DOI: 10.18290/pepsi-2025-0019

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Values, Intentions, and the Price of Sustainability: Explaining the Intention–Behaviour Gap Among Generation Z Consumers

ABSTRACT

The study explored the extent to which ecological values held by Generation Z translated into concrete purchasing behaviour when sustainability involved financial sacrifice. Using dataset of young adults (N = 1,687), the analysis examined psychological and contextual determinants of sustainable consumption, including environmental values, materialistic orientations, pro-environmental attitudes, purchase intentions, and willingness to pay (WTP). The results showed that ecological concern was moderately high among respondents; however, behavioural engagement and economic commitment decreased considerably along the decision pathway. Ecological values scored moderately high (M = 3.61), whereas willingness to pay remained lower (M = 3.12). Although environmental values were positively associated with favourable attitudes toward green products, and these attitudes encouraged purchase intentions, only a modest proportion of respondents reported paying more or consistently acting upon their expressed preferences. Price sensitivity emerged as a major inhibitor of ecological action, whereas frequent exposure to sustainability-related content on social media strengthened commitment. Overall, the findings provided empirical evidence for a persistent intention–behaviour gap among young consumers and demonstrated that sustainability-driven self-identification did not

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automatically translate into willingness to incur economic costs. Practical implications concerned the need for transparent price framing, credible ecolabelling, and media-based reinforcement of social norms promoting sustainable choices.

KEYWORDS: sustainable consumption; generation Z; intention–behaviour gap; willingness to pay; environmental values

INTRODUCTION

Sustainable consumption has become one of the most frequently invoked solutions to contemporary environmental challenges, from climate change to resource depletion. As consumers are increasingly expected to participate in ecological transition not only through political engagement but also through daily purchasing choices, researchers and policymakers have turned their attention toward the cohorts believed to spearhead this transformation. Among them, Generation Z has been widely portrayed as a uniquely conscious and ethically motivated segment of society. Surveys and industry reports have repeatedly claimed that young adults express strong concern for environmental issues, support brands aligned with sustainability, and identify themselves with ecological activism (Lemanowicz et al., 2025; Lopes et al., 2024; Ngo et al., 2024).

However, empirical research has shown that declared concern for sustainability rarely guarantees behavioural follow-through (Bamberg & Möser, 2007; Carrington et al., 2010; Liobikienė & Poškus, 2019). While many young consumers claim to "care about the planet", fewer are willing to pay more, change preferred brands, or sacrifice convenience to act on such beliefs (Manley et al., 2023). This discrepancy between attitudes and action-commonly termed the intention-behaviour gap-has been repeatedly observed and documented across multiple domains of sustainable consumption, from organic food purchasing to ethical fashion and low-waste lifestyle adoption (Al Mamun et al., 2025; Bamberg

& Möser, 2007; Carrington et al., 2010; Moser, 2015; J. Wang & Huo, 2022).

The present study addressed this issue by examining to what extent ecological values held by Generation Z translated into consistent purchasing behaviour, especially when sustainability required financial or practical sacrifice beyond symbolic endorsement. Rather than assuming that young consumers were either "truly green" or "hypocritical", the analysis approached sustainable decision-making as a conditional process shaped by both moral inclination and situational constraints. Of particular interest were two opposing forces: environmental concern, positioned as a motivational driver of sustainable action, and materialistic orientation, often seen as an antagonist of eco-consciousness. Likewise, price sensitivity and social media exposure were investigated as contextual influences capable of either weakening or reinforcing behavioural pathways.

By combining normative and behavioural dimensions of ecological mentality, the study provided a comprehensive assessment of how values, attitudes, intentions, and actions aligned, or failed to alig, within the purchasing logic of young consumers. The analysis yielded insights into the fragility of ecological commitment when confronted with economic trade-offs, while identifying the conditions under which sustainability-oriented beliefs were most likely to result in concrete action. The following sections outline the empirical findings and discuss their implications for sustainability communication, ethical branding, and consumer policy.

The remainder of this paper is structured as follows: Section 1 reviews the literature and theoretical frameworks; Section 2 describes the methodology and data; Section 3 presents the empirical results; Section 4 discusses findings and implications; and Section 5 concludes.

1. ECOLOGICAL VALUES, CONSUMER BEHAVIOUR, AND THE INTENTION–BEHAVIOUR GAP: A REVIEW OF EXISTING EVIDENCE

Research on pro-environmental consumer behavior integrates perspectives from values, social norms, and economic decision-making to explain why consumers—particularly young adults and representatives of Generation Z—often express strong pro-ecological attitudes but do not consistently translate them into actual purchases of "green" products. The literature is dominated by two complementary theoretical frameworks: the Theory of Planned Behavior (TPB) and the Value–Belief–Norm (VBN) model, which, when combined with measures of environmental orientation (NEP) and the construct of materialism, provide a robust foundation for modeling purchase intentions, willingness to pay (WTP), and actual sustainable consumption behaviors (Ajzen, 1991; Stern et al., 1999).

Theoretical Framework: TPB and VBN

The Theory of Planned Behavior (TPB) posits that behavioral intention is determined by one's attitude toward the behavior, subjective norms, and perceived behavioral control. TPB has been widely applied to predict intentions to purchase sustainable products and enables both mediational and moderational analyses between attitudes and willingness to pay (WTP) (Ajzen, 1991).

The Value–Belief–Norm (VBN) theory integrates a hierarchy of values with beliefs about environmental threats and personal norms of action. Individuals whose value systems emphasize environmental concern are more likely to develop a sense of threat and moral obligation (personal norm), which in turn increases the likelihood of pro-environmental behaviors (Stern et al., 1999). VBN is particularly useful for examining internal motivations and moral dimensions of consumer decision-making.

