the study. The Research Design subsection provides a guiding light, allowing the auditor to understand the framework and the processes leading to insights and contributions to the discourse in the field.

1. QUANTITATIVE DATA ANALYSIS

The demographic profile of the respondents reflects a diverse cross-section of employees within the Chinese construction industry (Table 1). In terms of gender, the majority of respondents were male (89.4%, 373 individuals), while females comprised 10.6% (44 individuals). No respondents identified as "Other."

Regarding age distribution, the sample was predominantly young to middle-aged, with 32.4% (135 individuals) aged 18-25 years and the largest segment, 58.8% (245 individuals), aged 26-35 years. Respondents aged 36-45 years accounted for 7.2% (30 individuals), while those aged 46-55 years constituted 1.4% (6 individuals). Only 0.2% (1 individual) was aged 56 years or older. This distribution highlights a workforce primarily composed of younger professionals, which is characteristic of the dynamic, labor-intensive nature of the construction industry.

The roles and positions of respondents within their companies were varied. Entry-level employees represented 27.8% (116 individuals), while middle management positions were the most common, accounting for 54.7% (228 individuals). Senior management roles were held by 14.6% (61 individuals), and executive-level positions made up 2.9% (12 individuals). This indicates a strong representation of both operational staff and decision-makers, providing comprehensive insights into perceptions across different hierarchical levels.

In terms of company size, 17.7% (74 individuals) were employed in small companies, 34.3% (143 individuals) in medium-sized companies, and 45.1% (188 individuals) in large companies. A smaller portion, 2.9% (12 individuals), worked in very large organizations. This mix offers a balanced view of the construction industry across different organizational scales. The educational background of the respondents showed that 32.4% (135 individuals) had completed high school, while the majority, 58.8% (245 individuals), held a bachelor's degree. Master's degree holders accounted for 7.2% (30 individuals), and 1.4% (6 individuals) had earned a doctorate. One respondent (0.2%) reported having other qualifications.

The respondents' professional experience ranged from novice to seasoned professionals. 2.4% (10 individuals) had 0-2 years of experience, 24.5% (102 individuals) reported 3-5 years, and the majority, 56.1% (234 individuals), had 6-10 years of experience. Respondents with 11-15 years of experience constituted 10.3% (43 individuals), while 6.7% (28 individuals) had over 16 years of experience. This spread reflects a workforce with a substantial level of professional maturity, particularly in the mid-career stages.

Overall, this comprehensive demographic profile provides valuable insights into the gender, age, organizational roles, education levels, and professional experience of the respondents. The predominance of younger professionals in middle management suggests that sustainability initiatives may be influenced by individuals who are both operationally engaged and in positions to shape workplace culture and policies.

Table 1. Demographic profile of respondents.

Variable	Category	Frequency	% age
Gender	Male	373	89.4
	Female	44	10.6
	Other	-	-

Age	18-25	135	32.4
	26-35	245	58.8
	36-45	30	7.2
	46-55	6	1.4
	56 and above	1	0.2
Company Size	Small	74	17.7
	Medium	143	34.3
	Large	188	45.1
	Very Large	12	
Position in Company	Entry Level	116	27.8
	Middle Management	228	54.7
	Senior Management	61	14.6
	Executive	12	2.9
Education	High School	135	32.4
	Bachelor's Degree	245	58.8
	Master's Degree	30	7.2
	Doctorate	6	1.4
	Other	1	0.2
Years of Experience	0-2 years	10	2.4
	3-5 years	102	24.5
	6-10 years	234	56.1
	11-15 years	43	10.3
	16+ years	28	6.7

2. EXPLANATORY FACTOR ANALYSIS

The exploratory factor analysis (EFA) with maximum likelihood extraction and Promax rotation was conducted to examine the factor structure of corporate sustainability and counterproductive work behavior (CWB) [41]. The EFA for corporate sustainability yielded three factors with eigenvalues greater than one: environmental support, community support, and transparency enhancement, explaining 78.38% of the total variance. The individual factors contributed 48.82%, 16.01%, and 13.56% of the variance, respectively (Table 2). The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy for corporate sustainability was 0.906, and Bartlett's Test of Sphericity was significant ($\chi^2 = 3482.14$, df = 66, $p < 0.001$), indicating the suitability of the data for factor analysis. (Table 3)

Table 2. Explanatory factor analysis showing total variance.

