EDUCATIONAL SCIENCES: THEORY & PRACTICE eISSN: 2148-7561, ISSN: 2630-5984

Received: 02 October 2025
Revision received: 02 January 2026
Accepted: 09 January 2026

www.jestp.com

DOI 10.12738/jestp.2026.1.03 ♦ **January** 2026 ♦ 26(1) ♦ 33-51

Article

Greenwashing Within Higher Education: Empirical Evidence from a Mixed-Methods Study on Employee Dark Triad Traits

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Abstract

Sustainability has become a central priority in higher education institutions (HEIs), with ethical climate (EC) commonly assumed to promote employee green behavior (EGB). However, inconsistent expressions of green behavior within ethically oriented environments suggest that this relationship may be contingent upon individual personality characteristics. Drawing on the Dark Drawing on the Dark Triad framework, this study examines whether employee Dark Triad (EDT) traits moderate the relationship between ethical climate and employee green behavior. Using a mixed-methods design, quantitative data were collected from 700 HEI employees through purposive non-probability sampling and analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM). The qualitative phase involved thematic analysis of 12 semi-structured interviews to contextualize and explain the quantitative findings. Results from the pilot analysis indicate that ethical climate does not exert a significant direct effect on employee green behavior (H1 rejected, $p = 0.198$). In contrast, employee dark triad traits significantly moderate the EC–EGB relationship (H2 supported, $p < 0.001$), demonstrating that the effectiveness of ethical climates depends on individual personality dispositions. Qualitative findings further revealed patterns of strategic conformity, green spotlighting, and sustainability apathy, indicating that dark personality traits often shift green behavior from authentic engagement to performative compliance. Overall, the findings suggest that ethical climate alone is insufficient to ensure genuine sustainability practices in HEIs. Practical implications emphasize the need for institutions to address personality-driven behavioral distortions alongside structural ethics to achieve authentic sustainability outcomes. Study limitations include reliance on self-reported personality measures and a single-country HEI context.

Keywords

Ethical Climate, Green Behavior, Dark Triad Traits, Higher Education Institutions.

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Citation: Alowais, A. A., & Suliman, A. (2026). Greenwashing Within Higher Education: Empirical Evidence from a Mixed-Methods Study on Employee Dark Triad Traits. *Educational Sciences: Theory and Practice, 26*(1), 33 - 51.
http://dx.doi.org/10.12738/jestp.2026.1.03

Introduction

Sustainability has become an established institutional priority within Higher Education Institutions (HEIs), which are widely recognized as key actors in promoting environmentally responsible behavior and advancing sustainable development objectives (Giancola, Palmiero, & D'Amico, 2023; Mahesh, Aithal, & Sharma, 2024). As educational and social institutions, HEIs increasingly emphasize Employee Green Behavior (EGB), including waste reduction, energy conservation, and environmentally responsible workplace practices (Mendes et al., 2025). Parallel to this sustainability agenda, HEIs have also intensified their focus on behavioral ethics, seeking to cultivate organizational environments characterized by fairness, transparency, and integrity in daily decision-making (Basheer et al., 2024). Ethical Climate (EC), defined as shared perceptions of ethically appropriate behavior and the handling of ethical issues within organizations, is therefore commonly viewed as a key mechanism for encouraging pro-environmental conduct (Dalmolin et al., 2022).

Despite these normative assumptions, empirical evidence reveals a persistent inconsistency between ethical climates and actual green behavior within HEIs. Even in institutions with strong ethical commitments, employee engagement in sustainability practices is often unstable, sporadic, or contingent on visibility and incentives (Bertossi & Marangon, 2021; Correia et al., 2021; Owusu et al., 2025). This suggests that ethical climate alone may be insufficient to generate authentic, internally motivated green behavior, as employees may comply superficially in response to external expectations rather than intrinsic environmental values (Mendes et al., 2025; Zagenczyk et al., 2021). Such patterns point to the influence of deeper psychological mechanisms shaping sustainability engagement.

Building on this insight, the present study introduces the concept of "greenwashing from within." Unlike conventional corporate greenwashing directed at external stakeholders, internal greenwashing occurs when sustainability is strategically signaled inside organizations without substantive behavioral alignment. Within HEIs, this may manifest through symbolic initiatives, sustainability rhetoric, or superficial compliance that enhances institutional image while leaving underlying practices unchanged. Qualitative evidence from HEI contexts highlights this contradiction through themes of strategic conformity, green spotlighting, and sustainability apathy, revealing sustainability as a performance rather than an embedded organizational value.

One set of psychological mechanisms capable of explaining this internal contradiction lies in the Employee Dark Triad (EDT) Machiavellianism, narcissism, and psychopathy. Although traditionally viewed as socially undesirable, Dark Triad traits are increasingly examined in organizational research for their subtle yet powerful influence on ethical and behavioral outcomes (Hassan et al., 2023). Machiavellian individuals may engage in green behavior instrumentally to gain social or professional advantage, narcissistic individuals may adopt sustainability practices for image enhancement rather than environmental concern, and psychopathic tendencies marked by low empathy and impulsivity may result in indifference or neglect toward sustainability objectives (Bowen, Musarra, & Ou, 2022; Tamatea, 2022). Despite their theoretical relevance, empirical research has rarely examined how these traits shape or distort the relationship between ethical climate and green behavior, particularly within HEI settings (Joshi et al., 2024).

This gap is especially salient given growing evidence that sustainability inconsistencies are widespread across academic institutions (Abello-Romero et al., 2024; Ramísio et al., 2019). Prior studies demonstrate that sustainability outcomes are influenced by individual characteristics such as narcissism and personal environmental orientations, reinforcing the role of personality in shaping environmental engagement (Palmié et al., 2023; Tandon et al., 2023). However, no prior research has integrated ethical climate, employee green behavior, and Dark Triad traits within a single explanatory framework in the HEI sustainability context.

Accordingly, this study aims to examine how Ethical Climate (EC) influences Employee Green Behavior (EGB) in Higher Education Institutions and whether this relationship is moderated by Employee Dark Triad (EDT) traits. Focusing on academic and administrative staff, the study adopts a mixed-methods approach to uncover both statistical relationships and underlying behavioral mechanisms driving internal greenwashing. HEIs provide a particularly relevant context for this investigation, as they function simultaneously as workplaces, moral exemplars, and instruments of national development (Manzoor, Ho, & Al Mahmud, 2021). In the United Arab Emirates, HEIs play a central role in national sustainability agendas such as Vision 2031, while also facing pressures related to global rankings, branding, and legitimacy. These competing demands may incentivize symbolic rather than substantive sustainability practices, rendering HEIs especially vulnerable to internal greenwashing dynamics.

