Cross-National Evidence on Influencer-Driven Green Choice: A Moderated-Mediation model of Authenticity, Parasocial Ties, and Greenwashing Exposure

Stefanos Balaskas[1,*] and Ioanna Yfantidou [2]

[1]eGovernment & eCommerce Lab (Innovation & Entrepreneurship), Department of Business Administration, University of Patras, 26504 Patras, Greece

[2]Department of Business and Management, Liverpool John Moores University (LJMU), Liverpool L3 5UL, UK, i.yfantidou@ljmu.ac.uk

*** Correspondence:**
Stefanos Balaskas
s.balaskas@ac.upatras.gr

Keywords: influencer marketing, authenticity, parasocial relationship, green trust, greenwashing, prior greenwashing exposure, cross-national comparison

Abstract

Social media influencers are essential to sustainability communication, but the mechanisms through which their messages convert into environmentally conscious consumer behavior remain under-specified. This research examines two antecedents—perceived influencer authenticity (AUTH) and parasocial relationship (PSR)—within a conditional-process framework that identifies green trust (TRUST) as the proximal mechanism. The design additionally involves two skepticism constructs: perceived greenwashing risk (PGR) at the post level and prior greenwashing exposure (PGE) at the individual level. Utilizing recall-anchored, cross-national survey data from Greece (n = 376) and the United Kingdom (n = 331), analyzed through variance-based structural equation modeling (SEM), we examine direct, mediated, and moderated-mediation relationships. AUTH and PSR exhibit positive associations with sustainable purchase intention across the country and pooled samples, while TRUST offers additional explication power. The conversion of TRUST into intention is weakened by PGE, which functions as a late-stage boundary condition. Conditional-indirect analyses indicate that PGR affects intention via TRUST in all samples, with effects diminishing as PGE rises; PSR only shows a moderate negative mediated component via TRUST in addition to its positive direct association with intention in the UK. Cross-national comparability is supported by measurement and structural invariance. To maintain the conversion efficiency of trust in green decision-making, the findings suggest prioritizing verifiable, value-congruent authenticity, actively managing both PGR and PGE, and matching influencer content with transparent substantiation practices.

1 Introduction

Social media influencers are central conduits for sustainability messaging, yet the processes by which their content converts attention into green consumer action remain insufficiently specified (Khurana

et al., 2025; Kılıç & Gürlek, 2024; Wang & Walker, 2023). Influencers marshal dedicated follower bases whose trust can translate conversation into purchase behavior (Balaskas et al., 2025; Mustapa & Kallas, 2025; Piracci et al., 2024). Prior work shows that credible messengers can shift pro-environmental attitudes and intentions, but credibility alone is often necessary rather than sufficient (Liu & Zheng, 2024; Piracci et al., 2024). A growing stream highlights authenticity—the perception that the creator is sincere and value-consistent—as the catalyst that turns attention into verifiable green action via trust (Bastounis et al., 2021; Chen et al., 2015). At the same time, consumer skepticism is heightened by greenwashing—overstated or fabricated environmental claims—creating a climate where repeated exposure to misleading claims depresses responsiveness, even to well-intended messages (Bastounis et al., 2021; Chen et al., 2015). For influencers, whose person and message are fused, any hint of insincerity or inaccuracy risks reputational and commercial harm (Bastounis et al., 2021; Zhuang et al., 2021). Although many consumers report willingness to pay a premium for genuinely sustainable products, that willingness is contingent on believing the claims (Bastounis et al., 2021; Chen et al., 2015; Mustapa & Kallas, 2025). Regulators—particularly in the EU—are moving toward stricter substantiation, specific disclosures, and scannable evidence, increasing pressure on creators to be transparent without eroding perceived sincerity. Thus, influencer-led green marketing has substantial potential, but success hinges on overcoming doubt, providing verifiable content, and building green trust (Liu & Zheng, 2024; Piracci et al., 2024).

Perceived influencer authenticity (AUTH) and parasocial relationship (PSR) are two mechanisms that are often mentioned in accounts of influencer persuasion for sustainability; however, they are conceptually different and misinterpreted (Diao et al., 2025; Zatwarnicka-Madura et al., 2022; Zhuang et al., 2021). Genuineness, honesty, and value congruence—alignment between stated beliefs and observable behavior, voice consistency over time, and advocacy driven by intrinsic motivation, are reflected in AUTH. Transparent sponsorship, alignment between endorsements and the influencer's ethical persona, and trustworthy information are salient cues that elevate perceived claim credibility and actionability by framing sustainability advice as principled opinion rather than transactional rhetoric (Bastounis et al., 2021; Diao et al., 2025; Zhuang et al., 2021). PSR, on the other hand, indicates the biased attachment that followers have to media personalities. Audiences experience "felt closeness" through self-disclosure, repeated exposure, and sporadic interaction, which can encourage imitation, loyalty, and receptivity (Khurana et al., 2025; Kılıç & Gürlek, 2024; Mustapa & Kallas, 2025). In terms of advertising, a person's kindness and trust can be transferred to the brand; higher PSR is linked to stronger purchase intentions, less uncertainty, and increased confidence in claims, even in eco-lifestyle contexts (Chen et al., 2015; Liu & Zheng, 2024; Piracci et al., 2024).

Integrating these strands, green trust—confidence that a product/brand/message is genuinely "green" and will deliver on its environmental claims, serves as the proximal mechanism linking influencer cues to downstream behavior. AUTH can build trust by lowering inferences of opportunism and increasing perceived truthfulness; PSR can build trust by lowering perceived risk through relational closeness. Once claim-level trust forms, intentions typically follow (selection, recommendation, and—when added value is perceived—willingness to pay a premium) (Bastounis et al., 2021; Chen et al., 2015; Zhuang et al., 2021). Two fundamental questions for theory and practice are raised by this framing: which pathway has more influence on green trust when AUTH and PSR co-occur, and under what circumstances. In a claim-saturated environment, how should content be designed to maintain trust, which is positioned as the catalyst between behavior and communication, even in the face of high skepticism (Diao et al., 2025; Zatwarnicka-Madura et al., 2022).

While there exists additional research underway on sustainability and influencer marketing, there still remain four gaps. First, mechanism clarity: most studies merely examine at AUTH or PSR on their own and fail to contrast their effects. Moreover, only a few studies few specify the full chain AUTH/PSR on trust to sustainable outcomes (Bastounis et al., 2021; Khurana et al., 2025). Second, boundary conditions: research scarcely conceptualizes prior greenwashing exposure (PGE) as an individual-level moderator that can attenuate AUTH and PSR on trust when audiences are skeptical. Third, cross-national portability: single-country designs leave open whether mechanisms generalize across distinct regulatory/media ecosystems (e.g., EU vs. post-Brexit UK) and whether AUTH, PSR, and trust are measurement-invariant. Fourth, ecological realism: vignette experiments dominate, whereas recall-anchored, survey-only designs that capture real exposures and meet SEM standards are scarce. We address these by (i) directly comparing AUTH and PSR in one model, (ii) specifying green trust as the mediator to sustainable purchase intention (and willingness to pay), (iii) testing PGE as a theory-grounded moderator (iv) evaluating cross-national invariance using a recall-anchored SEM approach.

The contributions are threefold. Theoretically, we provide a head-to-head test of AUTH vs. PSR within a conditional-process model, clarifying their relative power for green trust and, via trust, intention (Skordoulis et al., 2025). We further employ PGE as a person-level moderator and set trait-like skepticism (PGE) apart from state-like message suspicion (PGR), enabling us to establish a dual-skepticism account (Higueras-Castillo et al., 2024; Kim et al., 2025). Methodologically, an ecologically valid, recall-anchored survey utilizing SEM-ready measures is examined across cross-national samples (UK, Greece), with multi-group analysis confirming measurement and structural invariance (Glaveli, 2021; Kim et al., 2025; Strycharz & Segijn, 2024). We combine PLS-SEM (moderated mediation, latent interactions, predictive assessment) along with fit checks in our analysis. Practically, If AUTH dominates, creators and brands should focus on value-consistency, explicit disclosure, and claims that can be verified instead of parasocial warmth, especially for high-PGE audiences. The findings quantify the penalty of greenwashing legacies, motivating third-party certification, rigorous substantiation, and careful #ad practices; more broadly, they support accountable green claims (e.g., standardized evidence, machine-readable eco-metadata) to foster trustworthy paths to green choice.

The paper proceeds as follows: Section 2 reviews influencer–sustainability literature and develops hypotheses underpinning the model. Section 3 presents the conceptual framework with relations among AUTH, PSR, trust, PGE, and outcomes. Section 4 details the cross-national survey, measures, sampling (Greece, UK), and analytic strategy (conditional-process SEM with invariance tests). Section 5 reports measurement validation and hypothesis tests. Section 6 discusses theoretical, practical, and policy implications, limitations, and future research. Section 7 concludes with the study's core contributions to influencer-driven green consumer decision-making.

2 Literature Review

2.1 Influencer Persuasion in Sustainability

Perceived authenticity and parasocial relationship (PSR) are the two main factors that consistently influence effectiveness in studies on influencer persuasion in sustainability, though the reported effects vary depending on context and operationalization (Kothari et al., 2025). The source-credibility pathway is a recurring theme in the literature, wherein assessments of green claims are influenced by perceived authenticity and credibility, ultimately resulting in pro-environmental intentions, often through mechanisms related to trust (Su et al., 2021; Wu et al., 2025; Wan et al., 2025). In this

regard, authenticity is considered an important diagnostic indicator that helps audiences discern whether sustainability messaging represents genuine values or deliberate manipulation.

Through two complementary mechanisms, perceived greenwashing risk (PGR) could diminish the intention toward sustainable purchases. First, in line with the predominant mechanism in the literature, increased perceptions of greenwashing erode green trust by indicating opportunistic or dishonest intentions, which in turn reduces downstream intention (Ha, 2022; Ye et al., 2024). Second, because PGR acts as a risk/avoidance heuristic, it can also have a direct deterrent effect. Even in cases where some baseline trust is maintained, consumers may completely disengage from an option when they expect to be misled in order to avoid moral, financial, or reputational consequences. Evidence that skepticism and motive inferences can inhibit behavioral responses in sustainability advertising beyond purely evaluative judgments supports this reasoning (de Sio et al., 2022; Ye et al., 2024). Therefore, we investigate whether PGR maintains an independent association with sustainable purchase intention in addition to modeling green trust as a crucial mechanism.

Additionally, PSR includes the relational path to persuasion: people who feel a stronger one-sided connection with an influencer are considered usually more credible and have better attitudes and behaviors (Bi and Zhang, 2023). Research shows that PSR rises when people are exposed to the same repeated stimuli over time and feel like they are similar in their minds, not in their demographics. This backs up the idea that closeness in relationships can be a powerful tool for influencers to use when they talk to people (Breves and Liebers, 2025, 2022; Möri and Fahr, 2023). Authenticity and PSR are two different ideas. Authenticity pertains to assessments of the influencer's truthfulness and genuineness, while PSR pertains to perceived interpersonal proximity. Still, it is expected that both will converge on trust as a close mechanism through which influencer cues affect long-term intentions (Su et al., 2021).

