UNDERSTANDING CONSUMER PURCHASE BEHAVIOR TOWARD APPAREL MADE FROM RECYCLED PLASTIC WASTE: A BEHAVIORAL REASONING THEORY PERSPECTIVE

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ABSTRACT

The transition toward a circular fashion economy has positioned apparel made from recycled polyethylene terephthalate (PET) plastic waste as a promising innovation for sustainable production and consumption. Yet consumer acceptance of such products remains uncertain, and the reasoning processes that lead consumers to support or resist recycled apparel are underexplored. Drawing on Behavioral Reasoning Theory (BRT), this study examines how consumers' biospheric values shape their attitudes, purchase intentions, and actual purchase behavior toward clothing made from recycled plastic waste, incorporating "reasons for" (environmental beliefs) and "reasons against" (perceived risks) as central cognitive considerations. The study further investigates the moderating roles of social media exposure, consumer skepticism, and willingness to pay a premium price. Cross-sectional primary data were collected from 258 Indian consumers using a structured seven-point Likert-scale questionnaire measuring 27 items across nine constructs. Confirmatory factor analysis and structural equation modeling were conducted using IBM AMOS 21.0, and moderation effects were tested using Hayes' PROCESS macro. The measurement model demonstrated satisfactory reliability and validity, with all fit indices meeting recommended thresholds. The structural results revealed only one significant relationship—biospheric value positively influenced environmental beliefs ($\beta = 0.363$, $p < 0.001$)—while the paths linking reasons, attitude, intention, and behavior were statistically non-significant. None of the three moderators exerted a significant effect. These findings highlight a persistent attitude–intention–behavior gap in the context of recycled fashion, suggesting that environmental awareness alone does not translate into adoption when concerns about product quality, performance, and contamination persist. The study contributes to the literature on circular fashion and sustainable consumption and offers practical guidance for brands and policymakers seeking to promote recycled apparel in alignment with Sustainable Development Goal 12.

Keywords: Circular fashion; Recycled PET apparel; Behavioral Reasoning Theory; Biospheric values; Sustainable consumption; SDG 12.

1. Introduction

The fashion industry is increasingly confronted with mounting environmental concerns associated with resource depletion, textile waste, and plastic pollution. In response, the concept of circular fashion has emerged as a promising pathway to promote sustainable production and consumption practices. Circular fashion emphasizes resource efficiency, waste reduction, and the reintegration of materials into production cycles. Within this paradigm, apparel produced from recycled polyethylene terephthalate (PET) plastic waste has gained growing attention as an innovative solution that transforms discarded plastic into usable textile fibers (Hithen and Silva, 2025; Oueslati et al., 2026). By converting plastic waste into clothing, such initiatives not only address environmental challenges but also offer opportunities for sustainable product innovation in the fashion industry.

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Despite the environmental promise of recycled clothing, consumer acceptance remains uncertain. Prior research has explored both the potential benefits and perceived limitations associated with products made from recycled materials (Ye and Kuang, 2026; Benhatta et al., 2025; Abbate et al., 2024). While these studies provide valuable insights into consumer perceptions of sustainability-oriented products, the literature still offers limited understanding of the specific motivations and barriers that influence consumers' purchasing decisions regarding apparel made from recycled plastic waste. In particular, the psychological reasoning processes that lead consumers either to support or to resist such products remain underexplored.

Existing studies largely rely on established behavioral frameworks such as the Theory of Reasoned Action (TRA), the Theory of Planned Behavior (TPB), and the Value–Belief–Norm (VBN) theory to explain pro-environmental consumption behavior (Şener et al., 2023; Dangelico et al., 2022; Pranta et al., 2024). These theoretical approaches have been widely applied to understand consumers' intentions toward sustainable fashion across various contexts, including luxury fashion markets, different socio-economic groups, and diverse educational backgrounds. Although these frameworks provide important insights into the determinants of sustainable consumption, they primarily focus on attitudinal and normative influences on behavioral intention. Consequently, they offer limited explanation of the underlying reasoning that motivates consumers to support or reject recycled products.

To address this limitation, the present study adopts Behavioral Reasoning Theory (BRT) (Westaby, 2005) as a theoretical lens to examine consumers' decision-making processes regarding apparel made from recycled plastic waste. BRT extends traditional behavioral models by explicitly incorporating the role of "reasons for" and "reasons against" a behavior. These reasons shape attitudes and intentions while also reflecting the contextual and cognitive justifications individuals use to support their behavioral choices. By capturing both supporting and opposing considerations, BRT offers a more comprehensive understanding of how consumers evaluate environmentally oriented products.

Drawing on BRT, this study investigates the factors that influence consumers' willingness to purchase apparel produced from recycled plastic waste. Specifically, the research examines how environmental values contribute to shaping consumers' purchasing behavior. In addition, the study explores the role of social media exposure, consumer skepticism, and consumers' willingness to pay a premium price for recycled clothing. These factors are particularly relevant in the context of sustainable fashion, where consumers often evaluate not only environmental benefits but also issues related to product credibility, social influence, and perceived value.