By integrating ethical climate theory with personality-based explanations, this study contributes a novel psychological account of sustainability inconsistency in HEIs. It demonstrates why ethical climate alone cannot guarantee authentic green behavior and highlights how dark personality traits exploit institutional contradictions to transform sustainability into performance rather than practice. In doing so, the study advances understanding of internal greenwashing and provides a critical foundation for designing sustainability interventions that prioritize authenticity over symbolism.

Literature Review

To maintain coherence with the introduction, this review conceptually integrates three core constructs: ethical climate (EC), employee green behavior (EGB), and internal greenwashing. While higher education institutions (HEIs) increasingly publicize sustainability commitments, empirical evidence suggests that internal employee behaviors often fail to align with such discourse, producing a persistent gap between institutional rhetoric and practice. This misalignment reflects emergent forms of internal greenwashing, whereby sustainability values are symbolically endorsed but inconsistently enacted. Prior research further indicates that such inconsistencies may be partially explained by personality dynamics, as Machiavellian and narcissistic individuals are prone to impression management and symbolic compliance. Accordingly, this review positions dark personality traits as a critical boundary condition shaping the EC–EGB relationship in HEIs. Despite growing interest in ethical climate, pro-environmental behavior, and dark personality traits, these streams remain largely disconnected. Existing studies typically examine EC and EGB independently, or explore dark traits in general workplace behavior, without embedding them within the sustainability context of HEIs. Moreover, internal greenwashing has yet to be theorized through a personality–climate interaction lens. This study addresses this gap by empirically examining how employee dark triad (EDT) traits distort sustainability-oriented behaviors, offering a novel explanation for the recurring EC–EGB inconsistency in higher education.

Ethical Climate (EC)

Ethical climate refers to shared perceptions regarding appropriate moral conduct and organizational responses to ethical issues (Essex et al., 2023). In HEIs, ethical climate extends beyond academic integrity to influence broader institutional practices, including sustainability engagement (Mohi Ud Din et al., 2025). Prior research conceptualizes ethical climate across multiple orientations, such as caring, rules-based, instrumental, and independence climates, each reflecting distinct ethical reasoning frameworks that guide employee behavior (Al Halbusi et al., 2020). More recently, EC has been linked to environmental and sustainability-related behaviors, particularly as HEIs increasingly align with global sustainability agendas such as the United Nations Sustainable Development Goals (Zhang et al., 2024). A supportive ethical environment can foster personal responsibility and value congruence, encouraging employees to engage in pro-environmental actions such as resource conservation, waste reduction, and participation in green initiatives (Mouro, Lomba, & Duarte, 2021).

However, these relationships are not uniform. Some employees respond to ethical expectations through surface-level compliance, driven by conformity or external expectations rather than genuine moral commitment (Pham et al., 2023). This variability suggests that ethical climate alone is insufficient to ensure authentic sustainability engagement. Instead, employee responses to EC appear contingent upon underlying psychological characteristics, highlighting the need to account for individual differences when examining ethical and environmental behaviors (Reznichenko, Nartova-Bochaver, & Irkhin, 2021). Consequently, integrating personality-based explanations offers a more nuanced understanding of why ethical climates may coexist with performative or inconsistent green behaviors in HEIs.

Employee Green Behavior (EGB)

Employee Green Behavior (EGB) refers to voluntary workplace actions that support organizational sustainability objectives, such as reducing energy consumption, engaging in recycling initiatives, and promoting green policies within higher education institutions (HEIs) (Hasan & Rahman, 2023). Prior research distinguishes between task-related green behaviors embedded within formal job responsibilities and civic-oriented behaviors that extend beyond role expectations, including participation in sustainability campaigns and peer support for environmental initiatives (Bashirun, Noranee, & Hasan, 2025).

Importantly, the effectiveness of EGB is not determined solely by its frequency but by the motivation underpinning such behaviors. Contemporary sustainability research increasingly differentiates between authentic green behavior driven by internalized environmental values and strategic or performative green behavior motivated by self-interest, reputation enhancement, or conformity (Akram, Mirza, & Mahar, 2024; Miah et al., 2024). This distinction is particularly salient in HEIs, where sustainability norms are often institutionalized, allowing employees to adopt environmentally visible behaviors without genuine commitment. Empirical studies generally report a positive association between ethical climate (EC) and EGB, especially when organizations emphasize shared environmental responsibility and ethical reasoning (Yadate, 2025). However, these effects are frequently modest, suggesting that individual differences may condition how employees interpret and enact ethical and sustainability cues. This variability underscores the need to examine EGB beyond structural influences alone.

Employee Dark Triad (EDT)

Employee Dark Triad (EDT) traits such as Machiavellianism, narcissism, and psychopath represent socially aversive personality dispositions characterized by manipulation, self-interest, emotional detachment, and moral flexibility (Deol & Schermer, 2021). While these traits differ in expression, they converge in prioritizing personal gain over collective or ethical considerations (Cull, 2023). Machiavellian individuals tend to engage in calculated and strategic behavior, narcissists are status- and image-oriented, and psychopathic individuals exhibit impulsivity, callousness, and disregard for norms. These traits are particularly consequential in contexts that impose ethical or sustainability expectations. Individuals high in EDT are more likely to engage in impression management, selectively displaying green behaviors to enhance personal image rather than out of environmental concern (Malmlund, 2024). Machiavellians may adopt sustainability rhetoric instrumentally, narcissists may pursue conspicuous green actions for recognition, and psychopathic individuals may remain indifferent or resistant to environmental norms altogether (Lallement, 2024). Empirical research increasingly links EDT traits to moral disengagement, workplace deviance, and symbolic compliance with ethical standards (Ellen III et al., 2021). Such tendencies weaken the internalization of ethical climates and help explain why strong EC signals do not consistently translate into genuine green behavior. Recognizing this moderating role is therefore critical for understanding sustainability inconsistencies within HEIs.