The current study is motivated by three tensions in this context. First, prior research often examines PSR or authenticity separately; few studies assess their relative explanatory contributions within a cohesive model, especially when it comes to whether their effects operate via a shared trust mechanism (Omeish et al., 2025). Second, audiences' perceived risk of greenwashing can directly reduce purchase intentions and raise the bar for trust-based persuasion, making sustainability contexts especially prone to skepticism (Chen et al., 2022; Garg and Bakshi, 2024). Third, the variety of stimuli and measurement options complicates synthesis, highlighting the significance of defining a targeted model that uses theoretically related constructs to link influencer cues to intention. Authenticity, parasocial relationship (PSR), perceived risk of greenwashing, and green trust are all examined in this study as key indicators of sustainable purchase intention. Accordingly, we model PGR as both a trust-eroding cue and a direct avoidance heuristic, thus, the following hypotheses are proposed:

H1. *Perceived influencer authenticity (AUTH) is associated with sustainable purchase intention (INTENT).*

H2. *Parasocial relationship with the influencer (PSR) is associated with sustainable purchase intention (INTENT).*

H3. *Perceived greenwashing risk (PGR) is associated with sustainable purchase intention (INTENT).*

H4. *Green trust (TRUST) is associated with sustainable purchase intention (INTENT).*

2.2 Green Trust as Mechanism

According to multiple perspectives (Bhattacharya et al., 2024; Chauhan and Goyal, 2024; Ha, 2022), green trust is a proximal psychological mechanism that converts sustainability communications into downstream behavioral intentions (Bhattacharya et al., 2024; Chauhan and Goyal, 2024; Ha, 2022). Beyond general attitudes toward sustainability, audiences are more inclined to select green options when they perceive environmental claims as reliable, trustworthy, and non-opportunistic (Alhomaid, 2025; de Luis García, 2024; Ha, 2022).Combining this information, a meta-analysis of 79 studies reveals that green trust has a strong but context-sensitive relationship with purchase intention and associated outcomes. Trust formation is influenced by both affective and cognitive inputs, such as warmth and identification and claim credibility and evidence quality (Chauhan and Goyal, 2024).

Green trust serves as a crucial link between creator cues and consumer reactions in influencer-mediated sustainability persuasion. For instance, verification signals can improve perceived credibility and trust, with effects dependent on influencer characteristics (e.g., stronger for micro-influencers) (Liao et al., 2024), whereas congruence between influencer type and endorsement style strengthens green purchase intention through trust-related processes (Zhao et al., 2024). Parasocial ties can also result in persuasion through downstream credibility and attitudinal assessments that lead to intention, which is consistent with relational accounts (Bi and Zhang, 2023). All of these streams imply that trust is a mechanism through which cues based on relationships and authenticity gain persuasive impact in green contexts, rather than just a correlate of sustainable intentions.

However, because sustainability messaging is particularly vulnerable to persuasion knowledge and greenwashing concerns, establishing green trust is delicate. Greenwashing cues consistently undermine green image and trust (Ha, 2022), and message framings can backfire when recipients perceive strategic manipulation or assume impression-management motives (Ye et al., 2024). According to related research, environmental knowledge can help build trust, but advertising skepticism undermines intention and trust (de Sio et al., 2022). Crucially, the inconsistent pattern of results across studies points to significant boundary conditions that can either maintain or undermine trust, such as verifiability signals, disclosure policies, identity relevance, and audiences' past experiences with deceptive eco-claims (Ha, 2022; Liao et al., 2024).

The current study advances two clarifications that directly inform our model, building on this evidence. First, influencer antecedents like parasociality and authenticity are frequently studied separately, which restricts conclusions regarding their relative significance for fostering green trust within a cohesive framework (Alhomaid, 2025; Bhattacharya et al., 2024; Ha, 2022). Therefore, we examine the indirect effects of perceived authenticity and parasocial relationships on sustainable purchase intention (and willingness to pay, where applicable) and treat them as concurrent antecedents of green trust. Second, despite the widespread recognition of skepticism and greenwashing concerns, limited study has examined at previous exposure to greenwashing as an individual-level factor influencing how easily trust is formed from influencer cues (de Sio et al., 2022; Román-Augusto et al., 2023; Zhao et al., 2024). Our method clarifies when influencer cues produce resilient green trust and when trust becomes more challenging to establish by combining these mechanisms with boundary conditions—and evaluating cross-national portability through measurement and structural invariance. We developed the following based on the aforementioned:

H5a. *Perceived influencer authenticity (AUTH) has an indirect effect on sustainable purchase intention (INTENT) through Green trust (TRUST).*

H5b. *Parasocial relationship with the influencer (PSR) has an indirect effect on sustainable purchase intention (INTENT) through Green trust (TRUST).*

H5c. *Perceived greenwashing risk (PGR) has an indirect effect on sustainable purchase intention (INTENT) through Green trust (TRUST).*

2.3 Greenwashing Exposure as Boundary Condition

Evidence shows that greenwashing operates not only as a message attribute but as an accumulated audience experience that reshapes persuasion (Nazish et al., 2025; Olbermann et al., 2024; Yadav et al., 2025). Features that trigger assumptions of dishonesty or inaccuracy, such as vague claims, impression-management cues, and sponsorship incongruity, consistently erode credibility and trust. This renders consumers to evoke downstream choices via mediators such as green-ad skepticism, brand shame, and even brand hate (Adil et al., 2024). Trust is the fulcrum: pro-environmental signals build intention through green trust but collapse when revealed as whitewash (Munaier et al., 2022). Effects are context-sensitive: green appeals that frame scarcity can backfire when people perceive they are greenwashing (Ye et al., 2024); some brand-equity models show that green image and trust can hurt a brand indirectly (not directly) (Ha, 2022), and at the firm level, greenwashing and willingness to innovate may follow an inverted-U through performance-feedback dynamics (Lu et al., 2025).

Recent research elucidates mechanisms and moderators. Disaggregating practices and involvement, perceived greenwashing increases skepticism and negatively impacts attitudes through elaboration pathways, with environmental knowledge serving as a moderating factor (Rehman et al., 2025). Building on the Theory of Planned Behavior (TPB), greenwashing can undermine the intention-behavior relationship, contesting models that assume a stable intention-behavior connection (Nazish et al., 2025). Platform signals reinstate thresholds: verification badges boost trust and sharing by transferring institutional credibility, especially for micro-influencers (Liao et al., 2024). On the other hand, sponsorship disclosure also renders messages less credible, especially for human than virtual endorsers, by expectation-violation (Lim et al., 2025). Influence endures when the alignment between influencer and product enhances perceived expertise, especially for products with prominent green features and significant self-disclosure; however, alignment cannot protect unverifiable assertions (Shan and Xu, 2025). Similar "washing" (e.g., diversity-washing) diminishes brand evaluation and purchase intention in ambiguous situations; significantly, heightened parasocial interaction may enhance the identification of washing in these contexts (Olbermann et al., 2024). Endorser class and cause cues (celebrity vs. influencer; cause-related framing; country-of-origin) can enhance advocacy and intention, but only if trust and perceived ethicality are maintained (Kalam et al., 2024).

These patterns collectively indicate that prior exposure to greenwashing (PGE) influences later message reception, resulting in learned resistance that undermines trust, even in the presence of high-quality cues. Nevertheless, the vast majority of studies regard skepticism as either state-based or general, hardly conceptualizing PGE as an individual-level moderator of trust development (Breves and Liebers, 2022; Khanchel et al., 2024; Lim et al., 2025). Our research fills this gap by conceptualizing PGE as a boundary condition that influences green trust and, subsequently, sustainable purchase intention. Using latent interactions and conditional indirect effects, we test whether learned resistance attenuates trust regardless of value-congruent sincerity or relational intimacy. We also distinguish post-level perceived greenwashing risk (state) from PGE (trait) and assess cross-national invariance to determine how media and governance contexts condition mechanism resilience. To this end, the following hypothesis was formed:

H6. Prior greenwashing exposure (PGE) moderates the relationship between Green trust (TRUST) and sustainable purchase intention (INTENT) such that the conditional effect of TRUST on INTENT varies by the level of PGE (TRUST × PGE → INTENT).

2.4 Cross-National Considerations

Cross-national research indicates that institutional governance and socio-cultural influences collectively determine audience perceptions of trust and skepticism regarding sustainability messages; however, evidence specific to influencers remains limited (Colleoni et al., 2022; Kim et al., 2025; Strycharz and Segijn, 2024). The UK's ASA/CAP and CMA combine guidance with active enforcement (like the Green Claims Code and sector sweeps) on the regulatory side. The EU's approach, which is relevant to Greece, focuses on standardized substantiation, third-party verification, and life-cycle disclosure under the Greenwashing and Green Claims Directives. These regimes converge normatively by limiting ambiguous assertions and increasing evidentiary requirements; however, they differ in implementation pace, enforcement relevance, and signal clarity, likely resulting in distinct informational environments for UK and EU audiences. In practice, little is known about whether these differences in regimes lead to systematic changes in how trust is built at the influencer level.

Pandemic-era CSR research indicates that cultural dimensions (individualism/collectivism, power distance, uncertainty avoidance) can influence recall without consistently altering favorability, suggesting that high-salience contexts may diminish cultural disparities (Colleoni et al., 2022). Studies on "dataveillance" in advertising reveal that the U.S. had stronger chilling effects than the Netherlands. This suggests how privacy rules and norms affect how audiences respond to persuasive technologies (Glaveli, 2021; Kim et al., 2025; Strycharz and Segijn, 2024). Reviews of green social media ads show consumers are becoming more aware of greenwashing and how various populations react. Evidence from Greece-based tourism suggests younger followers are more likely to engage with influencers but care less about sustainability. Authenticity and transparency are important for reducing suspicion (Skordoulis et al., 2025).

Macro-level ideology is significant as cross-national studies associate various varieties of populism with climate skepticism at both individual and national levels, influenced by globalization, suggesting that political predispositions could establish thresholds for the acceptance of micro-level influencer cues (Glaveli, 2021; Kim et al., 2025). Consumer reactions to CSR vary even among neighboring nations (e.g., Greece vs. Bulgaria), indicating the necessity of empirical testing before assuming structural equivalence (Ktisti et al., 2022; Nemes et al., 2022). Complementary typologies of greenwashing enhance the assessment of claim quality and verifiability, yet they are infrequently integrated into cross-national influencer research.