	Eigenvalues Corporate Sustainability		
	Total	**% of variance**	**Cumulative %**
1	5.858	48.815	48.815
2	1.921	16.006	64.821
3	1.627	13.556	78.377
	Eigen Values Counterproductive Work Behavior		
1	3.227	40.343	40.343
2	1.436	17.953	58.296

For counterproductive work behavior, the EFA identified two factors, with the first factor explaining 40.34% of the variance and the second contributing 17.95%, resulting in a cumulative explained variance of

58.30%. The KMO measure for CWB was 0.819, and Bartlett's Test of Sphericity was also significant (χ^2 = 856.351, df = 28, p < 0.001). These results support the adequacy of the data for further analysis and provide a clear factor structure for both constructs.

Table 3. Kaiser-meyer-olkin measure of sampling adequacy.

Corporate Sustainability		
Kaiser-Meyer-Olkin (KMO)		0.906
Bartlett's Test of Sphericity	Approx. Chi-Square	3482.14
	df	66
	Sig.	0.000
Counterproductive Work Behavior		
Kaiser-Meyer-Olkin (KMO)		0.819
Bartlett's Test of Sphericity	Approx. Chi-Square	856.351
	df	28
	Sig.	0.000

3. MIXED-METHODS DATA ANALYSIS

The reliability of the constructs was assessed using Cronbach's Alpha and composite reliability (CR), with the results (Table 4). Cronbach's Alpha values ranged from 0.749 to 0.925, indicating high internal consistency across all constructs. According to George and Mallery (2003), these values fall within the "excellent" range, confirming robust internal reliability. Composite reliability (CR) values ranged from 0.749 to 0.925, exceeding the recommended threshold of 0.70, as suggested by [42]. These findings provide further evidence of the strong reliability of the constructs.

For corporate sustainability practices [43], environmental sustainability demonstrated excellent internal consistency, with a Cronbach's Alpha of 0.925 and a CR of 0.913. Factor loadings for the items ranged from 0.849 to 0.886, with "actively reduces its environmental impact" (loading = 0.886) and "reduces waste and promotes sustainable use of resources" (loading = 0.876) strongly contributing to the construct. Social responsibility had a Cronbach's Alpha of 0.913 and a CR of 0.925, with loadings ranging from 0.839 to 0.866. The item "promotes diversity and inclusion in the workplace" (loading = 0.866) demonstrated a particularly strong alignment with the construct. Economic sustainability had a Cronbach's Alpha of 0.881 and a CR of 0.882, with loadings ranging from 0.777 to 0.825. Notably, "balances short-term financial performance with long-term sustainability goals" (loading = 0.815) strongly represented this construct.

For counterproductive work behavior (CWB), interpersonal CWB exhibited a Cronbach's Alpha of 0.767 and a CR of 0.771, with factor loadings ranging from 0.592 to 0.738. The item "blamed someone else for my mistake" (loading = 0.738) had the strongest alignment within this factor. Organizational CWB had a Cronbach's Alpha of 0.749 and a CR of 0.749, with loadings ranging from 0.603 to 0.702. The item "deliberately worked slower than I could have worked" (loading = 0.702) demonstrated the highest contribution to the construct.

Table 4. Results for measurement model and correlation coefficients.

Constructs	Items	Loadings
Corporate Sustainability Practices [43]		
Factor 1: Environmental Sustainability (CR=0.913, AV=0.725, MSV=0.282, Cronbach's a = 0.925)		
Env1	actively reduces its environmental impact	0.886
Env2	comprehensive recycling program	0.864
Env3	invests in energy-efficient technologies	0.849
Env4	reduces waste and promotes sustainable use of resources	0.876
Factor 2: Social Responsibility (CR=0.925, AV=0.755, MSV=0.282, Cronbach's a = 0.913)		

SR1	supports local communities through various initiatives	0.841
SR2	ensures fair labor practices	0.839
SR3	promotes diversity and inclusion in the workplace	0.866
SR4	provides employees with opportunities for professional development	0.860
Factor 3: Economic Sustainability (CR=0.882, AV=0.651, MSV=0.224, Cronbach's a = 0.881)		
ES1	maintains financial health while promoting sustainability	0.825
ES2	invests in sustainable business practices	0.809
ES3	reports transparently on its sustainability efforts	0.777
ES4	balances short-term financial performance with long-term sustainability goals	0.815
Counterproductive Work Behavior (CWB) [44]		
Factor 1: Interpersonal CWB (CR=0.771, AV=0.634, MSV=0.251, Cronbach's a = 0.767)		
IC1	intentionally acted rudely toward someone at work	**0.735**
IC2	made fun of someone at work	**0.631**
IC3	blamed someone else for my mistake	**0.738**
IC4	spread rumors about coworkers	**0.592**
Factor 2: Organizational CWB (CR=0.749, AV=0.732, MSV=0.251, Cronbach's a = 0.749)		
Ocwb1	taken property from work without permission	**0.677**
Ocwb2	deliberately worked slower than I could have worked	**0.702**
Ocwb3	used company time for personal tasks	**0.629**
Ocwb4	intentionally wasted company resources	**0.603**