Theoretical Framework

This study integrates four complementary theoretical perspectives which includes Ethical Climate Theory, Dark Triad Theory, Moral Disengagement Theory, and Impression Management Theory to explain why ethical climates may produce inconsistent sustainability outcomes. Ethical Climate Theory posits that shared organizational norms and ethical cues shape employee behavior by signaling acceptable standards and expectations (Ogunfowora et al., 2022). Dark Triad Theory highlights how Machiavellianism, narcissism, and psychopathy predispose individuals to undermine or exploit such ethical structures for self-serving purposes (Jonason et al., 2022; Kowalski, Vernon, & Schermer, 2021). Moral Disengagement Theory explains the cognitive processes through which individuals rationalize behaviors that contradict sustainability values, particularly by minimizing responsibility or moral consequences (Brugués & Caparrós, 2022; Gholami et al., 2025). Impression Management Theory further elucidates how employees may outwardly signal environmental commitment to preserve reputation while lacking genuine internal alignment (Curtis et al., 2023). Together, these perspectives move beyond linear assumptions by accounting for structural, dispositional, cognitive, and symbolic mechanisms that jointly shape whether ethical climates foster authentic or performative green behavior. This integrative framework is especially relevant in HEIs, where sustainability branding and moral discourse are highly visible.

Conceptual Framework and Hypotheses

Drawing on the preceding literature, this study proposes a conceptual model in which Ethical Climate (EC) positively influences Employee Green Behavior (EGB), with Employee Dark Triad (EDT) traits acting as a moderator. While ethical climates are expected to encourage pro-environmental actions, the strength and authenticity of this relationship depend on employees' personality dispositions. Employees low in EDT are more likely to internalize ethical and environmental norms, translating institutional sustainability commitments into genuine green behaviors. In contrast, individuals high in Machiavellianism, narcissism, or psychopathy may engage in calculated compliance, symbolic participation, or indifference manifesting as internal greenwashing

rather than authentic engagement. Narcissistic employees may perform visible green actions for admiration, Machiavellians may exploit sustainability discourse for political or reputational gain, and psychopathic individuals may disregard environmental expectations altogether. Accordingly, EDT is positioned as a critical boundary condition shaping the EC–EGB relationship (see Figure 1).

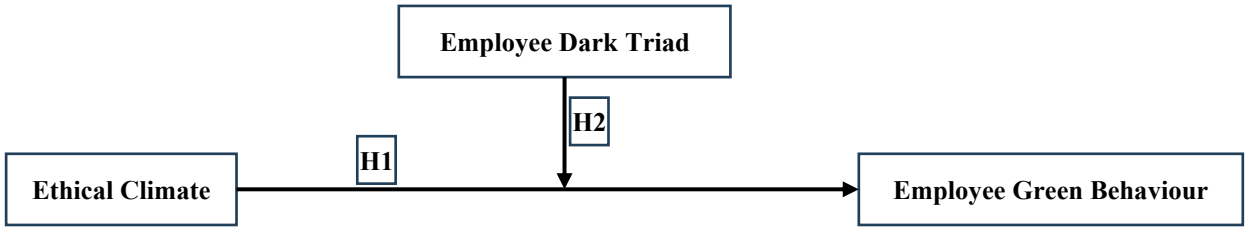

Figure 1: *Conceptual Framework.*

Based on this framework, the following two hypotheses were famed:
H1: *Ethical climate positively influences employee green behavior.*
H2: *Employee Dark Triad traits moderate the relationship between ethical climate and employee green behavior.*

Conceptually, this study advances a Greenwashing Activation Model**,** arguing that ethical climate alone is insufficient to produce genuine sustainability outcomes unless supported by pro-social personality orientations. By integrating structural ethics with dispositional psychology, the model offers a novel explanation for persistent sustainability-performance gaps in higher education institutions.

Methodology

This study employs a mixed-methods approach to examine the relationship between Ethical Climate (EC), Employee Green Behavior (EGB), and the moderating role of Employee Dark Triad (EDT) traits. Quantitative data were analyzed using partial least squares structural equation modeling (PLS-SEM), complemented by qualitative thematic insights derived from semi-structured interviews.

Research Design

A mixed-methods design was adopted to address the structural and psychological complexity of greenwashing-related behaviors in higher education institutions (HEIs). The quantitative phase enabled statistical testing of the EC–EGB relationship and the moderating effects of EDT traits across a large employee sample, while the qualitative phase provided contextual explanations for observed statistical patterns, particularly regarding motivation, impression management, and behavioral inconsistencies linked to dark personality traits.

The integration of quantitative and qualitative methods is appropriate for examining complex behavioral phenomena that require both empirical testing and contextual interpretation (Banyasz et al., 2024; Nazar & Khalid, 2023). The quantitative component constituted the primary analytical phase, relying on validated measurement scales and moderation modeling to assess hypothesized relationships with statistical rigor (Ahmed & Islam, 2022). The qualitative component served a complementary explanatory function, using semi-structured interviews to explore the distinction between authentic and strategic green behaviors and to elucidate how EDT traits shape employee responses to ethical climates (Bowman Sr, 2024). Methodological triangulation strengthened the study's internal validity by aligning statistical results with participant narratives, thereby enhancing interpretive depth and robustness of findings (Donkoh & Mensah, 2023).

Sampling Frame and Sample Size Justification

This study employed a non-probability purposive sampling strategy to examine personality-driven variation in employee green behavior within higher education institutions (HEIs). Purposive sampling enabled the targeted inclusion of academic, administrative, and service staff directly engaged with or affected by institutional sustainability practices, which is appropriate for mixed-methods research prioritizing information-rich cases over statistical generalization, particularly when examining sensitive constructs such as Dark Triad

traits and ethical behavior. Eligibility criteria required participants to be full-time employees in UAE-based HEIs, involved in operational or service-related roles, and to have a minimum of one year of institutional tenure. This approach is consistent with prior HEI studies on Dark Triad traits and ethical leadership, where careful participant selection was essential for validity and ethical integrity (AlOwais & Suliman, 2025a, b).

The quantitative sample comprised 700 employees from HEIs operating within UAE free zones. This sample size exceeds recommended thresholds for structural equation modeling and is considered robust for PLS-SEM models involving multiple latent constructs and moderation analysis (Khalid et al., 2024). The large quantitative base enhanced statistical power, stabilized interaction effects, and strengthened the integration of qualitative insights within the mixed-methods design. The sampling frame deliberately focused on international branch campuses and distance-learning centers affiliated with foreign universities through transnational education arrangements. Although not always accredited by the UAE Commission for Academic Accreditation, these institutions represent a substantial and underexamined segment of the HEI ecosystem, characterized by commercially oriented and loosely regulated environments. Such settings are theoretically relevant for examining ethical climate ambiguity, strategic conformity, and performative sustainability behaviors. Participants were not required to be physically based in the UAE, provided they were employed by UAE-registered centers delivering international qualifications.