Three gaps follow. First, Greece–UK comparisons of influencer sustainability communication are scarce, and measurement-invariance checks are often absent, leaving open whether observed differences reflect construct nonequivalence rather than genuine structural divergence. Second, research seldom juxtaposes institutional context (claim governance, disclosure enforcement) with person-level deception histories (prior greenwashing exposure), though both plausibly set trust thresholds. Third, influencer findings are frequently platform- and cohort-specific, based on small convenience samples, and rarely test moderated mediation. We address these gaps by treating country as a boundary context: we establish measurement equivalence (MICOM) for authenticity, parasocial relationship, and green trust; then test structural invariance of paths and their moderation by prior greenwashing exposure. This strategy converts regulatory divergence (EU-aligned Greece vs. UK

domestic enforcement) and socio-cultural heterogeneity into testable propositions about mechanism portability, avoiding cultural stereotyping while identifying when and where influencer-based green persuasion travels. To this end, we pose the research question:

RQ-CN. *Do the measurement properties and structural mechanisms in the model generalize across Greece and the United Kingdom?*

3 Methods

3.1 Conceptual Model and Rationale

Our model (Figure 1) explains how sustainability messaging by influencers translates into consumer choice by positing Perceived Influencer Authenticity (AUTH) and Parasocial Relationship (PSR) as distinct antecedents operating through Green Trust (TRUST), with Prior Greenwashing Exposure (PGE) as a boundary condition. Drawing on signaling/attribution accounts (value–claim congruence) and parasocial interaction/trust-transfer logic (relational closeness), AUTH and PSR provide evidentiary and relational routes to claim credibility, respectively. TRUST is treated as the proximal mechanism linking these cues to Sustainable Purchase Intention (INTENT). Because audiences accumulate deception histories, PGE is modeled as a person-level moderator of the AUTH→TRUST and PSR→TRUST links; we additionally control Perceived Greenwashing Risk (PGR) at the post level to separate state suspicion from trait-like exposure. This design addresses three gaps: (i) few studies pit AUTH and PSR in the same model to adjudicate their relative influence on TRUST; (ii) person-level deception histories are rarely incorporated as moderators of trust formation; and (iii) cross-national measurement/structural invariance is seldom tested. Our recall-anchored, survey-only SEM (Greece, UK) therefore isolates mechanism, tests boundary conditions, and assesses portability without advancing directional cultural claims.

Figure 1: Conceptual model.

3.2 Data Collection and Sampling

To investigate conditional processes in sustainable influencer marketing, we conducted a quantitative, cross-sectional online survey (Kesmodel, 2018; Olsen & St George, 2004). Naturally occurring exposures to influencer content (stimulus) were associated with sustainable purchase intention (response) and perceived authenticity, parasocial relationships, and green trust (organism) in accordance with a stimulus-organism-response framework. The design investigated latent interactions, moderated mediation, and SEM requirements for validity and reliability (Campbell et al., 2020; Nyimbili & Nyimbili, 2024; Suen et al., 2014). Purposive, stratified-quota sampling was employed through professional panels in Greece and the UK. Respondents were screened to ensure sure they were active social media users who had recently encountered sustainability-related influencer posts. To estimate the active user base and secure cell sizes for multi-group and invariance tests, country strata applied quotas for age bands (18–29, 30–44, 45–60, 60+), gender, and education.

After e-consent and eligibility checks, participants completed a recall-anchored survey (no experimental stimuli). To standardize context while preserving ecological validity, each respondent selected a creator they currently follow and recalled the most recent post (≤ six months) in which the creator recommended or discussed a sustainable product/practice. Respondents reported platform, product category, and approximate date of exposure and provided a one-sentence description to verify the anchor. The questionnaire included: (a) eligibility/screening; (b) 5-point Likert scales for all SEM constructs measured and validated (c) demographics; and (d) quality checks. To mitigate

common-method bias, item blocks were separated by brief fillers, items were randomized within blocks, and a short marker scale (social desirability) was included for sensitivity analyses. Inclusion required adults (≥18) who (i) use at least one influencer-heavy platform (Instagram, TikTok, YouTube, Facebook, X) ≥3 days/week and (ii) reported a qualifying exposure within six months. Pre-registered exclusions removed speeders, inattentive responders (failed instructed-response item), straightliners, suspected duplicates/bots (IP/device, country mismatch), and anchor failures (unable to describe the post or time window violations). Automated panel and in-survey checks enforced criteria.

The target was N≈600 (≈300 per country), set to exceed ≈10:1 observations-to-parameter ratios for SEM, enable multi-group comparisons, and achieve .80–.90 power for small-to-moderate structural effects, latent interactions (PGE×AUTH; PGE×PSR → TRUST), and conditional indirect effects. For single-country analyses, N≥400 was maintained to stabilize bootstrap intervals for moderated mediation (Janadari et al., 2016; Kock & Hadaya, 2018; Wagner & Grimm, 2023). A pilot (n≈60–80 per country) confirmed variance in AUTH/PSR, clarity of instructions, and item comprehension; minor wording refinements followed cognitive interviews. In the main study, internal consistency (α, composite reliability), convergent validity (AVE≥.50), and discriminant validity (HTMT) were assessed; low-loading reflective items were retained only if construct reliability and AVE remained adequate. Cross-context comparability was examined via MICOM (configural/compositional invariance; equality tests) and corroborated with multi-group checks (Carranza et al., 2020; Götz et al., 2010; Ringle et al., 2015). The protocol received institutional ethics approval. Participation was voluntary; no direct identifiers were collected in-survey. Panel providers handled contact separately. Data were anonymized/pseudonymized, stored on encrypted drives, and processed under GDPR principles (lawfulness, transparency, purpose limitation, data minimization, storage limitation, integrity/confidentiality). Only competent adults were enrolled; no vulnerable groups were targeted. Overall, the survey-only plan delivers ecological validity of recalled exposures, sufficient power for moderated mediation, cross-national comparability, and adherence to contemporary standards of measurement quality and research ethics.

3.3 Measurement Scales

All focal constructs were assessed using multi-item, 5-point Likert-type scales (1 = strongly disagree, 5 = strongly agree) tailored to the influencer/sustainability context and anchored to the respondent's most recent experience (Table A1, Appendix A). Perceived Influencer Authenticity (AUTH) 5 items, adapted from (Campagna et al., 2023; Ilicic & Webster, 2016) measured value congruence, sincerity, and consistency (e.g., "This creator appeared authentic in that post"; "The message aligned with the creator's typical values/persona"). Parasocial Relationship (PSR), 5 items, adapted from (Rubln et al., 1985; Sokolova & Kefi, 2020) measured felt closeness and one-sided intimacy (for example, "I feel as if I know this creator"; "I would miss this creator if they quit posting"). Perceived Greenwashing Risk (PGR) with 4 items (Chen & Chang, 2013; Hameed et al., 2021) assessed message-level distrust (e.g., "This post might be exaggerating its credentials of being sustainable"; "There is a possibility the claims are not so accurate"). Green Trust (TRUST), 4 items adapted from (Chen, 2010) assessed belief in environmental claims/brand performance (e.g., "I believe the environmental claims in that post"). PGR items were reverse-coded so that higher values indicate lower perceived greenwashing risk (i.e., higher perceived claim credibility). Prior Greenwashing Exposure (PGE) (4 items, (Mohr et al., 1998)) has assessed learned experience with misleading green claims (e.g., "In the last 12 months I have frequently been confronted with sustainability promises that afterwards proved misleading"). Sustainable Purchase Intention (INTENT), 4 items, (Higueras-Castillo et al., 2024; Spears & Singh, 2004), has measured intention to buy based on the endorsement

(e.g., "I intend to buy this sustainable product"). They were forward–back translated and reconciled with the committee and conceptual equivalence cognitive interviews; reliability (Cronbach's α, composite reliability), convergent validity (AVE), and discriminant validity (HTMT) were assessed before structural analyses.

3.4 Sample Profile

In total, 707 social media users from Greece (n = 376) and the UK (n = 331) participated (Table 1). The majority of respondents were between the ages of 25 and 44, had relatively high levels of education (Bachelor's degree or above), and the gender composition was similar across nations. In general, followers reported having a well-established relationship with the focal influencer: 74.9% of respondents in the UK and 78.2% of respondents in Greece had followed the influencer for at least three months, with approximately one-third reporting a duration of one to two years. Overall, respondents' familiarity with eco-labels ranged from moderate to high, and the majority had previously bought a product based on an influencer's recommendation. Both samples were frequently exposed to influencer content about sustainability. In Table 1, complete counts and percentages are presented.

Table 1: Sample characteristics by country (n, %)

Demographic	Category	Greece (n=376)	UK (n=331)
Gender	Female	167 (44.4)	133 (40.2)
	Male	209 (55.6)	198 (59.8)
Age	18–24	48 (12.8)	50 (15.1)
	25–34	100 (26.6)	96 (29.0)
	35–44	102 (27.1)	83 (25.1)
	45–54	84 (22.3)	71 (21.5)
	55+	42 (11.2)	31 (9.4)
Education	Secondary/High School	116 (30.9)	119 (35.9)
	Bachelor’s	146 (38.8)	119 (35.9)
	MSc and above	114 (30.3)	93 (28.1)

Duration following influencer	< 3 months	82 (21.8)	83 (25.1)
	3–11 months	121 (32.2)	110 (33.2)
	1–2 years	142 (37.8)	111 (33.5)
	3+ years	31 (8.2)	27 (8.2)
Eco-label familiarity	Very low	56 (14.9)	67 (20.2)
	Low	108 (28.7)	72 (21.8)
	Moderate	75 (19.9)	90 (27.2)
	High	99 (26.3)	71 (21.5)
	Very high	38 (10.1)	31 (9.4)
Exposure to sustainability influencer content	Never	47 (12.5)	44 (13.3)
	Rarely	81 (21.5)	66 (19.9)
	Sometimes	147 (39.1)	125 (37.8)
	Often	63 (16.8)	66 (19.9)
	Very often	38 (10.1)	30 (9.1)
Purchased from influencer recommendation	No	140 (37.2)	117 (35.3)
	Yes	236 (62.8)	214 (64.7)

4 Data analysis and results

Variance-based structural equation modeling was implemented in SmartPLS 4 (v4.1.1.4) to analyze the data. Since PLS-SEM emphasizes maximizing explained variance in endogenous constructs, which supports predictive assessment, it was chosen for use in business and social science applications (Hair & Alamer, 2022; Sarstedt et al., 2021). Multi-Group Analysis (MGA) was used to assess potential heterogeneity in order to compare structural paths among subpopulations and identify context-specific variations that traditional regression was unable to capture (Hair et al., 2006;

Stevens, 2002). The computation of path coefficients, standard errors, and reliability indices was done in accordance with established protocols (Hair & Alamer, 2022). The minimal threshold for convergent validity for reflective measures was determined to be indicator loadings ≥.70. This approach rendered it feasible to test the structural model rigorously and carefully assess the suggested mechanisms both within and between respondent groups.

4.1 Common Method Bias (CMB)

We utilized (Podsakoff et al., 2012) methods to check for common method bias. Harman's single-factor test (unrotated principal factor analysis) revealed that the first factor explained only 26.491% of the total variance, which is much lower than the standard 50% threshold. This means that CMB is not likely to affect the results. Clear reporting of these diagnostics bolsters construct validity and the reliability of interconstruct relationships by alleviating apprehensions regarding systematic measurement error (Podsakoff et al., 2003, 2012).