The convergent validity was evaluated using the average variance extracted (AVE), as recommended by [46] (Table 5). The AVE values for the constructs ranged from 0.634 to 0.755, all surpassing the 0.50 threshold, indicating that a substantial portion of the variance in the indicators is explained by their respective latent constructs. For example, environmental sustainability had an AVE of 0.725, social responsibility had an AVE of 0.755, and economic sustainability had an AVE of 0.651. Similarly, interpersonal CWB and organizational CWB had AVE values of 0.634 and 0.732, respectively. These findings collectively confirm that the measurement model exhibits strong internal consistency [44], reliability [45], and convergent validity [46], ensuring the robustness of the constructs in capturing the variance of their respective indicators.

Table 5. Measurement model reliability and validity.

	CR	**AVE**	**MSV**	**MaxR(H)**	**SocResp**	**EnvirSust**	**EcoSust**
Social	0.913	0.725	0.282	0.914	**0.852**		
Environment	0.925	0.755	0.282	0.926	0.531	**0.869**	
Economical	0.882	0.651	0.224	0.883	0.473	0.421	**0.807**
	CR	**AVE**	**MSV**	**MaxR(H)**	**IntCWB**		
Internal	0.771	0.634	0.251	0.781	**0.677**		
Organizational	0.749	0.732	0.251	0.753	0.501***	**0.654**	

The heterotrait-monotrait ratio of correlations (HTMT), a new method for assessing discriminant validity, was used in this study, as proposed by [47]. Thus, since HTMT is a more appropriate approach to model correlations between constructs than conventional tests such as cross-loadings and Fornell-Larcker criterion, which fail to identify discriminant validity often [48], we use HTMT. The HTMT was calculated by the SPSS, following the rule of thumb of 0.85 proposed by [49] and [50]. The HTMT result per the table above confirms that all HTMT values are below this threshold, indicating sufficient serial validity.

Therefore, validity of the model was ensured through discriminant validity, followed by regression analysis to study the relationship with CS and CWB. Discriminant validity, which verifies that unlike constructs measure separate ideas, was evaluated utilizing the Heterotrait-Monotrait Ratio (HTMT). The HTMT criterion values of 0.530, 0.424, and 0.474 for environmental sustainability and social responsibility, environmental sustainability and economic sustainability, and social responsibility and economic sustainability were each far below the threshold in this study, indicating these dimensions of corporate sustainability are each distinct factor. Likewise, regarding CWB, the HTMT value was 0.512 between interpersonal CWB (behaviors intended for individual people (i.e., harassment or conflict) and organizational CWB (behaviors aimed at an organization (e.g., stealing, violation) (Table 6). This appeared to demonstrate that although the two types of CWB related, they were still independent, lending support to the fact that the constructs were discriminant [51].

Table 6. Measurement model reliability and validity.

	Environmental Sustainability	**Social Responsibility**	**Economical Sustainability**
Env Sustainability	-		
Social Responsibility	0.530	-	
Eco Sustainability	0.424	0.474	-
	CWB Heterotrait-Monotrait Ratio of correlation (HTMT)		
	Interpersonal CWB	Organizational CWB	
Int CWB			
OrgCWB	0.512		

4. STRUCTURAL MODEL

Structural Equation Modelling (SEM) is a strong statistical technique that evaluates complex relationships among variables with both measured and structural components. Through the structural equational model (SEM), the present study integrated the relationship between corporate sustainability (CS) and employee counterproductive work behavior (CWB). The main indices of the fit indicated that the model was valid and reliable: CMIN/DF = 1.668 (between 1–3 expected), CFI = 1,00 (greater than 0.95 threshold), SRMR = 0.015 (lower than 0.08 threshold), RMSEA = 0.000 (under 0.06) and PClose>0.05 = 0.950. All in all, these results indicate a pretty good fit for the model (Table 7).

Table 7. Model validity and reliability.