This study adopts an explanatory design to examine consequential sustainability behaviors. Therefore, purposive sampling was again used to recruit 12 participants representing diverse academic and administrative roles. Data saturation was achieved by the twelfth interview, consistent with reflexive thematic analysis guidelines (Braun & Clarke, 2006) and prior mixed-methods research in the Emirati HEI context (AlOwais & AlHudaithi, 2023; AlOwais & Suliman, 2025b). Finally, given the conceptual complexity and measurement fragmentation of sustainability constructs (AlOwais, 2024), the study complemented survey data with a qualitative protocol involving semi-structured interviews, iterative coding using Braun and Clarke's six-phase framework, and consolidation of overlapping codes into thematic clusters. This triangulated design enhanced contextual sensitivity and analytic rigor beyond what purely quantitative approaches typically allow (AlOwais & Mir, 2023).

Measures and Scales

To align with the study's structure and reduce participant fatigue, the original 26-item Ethical Climate Questionnaire (ECQ) by Shacklock, Manning and Hort (2011), grounded in Victor and Cullen's (1988) ethical climate framework, was systematically shortened to a 19-item version. Item reduction followed a content-validity and construct-retention approach, retaining the most representative and frequently validated items across dimensions relevant to higher education institutions (HEIs). The retained items covered law and rules, caring, independence, instrumental, and efficiency orientations, ensuring preservation of the theoretical breadth of the original scale while enhancing empirical efficiency. Item selection prioritized conceptual clarity, dimensional balance, and relevance to HEI contexts, with limited cross-dimensional items retained to capture overlapping ethical cues (e.g., procedural compliance and collective concern). All items were lightly rephrased to reduce redundancy and ensure contextual clarity without altering conceptual meaning. Ethical climate is defined as the shared perception of what constitutes ethically appropriate behavior and how ethical issues are handled within organizations (Victor & Cullen, 1988). The adapted ECQ maintains alignment with prior professional service applications while improving suitability for organizational sustainability research (Shacklock et al., 2011).

Employee Dark Triad traits were measured using an expanded version of the Short Dark Triad framework. While the original 12-item "Dirty Dozen" scale (Jonason & Webster, 2010) is widely used for brevity, it lacks the contextual sensitivity required to capture workplace-specific manifestations of dark traits. Accordingly, the scale was expanded to 19 items to better reflect manipulative, status-seeking, and emotionally detached behaviors within HEI settings. The expanded instrument comprised six Machiavellianism items emphasizing strategic manipulation and information control, seven narcissism items capturing entitlement, admiration-seeking, and status orientation, and six psychopathy items reflecting callousness, emotional detachment, and moral indifference. This approach aligns with foundational conceptualizations of dark traits (Paulhus & Williams, 2002) and responds to calls for richer operationalization in applied organizational contexts. The scale has been previously adapted and validated in HEI research examining ethical leadership and dark personality dynamics (AlOwais & Suliman, 2025a, b). EDT was operationalized using the Short Dark Triad (SD3) framework by Jones and Paulhus (2014), with minor contextual adaptations for higher education environments.

Employee Green Behavior (EGB) was measured using the validated 15-item scale developed by Mi et al. (2020), which captures task-related green behaviors, voluntary participation in environmental initiatives, and interpersonal encouragement of sustainability. To better reflect the complexity of sustainability engagement in HEIs, four additional items were developed, expanding the scale to 19 items. The added items addressed cognitive engagement with environmental impact, moral responsibility toward sustainability, proactive organizational advocacy, and symbolic day-to-day green actions which are dimensions not fully captured in the original behavioral-focused scale. These extensions enhance content validity and align with research emphasizing attitudinal, moral, and advocacy components of pro-environmental behavior in value-driven institutions. EGB is defined as voluntary or extra-role actions taken by employees to reduce environmental harm and support organizational sustainability objectives (Mi et al., 2020). Minor wording adaptations were applied to ensure relevance to academic and administrative staff practices in HEIs.

Reliability and Validity

Internal consistency reliability was assessed using Cronbach's alpha for all constructs, including Ethical Climate (EC), Employee Green Behavior (EGB), and the three Employee Dark Triad (EDT) subscales. Consistent with established methodological thresholds, alpha values above 0.70 were considered acceptable, with higher values indicating stronger internal consistency (Shaukat et al., 2024). This criterion has been widely applied in prior Emirati higher education studies examining complex and conceptually overlapping constructs, including ethical leadership, ethical climate, and employee green behavior (AlOwais & Suliman, 2025a, b). Construct validity was evaluated through factor analytic procedures. Exploratory Factor Analysis (EFA) was initially conducted to examine the latent structure of each scale. Where empirical results aligned with the theorized dimensional structure, further validation was undertaken using Principal Component Analysis (PCA) within the SmartPLS environment to confirm measurement adequacy. This sequential approach ensured that reliability and validity were maintained despite scale adaptation and construct proximity within the model.

Qualitative Protocol

The qualitative phase comprised 12 semi-structured interviews with employees across diverse higher education institution (HEI) functions. Data were analyzed using reflexive thematic analysis following Braun and Clarke's (2006) six-phase framework. Data saturation was achieved by the tenth interview, with the remaining interviews consolidating and refining existing themes. To enhance analytic clarity and avoid redundancy, an aggregated coding strategy was applied, whereby conceptually overlapping codes were merged into higher-order themes. This approach mirrors methodological practices adopted in prior mixed-methods research examining ethical leadership, employee green behavior, and leader–employee Dark Triad dynamics within HEIs (AlOwais & Suliman, 2025a, b). Consistent with reflexive thematic analysis principles, inter-rater reliability was not statistically calculated, as the emphasis was placed on reflexivity, transparency, and thematic coherence rather than segmented coder agreement.

Results

The results are drawn from a pilot phase of an ongoing PhD thesis and should be interpreted as preliminary. This paper reports both quantitative and qualitative findings from a sub-sample of foreign-affiliated free-zone and distance-learning HEIs in the UAE that are not accredited by the Commission for Academic Accreditation (CAA). Quantitative relationships were analyzed using PLS-SEM in SmartPLS 4, complemented by qualitative thematic analysis to explain the observed statistical patterns (Hair et al., 2019).

Quantitative Findings

This section reports the quantitative findings from the pilot phase of the thesis, examining the relationships between Ethical Climate (EC), Employee Green Behavior (EGB), and the moderating role of Employee Dark Triad (EDT) traits using data from 700 HEI employees. The results show that EC alone does not significantly predict EGB; instead, Machiavellianism, narcissism, and psychopathy condition how ethical climate influences green behavior. These preliminary findings support the proposed model and provide a foundation for the qualitative analysis that follows.