In practice, combining TPB and VBN frameworks (as well as their contemporary extensions) allows for a more comprehensive explanation of both behavioral intentions and the barriers to their realization – for instance, through moderating contextual factors such as price, product availability, or habitual purchasing patterns (Bosnjak et al., 2020). Integration of TPB and VBN is today one of the dominant approaches in sustainable consumption research (Liang, 2024; Pardeshi et al., 2024).

Measurement of Attitudes and Values: NEP and Materialism

The pro-environmental orientation was measured using the revised New Ecological Paradigm Scale (NEP-R) developed by Dunlap and colleagues (Dunlap et al., 2000). The 15-item NEP-R assesses individuals' ecological worldview and has proven highly reliable in cross-cultural and longitudinal studies of environmental concern.

In contrast, materialism-operationalized as a consumer value system (Richins & Dawson, 1992) – is a strong predictor of anti-environmental behaviors. Higher levels of materialism are often associated with lower willingness to pay a premium for sustainable products. Including both the NEP and materialism scales allows researchers to capture two opposing value dimensions that shape consumer decision-making.

Intention–Behavior Gap and Its Determinants

One of the central issues in research on sustainable consumption is the so-called intention–behavior gap, which refers to the discrepancy between declared pro-environmental intentions and actual purchasing behavior. Carrington, Neville, and Whitwell (2010) synthesized existing evidence and identified several barriers – such as cost, limited product availability, lack of trust in eco-labels, and convenience – that can inhibit the translation of intentions into actions.

In practical terms, this means that studies relying solely on self-reported intentions (e.g., "I am willing to pay more") may overestimate actual behaviors. Therefore, empirical research should clearly distinguish between intentions and reported or observed behaviors.

Seminal meta-analyses (Bamberg & Möser, 2007) indicate that psychosocial factors – such as values, attitudes, and norms – explain only a moderate portion of the variance in pro-environmental behaviors, and that these relationships are significantly moderated by situational and contextual variables. This suggests that quantitative research on sustainable consumption should employ integrated analytical models combining mediation and moderation effects.

Willingness to Pay (WTP) for Sustainable Products

The meta-analysis by Li and Kallas (2021) provides a comprehensive synthesis of the literature on willingness to pay (WTP) for sustainable food products, showing that the average price premium consumers are willing to pay constitutes a significant percentage of the base price. The authors report substantial heterogeneity across studies, depending on the type of sustainability attribute (e.g., organic, fair trade, carbon footprint) and the research method employed.

A key finding concerns the method effect: studies relying on hypothetical valuation approaches – such as the contingent valuation (CV) method – tend to overestimate WTP compared with real market behaviors. Consequently, survey-based research should employ more realistic elicitation formats, such as bounded price thresholds or scenario-based questions, to mitigate hypothetical bias. Alternatively, researchers can triangulate self-reported data with actual purchase or experimental transaction data to obtain more accurate behavioral estimates.

The Specificity of Generation Z

Recent empirical studies focusing on Generation Z (individuals born in the late 1990s and early 2000s) reveal several recurring patterns. Members of this cohort consistently declare high environmental awareness and expect brand transparency, yet their purchase decisions remain strongly influenced by price, style, and product availability (Lopes et al., 2024; Ngo et al., 2024; Pardeshi et al., 2024).

For example, a study on sustainable clothing purchase intentions among Gen Z consumers in Vietnam confirmed the explanatory power of the Theory of Planned Behavior (TPB) while also identifying the moderating roles of media exposure and perceived product effectiveness (Ngo et al., 2024). These findings suggest that models of sustainable consumption for Generation Z should explicitly incorporate digital factors, such as social media engagement, influencer communication, and trust in eco-certifications.

Complementary evidence from Lopes et al. (2024) indicates that European Gen Z consumers perceive sustainable consumption not only as a moral responsibility but also as a component of social and cultural identity. Consequently, future studies should account for variables linked to self-expression, peer influence, and identity signaling within sustainability-related consumer behavior.

Current Trends in Sustainable Consumption and Environmental Policy

In recent years, there has been a significant strengthening of environmental policy frameworks and an expansion of EU regulatory mechanisms aimed at achieving climate neutrality. The central strategic document guiding this transition is the European Green Deal, which sets the objective of climate neutrality by 2050 and a minimum 55% reduction in greenhouse gas emissions by 2030 (European Commission, 2019). The strategy introduces instru-

ments such as carbon pricing mechanisms, extended producer responsibility, and enhanced supply chain transparency, all of which directly influence consumer attitudes and expectations. This transformation requires parallel technological, institutional, and cultural changes, with consumer behavior serving as a pivotal driver of systemic sustainability transitions (Geels et al., 2017; Köhler et al., 2019).

At the same time, there has been a growing popularity of bottom-up social movements advocating for zero waste and circular economy principles, emphasizing reduction, reuse, and recycling. Scholars have identified over one hundred distinct conceptualizations of the circular economy, reflecting both its dynamic evolution and the diversity of interpretative frameworks (Kirchherr et al., 2017). Moreover, research demonstrates the global potential of the circular economy model in promoting resource efficiency and creating green employment opportunities (Geng et al., 2019).

Importantly, these developments are amplified by digital media and influencer-driven communication, which promote sustainable lifestyles and reinforce pro-environmental norms. Social media platforms are now among the most influential tools in shaping the pro-ecological intentions of young consumers, particularly those from Generation Z (Munaro et al., 2024; Vilkaite-Vaitone, 2024; Yıldırım, 2021). As a result, public policy and media culture operate synergistically, strengthening demand for sustainable products and embedding norms of responsible consumption in everyday practices.

It is recommended to separately measure:

(a) intentions,
(b) self-reported behaviors (e.g., "purchase of an eco-friendly product in the past month"), and
(c) willingness to pay (WTP) using realistic monetary anchors or bounded percentage categories.