By examining the interplay of motivational and deterrent factors influencing consumer decision-making, this study aims to contribute to the growing literature on circular fashion and sustainable consumption. Furthermore, the findings are expected to offer practical insights for fashion brands and policymakers seeking to promote the adoption of recycled apparel. In doing so, the study aligns with the objectives of Sustainable Development Goal (SDG) 12, which emphasizes responsible consumption and production. Understanding the reasoning processes underlying consumers' acceptance or resistance toward recycled clothing can help identify opportunities for advancing sustainable practices within the fashion industry.

2. Literature Review

Fashion encompasses a wide range of products, including apparel, footwear, jewelry, and accessories. The industry is increasingly under pressure to adopt sustainable practices aligned with United Nations Sustainable Development Goal 12, particularly by transitioning from fast fashion toward a circular

economy model (Ray & Nayak, 2023). This shift is critical given the environmental impact of textile production and disposal. Finished garments consist of approximately 98% textile raw materials, of which nearly 73% are discarded in landfills, while only 12% are recycled (Polyportis et al., 2024). Furthermore, due to technological and processing constraints, only about 1% of recovered fibers can be reused in the production of new apparel (Chen et al., 2021). These figures highlight the urgent need for systemic changes in resource utilization within the fashion industry.

Sustainability initiatives in fashion are increasingly framed within the concept of a **circular fashion economy**, which emphasizes resource circularity and waste minimization. Circular fashion refers to a regenerative system that promotes the use of renewable resources, reduces reliance on non-renewable inputs, minimizes pollution and waste generation, and extends product lifecycles through sustainable design and reverse logistics processes (Dissanayake & Weerasinghe, 2021). Within this framework, multiple material flow loops—such as reuse, refurbishment, and recycling—extend the lifecycle of apparel products. The adoption of circular practices offers several environmental benefits, including reduced carbon emissions through decreased dependence on virgin materials, mitigation of textile waste in landfills, and enhanced environmental responsibility within the fashion industry (Dissanayake & Weerasinghe, 2021).

Despite these benefits, the success of circular fashion systems depends largely on **consumer adoption** of recycled materials in apparel. However, several barriers hinder widespread acceptance. Consumers often express concerns about product quality, performance risks, and pricing, which negatively affect their willingness to purchase recycled-based apparel (Polyportis et al., 2022). Environmental issues are frequently perceived as psychologically distant, reducing consumers' motivation to engage in eco-friendly purchasing behaviors (White et al., 2019). In addition, awareness of recycled-content fashion products is generally higher in developed economies than in developing countries (Polyportis et al., 2023).

Prior research suggests that consumer responses toward sustainable fashion are shaped by multiple psychological and social factors. These include perceived value (Sener et al., 2023), emotional warmth toward sustainable products (Hwang et al., 2020; Grazzini et al., 2021), environmental attitudes, and social media engagement (Abbate et al., 2024). Ethical considerations, such as moral reasoning and concerns regarding labor conditions, can also motivate consumers to support brands that incorporate recycled materials to reduce reliance on virgin resources (Ye & Kuang, 2026; Barrera-Verdugo & Durán-Sandoval, 2026). Nevertheless, empirical evidence indicates that consumer engagement with recycled fashion products remains limited despite their environmental advantages (Calvo-Porral & Lévy-Mangin, 2020; Polyportis et al., 2022).

Existing research further shows that consumer demand for recycled apparel is influenced by perceptions of product quality and community endorsement, whereas price often negatively affects evaluations due to the perceived inferiority of recycled materials (Nguyen et al., 2020; Harmsen et al., 2021). Consumers also report several perceived risks associated with recycled apparel, including concerns about quality and safety (Kuah & Wang, 2020; Wang et al., 2022), aesthetic appeal (Kim et al., 2021; Testa et al., 2021), and potential contamination (Meng & Leary, 2021; Testa et al., 2022). These concerns contribute to a persistent **intention–behavior gap**, where many consumers express favorable purchase intentions but fail to translate them into actual purchasing behavior (Park & Lin, 2020; Rausch & Kopplin, 2020).

Within the circular fashion paradigm, apparel produced from recycled polyethylene terephthalate (PET) plastic waste represents an emerging innovation that transforms post-consumer plastic into textile materials. Although prior studies have examined the benefits and limitations of consumer acceptance of recycled

apparel, limited research has systematically investigated the motivational and deterrent factors shaping consumer purchasing behavior. To address this gap, the present study employs **Behavioral Reasoning Theory** to examine both supporting ("reasons for") and opposing ("reasons against") factors that influence consumers' decisions to purchase apparel made from recycled plastic waste.