Reliability Scores

Table 1: *Reliability Scores.*

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
Employee Dark Triad	0.943*	0.944*	0.949*	0.496
Employee Green Behavior	0.946*	0.946*	0.951*	0.507*
Ethical Climate	0.943*	0.943*	0.949*	0.495

As shown in Table 1, the measurement model demonstrates strong internal consistency and reliability across all constructs. Cronbach's alpha and composite reliability values for Employee Dark Triad (EDT), Employee Green Behavior (EGB), and Ethical Climate (EC) substantially exceed recommended thresholds, indicating robust scale reliability. Average Variance Extracted (AVE) values approach or meet acceptable levels, supporting adequate convergent validity for applied psychological research. Collectively, these results confirm that the adapted instruments reliably capture their intended latent constructs.

Factor Loadings Summary

Table 2: *Path Coefficients.*

	Path Coefficients
Employee Dark Triad -> Employee Green Behavior	0.682
Employee Dark Triad x Ethical Climate -> Employee Green Behavior	0.123
Ethical Climate -> Employee Dark Triad	0.897
Ethical Climate -> Employee Green Behavior	0.080

The factor loadings in Table 2 further support the stability of the measurement model. All indicators loaded meaningfully on their respective constructs, confirming that the items adequately represent Ethical Climate, Employee Dark Triad traits, and Employee Green Behavior. The consistently high loadings reinforce the internal coherence of the scales and justify proceeding with structural model estimation.

Descriptive Statistics

Table 3: *Descriptive Statistics.*

Variable	Mean	Median	Observed min	Observed max	Standard deviation	Test statistic	P value
Employee Dark Triad	0.000	-0.322	-1.602	2.554	1.000	9.903	0.000
Employee Green Behavior	0.000	-0.278	-1.552	2.552	1.000	10.469	0.000
Ethical Climate	0.000	-0.329	-1.611	2.560	1.000	10.426	0.000

Table 3 presents descriptive statistics for all study variables. The standardized means and variances reflect appropriate dispersion across the sample of 700 respondents. Although normality tests were significant, this outcome is expected in large samples involving psychological constructs and supports the use of PLS-SEM. The observed variability indicates that green behavior and ethical perceptions are not uniformly enacted, even within ethically supportive HEI environments, highlighting the relevance of individual-level moderators.

Correlation

Table 4: *Correlation.*

	Employee Dark Triad	Employee Green Behavior	Ethical Climate
Employee Dark Triad	1.000	0.944	0.950
Employee Green Behavior	0.944	1.000	0.876
Ethical Climate	0.950	0.876	1.000

Correlation results Table 4 show strong positive associations among Ethical Climate, Employee Dark Triad traits, and Employee Green Behavior. While these correlations are high, they do not indicate construct redundancy. Conceptually, EC reflects shared ethical norms, EDT captures individual personality dispositions, and EGB represents behavioral outcomes. Similar patterns of strong association have been observed in prior HEI research examining ethical leadership, sustainability behavior, and dark trait dynamics (AlOwais & Suliman, 2025a, b; Siddiqui, 2021). Rather than overlap, the correlations suggest a paradoxical entanglement in which ethical climates are particularly vulnerable to distortion by dark personality traits.

Total Effects

Table 5: *Total Effects.*

	Total effects
Employee Dark Triad -> Employee Green Behavior	0.682
Employee Dark Triad x Ethical Climate -> Employee Green Behavior	0.123
Ethical Climate -> Employee Dark Triad	0.897
Ethical Climate -> Employee Green Behavior	0.692

Decomposition of effects clarifies the EC–EGB relationship. The direct path from Ethical Climate to Employee Green Behavior is weak and non-significant, whereas the indirect pathway via Employee Dark Triad traits accounts for most of the total effect Table 5. This pattern indicates indirect-only (full) mediation, demonstrating that ethical climate influences green behavior primarily through personality-driven mechanisms rather than direct moral alignment.

Moderation Results

The moderation analysis confirms that Employee Dark Triad traits significantly condition the EC–EGB relationship. The positive interaction effect (EC × EDT → EGB) indicates that employees high in dark traits exhibit a steeper increase in reported green behavior as ethical climate strengthens. Simple-slope analysis shows that this effect is most pronounced at higher levels of EDT, suggesting that ethical environments provide symbolic and reputational resources that dark-trait individuals strategically exploit. Indicator weight analysis confirms balanced contributions across ethical, personality, and behavioral dimensions, supporting the credibility of the moderation model (Sarwar et al., 2025). Overall, the results demonstrate that Ethical Climate alone does not guarantee authentic Employee Green Behavior. Instead, ethical cues are psychologically filtered through dark personality traits, which can amplify performative rather than value-driven sustainability, reinforcing the study's central argument concerning internal greenwashing in HEIs.

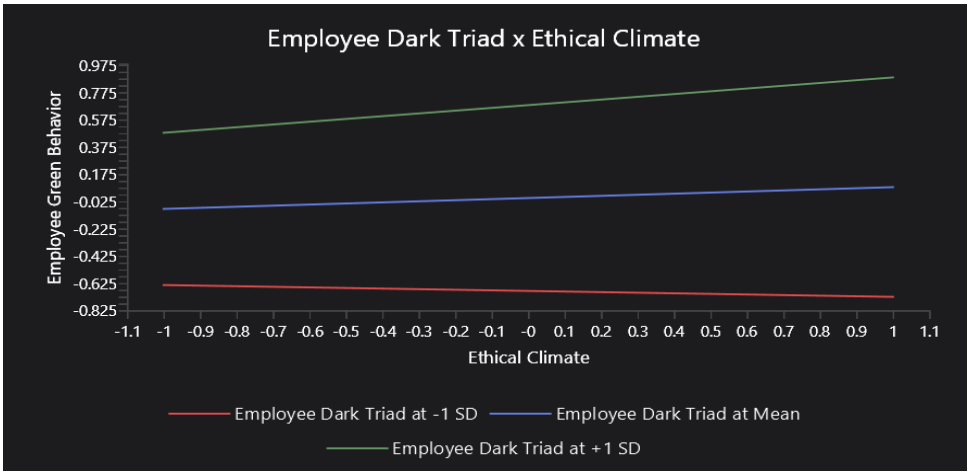

Figure 2: *Simple slope Interpretation: Graph of Interaction Terms.*

Moderation model from Figure 2 indicates that Ethical Climate has a positive relation to Employee Green Behaviors among all employees, whereas the nature of the relationship can be varied contingent to the level of

Dark Triad of the employees. People who are low in Machiavellianism, Narcissism and Psychopathy all report low green behavior, and progression in Ethical Climate has only marginal effects (red line). On the contrary, individuals who are high on Dark Triad are characterized by the fact that not only do they initiate with more green behaviors because they self-report more green behaviors, but also those individuals exhibit a steeper rise in green actions as Ethical Climate gets better (green line). This trend implies that, particularly at ethical firms, there is a tendency among Dark triad employees to increase their level of green practices, possibly to manage impression or to obtain personal reward and, here, we see the Dark Triad disposition magnify behavioral focusing on the strategic and not merely good-hearted sustainability.