The analytical framework should include multiple regression analyses, tests of mediation (e.g., personal norm as a mediator

between attitude and behavior), and moderation analyses (e.g., effects of income level or media exposure). Given the well-documented intention–behavior gap, researchers should also consider data triangulation methods – for instance, voluntary consent to verify shopping receipts or transaction data, or simulated experimental choice tasks that approximate real purchasing decisions.

Based on the reviewed literature, it was assumed that understanding pro-environmental behavior requires accounting for both the system of values (as proposed by the Value–Belief–Norm [VBN] model) and the rational determinants of behavioral intentions (as outlined in the Theory of Planned Behavior [TPB]). Therefore, the empirical analysis incorporated elements of both theoretical approaches: pro-environmental values and materialism were treated as variables reflecting internal motivations, while attitudes, subjective norms, and perceived behavioral control were considered as factors shaping pro-environmental intentions. The analysis also drew on the literature emphasizing the role of contextual factors – such as price, product availability, and trust in brands and certifications – as potential barriers or facilitators of actual purchasing behavior.

The empirical study focused on Generation Z, which – according to previous research – is characterized by a high level of declarative environmental awareness (Wawer et al., 2022), yet also by a distinct gap between intentions and actual purchasing behavior. The study additionally considered the influence of digital and social media as contemporary sources of social norms and information about sustainable products. The analysis was based on a composite measurement framework, including the Revised New Ecological Paradigm (NEP-R) scale for assessing environmental orientation, the Richins and Dawson Materialism Scale for measuring consumer values, and a set of items derived from the Theory of Planned Behavior (TPB) for evaluating attitudes and purchase intentions. Statistical analysis employed regression models, as well as mediation and moderation tests, with

particular caution regarding the interpretation of self-reported WTP (willingness to pay) indicators (Bamberg & Möser, 2007; Carrington et al., 2010; Li & Kallas, 2021).

2. METHODOLOGY

This study employed a hybrid set of measurement instruments. The Revised New Ecological Paradigm Scale (NEP-R) (Dunlap et al., 2000) was used to assess ecological orientation, the Materialism Scale (Richins & Dawson, 1992) to capture consumer value orientations, and selected components of the Theory of Planned Behavior (TPB) – namely attitude, subjective norms (SN), and perceived behavioral control (PBC) – to measure behavioral intentions.

Empirical data were collected via an online questionnaire survey (N = 1,687) among Generation Z respondents aged 18–25 years. The survey was conducted in Poland between 2024 and 2025. The research sample consisted primarily of secondary school pupils and university students from the Lublin Voivodeship, representing both urban and rural areas. Respondents were recruited through educational institutions and online communication channels affiliated with youth and academic organizations. Although the study focused on a regional cohort, the demographic composition of the sample (age, gender, and type of residence) reflects the general structure of Generation Z in Poland. This contextual specification enables the interpretation of findings within the broader framework of Central and Eastern European consumer behavior patterns, while acknowledging that cultural and economic factors may limit direct generalization to other national contexts. A quota sampling strategy was applied to ensure a balanced representation by gender, residence, and socioeconomic status. Although official demographic statistics for Generation Z in Poland are fragmented, the gender and residence structure of the sample

(54 % female, 46 % male; 60 % urban, 40 % rural) corresponds closely with the proportions reported in other empirical studies on young Polish consumers exploring environmental and social attitudes (Balińska et al., 2024; Dąbrowski et al., 2022).

Based on the above theoretical assumptions and previous empirical findings, a research model was developed that incorporates both internal factors (values, attitudes, intentions) and external factors (contextual conditions and media influence). The empirical analysis examined the relationships among pro-environmental orientation, materialism, attitudes toward sustainable products, purchase intentions, and declared willingness to pay (WTP) for environmentally friendly products. This approach made it possible to empirically assess the extent to which young consumers from Generation Z translate their declared pro-environmental values and attitudes into actual purchasing decisions in the context of contemporary sustainable consumption trends.

The analysis assumed that pro-environmental consumer behavior results from the complex interaction between internal and external determinants. Internal determinants include values, attitudes, and intentions, whereas external determinants refer to the market context (price, availability, trust) and the influence of the socio-media environment.

The theoretical model designed for this study integrates two complementary approaches: the Value–Belief–Norm (VBN) framework and the Theory of Planned Behavior (TPB), in line with recommendations from prior literature (Ajzen, 1991; Bamberg & Möser, 2007; Stern et al., 1999). The model assumes that pro-environmental values, measured using the New Ecological Paradigm Revised Scale (NEP-R) (Dunlap et al., 2000), and materialistic values (Richins & Dawson, 1992) determine attitudes toward ecological products. According to the TPB framework, attitudes influence purchase intentions, which in turn shape actual behaviors and willingness to pay (WTP) for sustainable products. In addition, the model includes moderating variables – contextual

factors (e.g., price, product availability, trust in brands) and the influence of digital media – which, according to previous studies, affect the strength of the relationship between intention and behavior (Carrington et al., 2010).

The integrated research model assumes a sequential relationship: Values (pro-environmental / materialistic) → Attitudes toward sustainable consumption → Purchase intentions → Pro-environmental behaviors / Willingness to Pay (WTP), with a moderating role of contextual factors and social media influence.

Within this framework, nine research hypotheses (H1–H9) were tested, encompassing:

– the effects of pro-environmental values and materialism on attitudes toward sustainable consumption (H1–H2),

– the relationships among attitudes, intentions, and behaviors (H3–H5),

– the moderating role of contextual factors and media influence (H6–H7),

– and the mediating effects of attitudes and intentions in the value → behavior relationships (H8–H9).

H1: Pro-environmental orientation (measured by the NEP-R scale) positively influences attitudes toward sustainable consumption (Derdowski et al., 2020; Dunlap et al., 2000).