4.2 Measurement Model

In accordance with (Hair et al., 2016; Hair & Alamer, 2022), evaluation commenced with the reflective measurement models, evaluating composite reliability (CR), indicator reliability, convergent validity, and discriminant validity before interpreting the structural paths. Outer loadings, which represent the variance in each item explained by its latent construct, were employed to operationalize indicator reliability (Hair et al., 2014). Loadings ≥.70 were deemed satisfactory in accordance with (Wong, 2013) and (Chin, 1998), yet item removal was not automatic due to common social-science constraints (Chin, 2009). Instead, decisions were made based on (Hair et al., 2014) advice: indicators with loadings between .40 and .70 were only removed if doing so significantly improved CR or AVE, which improved psychometric quality without hurting content validity. By following these rules and using (Gefen & Straub, 2005) decision logic, the model was cleaned up by getting rid of AUTH5, PSR5, and PGE4 (loadings < .50) for both overall and country-specific data. Table 2 shows that this simple improvement made the measurements better (CR, AVE) without making the coverage of the constructs worse.

Table 2: Factor loading reliability and convergent validity.

	Overall Sample						Greece					United Kingdom				
Constructs	Items	λ	Alpha	rho_A	CR	AVE	λ	Alpha	rho_A	CR	AVE	λ	Alpha	rho_A	CR	AVE
Perceived Influencer Authenticity	AUTH1	0.807	0.818	0.824	0.879	0.645	0.807	0.808	0.820	0.873	0.632	0.812	0.827	0.826	0.886	0.660
	AUTH2	0.794					0.748					0.844				
	AUTH3	0.780					0.797					0.746				
	AUTH4	0.832					0.827					0.843				
Sustainable Purchase Intention	INTENT1	0.823	0.816	0.830	0.891	0.731	0.804	0.834	0.837	0.901	0.752	0.833	0.795	0.819	0.879	0.709
	INTENT2	0.916					0.914					0.919				
	INTENT3	0.822					0.880					0.768				
Prior Greenwashing Exposure	PGE1	0.880	0.804	0.827	0.883	0.717	0.888	0.797	0.818	0.880	0.710	0.873	0.810	0.837	0.887	0.724
	PGE2	0.797					0.827					0.769				
	PGE3	0.860					0.811					0.905				
Perceived Greenwashing Risk	PGR1	0.821	0.864	0.874	0.901	0.647	0.829	0.855	0.865	0.896	0.633	0.810	0.875	0.883	0.909	0.666
	PGR2	0.761					0.756					0.769				
	PGR3	0.833					0.814					0.858				

	PGR4	0.767					0.744					0.795				
	PGR5	0.836					0.830					0.844				
Parasocial Relationship	PSR1	0.898	0.898	0.919	0.927	0.761	0.914	0.912	0.939	0.937	0.787	0.869	0.879	0.886	0.916	0.732
	PSR2	0.895					0.908					0.865				
	PSR3	0.865					0.882					0.858				
	PSR4	0.829					0.843					0.829				
Green Trust	TRUST1	0.831	0.871	0.893	0.913	0.727	0.828	0.864	0.918	0.909	0.718	0.827	0.883	0.896	0.920	0.744
	TRUST2	0.927					0.935					0.933				
	TRUST3	0.933					0.944					0.931				
	TRUST4	0.700					0.646					0.746				

We utilized Cronbach's alpha, ρA, and composite reliability (CR) to assess for reliability. The CR values for all focal constructs (AUTH, INTENT, PGE, PGR, PSR, TRUST) met or came close to the .70 benchmark, which indicates that the internal consistency was satisfactory (Gefen & Straub, 2005; Henseler et al., 2015). As anticipated, ρA values resided between alpha and CR, typically being ≥ .70, thereby reinforcing reliability in both the overall and country-specific samples (Henseler et al., 2015, 2016). Convergent validity was confirmed whereas the average variance extracted (AVE) surpassed .50, in certain cases where AVE was marginally below .50, a composite reliability (CR) greater than .60 satisfied, the Fornell–Larcker acceptability criterion (Fornell & Larcker, 1981). The Fornell–Larcker test confirmed that discriminant validity was legitimate as the square root of each construct's AVE was higher than its inter-construct correlations. The HTMT ratios were all below the conservative .85 threshold (Henseler et al., 2015, 2016). Overall, the measures demonstrate strong internal consistency and construct validity. Full statistics for alpha, ρA, CR, AVE, inter-construct correlations, and HTMT are reported in Table 3 and Table 4.

Table 3: HTMT ratio

Complete							
	AUTH	INTENT	PGE	PGR	PSR	TRUST	PGE x TRUST
AUTH							
INTENT	0.670						
PGE	0.509	0.681					
PGR	0.077	0.064	0.082				
PSR	0.731	0.543	0.414	0.077			
TRUST	0.144	0.269	0.117	0.436	0.094		
PGE x TRUST	0.118	0.122	0.090	0.043	0.061	0.093	

Greece Sample							
	AUTH	INTENT	PGE	PGR	PSR	TRUST	PGE x TRUST
AUTH							
INTENT	0.723						
PGE	0.505	0.575					
PGR	0.102	0.055	0.087				
PSR	0.763	0.594	0.420	0.075			
TRUST	0.084	0.156	0.091	0.444	0.071		
PGE x TRUST	0.112	0.131	0.114	0.052	0.132	0.051	
UK Sample							
	AUTH	INTENT	PGE	PGR	PSR	TRUST	PGE x TRUST
AUTH							
INTENT	0.603						
PGE	0.508	0.789					
PGR	0.082	0.114	0.105				
PSR	0.694	0.478	0.409	0.107			
TRUST	0.256	0.397	0.158	0.426	0.174		
PGE x TRUST	0.281	0.175	0.075	0.044	0.254	0.191	

Table 4: Fornell and Larcker criterion

Complete

	AUTH	INTENT	PGE	PGR	PSR	TRUST
AUTH	0.803					
INTENT	0.568	0.855				
PGE	0.404	0.573	0.846			
PGR	0.017	0.037	-0.020	0.804		
PSR	0.646	0.481	0.352	0.052	0.872	
TRUST	-0.009	0.211	0.069	0.389	-0.034	0.853
Greece Sample						
	AUTH	INTENT	PGE	PGR	PSR	TRUST
AUTH	0.795					
INTENT	0.605	0.867				
PGE	0.403	0.480	0.843			
PGR	0.034	-0.002	-0.046	0.795		
PSR	0.690	0.534	0.367	0.061	0.887	
TRUST	0.064	0.121	0.058	0.400	0.049	0.847
UK Sample						
	AUTH	INTENT	PGE	PGR	PSR	TRUST
AUTH	0.812					
INTENT	0.517	0.842				
PGE	0.399	0.661	0.851			

PGR	-0.005	0.077	0.008	0.816		
PSR	0.595	0.420	0.335	0.036	0.855	
TRUST	-0.094	0.307	0.086	0.382	-0.139	0.863

4.3 Structural Model

We evaluated coefficients of determination (R^2), predictive relevance (Q^2), and the significance of path estimates to test the structural model. The model explained a moderate proportion of variance in the pooled sample (R^2: TRUST = .155; INTENT = .532). Subsample analyses indicated similar explanatory power for Greece (R^2: TRUST = .163; INTENT = .467) and a greater variance explained for the UK (R^2: TRUST = .169; INTENT = .629). Cross-validated redundancy indicated that out-of-sample predictive relevance was supported in all cases: pooled (Q^2: TRUST = .148; INTENT = .470), Greece (Q^2: TRUST = .146; INTENT = .430), and the UK (Q^2: TRUST = .149; Q^2_predict INTENT = .513). Collectively, these indices indicate adequate explanatory capacity and robust predictive performance across contexts. Hypotheses were evaluated for the statistical significance of inter-construct paths through nonparametric bootstrapping, yielding path coefficients and standard errors (Hair et al., 2011). We applied bias-corrected, one-tailed bootstraps based on 10,000 resamples to obtain accurate confidence intervals for the indirect effects (Preacher & Hayes, 2008; Streukens & Leroi-Werelds, 2016). These approaches validate the model's structural adequacy and predictive validity. Table 5 illustrates all of the results.

Hypotheses were tested for the statistical significance of inter-construct paths using nonparametric bootstrapping to obtain path coefficients and standard errors (Hair et al., 2011). Indirect effects were estimated with bias-corrected, one-tailed bootstraps based on 10,000 resamples to yield precise confidence intervals (Preacher & Hayes, 2008; Streukens & Leroi-Werelds, 2016). These procedures support the model's structural adequacy and predictive validity. Full results appear in Table 5.

Table 5: Hypotheses testing

		Overall Sample				Greece				United Kingdom			
Hypoth.	Path	Coeff. (β)	SD	t-Value	p-Value	Coeff. (β)	SD	t-Value	p-Value	Coeff. (β)	SD	t-Value	p-Value
H1	AUTH → INTENT	0.335	0.034	9.746	0.000	0.373	0.049	7.566	0.000	0.295	0.050	5.927	0.000
H2	PSR → INTENT	0.148	0.037	4.023	0.000	0.163	0.056	2.931	0.002	0.162	0.048	3.361	0.000
H3	PGR → INTENT	-0.049	0.029	1.683	0.046	-0.053	0.041	1.282	0.100	-0.053	0.039	1.356	0.088
H4	TRUST → INTENT	0.199	0.034	5.861	0.000	0.095	0.051	1.864	0.031	0.314	0.049	6.392	0.000

Note. AUTH = perceived influencer authenticity; PSR = parasocial relationship; PGR = perceived greenwashing risk; TRUST = green trust; INTENT = sustainable purchase intention.

In the total sample, perceived influencer authenticity (AUTH) significantly predicted sustainable purchase intention (INTENT), $\beta = .335$, SE = .034, $t = 9.75$, $p < .001$, thereby supporting H1. The parasocial relationship (PSR) exhibited a strong association with INTENT, $\beta = .148$, SE = .037, $t = 4.02$, $p < .001$, thereby supporting H2. Perceived greenwashing risk (PGR) demonstrated a minor negative impact on INTENT, $\beta = -.049$, SE = .029, $t = 1.68$, $p = .046$; consequently, H3 garnered limited support in the overall data. Green trust (TRUST) positively predicted INTENT, $\beta = .199$, SE = .034, $t = 5.86$, $p < .001$, thereby supporting H4. Consequently, all hypotheses were validated for the overall sample. Estimates for each country were in line with the overall results. In Greece, AUTH ($\beta = .373$, SE = .049, $t = 7.57$, $p < .001$) and PSR ($\beta = .163$, SE = .056, $t = 2.93$, $p = .002$) were able to predict INTENT (H1–H2 supported). PGR was not significant ($\beta = -.053$, SE = .041, $t = 1.28$, $p = .100$), providing no Greek support for H3. TRUST exhibited a diminished yet significant correlation with INTENT ($\beta = .095$, SE = .051, $t = 1.86$, $p = .031$), thereby corroborating H4. Consequently, only H3 was unsupported for the Greek sample, whereas H1, H2, and H4 were supported. AUTH ($\beta = .295$, SE = .050, $t = 5.93$, $p < .001$) and PSR ($\beta = .162$, SE = .048, $t = 3.36$, $p < .001$) again predicted INTENT in the UK (H1–H2 supported). PGR was not significant ($\beta = -.053$, SE = .039, $t = 1.36$, $p = .088$), thus not supporting H3. TRUST had a stronger effect on INTENT ($\beta = .314$, SE = .049, $t = 6.39$, $p < .001$), which supports H4. Likewise, in the UK sample, H3 was not corroborated, whereas H1, H2, and H4 were confirmed. Overall, the results indicate that both "being real" (AUTH) and "being close" (PSR) influence intention, and TRUST provides another direct way to INTENT. Learned skepticism (PGE), on the other hand, makes it more challenging for TRUST to turn into intention in both countries. This shows that there is a boundary at the decision stage.