Measure	**Estimate**	**Threshold**
CMIN	1.815	
DF	5.6	
Cmin/DF	1.668	Between 1 and 3
CFI	1.00	>0.95
SRMR	0.015	<0.08
RMSEA	0.000	<0.06
PClose	0.950	>0.05

Table 8 presents the regression analysis results, which shows a statistically significant relationship between corporate sustainability and CWB. The structural path coefficient from CS to CWB was -0.588, with a standard error (SE) of 0.081 and a critical ratio (CR) of -7.259. The negative coefficient indicates an inverse relationship, meaning that higher levels of corporate sustainability are associated with lower levels of counterproductive work behavior. Specifically, for every one-unit increase in corporate sustainability, there is an associated 0.588-unit decrease in CWB, suggesting that sustainability initiatives contribute not only to environmental and social goals but also to fostering positive employee behavior. The critical ratio, which

functions similarly to a t-value, indicates the statistical significance of this relationship. A CR greater than ±1.96 suggests significance at the 0.05 level; here, the CR of -7.259 far exceeds this threshold, confirming that the relationship is highly significant (Table 8). These results underscore the importance of corporate sustainability in influencing employee behavior, demonstrating that well-implemented sustainability practices can reduce workplace misconduct and promote a healthier organizational environment.

These findings align with similar studies in other industries, though with some notable distinctions. For example, research in the manufacturing sector has demonstrated a comparable negative relationship between corporate sustainability initiatives and CWB, albeit with slightly weaker effect sizes (e.g., estimates ranging from -0.40 to -0.50) [52]. This suggests that while sustainability efforts broadly reduce CWB, the high-pressure and environmentally impactful nature of the construction industry may amplify this effect. In contrast, studies in the service industry have shown more mixed results, with some reporting modest reductions in interpersonal CWB but negligible impacts on organizational CWB [53]. This variation could be attributed to differences in operational environments, employee roles, and the visibility of sustainability practices.

What makes construction unique, as per this study, is the interaction between the stress factors inherently part of the industry (e.g., delivery on tight deadlines and safety risks) and the establishment of sustainability practices. In industries such as finance or healthcare, sustainability initiatives are typically more policy-driven and less integrated into daily operational activities and this could potentially account for the weaker or more variable effects found on those sectors [54]. The strong negative relationship observed in this study suggests that when sustainability practices directly intersect with an employee's immediate work responsibilities (i.e., construction sector), then the impact of reducing CWB is greater compared to sectors where sustainability practices have limited influence [55].

Table 8. Regression result.

	Estimate	SE	CR
Cs → cwb	-0.588***	0.081	-7.259

V. DISCUSSION

To achieve corporate sustainability in Chinese organizations, it is essential not to overlook the roles of employees as imperative stakeholders in enhancing an organization's long-term performance, as they engage in decision-making processes and closely influence overall success [56, 57]. As articulated in H1, corporate sustainability practices exert a negative influence on employees' counterproductive work behaviors (CWB) in Chinese organizations, reflecting prior findings that intentional and voluntary acts to harm an organization's interests [58] can be mitigated when employees perceive robust ethical values and organizational support [59-62]. However, the high-pressure environment often found in Chinese construction sectors provides a contrasting perspective, in line with H2, suggesting that corporate sustainability may paradoxically enhance CWB if workers experience increased stress or perceive sustainability measures as additional burdens. Through conducting a nationwide study of Chinese organizations, this research has revealed that employees' positive and negative behaviors might influence different aspects of corporate sustainability performance, thereby aligning with earlier studies that highlight how constructive behaviors underpin sustainability.

Several cultural and organizational factors may influence this outcome. Culturally, in China, corporate sustainability is increasingly seen as a moral obligation, aligning with the government's push for sustainable development and corporate social responsibility (CSR). The Confucian work ethic, which emphasizes collectivism, discipline, and long-term responsibility, may reinforce the impact of sustainability initiatives by fostering greater employee alignment with ethical business practices. Employees who perceive that their company genuinely upholds social and environmental responsibility may feel a stronger sense of loyalty and obligation, reducing the likelihood of engaging in counterproductive behaviors.

Therefore, sustainability initiatives in the construction industry tend to be highly visible and directly relate to the workplace (e.g. safety improvements, fair labor practices, resource-efficient operations), making

organizational projects a natural target for improvement. In contrast to industries where sustainability is manifest less immediately (e.g., service or finance), construction workers directly feel the impact of sustainability policies through safer work environments, increased job security, and ethical leadership. The tangible nature of the punishment may drive behavioral change to a greater extent, further solidifying the negative corporate sustainability-CWB association. Additionally, when leaders themselves are committed to sustainability and proactively communicate sustainability as a core pillar of corporate culture, employees are more likely to buy into those values and reduce workplace misconduct.