3. Theoretical Background

One of the widely used theories to understand the purchase intention and behavior of consumers is the Theory of Planned Behavior (hereafter, TPB) (Ajzen, 1991), which is an extension of the Theory of Reasoned Action (hereafter, TRA) (Fishbein and Ajzen, 1977). However, despite being extensively used in multiple studies, these theories are questioned as they ignore the aspect of consumer resistance (Sahu et al., 2020). There is disagreement over whether attitude alone is a sufficient predictor of behavioral intention and outcome when it comes to sustainability issues. Several studies have consistently argued that, despite consumers' growing concern and positive attitudes toward various sustainability practices, their behavioral outcomes are not always consistent with their attitudes (Wang et al., 2022).

BRT was first proposed by Westaby in 2005, and its main distinction from other theories of attitude–behavior relationships (such as TRA and TPB) is the inclusion of the idea of "Reasons" (Westaby, 2005). Reasons are the particular subjective variables that people use to explain their expected conduct, according to BRT. According to Westaby (2005, p. 100), "reasons can represent not only people's pros/cons and benefit/cost explanations, but also their facilitator/constraint explanations." Additionally, there are two major subcategories of "reasons" that impact people's attitudes and intentions while engaging in a behavior: "reasons for" and "reasons against" (Sahu et al., 2020).

One of the relevant studies was done by Diddi et al. (2019), in which the authors examined young adults' sustainable clothing consumption behavior. In the context of managing e-waste recycling, Dhir et al. (2021) carried out another significant study. In a recent study, Kocak et al. (2026) applied BRT in green energy intentions. Therefore, given the above discussion, we found Behavioral Reasoning Theory to be appropriate and robust for our integrated theoretical model to understand various reasons for purchasing clothes made of recycled plastic waste.

4. Hypotheses Development

4.1 Biospheric Value, Attitude, and Reasons

Schwartz (1992) defined value as "a desirable trans-situational objective with varied degrees of significance that acts as a compass for an individual or other social unit" (p. 21). Values predict attitudes and behavioral intentions by explaining certain beliefs (Stern, 1999). According to Stern and Dietz (1994, p. 70), biospheric values help understand how people "judge any phenomena based on costs or benefits to ecosystems or the biosphere." Individuals with a biospheric value orientation make pro-environmental decisions by weighing perceived hazards and benefits to the ecosystem (Zhang et al., 2020). Biospheric value impacts individuals' perception and action toward environmental benefits (Tiwari, 2023), making it crucial in predicting pro-environmental attitudes.

Consumers' environmental belief is the conviction that the ecosystem's balance is disrupted by societal development, and that humans cannot exhaust resources without considering future generations (Zhong and Chen, 2019). Environmentally friendly behavior stems from these environmental beliefs (Leonidou et al., 2022). People with biospheric values are more likely to act for environmental benefits (Bouman et al.,

2020). Perceived risk, “the expectation of losses associated with purchase,” affects consumers' attitudes toward recycled products (Peter and Ryan, 1976, p. 187).

According to Polyportis et al. (2022), perceived risks include social, financial, physical, performance, time-related, and psychological risk, applicable when purchasing recycled products. Despite viewing recycled products as ethically superior, consumers often prioritize perceived risks related to quality and functionality (Polyportis et al., 2023).

Thus, we hypothesize that:

H1: Biospheric Value positively influences consumers' attitudes toward clothes made of recycled plastic waste.

H2: Biospheric Value positively influences ‘reasons for’ towards clothes made of recycled plastic waste.

H3: Biospheric Value negatively influences ‘reasons against’ clothes made of recycled plastic waste.

4.2 Reasons and Attitude

Explanations play an essential role in decision-making. People support their decisions with explanations. In BRT, these justifications are “reasons for” and “reasons against” (Sahu et al., 2020). According to Dhir et al. (2021), BRT defines reasons as subjective elements people use to explain expected behavior. They predict attitudes “because they help individuals justify and defend their actions, which promotes and protects their self-worth,” according to BRT's hypothesis (Westaby, 2005, p. 98).

This study considers environmental belief as ‘reasons for.’ This variable is justified by literature as important to understanding consumers' favorable perceptions of products from recycled materials. Customers view products from recycled materials positively because they believe they are “green products,” “eco-friendly,” “ethical goods,” or “environmentally friendly” (Calvo-Porral & Levy-Mangin, 2020; Queiroz et al., 2021). Due to environmental concerns, consumers value products manufactured from recycled materials (Polyportis et al., 2022; 2023).

‘Reasons against’ refer to negative factors that act as resistors to behavior and create negative perceptions (Sahu et al., 2020). Customers may perceive hazards associated with recycled material products, leading to negative attitudes (Polyportis et al., 2022). Adoption of recycled material products may be hampered by consumers' perceptions of inferiority and risks (Polyportis et al., 2023). Among risks, aesthetic (Kim et al., 2021) and contamination risks (Meng and Leary, 2021) negatively impact consumers' attitudes towards such products (Polyportis et al., 2022).

Therefore, we hypothesize:

H4: ‘Reasons for’ shares a positive association with the attitude towards clothes made of recycled plastic bottles.

H5: ‘Reasons against’ shares a negative association with the attitude towards clothes made of recycled plastic bottles.