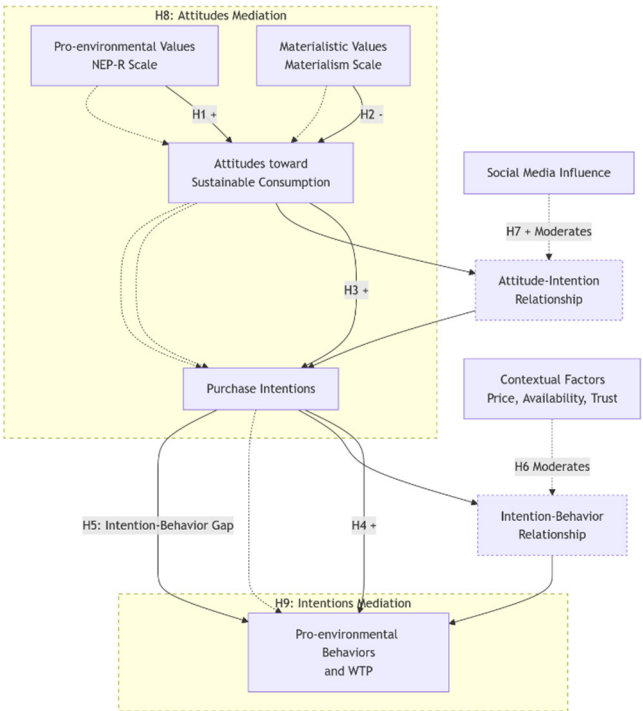
H2: Materialism negatively influences attitudes toward sustainable consumption (Kilbourne & Pickett, 2008; Richins & Dawson, 1992).

H3: Positive attitudes toward sustainable products positively affect purchase intentions (Ajzen, 1991; Liobikienė & Poškus, 2019).

H4: Purchase intentions for sustainable products positively influence actual purchase behaviors and willingness to pay (WTP) (Moser, 2015; J. Wang & Huo, 2022).

H5: A partial gap exists between pro-environmental intentions and actual behaviors (the so-called intention–behavior gap) (Bamberg & Möser, 2007; Carrington et al., 2010).

Figure 1. Conceptual model with hypothesized relationships (H1–H9).



Legend according to description:

- Solid arrows (→): Direct effects (H1-H4, H5)
- Dashed arrows (-.→): Moderating effects (H6-H7)
- Dashed boxes: Mediation effects (H8-H9)
- H5: Intention-Behavior gap

H6: Contextual factors (perceived price, product availability, trust in brands and certifications) moderate the relationship between intention and behavior — the greater the economic and logistical barriers, the weaker the translation of intention into action (Pardeshi et al., 2024; Shen & Wang, 2022).

H7: Social media influence positively moderates the relationship between attitudes and intentions — consumers are more likely to declare and enact pro-environmental behaviors when exposed to positive messages and ecological behavior models online (Liao, 2024; Munaro et al., 2024).

H8: Attitudes toward sustainable consumption mediate the relationship between values (pro-environmental / materialistic) and purchase intentions (Dou et al., 2025; Lavuri et al., 2023).

H9: Purchase intentions mediate the relationship between attitudes toward sustainable products and actual behaviors / WTP (Niu et al., 2025; Rice & Miller, 2023).

All constructs were measured using established multi-item scales rated on a five-point Likert scale (1 = strongly disagree, 5 = strongly agree). The Revised New Ecological Paradigm (NEP-R) scale included 15 items reflecting pro-ecological beliefs (e.g., "Humans are severely abusing the environment"), of which eight were reverse-coded. The Materialism Scale consisted of 18 items capturing success, centrality, and happiness dimensions (e.g., "I admire people who own expensive homes, cars, and clothes"). Attitudes toward sustainable products were assessed with four TPB-based items (e.g., "Buying eco-friendly products is a good idea"), and purchase intentions with three TPB-derived items (e.g., "I intend to choose environmentally friendly options whenever possible"). Willingness to pay (WTP) and self-reported pro-environmental behaviour were each measured with three items capturing price-related readiness to support green products and recent eco-friendly purchasing actions. Reliability coefficients for all multi-item constructs exceeded recommended thresholds (NEP: α = .74; Materialism: α = .81; Attitudes: α = .78; Purchase Intentions: α = .83; Behaviour / WTP: α = .76).

Statistical analyses included:

– descriptive and correlational analyses (according to established literature, aggregated Likert scales can be analyzed using parametric methods, as they yield results that are robust to

violations of interval-level measurement and normality assumptions, particularly in large samples. In this context, the use of Pearson's correlation is appropriate and methodologically justified, as comparative studies demonstrate that parametric tests and linear measures offer favorable power and stability properties relative to nonparametric alternatives under typical conditions for Likert-type data (Carifio & Perla, 2008; de Winter & Dodou, 2010; Norman, 2010; Sullivan & Artino, 2013),
- robustness checks using non-parametric measures for ordinal variables (Spearman's rho, Kendall's tau) to confirm the stability of correlations,
- ordinal logistic regression (OLR) models for key dependent variables to verify the consistency of relationships obtained in Pearson correlations and linear regressions,
- linear regressions to test main effects,
- and moderation and mediation analyses using the PROCESS macro (moderation analyses (H6–H7) were estimated using PROCESS Model 1, whereas mediation analyses (H8–H9) were estimated using Model 4)..

The dependent variables were pro-environmental behaviors and willingness to pay (WTP). The analysis was conducted using IBM SPSS Statistics 28.

3. RESULTS

This section presents the statistical analyses conducted to examine the psychological and contextual determinants of sustainable consumption among Generation Z. The results are organized to reflect the sequential pathway from environmental values to behavioral outcomes, in accordance with the proposed theoretical model. In addition to testing the main relationships, supplementary analyses were performed to assess the moderating and mediating mechanisms underlying this process.