However, it is also important to acknowledge potential limitations and contextual variations. In some cases, if sustainability initiatives are perceived as inauthentic or merely symbolic ("greenwashing"), they could lead to employee skepticism or resistance, possibly undermining their effectiveness in reducing CWB. Additionally, in high-pressure environments, unrealistic sustainability expectations could introduce stress and resentment, which may negatively impact employee morale. These nuances highlight the need for carefully designed and well-communicated sustainability programs that balance corporate goals with employee well-being.

The findings of this study provide several key implications. First, although many industries are increasingly adopting sustainability-driven agendas, there remains limited empirical focus on how employee behaviors particularly CWB may shape these sustainability efforts [60]. Viewing employees as critical internal actors aligns with stakeholder theory, which posits that stakeholders, including employees, ultimately drive organizational outcomes. In support of H1, this study extends previous investigations [57] by suggesting that when employees engage in fewer counterproductive behaviors, sustainability outcomes related to environmental stewardship, community support, and transparency are more effectively realized. Yet, the results also reinforce H2 in highlighting that some employees, especially in demanding industries like construction, may respond negatively if sustainability initiatives are perceived as intensifying work strain, thus potentially increasing the likelihood of CWB.

Consistent with stakeholder theory, the findings confirm that employees in an organization are influential stakeholders whose behaviors can significantly shape corporate performance [63]. Supporting prior research, this study shows that organizations with robust sustainability cultures can curb destructive tendencies among employees, thereby fostering a climate of mutual respect and collective responsibility [64]. If employees in high-pressure contexts perceive sustainability requirements as poorly managed or overly demanding, they may exhibit heightened CWB, consonant with H2. Consequently, organizations should design sustainability practices with adequate training, resource allocation, and supportive leadership to preempt such harmful outcomes.

Therefore, to mitigate harmful behaviors and reconcile the conflict among H1 and H2 as suggested, Chinese organizations may adopt policies which reward employees via effective reward systems, and balanced performance-based assessments, and lead to professional progress. Placing emphasis on an ethical working climate enables organizations to not only sustain employee commitment but channel workplace behavior in pursuit of sustainability [65]. Mentorship programs and training modules that emphasize ethical decision-making could help build a more sustainability-focused workforce. As employees begin to view sustainability as a common organizational goal through these interventions, this may serve to minimize the possibility of increased CWB as a result of added responsibilities or stress.

Moreover, this study found that both relational factors (e.g., constructive leader-member exchanges) and contextual variables (e.g., industry norms) significantly influence how employees respond to corporate sustainability agendas. In supportive workplaces, employees often align with organizational values, demonstrating fewer counterproductive acts, which accords with H1. However, under high-stress conditions or in industries like construction, sustainability directives could inadvertently spark frustration, aligning with H2's proposition. By encouraging collaborative leadership styles, fair evaluation systems, and ongoing feedback processes, organizations can create positive employee relations that reinforce sustainability-driven goals and minimize CWB [66].

However, this study is not without limitations, suggesting opportunities for future research. First, only employees' perspectives were collected from diverse Chinese organizations, including construction data. Although this highlights their role as principal stakeholders, future studies may consider supervisors' or top

managers' perspectives to enhance our comprehension of the associations among employee behaviors and perceptions of leadership. Second, the integration of self-reported data with secondary sources or market-based indicators could bolster our understanding of corporate sustainability performance by providing less subjective measures. Additionally, investigating attributes like job stress, cultural practices, and managerial support across sectors could shed light on the mechanisms through which H2 materializes in certain environments but not in others, thereby refining our understanding of the twofold potential for corporate sustainability to decrease or increase CWB.

From a policy standpoint, embedding sustainability into the foundational practices of Chinese organizations, particularly in sectors like construction can involve instituting ethical guidelines, transparent leadership, and employee development programs that collectively attenuate CWB. Future research should explore how organizational culture, individual differences, and structural dynamics moderate or mediate the relationship between sustainability practices and CWB so that organizations can more effectively leverage sustainability to foster positive behaviors without inciting adverse outcomes. By balancing performance goals with comprehensive sustainability frameworks, organizations can enhance ethical work climates, promote social and economic well-being, and align employees' day-to-day actions with broader sustainability objectives.

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Authors Contributions

All authors contributed equally to the development, design, and execution of this study.

Conflicts of Interest

The authors declare no conflicts of interest.

Data Availability Statement

Data are available from the authors upon request.

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