4.3 Attitude and Intention

According to BRT (Westaby, 2005), attitudes are important factors that influence customers' intentions to adopt. According to earlier research, attitudes have a favorable impact on consumer intentions (Dhir et al., 2020). According to Ryan and Casidy (2018), customers' intentions about organic food are positively influenced by their opinions. Previous studies have found a number of factors that have a significant impact

on consumers' intentions to buy products made of recycled materials. These factors include perceived safety (Calvo-Porral & Levy-Mangin, 2020), a positive image (Queiroz et al., 2021), and eco-friendly packaging (Testa et al., 2021). Purchase intentions appear to increase when these factors are perceived as more positive. Kumagai (2020) demonstrated how positive brand perceptions result from the perceived sustainability of recycled plastic apparel, which in turn increases purchase intentions. Therefore, we hypothesize that:

H6: Consumers' attitudes positively influence the purchase intention towards clothes made of recycled plastic waste.

4.4 Intention and Behaviour

Intention is the intent or willingness to try and make efforts toward performing the behavior, and it also has strong predictive validity to measure consumer behavior (Ajzen, 1991). BRT (Westaby, 2005) postulates that intentions strongly predict the behavior of consumers. Consumer intention and actual purchasing behavior for products composed of recycled materials have been shown to have conflicting results in previous research (Wagner and Heinzel, 2020). Customers think recycled products may be of poorer quality because they are made from discarded materials (Biswas et al., 2000). For reasons other than personal cleanliness, consumers may favor buying recycled goods. According to Kuah & Wang (2020), there is no substantial correlation between the intention to buy and the actual purchase of electronic devices. Quality criteria are important antecedents of actual purchase, according to Park & Lin (2020). A discrepancy between aspirations and actual behavior regarding products produced from recycled materials was brought to light by Tezer & Bodur (2020). Thus, we hypothesize that:

H7: Consumers' intention toward purchasing clothes made of recycled plastic waste positively influences their purchase behavior.

4.5 Moderating Effect of Social Media

Social media (hereafter SM) encompasses a vast spectrum of online platforms that facilitate user interaction, content sharing, and discovery. Some major SM platforms are Facebook, Instagram, X (Twitter), etc. Social media users are influenced by their social networks, where they discuss and share information about a wide array of topics, including factors such as health and environment (Alam et al., 2023). Consumers often encounter a mix of organic and sponsored content in their news feeds or timelines related to recycled clothing, often endorsed by influencers, celebrities, or non-profits (Astvansh, 2024).

Furthermore, customers' attitudes toward products made of recycled materials are shaped by the sentiments and emotions they share with their peers and communities on goods and services. Prior research has confirmed that social media plays a crucial role in influencing customers' choices of recycled-material items (Zafar et al., 2021; Nekmahmud et al., 2022). Consumers tend to digitally engage on social media platforms (e.g. Twitter exposure) based on the ethical labels (e.g. “organic,” “pollutant-free”) of products, which also boost sustainable fashion selection (Barrera-Verdugo and Durán-Sandoval, 2026). Thus, we hypothesize:

H8: Social media positively moderates the relationship between consumers' environmental beliefs (reason for) and attitudes towards clothes made of recycled plastics.

4.6 Consumer Skepticism

Skepticism is a mental reasoning that varies based on a specific context—a distrust or doubt about a particular product, its functionality, its components, or its advertisement claims; with sufficient proof,

skeptical consumers do not mind changing their mind (Forehand and Grier, 2003). The goal of the current study is to investigate how skepticism affects the association between consumers' negative attitudes about products made of recycled materials and their perception of danger. Although consumers' reactions to green products vary depending on the situation, they do not harbor a pervasive mistrust of them (Paço and Reis, 2012). According to Meng & Leary (2021), consumers are more likely to use products made from recycled plastic bottles when they are not in contact with their skin (like a carrying bag) than when they are. This suggests that even though consumers care about sustainability and the environment, they are wary of recycled products because they perceive the risks involved. Thus, we hypothesize that:

H9: Consumer skepticism negatively moderates the relation between perceived risks (reasons against) and attitudes towards clothes made of recycled plastics.

4.7 Willingness to Pay

Consumers are willing to pay a little more for some products as a result of their growing concern for the environmental impact (Li and Kallas, 2021). By paying the excess price over the "fair" price, consumers want to ensure product quality and mitigate perceived risks (Herrmann et al., 2022). Consumers' willingness to pay may vary based on perceived benefits and perceived risks associated with products made of recycled materials. Pretner et al. (2021) mentioned that consumers' willingness to pay increases when a third party verifies the environmental-related information mentioned on the product (quality certification).

Meng and Leary (2021) explained that though consumers understand the environmental benefits associated with these products, they still will not buy them due to the anticipated contamination effect of these products made of recycled materials. According to Magnier et al. (2019), items that use recycled materials are more susceptible to functional and safety hazards, which lowers consumers' willingness to pay for them. Therefore, we hypothesize:

H10: Consumers' willingness to pay moderates the relationship between purchase intention and actual purchase behavior towards products made of recycled materials.

