

Article

Sustainable Consumer Behavior in the Social Exclusion Context: Impact on Upcycled Product Adoption and Environmental Sustainability Metrics

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Abstract: This study investigates how social exclusion influences sustainable consumption patterns, specifically examining its impact on upcycled product adoption as a key metric of circular economy implementation, while also examining the moderating effects of self-efficacy and consumer innovativeness. As social isolation becomes increasingly prevalent in modern society, understanding its effects on sustainable consumption behaviors has become crucial. A survey involving 857 participants was executed in October 2024, and the data were analyzed using structural equation modeling with EQS 6.4. The results revealed that social exclusion positively influences both purchase intention for upcycled products and the perception of ethical consumption. Furthermore, an enhanced perception of ethical consumption significantly enhances purchase intention for upcycled products. Self-efficacy demonstrated significant moderating effects throughout all relationships in the model, notably pronounced in the relationship between social exclusion and ethical consumption awareness. Consumer innovativeness exhibited a significant moderating effect solely on the association between social exclusion and ethical consumption perception, but not on purchase intentions. This research advances sustainability measurement frameworks by establishing quantifiable links between psychological factors and sustainable consumption outcomes, offering practical metrics for assessing the social dimensions of sustainability implementation.

Keywords: sustainability metrics; sustainable consumption; circular economy; upcycling; social sustainability; environmental behavior measurement; sustainable development indicators; resource efficiency



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1. Introduction

The COVID-19 pandemic has fundamentally accelerated the transition toward an “untact” society, where traditional interpersonal interactions are increasingly perceived as potential sources of social risk and anxiety. This societal transformation has precipitated novel forms of social conflict as individuals navigate remote interactions and digital interfaces. The rapid shift has generated multifaceted social anxieties, exacerbated by the prevalence of non-face-to-face communications and widening digital disparities among populations. In a significant development, the World Health Organization (WHO) formally recognized loneliness as a pressing global health threat in November 2023, establishing a

dedicated Commission on Social Connection. The WHO emphasized that disrupted social connections substantially impact both mental and physical well-being, constituting a significant public health challenge that permeates all aspects of health, welfare, and development across nations.

Empirical evidence supporting these observations includes studies documenting the unprecedented acceleration of digital interactions during the COVID-19 pandemic, research examining emerging patterns of social anxiety in digital environments, and systematic investigations of the psychological implications of reduced face-to-face contact. As individual loneliness has emerged as a critical societal concern, scholars have increasingly focused on examining the effects of disrupted social connections—identified as a primary contributor to loneliness—on individuals' physical and psychological well-being [1]. Within the framework of social psychology, social exclusion is conceptualized as the subjective experience of feeling isolated, marginalized, disconnected, ignored, or alienated from meaningful social relationships and broader social networks [2–5].

The expansion of a non-face-to-face society has heightened communication via digital platforms. These environmental transformations have resulted in individuals avoiding or hesitating to engage in social interactions, thereby contributing to social exclusion [6]. Notably, in a non-face-to-face society, social interaction primarily transpires through social networking services (SNSs) or digital communication tools, creating a unique form of social connectivity that contrasts with the physical world, while concurrently increasing individuals' susceptibility to social exclusion. In contemporary society, which has evolved into a hyper-connected environment due to technological advancements, there is an expectation for improved communication opportunities. Paradoxically, however, the rise of non-face-to-face communication culture, particularly through SNSs and mobile devices, has resulted in a heightened incidence of social exclusion among individuals in their daily lives [7,8].

Social exclusion induces negative emotional states, such as depression, anxiety, loneliness, and anger, while also jeopardizing essential human needs, such as belongingness, self-esteem, presence, control, and efficacy [2,4,5]. In response to social exclusion, individuals exhibit diverse response mechanisms, typically including imitation and conformity, material ostentation, aggression, and antisocial behavior [9–11]. Social exclusion significantly influences consumer judgment, as well as product and brand choices. This effect is particularly evident in the methods individuals use to select products, which serve as mechanisms for signaling their intentions and interest in establishing social connections or building relationships with desired individuals or groups [12,13]. This investigation stems from an examination of the consumption behaviors individuals exhibit in response to social exclusion. Consumers experiencing social exclusion exhibit diverse consumption behaviors as coping strategies, primarily due to the perceived threat to their self-identity stemming from social exclusion [14–16].

Prior research has extensively examined social exclusion's effects on consumer behavior, predominantly focusing on compensatory consumption patterns [12,13] and social reconnection strategies [10]. Studies have documented how social exclusion influences product choices [17], brand preferences [7,8], and prosocial behaviors [11]. However, the intersection between social exclusion and sustainable consumption, particularly regarding upcycled products, remains largely unexplored. The present study advances the field in three significant ways: First, it establishes a theoretical framework linking social exclusion to sustainable consumption behaviors, specifically in upcycled product adoption. Second, it illuminates the psychological mechanisms underlying sustainable consumption decisions by demonstrating how self-efficacy and consumer innovativeness moderate the relationship between social exclusion and sustainable purchasing behavior. Third, it advances circular economy literature by identifying social exclusion as an unexpected cat-

alist for upcycled product adoption, thereby expanding our understanding of sustainable consumption drivers in contemporary society.