4.4 Mediation Analysis

We examined the indirect effects of authenticity (AUTH), parasocial relationship (PSR), and perceived greenwashing risk (PGR) on sustainable purchase intention (INTENT) through green trust (TRUST) utilizing bias-corrected bootstrapping with 10,000 resamples. The indirect effects were assessed independently for the total sample and by nation. So, H5c was supported for the whole sample, but H5a and H5b were not. In the overall sample, the indirect effect of AUTH → TRUST → INTENT was not significant, with $\beta = .007$, SE = .009, $t = 0.75$, and $p = .225$ (H5a not supported). The PSR → TRUST → INTENT pathway was not significant, $\beta = -.015$, SE = .010, $t = 1.60$, $p = .055$ (H5b not supported). On the other hand, the PGR → TRUST → INTENT indirect effect was significant and positive, $\beta = .078$, SE = .014, $t = 5.43$, $p < .001$ (H5c supported). This sign should be interpreted in light of the coding of PGR: higher scores reflect lower perceived likelihood of greenwashing (i.e., greater perceived claim credibility). Accordingly, the positive indirect effect indicates that lower perceived greenwashing risk increases TRUST, which in turn increases INTENT. This indicates that the way individuals perceived about risk at the post-level affected INTENT indirectly through TRUST.

In the same way, H5c was supported, but H5a and H5b were not. In Greece, neither AUTH → TRUST → INTENT ($\beta = .006$, SE = .007, $t = 0.87$, $p = .193$) nor PSR → TRUST → INTENT ($\beta = -.002$, SE = .007, $t = 0.28$, $p = .390$) achieved statistical significance (H5a, H5b not supported). The indirect effect from PGR to TRUST to INTENT was significant, with $\beta = .038$, SE = .021, $t = 1.82$, and $p = .035$ (H5c supported). Conversely, the UK sample corroborated H5c and H5b, while H5a was not substantiated. In the United Kingdom, the indirect effect of AUTH → TRUST → INTENT was not significant, with $\beta = -.001$, SE = .022, $t = 0.04$, and $p = .486$ (H5a not supported). The PSR

→ TRUST → INTENT indirect effect was significant and negative, β = −.047, SE = .022, t = 2.18, p = .015 (H5b supported, negative sign), indicating that, after accounting for other paths, the TRUST-mediated component of PSR was detrimental to INTENT. The indirect effect from PGR to TRUST to INTENT was important and positive, with a value of β = .122, SE = .022, t = 5.51, and p < .001 (H5c supported). Overall, mediation via TRUST was consistently observed for PGR (H5c) in all samples, absent for AUTH (H5a), and sample-contingent for PSR (H5b; significant and negative in the UK only).

Table 6: Bias-corrected bootstrap indirect effects for mediation hypotheses in the overall sample and by country

		Overall Sample				Greece				United Kingdom			
	Paths	Coeff. (β)	SD	t-value	p-value	Coeff. (β)	SD	t-value	p-value	Coeff. (β)	SD	t-value	p-value
H5a	AUTH → TRUST → INTENT	0.007	0.009	0.754	0.225	0.006	0.007	0.866	0.193	-0.001	0.022	0.036	0.486
H5b	PSR → TRUST → INTENT	-0.015	0.010	1.597	0.055	-0.002	0.007	0.278	0.390	-0.047	0.022	2.178	0.015
H5c	PGR → TRUST → INTENT	0.078	0.014	5.429	0.000	0.038	0.021	1.816	0.035	0.122	0.022	5.511	0.000

Note. AUTH = perceived influencer authenticity; PSR = parasocial relationship; PGR = perceived greenwashing risk; TRUST = green trust; INTENT = sustainable purchase intention. PGR is coded such that higher values indicate lower perceived likelihood of greenwashing (i.e., higher perceived claim credibility); therefore, positive indirect effects for PGR reflect the pathway: lower perceived greenwashing risk → higher TRUST → higher INTENT. Indirect effects significant at p < .05 are interpreted as evidence of mediation.

4.5 Moderation and Conditional indirect effects

We examined whether prior greenwashing exposure (PGE) influences the relationship between green trust (TRUST) and sustainable purchase intention (INTENT) (Table 7). The addition of the interaction term (PGE × TRUST) enhanced the explained variance in INTENT across all samples: the overall model R^2 rose from .398 to .532 (ΔR^2 =.134), in Greece from .403 to .467 (ΔR^2 =.064), and in the United Kingdom from .432 to .629 (ΔR^2 =.197), signifying significant incremental predictive power.

Table 7: Late-Stage Moderation (PGE × TRUST) on INTENT and Model Fit by Country

Metric	**Greece**	**United Kingdom**	**Overall**
R^2_{INTENT}(base)	.403	.432	.398
R^2_{INTENT}(+ interaction)	.467	.629	.532
ΔR^2	.064	.197	.134
H6: PGE × TRUST → INTENT, β (SE)	−.098 (.047)	−.118 (.031)	−.130 (.024)
t-value	2.10	3.85	5.36

p-value	.018	< .001	< .001

In line with H6, the moderation was negative and statistically significant in each sample, indicating that higher PGE diminishes the positive correlation between TRUST and INTENT (Overall: $\beta = -.130$, SE = .024, $t = 5.36$, $p < .001$; Greece: $\beta = -.098$, SE = .047, $t = 2.10$, $p = .018$; UK: $\beta = -.118$, SE = .031, $t = 3.85$, $p < .001$). Simple-slope patterns show that the TRUST → INTENT effect is strongest when PGE is low and gets weaker as PGE gets higher (Figure 2).

Figure 2: Simple slopes of TRUST predicting INTENT at low (−1 SD), mean, and high (+1 SD) levels of PGE (standardized, mean-centered). Panels display conditional effects of TRUST on INTENT by PGE for the overall sample, Greece, and the United Kingdom. Lines represent predicted INTENT across TRUST for PGE at −1 SD, 0, and +1 SD. In all samples, the slope of TRUST → INTENT decreases as PGE increases, consistent with a negative late-stage moderation.

4.6 Conditional Indirect Effects (Moderated Mediation)

PGE moderates the TRUST → INTENT path, therefore any TRUST-mediated paths to INTENT are conditional on PGE. So, indirect effects obtained through TRUST (such as authenticity, a parasocial relationship, or a perceived risk of greenwashing) become weaker as PGE rises. Consequently, formal conditional indirect estimates must be interpreted at representative PGE levels (e.g., low/mean/high); under this framework, larger mediated effects are anticipated at low PGE and smaller effects at high PGE, consistent with the negative PGE × TRUST interaction. We assessed the conditional indirect effects of AUTH, PSR, and PGR on INTENT through TRUST at three levels of PGE, employing the PROCESS tool of SMART-PLS4. In the overall sample, only the PGR → TRUST → INTENT pathway was significant and decreased with higher PGE (low PGE: b=.135, 95% BCa CI [.102,.169], p<.001; mean PGE: b=.089, CI [.064,.117], p<.001; high PGE: b=.043, CI [.013,.075], p=.012). At any PGE level, AUTH and PSR did not have any indirect effects that were significant.

In Greece, the PGR → TRUST → INTENT indirect was significant at low and mean PGE but not at high PGE. This shows that the effect gets weaker as PGE increases (low: b=.077, CI [.027,.135], p=.009; mean: b=.045, CI [.013,.085], p=.019; high: b=.013, CI [-.022,.055], p=.282). Indirects through AUTH and PSR were not significant. We observed two patterns in the UK sample. Initially, the relationship PGR → TRUST → INTENT exhibited substantial positive indirect effects that diminished yet remained significant as PGE escalated (low: b=.175, CI [.131,.225], p<.001; mean: b=.133, CI [.096,.178], p<.001; high: b=.091, CI [.047,.144], p=.001). Second, PSR → TRUST → INTENT led to negative conditional indirect effects across all PGE levels (low: b=-.074, CI [-.124,-.025], p=.006; mean: b=-.057, CI [-.101,-.020], p=.010; high: b=-.039, CI [-.085,-.012], p=.033). Indirects through AUTH were not significant.

In conjunction with the previously reported significant PGE × TRUST interaction, these findings suggest late-stage moderated mediation: mediated effects conveyed through TRUST are most pronounced when audiences indicate reduced prior greenwashing exposure and diminish as PGE increases. This attenuation is most consistent for PGR in both countries; in the UK, PSR also has a small negative mediated effect that gets weaker (but stays the same) as PGE rises.

Table 8: Significant conditional indirect effects at levels of PGE.

Sample	Mediator (X)	PGE level	Indirect effect (b)	95% BCa CI	P-value
Overall	PGR	−1 SD	.135	[.102, .169]	< .001
	PGR	Mean	.089	[.064, .117]	< .001
	PGR	+1 SD	.043	[.013, .075]	.012
Greece	PGR	−1 SD	.077	[.027, .135]	.009
	PGR	Mean	.045	[.013, .085]	.019
	PGR	+1 SD	.013	[-.022, .055]	.282
United Kingdom	PGR	−1 SD	.175	[.131, .225]	< .001
	PGR	Mean	.133	[.096, .178]	< .001
	PGR	+1 SD	.091	[.047, .144]	.001
United Kingdom	PSR	−1 SD	−.074	[−.124, −.025]	.006
	PSR	Mean	−.057	[−.101, −.020]	.010
	PSR	+1 SD	−.039	[−.085, −.012]	.033

Note. PGE = Prior Greenwashing Exposure; PGR = Perceived Greenwashing Risk; PSR = Parasocial Relationship; AUTH = Perceived Influencer Authenticity (no significant conditional indirects in any sample). All estimates are unstandardized; variables for PROCESS were mean-centered within country.