Conceptual Framework of the Study

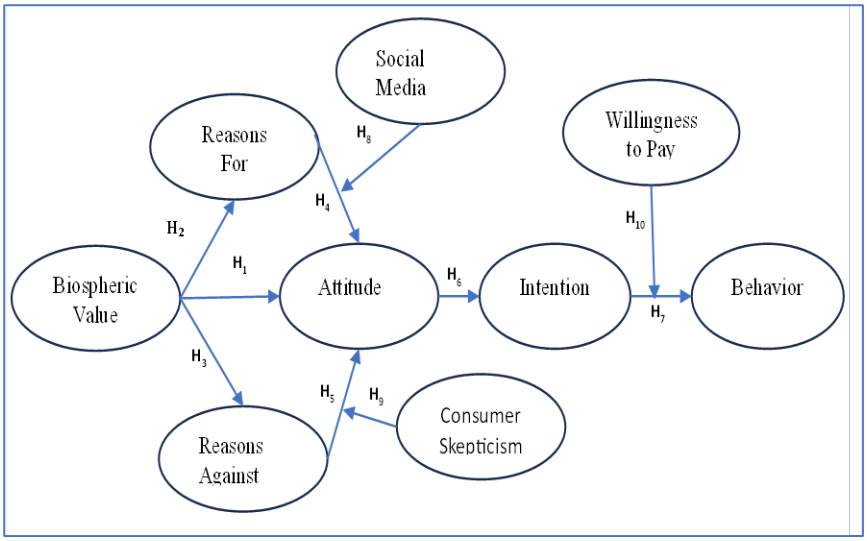

Figure 1. Conceptual Framework of the Study

5. Research Methodology

5.1 Sample and Data Collection

The population of the study was consumers in India. According to Hair et al. (2019), the required sample size for data analysis should cover the range of "5–10 times the number of indicators." The present study has 27 items and hence the adequate sample size would range between 27×5 = 130 and 27×10 = 270. The data were collected by a research agency named Catalyst Global Service (India). We received 280 responses from the agency. After cleaning the data and discarding 22 incomplete responses, we found 258 usable samples for the present study (see Table 1).

Table 1. Profile of Respondents

Demographic Variable	Group	Frequency	%
Age (in years)	18–25	27	10.47
	26–45	97	37.60
	46–60	86	33.33
	Above 60	48	18.60
Gender	Male	125	48.40
	Female	133	51.60
Educational Qualification	Undergraduate	21	8.01
	Graduate	103	39.74
	Postgraduate	125	48.40
	Others	10	3.85
Monthly Household Income (INR)	Below 1,00,000	65	25.32
	1,00,001–3,00,000	69	26.60
	3,00,001–5,00,000	53	20.51
	Above 5,00,000	71	27.56

5.2 Measurement Scale Development

Cross-sectional primary data were gathered for this study using a self-administered structured questionnaire. In order to measure the research constructs, statements from pertinent literature were incorporated into the questionnaire. Two academic researchers reviewed this questionnaire and suggested some minor modifications (sentence restructuring, nuances of language). The scale items of the constructs used in this study can be found in Table 2.

Table 2. Measurements of Constructs

S.N.	Construct	Source	No. of Items
1	Biospheric values	Stern et al. (1999)	3
2	Environmental concern (reason for)	Dhir et al. (2021)	3
3	Perceived risk (reason against)	Dowling (1986)	3
4	Attitude	Gautam (2020)	3
5	Intention	Prakash & Pathak (2016)	3
6	Behavior	Kim & Choi (2005)	3
7	Social media	Pop et al. (2020)	3
8	Consumer skepticism	Mohr et al. (1998)	3

S.N.	Construct	Source	No. of Items
9	Willingness to pay	Laroche et al. (2001)	3
Total			**27**

Respondents voluntarily provided their responses on a seven-point Likert scale, indicating the extent of their agreement or disagreement with each item in the survey questionnaire (where 1 = Strongly Disagree; 7 = Strongly Agree).

6. Analysis and Findings

6.1 Descriptive and Reliability Analyses

The average values in descriptives ranged from 4.71 to 6.03, and the standard deviations were determined to be between 0.844 and 1.675 (see Table 3). According to the reliability analysis, the current study's Cronbach's α values ranged from 0.700 to 0.904, with a total of 0.934. Cronbach's α values greater than 0.60 satisfy the reliability test's criteria (Nunnally & Bernstein, 1994).