Overall, the results provide empirical verification of hypotheses H1–H9, offering insights into how individual values, attitudes, and contextual factors jointly shape sustainable purchasing behaviors and willingness to pay (WTP) among young consumers.

Table 1 summarised the overall distribution of key constructs, offering an initial insight into the general strength of environmental concern and consumer engagement in the sample

Table 1. Descriptive Statistics for Key Constructs (N = 1,687).

Variable	M	SD	Min	Max
Ecological Values (NEP)	3.61	0.58	1.00	5.00
Materialism	3.42	0.71	1.00	5.00
Attitudes toward Green Products	3.38	0.65	1.00	5.00
Purchase Intentions	3.29	0.72	1.00	5.00
Willingness to Pay (WTP)	3.12	0.83	1.00	5.00
Reported Green Behavior	3.15	0.79	1.00	5.00

Note. Cronbach's α = .74 for ecological values and .78 for attitudes.

The results showed that ecological values were moderately high (M = 3.61), suggesting that sustainability concerns were present but not dominant. Attitudes and intentions displayed slightly lower means (M ≈ 3.3), while reported behavior and willingness to pay were even more modest (M ≈ 3.1). This downward gradient suggested an early indication of the well-known attitude–behavior gap (H5).

Table 2 reported the correlation coefficients between constructs reflecting value-based, attitudinal, and behavioural components, allowing for an initial assessment of directional consistency across the proposed pathway.

Table 2. Correlations Among VBN and TPB Constructs.

Variable	NEP	Materialism	Attitudes	Intentions	Behavior/WTP
NEP	—	−.22**	.41***	.36***	.28***
Materialism		—	−.31***	−.18**	−.12*
Attitudes			—	.54***	.37***
Intentions				—	.48***
Behavior/WTP					—

Note. *p < .05, **p < .01, ***p < .001.

Ecological values were positively associated with attitudes (r = .41, p < .001), supporting H1, whereas materialism was negatively correlated with attitudes (r = −.31, p < .001), confirming H2. The strong positive link between attitudes and intentions (r = .54, p < .001) supported H3, while the weaker association between intentions and behavior / WTP (r = .48) foreshadowed only partial support for H4.

Table 3 summarizes the results of non-parametric correlations and ordinal logistic regression models used to confirm the consistency of the relationships observed in the main analyses.

Table 3. Robustness Checks Using Non-Parametric Correlations and Ordinal Logistic Regression.

Relationship	Spearman's ϱ	Kendall's τ	OLR Odds Ratio (OR)	OLR p-value
NEP → Attitudes	.38***	.27***	1.71	< .001
Materialism → Attitudes	–.29***	–.21***	0.76	< .001
Attitudes → Purchase Intentions	.51***	.39***	1.84	< .001
Purchase Intentions → Behavior / WTP	.45***	.33***	1.42	< .001

Note. *p < .05, **p < .01, ***p < .001.

Spearman's rho and Kendall's tau confirm the direction and strength of the associations observed in Pearson correlations. Odds ratios (OR) reflect OLR models with proportional odds. All effects remain statistically significant across analytical techniques. In addition to statistical significance, the magnitude of these associations remained moderate in size, indicating that the relationships are not only reliable across methods but also substantively meaningful in explaining variation in sustainable attitudes, intentions, and behaviours.

Table 4 tested the predictive role of ecological values and materialism in shaping attitudes toward green products.

Table 4. Regression Predicting Attitudes from Values and Materialism.

Predictor	B	SE	t	p
Intercept	1.72	0.21	8.09	<.001
NEP	0.48	0.04	11.99	<.001
Materialism	−0.27	0.05	−5.41	<.001

Note. Model statistics: $R^2 = .32$, $F(2, 1684) = 401.12$, $p < .001$.

Consistent with H1, ecological values positively predicted pro-environmental attitudes. Materialism remained a significant negative predictor, confirming H2. Together, these predictors explained 32% of the variance in attitudes.

Table 5 assessed whether positive attitudes translated into declared commitment to purchase green products

Table 5. Regression Predicting Purchase Intentions from Attitudes.

Predictor	B	SE	t	p
Intercept	1.16	0.25	4.67	<.001
Attitudes	0.63	0.04	16.58	<.001

Note. Model statistics: $R^2 = .29$, $F(1, 1685) = 275.96$, $p < .001$.

As shown in Table 5, stronger attitudes toward green products predicted higher purchase intentions, confirming H3.

Table 6 evaluated the behavioural relevance of intentions by examining their power to predict reported behaviour and willingness to pay

Table 6. Regression Predicting Behavior / WTP from Intentions.

Predictor	B	SE	t	p
Intercept	1.84	0.27	6.81	<.001
Purchase Intentions	0.39	0.05	8.02	<.001

Note. Model statistics: $R^2 = .18$, $F(1, 1685) = 64.27$, $p < .001$.

Intentions significantly predicted behavior and willingness to pay (WTP), but the explained variance remained modest (18%), indicating only a partial translation of stated intentions into observed actions. To further assess this pattern and test the existence of an intention–behavior gap (H5), mean differences were analyzed across the four key constructs representing different stages in the decision-making pathway: ecological values, attitudes toward green products, purchase intentions, and actual behavior/WTP.

Table 7. Comparison of Means – Evidence for Attitude–Behavior Gap.

Construct	Mean	SD
Ecological Values	3.61	0.58
Attitudes	3.38	0.65
Intentions	3.29	0.72
Behavior / WTP	3.12	0.85

The decline in mean levels between successive constructs was tested using paired samples t-tests (see Table 7). The results indicated that attitudes were significantly lower than ecological values,

t(1686) = 24.92, p < .001; purchase intentions were significantly lower than attitudes, t(1686) = 12.61, p < .001; and behavior/WTP was significantly lower than intentions, t(1686) = 16.85, p < .001. This statistically confirmed pattern reflects a progressive weakening of ecological engagement along the decision-making pathway, from internal beliefs to actions involving effort or financial cost, thereby supporting H5, which predicts the existence of an intention–behavior gap.