Figure 3 shows a clear pattern of moderated mediation in the late stage. As PGE goes up, the PGR → TRUST → INTENT indirect effect goes down (downward line). In Greece, it goes from .077 to a nonsignificant .013, and in the UK, it goes from .175 to .091 (all significant). So, TRUST has the strongest effect on PGR when PGE is low and the weakest effect when PGE is high. In the UK, PSR → TRUST → INTENT is negative at all PGE levels (CIs exclude 0) and gradually becomes less negative as PGE increases. There were no significant conditional indirects through AUTH. In general, the mediated effects of TRUST are strongest for low-PGE audiences yet become weaker when they have experienced greenwashing before.

Figure 3: Moderated mediation: conditional indirect effects via TRUST across prior greenwashing exposure (PGE). Indirect paths: PGR → TRUST → INTENT (black) and PSR → TRUST → INTENT (gray). Points depict effects at PGE = −1 SD, Mean, +1 SD; dashed lines show 95% BCa confidence intervals; asterisks mark effects with CIs excluding zero. Variables are standardized and mean-centered.

4.7 Cross-National Multi-Group Results (Greece vs. United Kingdom)

Prior to comparing paths, we examined measurement invariance. Configural and compositional invariance were validated, facilitating meaningful multi-group comparisons of structural relationships. Multi-group tests revealed that PGE → INTENT and TRUST → INTENT were significantly weaker in Greece compared to the UK ($\Delta\beta = -.199$, $p = .001$; $\Delta\beta = -.219$, $p = .001$). Additionally, the indirect effect of PGR → TRUST → INTENT was also diminished in Greece ($\Delta\beta = -.084$, $p = .003$). On the contrary, the indirect path from PSR to TRUST to INTENT was stronger in Greece ($\Delta\beta = +.046$, $p = .019$); the difference from PSR to TRUST was small ($\Delta\beta = +.131$, $p = .056$). In overall, trust is a stronger predictor of intention in the UK, while PSR-based trust transmission is stronger in Greece (Table 9).

Table 9: Significant Cross-National Multi-Group path.

Path / Indirect Effect	**Δβ (GR−UK)**	***p* (two-tailed)**
PGE → INTENT	−0.199	.001
TRUST → INTENT	−0.219	.001
PSR → TRUST	+0.131	.056
PGR → TRUST → INTENT (indirect)	−0.084	.003
PSR → TRUST → INTENT (indirect)	+0.046	.019
Note. Negative Δβ indicates a smaller coefficient in Greece than in the UK; positive Δβ indicates a larger coefficient in Greece.		

5 Discussion

With green trust (TRUST) as the proximal mechanism and prior greenwashing exposure (PGE) as a boundary condition, this study set out to determine how "being real" (perceived influencer authenticity, AUTH) and "being close" (parasocial relationship, PSR) translate sustainability communication into green consumer choice. We find a consistent pattern across two national contexts (Greece, UK) using variance-based SEM with nonparametric bootstrapping (Hair et al., 2011) and bias-corrected (BCa) procedures for indirect effects: AUTH and PSR are both direct, positive predictors of sustainable purchase intention (INTENT), TRUST adds incremental explanatory power, and learned skepticism (PGE) consistently reduces the payoff of TRUST at the decision stage. Additionally, conditional indirect effects show that while PSR has a minor negative

mediated component in the UK, which is consistent with persuasion-knowledge activation, over-familiarity, and expectation-violation dynamics in disclosure-salient contexts, post-level perceived greenwashing risk (PGR) functions via TRUST.

5.1 Mechanisms: Distinct routes to intention, a shared hinge in trust

The notion that AUTH and PSR are non-redundant antecedents of sustainable choice is first supported by the direct effects. AUTH → INTENT and PSR → INTENT are both positive and significant across the pooled sample and within each country, with AUTH generally being the stronger predictor (H1–H2). This aligns with research demonstrating that parasocial ties increase receptivity and perceived benevolence, which can permeate endorsed claims (Bi & Zhang, 2023; Liu & Zheng, 2024; Ye et al., 2024), as well as work positioning authenticity as value-congruent, evidence-compatible signaling that lowers inferences of opportunism and raises claim credibility (Bastounis et al., 2021; Chen et al., 2022; Wan et al., 2025). According to meta-analytic evidence, green trust is a proximal driver of green purchase intentions net of attitudes (Chauhan & Goyal, 2024; Ha, 2022). Additionally, TRUST directly predicts INTENT in both countries (H4).

At the same time, mediation patterns illustrate how these paths operate when trait- and state-level skepticism are employed together. The PGR → TRUST → INTENT path is strongly positive (in general and by country). This means that when people think a certain post is less likely to involve greenwashing, TRUST carries that evaluation into intention. This is consistent with research on claim credibility, verifiability, and institutional signals (like verification badges) as factors that affect trust (Liao et al., 2024; Román-Augusto et al., 2023). Although AUTH has a strong direct effect on INTENT, the AUTH → TRUST → INTENT path is not significant. This suggests that once PGE and PGR are included in the model, authenticity may exert a sufficiency-type heuristic ("real enough to act") rather than operating primarily through trust. According to persuasion-knowledge theories, in highly commercialized or contested green contexts, relational closeness can invite scrutiny or attribution of impression-management. In our specification, TRUST is explained primarily by post-level claim diagnostics (PGR), with learned skepticism (PGE) further shaping how trust translates into intention, which may leave limited incremental variance for AUTH to explain within the trust equation. In this manner, authenticity appears to work primarily as a cue for sufficiency and value alignment ("real enough" and in line with my standards), directly affecting INTENT instead of through building more trust once PGR and PGE are taken into account. This does not imply that authenticity is unrelated to trust in general; rather, it suggests that in the presence of stronger state- and trait-skepticism indicators, AUTH contributes chiefly through a direct evaluative route.

The UK exhibits a small negative mediated component for PSR (PSR → TRUST → INTENT) (Ye et al., 2024). One interpretation is that a stronger PSR renders commercial intent and "ought-to-be-authentic" standards more significant. When closeness is high, audiences may expect the influencer to be more consistent and open, so any ambiguity in green claims or disclosure cues is seen as a violation of those expectations, which lowers TRUST even though affinity remains the same. This mechanism aligns with over-familiarity accounts (where proximity alters perceptions from "relatable" to "strategic persona") and with persuasion-knowledge activation (where awareness of persuasive intent induces discounting), resulting in a minor negative trust-channel effect. The fact that PSR still has a positive direct effect on INTENT means that there are two opposite mechanisms at work: warmth and familiarity, which assist individuals in arriving at choices directly, and a trust-channel penalty, which works against it when people are skeptical. This mediated penalty is significant as it is exclusive to the UK, which may reflect heightened attention to disclosure and advertising-intent cues, resulting in a more sensitive trust calculus in the presence of high PSR.

5.2 Dual skepticism: Trait PGE versus state PGR

A crucial contribution is the concurrent analysis of trait-like PGE and state-like PGR. PGR, assessed at the post level, indicates that reduced perceived risk fosters trust growth, subsequently enhancing intention (positive mediation). PGE—accumulated experience with misleading green claims—does not aim to foster trust in our specification; instead, it diminishes the benefits of trust at the final stage (H6). Adding the PGE × TRUST interaction significantly raises the explained variance in INTENT (ΔR^2 = .134 overall; .064 Greece; .197 UK), and the interaction is negative in both countries. Simple-slope patterns show that TRUST → INTENT is steepest when PGE is low and flattens out as PGE goes up. The conditional indirects work the same way: PGR → TRUST → INTENT is most powerful low PGE and weakest at higher PGE (still significant overall and in the UK, but not in Greece). These findings collectively endorse a late-stage moderated mediation: even when trust is established, its transformation into intention is less effective among audiences with extensive histories of deception. This dual-skepticism framework aids in reconciling inconsistent findings in the literature by differentiating state suspicion regarding a particular post (PGR) from trait resistance grounded in previous experience (PGE) (de Sio et al., 2022; Nazish et al., 2025; Rehman et al., 2025; Skordoulis et al., 2025).

5.3 Cross-national portability and differences

Once configural and compositional invariance are confirmed, cross-national contrasts can be effectively analyzed. Two systematic differences became apparent. First, TRUST has a more significant connection to INTENT in the UK than in Greece, and PGE has a stronger relationship to INTENT in the UK. These patterns align with an information environment influenced by more disclosure-salient and enforcement-visible advertising norms, including proactive UK enforcement (ASA/CAP/CMA) and the prominence of the Green Claims Code, which may increase the diagnostic weight placed on trust judgments and heighten sensitivity to "learned" greenwashing history. Second, the mediated PGR → TRUST → INTENT path is less potent in Greece, while the PSR-based mediation is stronger there. One interpretation posits that UK audiences depend more on claim-quality signals and penalize PSR through the trust channel under skepticism, whereas Greek audiences attribute greater significance to relational cues in establishing trust once measurement equivalence is guaranteed. These variations are consistent with research demonstrating that governance regimes and socio-cultural priors co-produce responses to persuasive technologies and green messages (Colleoni et al., 2022; Kim & Wang, 2024; Strycharz & Segijn, 2024). However, we are careful not to over-attribute to regulation or culture alone. The findings render it obvious that TRUST is a proximal hinge whose marginal impact depends on PGE, while AUTH and PSR are parallel, partially independent routes to intention. By (a) directly contrasting AUTH and PSR in one model, (b) identifying PGE as a late-stage moderator rather than a generic covariate, and (c) illustrating moderated mediation in which the magnitude, and occasionally the sign, of indirect effects varies with learned skepticism, this expands conditional-process perspectives in sustainability persuasion. The PSR result in the UK aligns with persuasion-knowledge theories: in a context where commercial intent and disclosure cues are more likely to be foregrounded, greater perceived closeness can amplify scrutiny and make trust more vulnerable to perceived ambiguity, while warmth directly reinforces intention.

6 Implications for practice

Evidence suggests that creators and brands should use a proof-first authenticity strategy, especially in high-PGE segments. This involves making claims that can be verified, providing third-party evidence, offering life-cycle information easy to scan, and transferring credibility at the platform

level (for example, through verification) to raise TRUST's baseline (Liao et al., 2024; Román-Augusto et al., 2023). PSR is nevertheless useful for attracting people's attention and receptivity, but warmth without proof can hurt trust among users who are skeptical, as seen most clearly in the UK results. PGE's audience segmentation is useful as trust-led narratives can easily move low-PGE groups, while high-PGE segments need more evidence, claim traceability, and a better match between the product and the influencer's area of expertise. The results support moves toward standardized eco-metadata and enforceable substantiation that lower ambient skepticism and bring forward the conversion efficiency of trust. This is in line with EU trends and the UK's approach of enforcement plus guidance.

7 Conclusions, Limitations and future research

In conclusion, authenticity and parasocial connection are important for sustainable decision-making, but trust is crucial, and its success depends on audiences' histories with greenwashing. While learned resistance (PGE) hinders the conversion of trust into action, post-level risk assessments (PGR) positively influence trust and intention. The architecture generalizes across Greece and the UK, while differing in magnitude in ways that are consistent with informational climate and enforcement salience. In practical terms, it implies that influencer sustainability campaigns should be anchored by proven authenticity rather than just warmth, especially for high-skeptic segments. Theoretically, identifying moderation at the late decision stage and modeling dual skepticism (state vs. trait) clarifies when otherwise potent cues lose their effectiveness and how to increase green trust conversion efficiency.