Table 3. Descriptive Statistics

Variable / Item	Mean	Std. Deviation	Cronbach's α
Biospheric Values (BV)			
BV1	5.84	1.162	0.849
BV2	5.79	1.067	
BV3	5.91	1.015	
Environmental Belief (EB)			
EB1	5.91	0.950	0.752
EB2	5.88	0.885	
EB3	5.97	0.960	
Perceived Risks (PR)			
PR1	2.22	0.779	0.756
PR2	2.26	0.846	
PR3	2.36	0.835	
Purchase Attitude (AT)			
AT1	5.44	1.275	0.897
AT2	5.47	1.235	
AT3	5.55	1.203	
Purchase Intention (IN)			
IN1	5.84	1.046	0.814
IN2	5.92	1.018	
IN3	5.95	1.097	
Purchase Behavior (PB)			
PB1	5.45	1.187	0.801
PB2	5.44	1.146	

Variable / Item	Mean	Std. Deviation	Cronbach's α
PB3	5.57	1.199	
Social Media (SM)			
SM1	5.58	1.049	0.837
SM2	5.71	1.159	
SM3	5.83	1.099	
Consumer Skepticism (SKP)			
SKP1	5.69	1.064	0.762
SKP2	5.59	1.096	
SKP3	5.66	0.947	
Willingness to Pay (WTP)			
WTP1	5.72	0.945	0.736
WTP2	5.84	0.930	
WTP3	5.87	0.935	
Total			**0.934**

6.2 Common Method Bias

Spector (2019) asserts that cross-sectional studies could be vulnerable to common method variance (CMV), which could skew the estimated correlations across study constructs and jeopardize the reliability of the empirical results. Moreover, it may result in imprecise evaluations of convergent validity and scale reliability (Podsakoff et al., 2012). Harman's single-factor test was used to evaluate CMV. Podsakoff et al. (2012) stated that if one component accounts for more than half of the variance, then CMV is present. Since only one component explained 22.449% of the variance and met the criterion of less than 50%, the data show no substantial CMV concern.

6.3 Measurement Model Fit Assessment

Confirmatory Factor Analysis (CFA) using IBM AMOS 21.0 was used to validate the underlying factor structure of the current investigation. The data is fit for the study (see Figure 2) since all fit indices satisfied the necessary requirements put out by Hu and Bentler (1999).

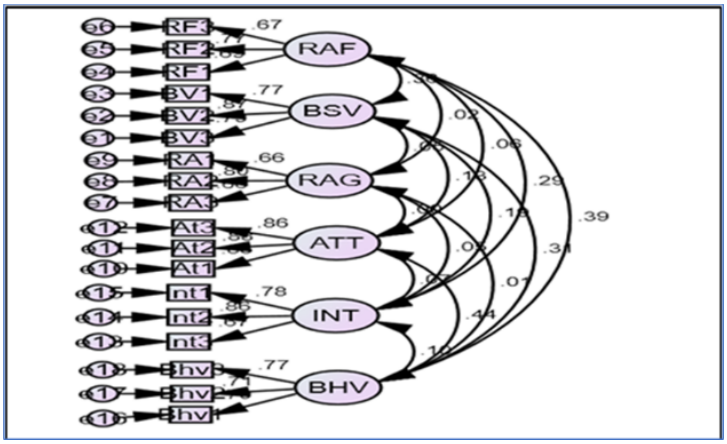

Figure 2. Measurement Model

All major fit indices—χ^2/degrees of freedom = 1.531, Goodness-of-Fit Index = 0.925, Incremental Fit Index = 0.966, Tucker–Lewis Index = 0.956, Comparative Fit Index = 0.965, RMSEA = 0.045, P-Close = 0.708, and ECVI = 1.112—comfortably satisfied the cutoff points recommended by Hu & Bentler (1999). As a result, the measurement model found good fit with the study data.

6.4 Convergent and Discriminant Validity

Convergent validity and discriminant validity were assessed to ascertain a scale's construct validity (Fornell and Larcker, 1981). The accepted value of composite reliability (CR) should be equal to or greater than 0.70, and the average variance extracted (AVE) value should be equal to or greater than 0.50 (Fornell and Larcker, 1981). All study constructs clearly met these criteria (see Table 4). Furthermore, all the constructs met the criteria of discriminant validity suggested by Fornell and Larcker (1981) and Hair et al. (2019).

Table 4. Convergent and Discriminant Validity

	CR	AVE	BSV	RFR	RAG	ATT	INT	BHV
BSV	.853	.660	.812					
RFR	.754	.507	.364	.712				
RAG	.753	.506	.049	.017	.711			
ATT	.898	.746	.130	.064	.002	.864		
INT	.818	.602	.193	.290	.049	.068	.776	
BHV	.801	.515	.039	.387	.011	.441	.095	.718

Note: Diagonal values (bold) are the square roots of the AVE; off-diagonal values are inter-construct correlations.

6.5 Hypotheses Testing

The structural model (see Figure 3) found only one significant relationship, between environmental beliefs (reason for) and biospheric value (β = 0.363, p = 0.000). The effect of environmental belief ('reasons') and perceived risks ('reasons against') on purchase attitude was not found significant (β = 0.021, p = 0.797; β = −0.005, p = 0.951, respectively). The relationships among value, attitude, intention, and behaviour were also found to be insignificant (β = 0.123, p = 0.116; β = 0.052, p = 0.287; β = 0.125, p = 0.010, respectively) (see Table 5).