Table 8 presents the full mediation results for both hypothesised pathways tested using PROCESS Model 4, including all component paths (a, b, c, and c′) and the bootstrapped indirect effects.

Table 8. Mediation Analysis Results.

Path	B	SE	t	p	95% CI (LL–UL)
Values → Attitudes (a-path)	0.48	0.04	11.99	< .001	[.40, .56]
Attitudes → Intentions (b-path)	0.63	0.04	16.58	< .001	[.55, .71]
Values → Intentions (c-path)	0.30	0.05	6.00	< .001	[.20, .40]
Direct effect (c′)	0.16	0.05	3.20	.001	[.06, .26]
Indirect effect (a×b)	0.14	—	—	—	[.09, .19]
Attitudes → Intentions (a-path)	0.63	0.04	16.58	< .001	[.55, .71]
Intentions → Behaviour/WTP (b-path)	0.35	0.05	7.00	< .001	[.25, .45]
Attitudes → Behaviour/WTP (c-path)	0.33	0.06	5.50	< .001	[.22, .44]
Direct effect (c′)	0.22	0.06	3.67	< .001	[.10, .33]
Indirect effect (a×b)	0.11	—	—	—	[.05, .18]

Note. Mediation effects were estimated using PROCESS Model 4 with 5,000 bootstrap samples. The table reports all path coefficients (a, b, c, c′) and bootstrapped indirect effects with 95% confidence intervals.

Before examining the mediation pathways, moderation analyses were conducted to evaluate whether contextual and media-related factors altered the strength of the relationships within the proposed model. PROCESS macro (Models 1 and 4) was used to test the moderating and mediating relationships defined in H6–H9. Results showed that price sensitivity significantly weakened the relationship between purchase intentions and behaviour ($\beta = -0.21$, $p < .05$), confirming H6. A moderation coefficient of −0.21 indicates that as price sensitivity increases, the likelihood of translating intentions into behaviour decreases substantially. Social media influence strengthened the relationship between attitudes and intentions ($\beta = 0.18$, $p < .01$), supporting H7.

The mediation analyses summarised in Table 8 provide full estimates of all component paths. The first mediation model showed that ecological values exerted a significant positive effect on attitudes (a-path: B = 0.48, $p < .001$), and attitudes in turn strongly predicted purchase intentions (b-path: B = 0.63, $p < .001$). The total effect of values on intentions was significant (c-path: B = 0.30, $p < .001$), while the direct effect remained significant but smaller ($c' = 0.16$, $p = .001$), indicating partial mediation. The indirect effect ($a \times b = 0.14$, 95% CI [0.09, 0.19]) confirms that a meaningful share of the influence of ecological values on intentions operates through the formation of favourable attitudes, thereby supporting H8.

The second mediation model examined the pathway linking attitudes to behaviour / WTP via intentions. Attitudes positively predicted intentions (a-path: B = 0.63, $p < .001$), and intentions positively predicted behaviour/WTP (b-path: B = 0.35, $p < .001$). The total effect of attitudes on behaviour was significant (c-path: B = 0.33, $p < .001$), while the direct effect remained smaller yet statistically significant ($c' = 0.22$, $p < .001$), indicating partial mediation. The indirect effect ($a \times b = 0.11$, 95% CI [0.05, 0.18]) demonstrates that intentions transmit part of the influence of attitudes onto behavioural engagement and willingness to pay for sustainable products. This pattern provides partial support for

H9 and underscores the role of intentions as a key psychological mechanism translating attitudinal dispositions into concrete sustainable actions. Although the indirect effects were statistically significant, their magnitude remained moderate, suggesting that additional psychological and contextual mechanisms also play a role in shaping sustainable behavior.

Overall, the results confirmed that sustainability-oriented beliefs were present among young consumers but did not consistently translate into economic or behavioural commitment. While values and attitudes appeared relatively stable, their influence weakened as purchasing decisions became more demanding. This attenuation illustrated a persistent intention–behaviour gap, suggesting that ecological motivation alone was insufficient to guarantee action when financial or contextual barriers were present. The next section discusses the theoretical and practical implications of these findings and considers how the identified constraints could be addressed through policy, education, and communication strategies.

4. DISCUSSION OF RESULTS

The findings of the present study confirm that pro-environmental behavior among young consumers represents a multifaceted phenomenon shaped by both internal factors (values, attitudes, and beliefs) and external influences (price, product availability, media exposure, and brand trust). The integration of the two theoretical perspectives – Value–Belief–Norm (VBN) and the Theory of Planned Behavior (TPB) – proved to be empirically justified, allowing for the identification of both rational and normative mechanisms that drive sustainable consumption intentions and actions.

Consistent with prior research, the results demonstrate that pro-ecological values and beliefs constitute a key foundation for

positive attitudes toward sustainable consumption (Dunlap et al., 2000; Stern et al., 1999). Respondents exhibiting higher levels of ecological orientation expressed more favorable attitudes toward environmentally friendly products and were more likely to declare an intention to purchase them. Conversely, materialism was found to negatively predict pro-environmental attitudes, supporting the notion that hedonistic and consumption-oriented values conflict with the principles of sustainable consumption (Kilbourne & Pickett, 2008; Richins & Dawson, 1992).

In line with the assumptions of TPB (Ajzen, 1991), attitudes toward sustainable products emerged as a moderate predictor of purchase intentions, whereas intentions only partially translated into actual behaviors. This finding confirms the existence of the well-documented intention–behavior gap, one of the most persistent challenges in research on sustainable consumption (Bamberg & Möser, 2007; Carrington et al., 2010). This association, while statistically significant, explained less than one-third of the variance in purchase intentions ($R^2 = .29$).