Table 6: *Hypothesis Testing.*

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values	Accepted/ Rejected
Employee Dark Triad -> Employee Green Behavior	0.682	0.677	0.057	11.929	0.000*	Accepted
Employee Dark Triad x Ethical Climate -> Employee Green Behavior	0.123	0.123	0.023	5.248	0.000*	Accepted
Ethical Climate -> Employee Dark Triad	0.897	0.898	0.016	57.869	0.000*	Accepted
Ethical Climate -> Employee Green Behavior	0.080	0.086	0.062	1.286	0.198	Rejected

Table 6 presents the hypothesis testing results. Employee Dark Triad (EDT) traits are strongly and significantly associated with Employee Green Behavior (EGB), suggesting that higher levels of reported green behavior may reflect strategic or image-driven engagement rather than intrinsic environmental concern. The interaction between Ethical Climate and EDT is significant, confirming that ethical climate influences green behavior only conditionally, depending on employee personality traits (supporting H2). In contrast, the direct effect of Ethical Climate on EGB is weak and non-significant, leading to the rejection of H1 and indicating that ethical environments alone do not guarantee authentic sustainability behavior.

Qualitative Findings

The qualitative phase was designed to complement and deepen the findings of the quantitative analysis. It was conducted only after establishing the statistical relationships between variables, allowing the study to explore the underlying reasons, perceptions, and interpretations behind the observed patterns. This phase provides contextual depth and helps explain the nuances behind the quantitative results.

Sample and Analysis

The qualitative aspect of the research consisted of semi-structured interviews with a purposive sample size of 12 participants from HR departments, administrative support, and sustainability teams within Higher Education Institutions (HEIs). These participants were recruited based on their interaction or exposure to institutional sustainability initiatives and ethical climate frameworks. The rationale for recruiting participants from different functional roles was to capture varied perspectives from people who influence or engage in green behavior policies.

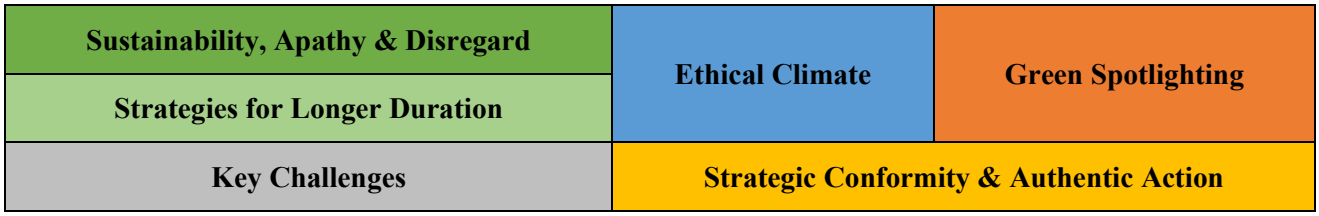

Figure 3: *Thematic Coding.*

From Figure 3, three important patterns emerged in the thematic coding, namely: strategic conformity vs true performance, wherein employees struck equilibrium in both real and play-acting green actions; green spotlighting, referring to the fact that sustainability causes were pursued under the lights and rewards; and sustainability apathy where employees showed passive or indifferent behavior unless such a behavior was rewarded.

Theme 1: Strategic Conformity vs Authentic Action

This theme reveals a clear tension between authentic sustainability engagement and strategic conformity, illustrating how ethical climate (EC) translates into employee green behavior (EGB) only when supported by intrinsic motivation and credible leadership enactment. One participant emphasized the role of authentic ethical leadership in shaping sustainability norms:

> *(P1) "Significantly, they have imparted influence. We have also had some of the important people in top positions who also practice what they preach. And it does not matter what it is: changing to hybrid events to minimize the number of emissions during travelling or being more actively involved in waste reduction on the administration levels, they lead an example".*

This account illustrates how visible and consistent leadership behavior strengthens EC and legitimizes sustainability as a shared institutional value rather than a symbolic expectation. In such cases, green behavior emerges as an extension of professional identity and moral responsibility, aligning with the theoretical premise that EC can foster authentic EGB when ethical cues are credibly enacted. However, this authenticity is neither uniform nor guaranteed. A contrasting perspective highlights how sustainability becomes strategically performed, particularly in competitive or promotion-oriented environments:

> *(P2) "I would rule, that it is somewhat both. Other staff members are ecologically oriented, but to most people who work in front, and are seeking promotion, image is everything. When sustainability is listed as one of your measures of performance or as the brand of your department, you are more attentive."*

This reflects a shift from value-driven engagement to image management, where green behavior functions as reputational capital. Such accounts are consistent with the moderating influence of narcissistic and Machiavellian tendencies, whereby sustainability is instrumentalized to secure visibility, advancement, or institutional approval rather than pursued for environmental concern.

The strategic dimension is further reinforced by perception-oriented sustainability signaling:

> *(P1) "To take an example, we have an idea that once sustainable practices are included in newsletters and report, they increase perception. Therefore, the reason behind it is more optical than a thing of value at other times but the end game is still excellent to the matter of concern."*

This highlights a form of internal greenwashing, where sustainability is valued primarily for how it appears rather than what it achieves. While such practices may enhance institutional image, they also normalize performative compliance, blurring the boundary between genuine ethical action and symbolic sustainability. Collectively, this theme demonstrates that ethical climate alone does not ensure authentic green behavior; instead, sustainability is enacted along a continuum shaped by leadership credibility and personality-driven motivations.

Theme 2: Green Spotlighting

This theme captures green spotlighting, where sustainability behavior intensifies only under observation, evaluation, or reputational threat. One participant explicitly acknowledges that their green actions are externally driven and episodic:

> *(P4) "In my case, I make attempts to follow small steps of my behavior… However, to be sincere, I do so, just because it is expected… when a department is being surveyed or put up as a candidate*

in a green award, suddenly everyone goes green on the face".