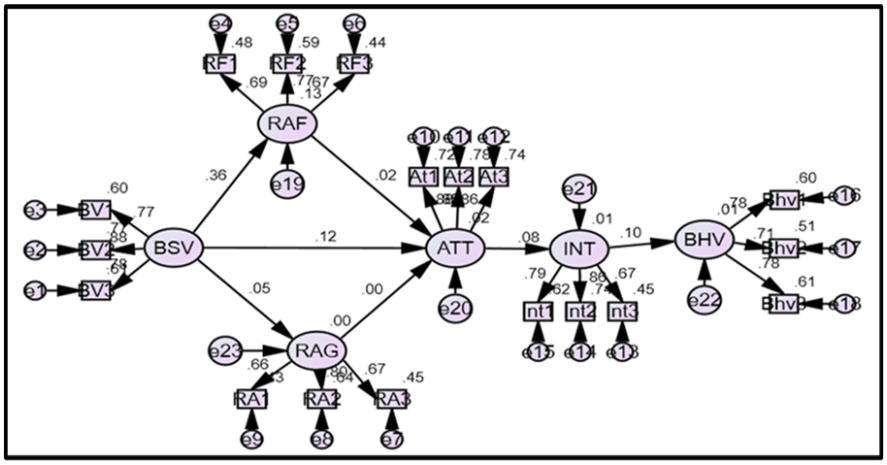

Figure 3. Structural Model

Table 5. Hypotheses Testing Results

Relationship	Unstd. Est.	Std. Est.	S.E.	C.R.	p-value	R^2	Result
RAF <— BSV	0.302	0.363	0.067	4.516	0.000	0.132	Supported
RAG <— BSV	0.035	0.050	0.054	0.651	0.515	0.002	Not Supported
ATT <— BSV	0.167	0.123	0.106	1.572	0.116	0.017	Not Supported
ATT <— RAG	-0.009	-0.005	0.145	-0.062	0.951		Not Supported
ATT <— RAF	0.035	0.021	0.135	0.257	0.797	0.006	Not Supported
INT <— ATT	0.052	0.077	0.049	1.065	0.287	0.010	Not Supported
BHV <— INT	0.125	0.100	0.095	1.309	0.191		Not Supported

6.6 Moderation Analysis

The moderating effects of social media, consumer skepticism, and willingness to pay were tested using Hayes' (2017) PROCESS macro with 1000 bootstrap samples (Model 1). All variables were mean-centered. The absence of significant interaction terms suggests that none of the moderators have a moderating effect on the hypothesized relationships (see Table 6).

Table 6. Moderation Analysis

Path	Moderator	Coefficient	p-value	Decision
ATT <— RFR	SCM	-0.0543	0.0606	Not Significant
ATT <— RAG	SKPT	0.0301	0.5043	Not Significant
BHV <— INT	WTP	0.0359	0.1373	Not Significant

As evidenced in the table, consumer skepticism did not moderate the relationship between perceived risks (reason against) and attitude. Additionally, willingness to pay did not moderate the relationship between purchase intention and purchase behavior. Also, social media did not moderate the relationship between environmental belief (reason for) and attitude.

6.7 Discussion

The aim of this study was to propose and develop a theoretical framework to examine the impact of consumers' biospheric values on their attitudes, intentions, and purchasing behavior regarding recycled plastic apparel, utilizing the principles of Behavioral Reasoning Theory (BRT). The empirical findings offer intriguing insights, with only one significant relationship identified—between biospheric value and environmental beliefs (reasons for)—indicating that consumers' environmental value systems positively influence their environmental beliefs. This finding is consistent with previous research by Ronda (2024). Beyond this, the structural model revealed that none of the relationships within the theoretical framework are significant, prompting a deeper discussion on the attitude–intention–behavior gap among consumers in the context of recycled fashion and textiles literature (Wang et al., 2021; Polyportis et al., 2024).

These results support the theoretical foundation of this study, which posits that reasons serve as critical cognitive considerations that individuals use to rationalize their choices and behaviors (Sahu et al., 2020). In this study, environmental beliefs (‘reasons for’) and perceived risks (‘reasons against’) did not significantly affect consumers' attitudes towards clothing made from recycled plastic waste. Additionally, the findings indicated that consumers' purchase attitudes, intentions, and behavior are not influenced by the emergence of social media or the willingness to pay a premium price for recycled clothing made from plastic waste. Although consumer skepticism did not significantly impact the relationship between

consumers' perceived risks and their purchase attitude, there remains a prevalent sense of discomfort or aversion among consumers towards products containing recycled materials. These results align with the assertions of Polyportis et al. (2022, 2023), underscoring an ongoing challenge in promoting consumer acceptance of recycled fashion alternatives.

7. Implications

7.1 Theoretical Implications

This present study provides two significant theoretical contributions.