Several constraints merit acknowledgment. First, the design is cross-sectional and recall-anchored; panel designs or field experiments that alter disclosure regimes or claim verifiability over time would corroborate causal claims. Second, the dependent variable is intention rather than verified behavior; external validity would be improved by incorporating behavioral telemetry (click-through, basket data) or incentive-compatible choice. Third, we modeled a person-level moderator (PGE); additional boundary conditions such as identity centrality, environmental knowledge, or regulatory literacy could be included in future research. Fourth, broader samples (such as non-European contexts or markets with weaker consumer protection) would test portability under different governance and cultural priors, even though we established measurement/structural invariance for Greece and the UK. Lastly, given documented variations in how verification, disclosure, and "machine heuristic" cues shape trust, creator heterogeneity (micro vs. macro; human vs. virtual) should be investigated within the same conditional-process framework (Breves & Liebers, 2025; Chen et al., 2022; Kalam et al., 2024; Kim & Wang, 2024).

8 Appendix A

Table A1: Measurement scales used in data collection.

Perceived Influencer Authenticity (AUTH)		
AUTH1	The message was consistent with the creator’s usual values/persona.	Adapted from (Campagna et al., 2023; Ilicic & Webster, 2016)
AUTH2	The sustainability claims felt sincere.	

AUTH3	The creator truly supports the product/practice.	
AUTH4	Overall, the creator came across as authentic.	
AUTH5	This creator seemed genuine in that post. (*deleted*)	
Parasocial Relationship (PSR)		
PSR1	I feel like I know this creator.	Adapted from (Rubln et al., 1985; Sokolova & Kefi, 2020)
PSR2	I would miss this creator if they stopped posting.	
PSR3	I often look forward to this creator's content.	
PSR4	I feel this creator understands people like me.	
PSR5	I sometimes think about this creator when I'm not viewing their content. (*deleted*)	
Perceived Greenwashing Risk (PGR)		
PGR1	This post might exaggerate its sustainability claims.	Adapted from (Chen & Chang, 2013; Hameed et al., 2021)
PGR2	The claims in this post may be misleading.	
PGR3	This post makes sustainability claims without clear proof or verification.	
PGR4	Some information in the post seemed too good to be true.	
PGR5	The environmental benefits in this post may be overstated.	
Green Trust (TRUST)		
TRUST1	I trust the environmental claims made in that post.	Adapted from (Chen, 2010)
TRUST2	The sustainability information provided seemed reliable.	
TRUST3	The environmental performance implied by this post seemed dependable.	

TRUST4	Overall, I trust this recommendation regarding its environmental claims.	
Prior Greenwashing Exposure (PGE)		
PGE1	In the past 12 months, I have often encountered sustainability claims that later proved misleading.	Adapted from (Mohr et al., 1998)
PGE2	In the past, I have felt deceived by "green" branding.	
PGE3	I have seen brands exaggerate environmental benefits.	
PGE4	Because of past experiences, I regularly question sustainability claims. (*deleted*)	
Sustainable Purchase Intention (INTENT)		
INTENT1	I intend to buy this sustainable product.	Adapted from (Higueras-Castillo et al., 2024; Spears & Singh, 2004)
INTENT2	I am likely to choose this over a non-sustainable alternative.	
INTENT3	I would recommend this product because of its sustainability.	

9 Conflict of Interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

10 Author Contributions

SB: Writing – review & editing, Funding acquisition, Validation, Writing – original draft, Writing – review & editing, Formal analysis, Methodology, Data curation, Visualization, Conceptualization.
IY: Writing – review & editing, Project administration, Conceptualization, Methodology.

11 Funding

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

12 Data Availability Statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

13 References

Balaskas, S., Stamatiou, I., Komis, K., & Nikolopoulos, T. (2025). Perceptions of Greenwashing and Purchase Intentions: A Model of Gen Z Responses to ESG-Labeled Digital Advertising. *Risks*, *13*(8). https://doi.org/10.3390/risks13080157

Bastounis, A., Buckell, J., Hartmann-boyce, J., Cook, B., King, S., Potter, C., Bianchi, F., Rayner, M., & Jebb, S. A. (2021). The impact of environmental sustainability labels on willingness-to-pay for foods: A systematic review and meta-analysis of discrete choice experiments. In *Nutrients* (Vol. 13, Number 8). MDPI AG. https://doi.org/10.3390/nu13082677

Bi, N. C., & Zhang, R. (2023). "I will buy what my 'friend' recommends": the effects of parasocial relationships, influencer credibility and self-esteem on purchase intentions. *Journal of Research in Interactive Marketing*, *17*(2), 157–175. https://doi.org/10.1108/JRIM-08-2021-0214

Breves, P., & Liebers, N. (2025). The Impact of Following Duration on the Perception of Influencers and Their Persuasive Effectiveness Explained by Parasocial Relationship Stages. *Journal of Current Issues and Research in Advertising*, *46*(1), 1–18. https://doi.org/10.1080/10641734.2024.2320186

Campagna, C. L., Donthu, N., & Yoo, B. (2023). Brand authenticity: literature review, comprehensive definition, and an amalgamated scale. *Journal of Marketing Theory and Practice*, *31*(2), 129–145. https://doi.org/10.1080/10696679.2021.2018937

Campbell, S., Greenwood, M., Prior, S., Shearer, T., Walkem, K., Young, S., Bywaters, D., & Walker, K. (2020). Purposive sampling: complex or simple? Research case examples. *Journals.Sagepub.Com*, *25*(8), 652–661. https://doi.org/10.1177/1744987120927206

Carranza, R., Díaz, E., Martín-Consuegra, D., & Fernández-Ferrín, P. (2020). PLS–SEM in business promotion strategies. A multigroup analysis of mobile coupon users using MICOM. *Industrial Management & Data Systems*, *120*(12), 2349–2374. https://doi.org/10.1108/IMDS-12-2019-0726

Chauhan, S., & Goyal, S. (2024). A meta-analysis of antecedents and consequences of green trust. In *Journal of Consumer Marketing* (Vol. 41, Number 4, pp. 459–473). Emerald Publishing. https://doi.org/10.1108/JCM-10-2023-6335

Chen, X., Hyun, S. S., & Lee, T. J. (2022). The effects of parasocial interaction, authenticity, and self-congruity on the formation of consumer trust in online travel agencies. *International Journal of Tourism Research*, *24*(4), 563–576. https://doi.org/10.1002/jtr.2522

Chen, Y. S. (2010). The drivers of green brand equity: Green brand image, green satisfaction, and green trust. *Journal of Business Ethics*, *93*(2), 307–319. https://doi.org/10.1007/s10551-009-0223-9

Chen, Y. S., & Chang, C. H. (2013). Greenwash and Green Trust: The Mediation Effects of Green Consumer Confusion and Green Perceived Risk. *Journal of Business Ethics*, *114*(3), 489–500. https://doi.org/10.1007/s10551-012-1360-0

779 Chen, Y. S., Lin, C. Y., & Weng, C. S. (2015). The influence of environmental friendliness on green
780 trust: The mediation effects of green satisfaction and green perceived quality. *Sustainability*
781 *(Switzerland)*, *7*(8), 10135–10152. https://doi.org/10.3390/su70810135

782 Chin, W. W. (1998). The partial least squares approach to structural equation modeling. *Modern*
783 *Methods for Business Research*, *295*(2), 295–336.

784 Chin, W. W. (2009). How to write up and report PLS analyses. In *Handbook of partial least squares:*
785 *Concepts, methods and applications* (pp. 655–690). Springer.

786 Colleoni, E., Romenti, S., Valentini, C., Badham, M., Choi, S. I., Kim, S., & Jin, Y. (2022). Does Culture
787 Matter? Measuring Cross-Country Perceptions of CSR Communication Campaigns about
788 COVID-19. *Sustainability (Switzerland)*, *14*(2). https://doi.org/10.3390/su14020889

789 de Sio, S., Zamagni, A., Casu, G., & Gremigni, P. (2022). Green Trust as a Mediator in the
790 Relationship between Green Advertising Skepticism, Environmental Knowledge, and Intention
791 to Buy Green Food. *International Journal of Environmental Research and Public Health*, *19*(24).
792 https://doi.org/10.3390/ijerph192416757

793 Diao, Y., Liang, M., Jin, C. H., & Woo, H. K. (2025). Virtual Influencers and Sustainable Brand
794 Relationships: Understanding Consumer Commitment and Behavioral Intentions in Digital
795 Marketing for Environmental Stewardship. *Sustainability (Switzerland)*, *17*(13).
796 https://doi.org/10.3390/su17136187

797 Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable
798 variables and measurement error. *Journal of Marketing Research*, *18*(1), 39–50.

799 Gefen, D., & Straub, D. (2005). A practical guide to factorial validity using PLS-Graph: Tutorial and
800 annotated example. *Communications of the Association for Information Systems*, *16*(1), 5.

801 Glaveli, N. (2021). Two Countries, Two Stories of CSR, Customer Trust and Advocacy Attitudes and
802 Behaviors? A Study in the Greek and Bulgarian Telecommunication Sectors. *European*
803 *Management Review*, *18*(1), 151–166. https://doi.org/10.1111/emre.12417

804 Götz, O., Liehr-Gobbers, K., & Krafft, M. (2010). Evaluation of Structural Equation Models Using the
805 Partial Least Squares (PLS) Approach. In V. Esposito Vinzi, W. W. Chin, J. Henseler, & H. Wang
806 (Eds.), *Handbook of Partial Least Squares* (pp. 691–711). Springer Berlin Heidelberg.
807 https://link.springer.com/10.1007/978-3-540-32827-8_30

808 Ha, M. T. (2022). Greenwash and green brand equity: The mediating role of green brand image,
809 green satisfaction, and green trust, and the moderating role of green concern. *PLoS ONE*, *17*(11
810 November). https://doi.org/10.1371/journal.pone.0277421

811 Hair, J., & Alamer, A. (2022). Partial Least Squares Structural Equation Modeling (PLS-SEM) in second
812 language and education research: Guidelines using an applied example. *Research Methods in*
813 *Applied Linguistics*, *1*(3), 100027.

Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. (2006). *Multivariate data analysis . Uppersaddle River*. NJ: Pearson Prentice Hall.

Hair, J., Sarstedt, M., Matthews, L. M., & Ringle, C. M. (2016). Identifying and treating unobserved heterogeneity with FIMIX-PLS: part I–method. *European Business Review*, *28*(1), 63–76.

Hair Jr, J. F., Sarstedt, M., Hopkins, L., & Kuppelwieser, V. G. (2014). Partial least squares structural equation modeling (PLS-SEM): An emerging tool in business research. *European Business Review*, *26*(2), 106–121.