This account exemplifies performative sustainability triggered by scrutiny rather than internalized values. Green behavior here functions as a visibility response, consistent with impression management dynamics associated with narcissistic and Machiavellian tendencies, where approval-seeking and risk avoidance dominate ethical action. In contrast, another participant describes sustainability as habitual and culturally embedded rather than reactive:

> *(P7) "Sure. Personally, I do not print unless there is a real need… we have all gone digital-first… these are not isolated activities reacting to some campaigns, but they are developing into habits."*

This narrative reflects authentic green behavior rooted in routine practice and shared norms, illustrating how ethical climate can foster sustained EGB when environmental responsibility is normalized rather than audited. Unlike spotlight-driven actions, these behaviors persist independently of evaluation or external pressure. A third account reveals the psychological tension between these two modes:

> *(P12) "I do my best not to print out… However, others apparently behave like they are green when something important to them is going on… I did the same thing too… that look good component gets hold of me."*

This admission highlights the internal conflict central to green spotlighting, where genuine intentions are overridden by reputational motives under observation. Collectively, this theme demonstrates that ethical climate does not eliminate performative sustainability; instead, it often amplifies strategic compliance when visibility increases, reinforcing the role of personality-driven impression management in shaping green behavior.

Theme 3: Sustainability Apathy and Disregard

This theme highlights conditional sustainability and selective disengagement, where green behavior is activated only when personal benefit or visibility is anticipated. One participant contrast intrinsically motivated colleague with those whose engagement is incentive-driven:

> *(P6) "The fact is it depends on a person. Some of my coworkers are enthusiastic… even though they do not require any rewards. However, there is also decent number of individuals, who, only hurry up and board the green train when they can see or when there are incentives."*

This account illustrates sustainability apathy rooted in self-interest rather than ethical commitment. Green behavior here is contingent and instrumental, reflecting Machiavellian and narcissistic tendencies in which environmental engagement is treated as a strategic resource rather than a moral obligation. Such patterns align with the study's moderation findings, which indicate that dark traits condition whether sustainability is enacted consistently or opportunistically (Kulsoom & Bukhari, 2025). In contrast, another participant emphasizes sustainability grounded in professional identity and educational responsibility:

> *(P8) "I believe, based on my seat, that many staff members tend to act based on the earnest belief… we feel the need to practice what we preach with the future generations and students in mind."*

This response reflects value-driven sustainability tied to role expectations and moral continuity. Here, Ethical Climate operates as a meaningful facilitator of Employee Green Behavior when aligned with mission, identity, and pedagogical responsibility. Such motivations are less vulnerable to distortion by dark personality traits, demonstrating that sustainability apathy is not universal but emerges where ethical expectations lack internal salience. Collectively, this theme reinforces the central argument that ethical climate alone does not prevent disengagement or opportunistic compliance. Instead, sustainability behavior in HEIs is bifurcated between authentic commitment and strategic activation, depending on whether ethical cues resonate with personal values or are filtered through self-serving psychological dispositions.

Theme 4: Ethical Climate Misalignment

This theme captures a persistent disconnect between formal ethical rhetoric and lived organizational practice, revealing how ethical climate becomes symbolic rather than operational. One participant explicitly contrasts visible sustainability messaging with its limited everyday impact:

> *(P9) "Uhm, we do have loads of policies, posters with catchy titles… Face value it appears we are busy. However, in reality… most of such initiatives can be said to be more like symbolic than adaptive… a so-called Green Week… but when the week is over, it is back to normal."*

This account highlights episodic sustainability, where ethical commitment is activated temporarily for visibility rather than embedded into routine practice. Such symbolic interventions weaken the normative force of ethical climate and encourage performative rather than sustained green behavior. A similar critique is articulated more bluntly by another participant:

> *(P3) "I would not like to say it is strong as such… it is more like lip service… slogans, some pilot programs… the sustainability story is rather brochure and ranking than the real one dealing with environment impact."*

Here, ethical climate is framed as reputational infrastructure rather than as a guide for decision-making. The relegation of sustainability to an "afterthought" in meetings further indicates that misaligned priorities undermine ethical salience and invite strategic compliance, particularly among employees inclined toward impression management. A third perspective reinforces this gap between intention and enactment:

> *(P4) "I believe that the institution is well-meaning… In practice however, it does not always trickle down to day-to-day practice… the climate is aspirational… except through campaigns and ceremonies."*

This reflects an aspirational ethical climate lacking operational clarity, where sustainability exists as an ideal rather than a practiced norm. Collectively, these accounts demonstrate that ethical climate misalignment creates fertile conditions for internal greenwashing: when sustainability is communicated symbolically but enacted inconsistently, employees learn to perform ethics ceremonially rather than integrate it meaningfully into their work.

Theme 5: Key Challenges

This theme highlights the structural and cognitive barriers that inhibit the translation of ethical climate into consistent green behavior. One participant identifies both mindset resistance and institutional fragmentation as core obstacles:

> *(P4) "Mindset is one of the obstacles as people tend to believe, that sustainability implies additional work or financial outlays… The other problem is lack of uniformity among the departments… some lagging units."*

This account underscores how sustainability is perceived as a burden rather than a value-adding practice, weakening ethical commitment and discouraging engagement. Departmental inconsistency further fragments ethical climate, producing uneven sustainability norms and limiting collective momentum. Together, these challenges reveal that even well-intentioned ethical climates fail when sustainability lacks shared meaning and institutional coherence, reinforcing the need for coordinated, value-driven integration rather than isolated or symbolic initiatives.

Quants & Quals synthesis

The rejection of H1 (EC → EGB) confirms that Ethical Climate alone does not directly generate employee green behavior. This statistical finding is reinforced qualitatively by accounts of symbolic sustainability such as "Green Week," posters, and policy emails that appear impressive but fail to influence everyday practice. Participants consistently described such climates as aspirational yet hollow, supporting the

conclusion that ethical climates lacking authentic enactment encourage surface-level compliance rather than genuine green behavior. In contrast, the acceptance of H2 (EDT × EC → EGB) demonstrates that the influence of ethical climate is conditional upon employee personality traits. Qualitative themes of strategic conformity and green spotlighting illustrate how employees with narcissistic or Machiavellian tendencies selectively perform green behaviors when visibility, evaluation, or reputational rewards are salient. Ethical cues thus function differently across individuals: for some, they prompt authentic engagement; for others, they serve as tools for impression management.