First, this study highlights that despite increasing exposure to sustainability concepts and recycling practices, consumers remain hesitant to fully adopt products made from recycled plastic waste. This indicates that while consumers may recognize the environmental benefits of such products, their awareness and knowledge do not translate into widespread acceptance. Additionally, consumers' purchase decisions regarding recycled products appear to be influenced by a cost–benefit analysis along with a complex interplay of economic, social, and psychological factors. Furthermore, concerns about greenwashing, and the perception of sustainability claims as misleading or superficial attempts to increase revenue, can further complicate the relationship between consumer attitudes and behavior towards recycled products. These aspects should contribute to delving deeper into the underlying reasons for these discrepancies, particularly exploring factors behind consumer acceptance of products containing recycled materials and developing effective strategies to bridge the gap between consumers' attitudes and actions.

Second, although this study demonstrates that consumers' biospheric values positively influence the development of their environmental beliefs, it also highlights that concerns about product quality, performance, and contamination risks inhibit the acceptance of such products, especially those made of recycled plastic waste. Meng and Leary (2021) found that such perceptions stem from a heightened fear of contamination-related risks, especially pertinent for apparel items requiring direct skin contact, which in turn reduces purchase intentions and usage. Notably, consumer willingness to purchase products made of recycled plastic waste is higher for items without direct skin contact, such as backpacks, decorative objects, or products for external use (Polyportis et al., 2023). The inclusion of recycled waste materials in a product can diminish consumer perceptions of product quality, thereby amplifying concerns regarding performance and financial risk due to a perceived decrease in value for money (Ng, 2026).

7.2 Practical Implications

This study offers several practical implications for firms in the apparel industry seeking to integrate circular economy principles into their business models. In response to the growing environmental crisis caused by plastic waste accumulation, many companies are incorporating recycled plastic waste into their product offerings (Ng, 2026). Integrating recycled materials into apparel production represents a key strategy for advancing circular economy practices. The use of recycled resources supports sustainable resource utilization by reducing reliance on non-renewable inputs such as water and energy, minimizing pollution associated with fast fashion, and extending garment life cycles. To strengthen consumer confidence in recycled apparel, companies must communicate their environmental performance transparently. Such transparency enhances trust and strengthens the perceived credibility and authenticity of recycled products across the value chain.

Another important implication concerns consumer education. Firms should implement educational campaigns to raise awareness about the benefits of products made from recycled plastic waste, emphasizing

attributes such as durability, safety, and performance. These initiatives can help dispel misconceptions and build a more informed consumer base. Social influence also plays a critical role in shaping consumer attitudes and behaviors. As consumers are increasingly guided by social norms and community approval, firms can leverage these influences by positioning recycled plastic products as symbols of responsible and aspirational lifestyles.

In addition to competitive pricing, companies can promote adoption through incentives such as discounts, loyalty rewards, and trade-in or recycling programs. These initiatives provide economic benefits while fostering a circular consumption mindset and strengthening consumer engagement with sustainable practices, encouraging repeated eco-conscious purchasing behavior (Westaby, 2005). Furthermore, collaboration with independent certification bodies, such as the Global Recycled Standard (GRS) and Cradle to Cradle Certified, enhances credibility. Transparent communication and third-party certifications have been shown to positively influence consumer perceptions and increase willingness to purchase recycled plastic products (Das et al., 2026).

7.3 Limitations and Future Research Directions

The existing study can be extended to a global context, considering both developed and developing countries. Future research could conduct country-wise cross-cultural comparisons on consumers' acceptance of recycled clothes. Additionally, demographic factors (education, disposable income, age, gender) could be explored to examine their impact on consumers' purchase behavior of recycled products. Future researchers can employ experimental designs to investigate whether any particular product category or external stimulus can influence consumer behavioral outcomes toward recycled products, and to understand the influence of specific product categories, external stimuli, or cultural norms in shaping consumer acceptance. While this study focuses on recycled plastic PET bottle waste, future research could explore other sources of plastic waste for the production of various recycled products.

References

- Ajzen, I. (1991). The theory of planned behavior. Organizational Behavior and Human Decision Processes, 50(2), 179–211.
- Fishbein, M., & Ajzen, I. (1975). Belief, attitude, intention, and behavior: An introduction to theory and research. Addison-Wesley.
- Westaby, J. D. (2005). Behavioral reasoning theory: Identifying new linkages underlying intentions and behavior. Organizational Behavior and Human Decision Processes, 98(2), 97–120.
- Schwartz, S. H. (1992). Universals in the content and structure of values: Theoretical advances and empirical tests in 20 countries. Advances in Experimental Social Psychology, 25, 1–65.
- Stern, P. C., & Dietz, T. (1994). The value basis of environmental concern. Journal of Social Issues, 50(3), 65–84.
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. Journal of Marketing Research, 18(1), 39–50.
- Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. Structural Equation Modeling, 6(1), 1–55.
- Nunnally, J. C., & Bernstein, I. H. (1994). Psychometric theory (3rd ed.). McGraw-Hill.
- Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. European Business Review, 31(1), 2–24.