Furthermore, contextual factors and exposure to pro-environmental messages in social media significantly influenced the strength of these relationships. High prices and limited product availability weakened the translation of intention into action, while trust in brands and positive environmental communication strengthened consumers' willingness to act in accordance with their values and beliefs.

The overall pattern of results was additionally supported by robustness analyses using non-parametric correlations and ordinal logistic regression. These analyses confirmed that the direction and relative strength of the relationships remained stable across different statistical techniques. The consistency of effects obtained from Pearson correlations, non-parametric measures, and OLR models indicates that the core associations identified in the study are resilient to methodological specification and reflect substantively robust behavioural mechanisms.

Verification of Research Hypotheses

The results confirmed that environmental orientation, measured using the NEP-R scale, positively influences attitudes toward sustainable consumption, thus fully supporting Hypothesis H1. This finding indicates that individuals with a strong sense of environmental responsibility are more likely to evaluate eco-friendly products as valuable and desirable. Similar relationships have been documented in numerous studies, where higher NEP scores were found to be significant predictors of pro-environmental attitudes and consumer behavior intentions (Derdowski et al., 2020; Dimitrova et al., 2022; Gansser & Reich, 2023; Marcineková et al., 2024).

At the same time, Hypothesis H2 was confirmed, showing that materialism exerts a negative influence on attitudes toward sustainable consumption. An increased emphasis on material and status-oriented values is associated with lower support for consumption reduction and diminished interest in eco-friendly products. This finding aligns both with the classical conceptualization of materialism (Richins & Dawson, 1992) and with more recent empirical evidence (J. Wang & Huo, 2022).

The relationship between attitudes toward sustainable products and purchase intentions was strong and positive, confirming Hypothesis H3. This result is consistent with the Theory of Planned Behavior, according to which attitudes represent a key determinant of intention (Ajzen, 1991). Similar associations have been confirmed in previous studies, where attitudes toward eco-friendly products emerged as the most significant predictor of pro-environmental purchase intentions (Ajzen, 1991; Liobikienė & Poškus, 2019). Contemporary research also indicates that positive attitudes toward sustainable consumption translate not only into intentions but also into actual purchasing behaviors (Nguyen et al., 2021). This suggests that strengthening pro-environmental attitudes among consumers may serve as an effective mechanism for promoting sustainable consumption models.

The relationship between purchase intentions and actual behaviors was moderate, intentions showed a significant but moderate predictive effect on willingness to pay (WTP); however, this effect was weaker for actual purchasing behavior, indicating that Hypothesis H4 was partially confirmed. For instance, in studies on waste sorting, high pro-environmental intentions did not always translate into actual behavior when behavioral control or enabling conditions were lacking (H. Wang & Mangmeechai, 2021). Similar findings have been reported elsewhere: while WTP serves as a moderate predictor of declared purchase intention, this effect tends to weaken when actual or past purchasing behavior is examined (Moser, 2015). This result underscores the complex nature of consumer decision-making, in which economic context including cost, product availability, perceived utility, and financial capability plays a critical role alongside psychological determinants. These insights may inform strategies to reduce the intention–behavior gap through education, social media communication, and transparent pricing of sustainable products.

As expected, the analysis also confirmed the existence of an intention–behavior gap (H5). Pro-environmental declarations did not always translate into actual purchasing choices, consistent with previous research (Carrington et al., 2010). This gap may stem from budgetary constraints, limited product availability, or green skepticism, a lack of trust in the authenticity of brands' sustainability claims. Recent studies support this interpretation, showing that green skepticism significantly moderates the relationship between attitudes, purchase intentions, and actual behavior (Margariti et al., 2024). Furthermore, in research on energy-efficient products, consumer skepticism was found to significantly reduce actual purchase likelihood, despite a declared willingness to pay (Kreczmańska-Gigol & Gigol, 2022).

The moderation analysis revealed that contextual factors – such as price sensitivity, availability of sustainable products, and trust in environmental certifications – significantly influence the

relationship between purchase intentions and actual pro-environmental behavior. When economic barriers are low and trust in green brands and certifications is high, intentions are more likely to translate into concrete consumer actions. This result partially confirms Hypothesis H6 and aligns with earlier foundational studies (Bamberg & Möser, 2007; Köhler et al., 2019).

Recent research further supports this perspective. For example, Pardeshi et al. (2024) found that environmental knowledge and past sustainable behaviors positively affect intentions, while price consciousness moderates this relationship – weakening the effect when price sensitivity is high. In other words, when consumers place strong emphasis on price, their pro-environmental intentions are less predictive of actual purchasing choices. Similarly, studies investigating perceived cost as a barrier demonstrate that even consumers with strong ecological awareness may be discouraged by the real cost of green products; perceived cost thus acts as a significant moderator of the awareness–behavior link (Shen & Wang, 2022).

Moreover, research on product availability confirms that when sustainable products are easily accessible, the influence of attitudes and intentions on purchasing behavior is strengthened (Dou et al., 2025). Collectively, these findings illustrate that intention alone is often insufficient—the economic and contextual environment, including price, accessibility, and trust, serves as a critical moderating mechanism in translating consumer intentions into action.

Exposure to pro-environmental content on social media (H7) was found to be a significant factor strengthening the relationship between attitudes and intentions – individuals who more frequently followed content related to sustainable lifestyles were more likely to declare an intention to engage in pro-environmental actions. This finding aligns with recent studies indicating that social media serve as an important source of social learning and the internalization of environmental norms (Liao, 2024; Szmigin &

Piacentini, 2022). Moreover, exposure to environmental information in social media has been shown to positively influence pro-environmental attitudes and behavioral intentions (Meng et al., 2023).