The strong direct relationship between EDT and EGB further clarifies this pattern. While quantitatively indicating higher reported green behavior among high-EDT employees, interview data reveal that such behavior is frequently situational and performative, activated during audits, external visits, or promotion cycles. This explains why high EDT predicts EGB statistically while simultaneously driving internal greenwashing rather than intrinsic sustainability. Finally, the strong EC → EDT relationship suggests that ethical climates do not suppress dark traits but may enable their strategic adaptation. Qualitative evidence of ethical climate misalignment shows that symbolic ethics and sustainability rhetoric provide cover for impression-based compliance, allowing dark-trait employees to appear aligned while pursuing self-interest. Together, the integrated findings demonstrate that symbolic ethical climates, when filtered through dark personality traits, sustain performative ethics rather than authentic sustainability in HEIs.

Discussion

The purpose of this exploratory study was to examine how Ethical Climate (EC) relates to Employee Green Behavior (EGB) in Higher Education Institutions (HEIs) and whether this relationship is contingent upon Employee Dark Triad (EDT) traits. Using a mixed-methods design, the findings reveal that sustainability behaviors within HEIs cannot be understood through institutional ethics alone but must be interpreted through the psychological dispositions of employees that shape how ethical cues are internalized and enacted. Quantitative results indicate that Ethical Climate does not exert a statistically significant direct effect on Employee Green Behavior ($\beta = 0.080$, $p = 0.198$), leading to the rejection of H1. These finding challenges long-standing assumptions that ethical environments automatically translate into pro-environmental conduct. Although the overall effect of EC on EGB was substantial (0.692), the absence of a significant direct relationship suggests that ethical climate operates through conditional mechanisms rather than as an independent behavioral driver, consistent with emerging personality-contingent models of ethical behavior (Jonason et al., 2022). In contrast, H2 was strongly supported, with EDT significantly moderating the EC–EGB relationship ($\beta = 0.123$, $p < 0.001$). This interaction demonstrates that dark personality traits alter how ethical climates influence sustainability behavior, often transforming ethical signals into opportunities for strategic compliance or self-interest.

These quantitative patterns are reinforced by the qualitative findings, which revealed three dominant behavioral dynamics: strategic conformity, sustainability apathy, and leadership-contingent authenticity. Employees with low EDT tendencies described engaging in green behaviors due to intrinsic motivation and professional responsibility, particularly in teaching and operational roles where modeling ethical conduct was perceived as part of their institutional identity (Chughtai et al., 2022). Leadership behaviors such as visibly supporting hybrid events or emission-reduction initiatives were cited as reinforcing ethical climate and enabling authentic sustainability engagement. In contrast, employees with higher Machiavellian or narcissistic orientations reported participating in sustainability initiatives primarily when such actions enhanced performance evaluations, visibility, or social recognition. These findings align with prior evidence linking ego-enhancement and reputation-seeking motives to conditional pro-environmental behavior (Calic, Arseneault, & Ghasemaghaei, 2023). Psychopathic tendencies were associated with disengagement and emotional detachment from sustainability norms, reflecting low responsiveness to ethical cues due to limited empathy and impulsivity (Khalid et al., 2024).

Together, these findings support the concept of internal greenwashing, whereby employees symbolically perform sustainability behaviors to align with institutional expectations without genuine moral commitment. This phenomenon extends existing greenwashing literature by shifting attention inward from external impression management to internal performativity where employees perceive themselves as environmentally responsible because sustainability is institutionally demanded rather than personally endorsed (Srivastava et al., 2022). The

study therefore demonstrates that ethical climate can coexist with sustainability apathy or performative compliance when personality-driven motivations dominate behavioral decision-making. Theoretically, this research advances sustainability and organizational ethics literature by integrating Ethical Climate Theory with the Dark Triad framework in a higher education context. While traditional models emphasize ethical climate as a positive antecedent of ethical and pro-environmental behavior (Hanson, Valentine, & Shultz, 2024; Victor & Cullen, 1988), the present findings show that ethical climates are psychologically filtered rather than uniformly internalized. High-EDT individuals do not lack awareness of ethical norms; rather, they reinterpret these norms through self-interested cost–benefit logics, transforming ethical cues into tools for impression management or strategic advantage. This contributes to emerging theories of internal performativity, where employees enact institutionally desirable values without internal moral alignment, thereby weakening the transformative potential of sustainability initiatives.

From a practical perspective, the findings indicate that strengthening ethical climate alone is insufficient to ensure authentic sustainability outcomes in HEIs. While direct personality screening raises ethical concerns, behavioral assessment during recruitment, leadership development, and performance evaluation may help identify strategic conformity patterns. More importantly, ethical climate initiatives should prioritize consistency, leader role-modeling, and reduced reliance on visibility-based rewards that inadvertently incentivize performative green behavior. By addressing both structural ethics and personality-driven distortions, HEIs can move beyond symbolic sustainability and foster genuine environmental commitment.

Conclusion

This study demonstrates that Ethical Climate (EC), while institutionally salient, is insufficient on its own to generate authentic Employee Green Behavior (EGB) in higher education institutions (HEIs). The findings challenge linear assumptions in the sustainability literature by showing that ethical cues are psychologically filtered through Employee Dark Triad (EDT) traits, often redirecting sustainability from value-driven engagement toward performative compliance. Integrated quantitative and qualitative evidence reveals patterns of internal greenwashing, whereby employees symbolically enact green behaviors to secure visibility, rewards, or legitimacy rather than out of genuine environmental concern. These outcomes do not indicate a failure of ethical climate per se, but rather its distortion by self-interested or emotionally detached dispositions. Sustainability challenges in HEIs are therefore not only institutional or cultural, but fundamentally psychological.

Practically, the results call for psychologically informed ethical climate design. HEIs should move beyond formal policies and symbolic initiatives toward leadership practices that emphasize consistency, intrinsic value alignment, and credible role modeling. Incorporating behavioral insight into recruitment, role allocation, and leadership development may reduce personality-driven distortions and support more authentic sustainability outcomes. Several limitations remain. The cross-sectional design restricts causal inference, self-reported measures raise the possibility of social desirability bias, and the HEI-focused sample limits generalizability to other organizational contexts. Future research should adopt longitudinal designs, extend analysis to additional stakeholder groups, and explore interactions between Dark Triad traits and pro-environmental leadership characteristics. As a pilot study within an ongoing PhD thesis, these findings provide a foundation for the next research phase, which will expand the sample to include all licensed HEIs in the UAE, particularly those accredited by the Commission for Academic Accreditation (CAA). This extension will allow comparative assessment of whether internal greenwashing dynamics persist across the broader higher education landscape.

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