Hameed, I., Hyder, Z., Imran, M., & Shafiq, K. (2021). Greenwash and green purchase behavior: an environmentally sustainable perspective. *Environment, Development and Sustainability*, *23*(9), 13113–13134. https://doi.org/10.1007/s10668-020-01202-1

Henseler, J., Hubona, G., & Ray, P. A. (2016). Using PLS path modeling in new technology research: updated guidelines. *Industrial Management & Data Systems*, *116*(1), 2–20.

Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, *43*, 115–135.

Higueras-Castillo, E., Liébana-Cabanillas, F., Santos, M. A. Dos, Zulauf, K., & Wagner, R. (2024). Do you believe it? Green advertising skepticism and perceived value in buying electric vehicles. *Sustainable Development*, *32*(5), 4671–4685. https://doi.org/10.1002/sd.2932

Ilicic, J., & Webster, C. M. (2016). Being True to Oneself: Investigating Celebrity Brand Authenticity. *Psychology and Marketing*, *33*(6), 410–420. https://doi.org/10.1002/mar.20887

Janadari, M. P. N., Sri Ramalu, S., & Wei, C. (2016). *Evaluation of measurment and structural model of the reflective model constructs in PLS–SEM*. https://dspace152.healthnet.org.np/items/1fc5f460-cf9b-4839-b5c3-bcbe9bdff18e

Kalam, A., Goi, C. L., & Tiong, Y. Y. (2024). Celebrity endorsers and social media influencers for leveraging consumer advocacy and relationship intentions – a multivariate mediation analysis. *Marketing Intelligence and Planning*, *42*(1), 84–119. https://doi.org/10.1108/MIP-04-2023-0184

Kesmodel, U. S. (2018). Cross-sectional studies–what are they good for? *Acta Obstetricia et Gynecologica Scandinavica*, *97*(4), 388–393.

Khurana, T., Pannu, S., Dalal, G., Vyas, P., & Rani, P. (2025). How Do Social Media Influencers' Credibility and Brand Trust Drive Purchase Intentions for Green Cosmetics? Insights from SOBC Approach. *NMIMS Management Review*, *33*(3), 171–185. https://doi.org/10.1177/09711023251352318

Kim, D., & Wang, Z. (2024). Social media influencer vs. virtual influencer: The mediating role of source credibility and authenticity in advertising effectiveness within AI influencer marketing.

Computers in Human Behavior: Artificial Humans, *2*(2), 100100. https://doi.org/10.1016/j.chbah.2024.100100

Kim, J., Henry, E. A., Carter, J., & Soysal, Y. N. (2025). Globalization, populism, and climate skepticism: untangling varieties and pathways. *Environmental Sociology*, 1–23. https://doi.org/10.1080/23251042.2025.2536342

Kılıç, İ., & Gürlek, M. (2024). Green influencer marketing: conceptualization, scale development, and validation: an application to tourism products. *Journal of Sustainable Tourism*, *32*(10), 2181–2206. https://doi.org/10.1080/09669582.2023.2273755

Kock, N., & Hadaya, P. (2018). Minimum sample size estimation in PLS-SEM: The inverse square root and gamma-exponential methods. *Information Systems Journal*, *28*(1), 227–261. https://doi.org/10.1111/isj.12131

Liao, C. H., Hsieh, J. K., & Kumar, S. (2024). Does the verified badge of social media matter? The perspective of trust transfer theory. *Journal of Research in Interactive Marketing*, *18*(6), 1017–1033. https://doi.org/10.1108/JRIM-10-2023-0339

Liu, X., & Zheng, X. (2024). The persuasive power of social media influencers in brand credibility and purchase intention. *Humanities and Social Sciences Communications*, *11*(1). https://doi.org/10.1057/s41599-023-02512-1

Mohr, L. A., Eroğlu, D., & Ellen, P. S. (1998). The development and testing of a measure of skepticism toward environmental claims in marketers' communications. *Journal of Consumer Affairs*, *32*(1), 30–55. https://doi.org/10.1111/j.1745-6606.1998.tb00399.x

Mustapa, M. A. C., & Kallas, Z. (2025). Meta-Analysis of Consumer Willingness to Pay for Short Food Supply Chain Products. *Global Challenges*, *9*(3). https://doi.org/10.1002/gch2.202400154

Nazish, M., Khan, Z., Khan, A., Naved Khan, M., & Ramkissoon, H. (2025). "Green Intentions, Green Actions": The Power of Social Media and the Perils of Greenwashing. *Journal of Global Marketing*, *38*(3), 214–233. https://doi.org/10.1080/08911762.2024.2429517

Nyimbili, F., & Nyimbili, L. (2024). *Types of purposive sampling techniques with their examples and application in qualitative research studies.* https://doi.org/10.37745/bjmas.2022.0419

Olsen, C., & St George, D. M. M. (2004). Cross-sectional study design and data analysis. *College Entrance Examination Board*, *26*(03), 2006.

Piracci, G., Lamonaca, E., Santeramo, F. G., Boncinelli, F., & Casini, L. (2024). On the willingness to pay for food sustainability labelling: A meta-analysis. *Agricultural Economics (United Kingdom)*, *55*(2), 329–345. https://doi.org/10.1111/agec.12826

Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: a critical review of the literature and recommended remedies. *Journal of Applied Psychology*, *88*(5), 879.

884 Podsakoff, P. M., MacKenzie, S. B., & Podsakoff, N. P. (2012). Sources of method bias in social
885 science research and recommendations on how to control it. *Annual Review of Psychology*, *63*,
886 539–569.

887 Preacher, K. J., & Hayes, A. F. (2008). *Assessing mediation in communication research*. The Sage
888 sourcebook of advanced data analysis methods for communication ….

889 Rehman, A. U., Kumar, S., Alghafes, R., Broccardo, L., & Patel, A. K. (2025). Role of Greenwashing in
890 Influencing Brand Attitude and Consumption: Identifying Sustainable Business Strategies.
891 *Business Strategy and the Environment*. https://doi.org/10.1002/bse.4300

892 Ringle, C., Da Silva, D., & Bido, D. (2015). Structural equation modeling with the SmartPLS. *Bido, D.,*
893 *Da Silva, D., & Ringle, C.(2014). Structural Equation Modeling with the Smartpls. Brazilian*
894 *Journal Of Marketing*, *13*(2). https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2676422

895 Román-Augusto, J. A., Garrido-Lecca-Vera, C., Lodeiros-Zubiria, M. L., & Mauricio-Andia, M. (2023).
896 How to Reach Green Word of Mouth through Green Trust, Green Perceived Value and Green
897 Satisfaction. *Data*, *8*(2). https://doi.org/10.3390/data8020025

898 Rubln, A. M., Perse, E. M., & Powell, R. A. (1985). LONELINESS, PARASOCIAL INTERACTION, AND
899 LOCAL TELEVISION NEWS VIEWING. In *Human Communication Research* (Vol. 12, Number 2).

900 Sarstedt, M., Ringle, C. M., & Hair, J. F. (2021). Partial least squares structural equation modeling. In
901 *Handbook of market research* (pp. 587–632). Springer.

902 Skordoulis, M., Vrentzou, A. D., Arsenou, E., Kalantonis, P., & Papagrigoriou, A. (2025). Effectiveness
903 of Social Media Influencers in Tourism Marketing: The Case of Eco-Friendly Hotels in Greece.
904 *Springer Proceedings in Business and Economics*, 909–917. https://doi.org/10.1007/978-3-031-
905 81962-9_98

906 Sokolova, K., & Kefi, H. (2020). Instagram and YouTube bloggers promote it, why should I buy? How
907 credibility and parasocial interaction influence purchase intentions. *Journal of Retailing and*
908 *Consumer Services*, *53*. https://doi.org/10.1016/j.jretconser.2019.01.011

909 Spears, N., & Singh, S. N. (2004). Measuring attitude toward the brand and purchase intentions.
910 *Journal of Current Issues and Research in Advertising*, *26*(2), 53–66.
911 https://doi.org/10.1080/10641734.2004.10505164

912 Stevens, J. (2002). *Applied multivariate statistics for the social sciences* (Vol. 4). Lawrence Erlbaum
913 Associates Mahwah, NJ.

914 Streukens, S., & Leroi-Werelds, S. (2016). Bootstrapping and PLS-SEM: A step-by-step guide to get
915 more out of your bootstrap results. *European Management Journal*, *34*(6), 618–632.

916 Strycharz, J., & Segijn, C. M. (2024). Ethical side-effect of dataveillance in advertising: Impact of data
917 collection, trust, privacy concerns and regulatory differences on chilling effects. *Journal of*
918 *Business Research*, *173*. https://doi.org/10.1016/j.jbusres.2023.114490

Suen, L.-J. W., Huang, H.-M., & Lee, H.-H. (2014). A comparison of convenience sampling and purposive sampling. *Hu Li Za Zhi*, *61*(3), 105. https://search.proquest.com/openview/56f5d21e88d7b1f484434edd4b42f210/1?pq-origsite=gscholar&cbl=866377

Wagner, R., & Grimm, M. S. (2023). Empirical Validation of the 10-Times Rule for SEM. In L. Radomir, R. Ciornea, H. Wang, Y. Liu, C. M. Ringle, & M. Sarstedt (Eds.), *State of the Art in Partial Least Squares Structural Equation Modeling (PLS-SEM)* (pp. 3–7). Springer International Publishing. https://link.springer.com/10.1007/978-3-031-34589-0_1

Wan, C., Lee, D., Ng, P. M. L., & Leung, T. C. H. (2025). Going Green with AI-Powered Virtual Influencers: The Role of Social Cues, Source Credibility and Environmental Identity. *International Journal of Human-Computer Interaction*. https://doi.org/10.1080/10447318.2025.2561771

Wang, D., & Walker, T. (2023). How to Regain Green Consumer Trust after Greenwashing: Experimental Evidence from China. *Sustainability (Switzerland)*, *15*(19). https://doi.org/10.3390/su151914436

Wong, K. K.-K. (2013). Partial least squares structural equation modeling (PLS-SEM) techniques using SmartPLS. *Marketing Bulletin*, *24*(1), 1–32.

Ye, S., Liu, G., Lin, Y., Lin, Z., Shi, Y., & Huang, Z. (2024). Research on the negative effect of product scarcity appeals on the purchase intention of green products and its mechanism. *Frontiers in Psychology*, *15*. https://doi.org/10.3389/fpsyg.2024.1225011

Zatwarnicka-Madura, B., Nowacki, R., & Wojciechowska, I. (2022). Influencer Marketing as a Tool in Modern Communication—Possibilities of Use in Green Energy Promotion amongst Poland's Generation Z. *Energies*, *15*(18). https://doi.org/10.3390/en15186570

Zhuang, W., Luo, X., & Riaz, M. U. (2021). On the Factors Influencing Green Purchase Intention: A Meta-Analysis Approach. *Frontiers in Psychology*, *12*. https://doi.org/10.3389/fpsyg.2021.644020