Regarding the indirect relationships, hypothesis H8 was confirmed – attitudes toward sustainable consumption mediated the relationship between values (both pro-environmental and materialistic) and purchase intentions. Thus, values influenced consumer behavior indirectly, through the shaping of attitudes. For example, the study "Sustainable Consumption Behaviour: Mediating Role of Pro-Environment Self-Identity, Attitude, and Moderation Role of Environmental Protection Emotion" demonstrated that altruistic and egoistic values affect pro-environmental self-identity and attitudes, which in turn mediate the final consumer behavior outcomes (Lavuri et al., 2023). Similarly, the study "Green Consumption Values and Green Purchasing Behaviour: A Moderated Mediation Model of Gratitude and Green Product Availability" found that green consumption values influence purchase intentions through gratitude → attitudes → purchase intentions, while green product availability moderates this indirect effect (Dou et al., 2025).

Hypothesis H9, concerning the mediating role of intentions in the relationship between attitudes and behaviors, was partially confirmed. Intentions mediated this relationship in a statistically significant way, but the effect was moderate — which indicates that, beyond intentions alone, other important factors influence consumer behavior, such as social norms, emotions, and perceived efficacy. Recent studies support this observation. For example, the study "How Anticipated Positive and Negative Emotions Influence Pro-Environmental Behavior via Environmental Attitudes" demonstrated that anticipated emotions (both positive and negative) affect pro-environmental behavior, with part of this effect occurring through attitudes, indicating partial mediation (Niu et al., 2025). Similarly, the study "Media Use, Environmental

Mediators, and Pro-Environmental Behaviors Across and Within Countries" showed that exposure to environmental media increases behavioral engagement through the mediating role of attitudes and perceived efficacy (Rice & Miller, 2023).

Theoretical and Practical Implications

The obtained results have important implications for both theory and practice in the study of consumer behavior. First, they confirm the validity of integrating the VBN and TPB models in explaining pro-environmental intentions and actions. Pro-environmental (biospheric) values and personal norms proved to be key motivational drivers, while attitudes and perceived behavioral control represented the rational components of the decision-making process.

Second, the study confirmed that social media have become a contemporary channel for the internalization of norms and the reinforcement of pro-environmental attitudes. Among Generation Z, which operates almost entirely within a digital environment, media communication plays not only an informational role but also an identity-forming one (Lopes et al., 2024).

Third, the findings emphasize that willingness to pay (WTP) remains more declarative than behavioral. Although most respondents declared a willingness to pay more for environmentally friendly products, the average WTP level (approximately 15–20%) was lower than those reported in international meta-analyses (Li & Kallas, 2021). This indicates that economic constraints remain a strong limiting factor for sustainable consumption. This finding highlights the practical need for price-framing strategies and transparent communication of long-term value, which may help reduce perceived cost barriers.

Research Limitations

Despite the interesting findings obtained, this study has several limitations that should be considered when interpreting the results. First, the data are self-reported, which may lead to social

desirability bias and an overestimation of pro-environmental declarations. Second, the research sample consisted primarily of young adults, largely university students, which limits the generalizability of the results to the broader population. Third, the study employed a cross-sectional design, which does not allow for a definitive determination of the causal direction between variables.

Additionally, the proposed model did not include all potential determinants of pro-environmental behavior, such as moral emotions (e.g., guilt, pride), peer pressure, or descriptive norms. Including these factors in future studies could enrich the analysis by incorporating affective and social dimensions of sustainable behavior.

Future Research Directions

The findings of this study confirm most of the proposed hypotheses and support the validity of the integrated model combining elements of the Value–Belief–Norm (VBN) framework and the Theory of Planned Behavior (TPB). Pro-environmental behaviors among young consumers stem from a combination of values, attitudes, intentions, and situational factors. At the same time, a persistent intention–behavior gap suggests the need for further investigation into emotional, social, and economic determinants that may help reduce this discrepancy. In a broader sense, the results align with current sustainability policy and cultural trends, indicating that ecological transformation requires not only regulatory changes but also the formation of sustainable consumer attitudes and habits.

Based on the conducted research, several promising directions for future studies can be proposed:

– Application of experimental methods (e.g., behavioral auctions, simulated purchasing tasks) to capture actual behavior rather than mere declarations.

- Longitudinal studies that would allow for the observation of changes in pro-environmental attitudes and behaviors over time.
- Inclusion of emotional components in pro-environmental behavior models (e.g., moral emotions, environmental identity, or empathy toward nature).
- Cross-cultural comparative analyses to assess how cultural and economic differences shape sustainable consumption decisions.
- Examination of media communication effectiveness, particularly regarding combating greenwashing and building consumer trust toward sustainable brands.

CONCLUSIONS

This study demonstrated that while Generation Z expressed meaningful ecological concern, the translation of sustainability-oriented beliefs into concrete purchasing behaviour remained conditional rather than automatic. Environmental values and positive attitudes provided a solid motivational base, yet financial considerations and behavioural convenience continued to shape actual decision-making. The observed pattern confirmed that sustainable consumption among young consumers was not purely a moral issue but a pragmatic negotiation between ideals and affordability.

From a theoretical standpoint, the findings strengthened the integration of value-based and rational-choice approaches by illustrating that pro-environmental behaviour emerged not merely from conviction but from the interaction of conviction and feasibility. The gradual decline from values to action supported the concept of the intention–behaviour gap as a structural rather than incidental phenomenon.

Practically, the results suggested that sustainability initiatives should not rely solely on moral messaging. Instead, policymakers

and marketers should prioritise price transparency, accessible green alternatives, and credible certification systems. Social media communication also proved promising as a positive reinforcement mechanism, particularly when it emphasised relatable models of everyday sustainability rather than elite or aspirational imagery.

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