Individuals experiencing social exclusion demonstrate purchase-switching behavior by acquiring new products or brands to restore a lost sense of control [7,8]. To restore self-esteem that has been diminished by social exclusion, they engage in prosocial behaviors, such as purchasing products that enhance feelings of belonging or identity, and participating in charitable giving [13,17]. Therefore, this study aims to examine whether individuals experiencing social exclusion demonstrate a preference for upcycled products—which offer enhanced social value and significance compared to conventional products—as a strategy to elevate their perceived value and self-esteem and whether they exhibit ethical consumption behavior. Furthermore, this research aims to identify potential moderating effects by examining whether differences exist in upcycled product purchases or ethical consumption behaviors based on individuals' self-efficacy and tendencies toward consumer innovation in the context of social exclusion. Through these research objectives, this study endeavors to derive practical implications for consumer behavior and marketing communication strategies by elucidating the impact of social exclusion experiences on prosocial behavior.

The unprecedented acceleration of non-face-to-face interactions in modern society, exacerbated by the COVID-19 pandemic, has generated complex social dynamics that fundamentally intersect with consumer behavior and sustainable consumption patterns. While existing research has examined social exclusion's effects on consumer behavior and sustainable consumption as separate phenomena, there remains a critical gap in understanding their interaction within emerging sustainable markets, particularly concerning upcycled products. This study makes three significant contributions to sustainability scholarship: First, it establishes a theoretical framework linking social exclusion to sustainable consumption behaviors, specifically in upcycled product adoption. Second, it illuminates the psychological mechanisms underlying sustainable consumption decisions by demonstrating how self-efficacy and consumer innovativeness moderate the relationship between social exclusion and sustainable purchasing behavior. Third, it advances circular economy literature by identifying social exclusion as an unexpected catalyst for upcycled product adoption, thereby expanding our understanding of sustainable consumption drivers in contemporary society. These findings enhance our theoretical understanding of the nexus between social psychology and sustainable consumption while providing practical insights for promoting sustainable consumer choices.

2. Literature Review

2.1. Social Exclusion

Human beings are inherently social and maintain relationships with others, which is essential for individual well-being and provides protection against various threats [6,18]. Consequently, individuals strive to maintain interpersonal relationships and remain integrated within social groups. However, these social connections may become disrupted, potentially constituting a social threat. This phenomenon is conceptualized as social exclusion in the realm of social psychology [3–5]. Social exclusion represents a social threat that arises from the disruption of social connectivity. It is characterized by being excluded or ignored within social networks, resulting in psychological, emotional, and behavioral consequences.

Social exclusion generates negative emotional states, such as diminished self-esteem, heightened loneliness, and depression. These emotional responses lead excluded individuals to question their self-worth and social standing, potentially exacerbating emotional distress [19,20]. Characterized by a deliberate act of ignoring or excluding individuals, social exclusion adversely impacts fundamental social needs, such as belonging, self-esteem, control, and meaning [21]. The impact of social exclusion extends beyond emotional responses and substantially influences behavioral manifestations. Research demonstrates

that excluded individuals experience negative emotions, particularly anger, potentially precipitating antisocial behavior. However, social exclusion can also catalyze social reconnection, with individuals exhibiting various behavioral and psychological responses following exclusion experiences [10,22].

The behavioral responses to social exclusion are diverse and occasionally contradictory. Although certain studies indicate that social exclusion promotes aggressive and antisocial behavior, others suggest that it enhances prosocial tendencies [5,23]. Individuals who experience negative emotions and threats to their fundamental needs due to social exclusion utilize a range of coping mechanisms. These mechanisms include mimicry, conformity behavior, prosocial behavior, aggressive behavior, risk-taking behavior, as well as antisocial and self-destructive behaviors [3,9,11,24,25]. Individuals experiencing social exclusion demonstrate an increased focus on peripheral cues that may promote social interaction [26]. Furthermore, their propensity to consume products that denote affiliation with particular groups or communities escalates [12]. Additionally, individuals experiencing social exclusion exhibit enhanced prosocial behaviors, including helping behavior, cooperation, and social engagement, as strategies to restore social connections [10].

2.2. Upcycled Products

Upcycling represents a transformative process that elevates the value of discarded materials or products by repurposing them for alternative functions, fundamentally differentiating it from conventional recycling processes that often result in value degradation [27–30]. This value-additive approach demonstrates enhanced environmental efficacy compared to traditional recycling methods, particularly in textile and fabric applications, through reduced energy consumption and minimized raw material requirements, thereby contributing to decreased landfill utilization and resource conservation [31].

Upcycled products constitute novel items generated through the value-enhancing transformation of waste materials, emerging from strategic corporate sustainability initiatives that revitalize discarded materials' utility and economic value [32–34]. This approach has gained significant traction as a fundamental component of corporate environmental management strategies [35]. Within the broader category of environmentally conscious products, upcycled and recycled products represent distinct classifications, though upcycled products are occasionally miscategorized as a subset of recycled products [33,36,37].

Consumer responses to upcycled products demonstrate a complex interplay of positive and negative perceptions. Upcycled products generally garner superior consumer satisfaction regarding aesthetic appeal compared to recycled alternatives. While recycled products may achieve aesthetic value in specific contexts, such as luxury or vintage apparel, aesthetic appreciation constitutes a fundamental aspect of consumer perception toward upcycled products [34]. Additionally, consumers derive satisfaction from the creative transformation inherent in upcycling, which generates new functional items with enhanced value from end-of-life products [38].

However, in comparison to recycled alternatives, upcycled products may simultaneously evoke negative consumer perceptions regarding financial sacrifice [27–30]. Consumer exposure to upcycled products generates a complex response that combines positive perceptions—including environmental value, aesthetic appreciation, and intrinsic enjoyment—with apprehensions regarding increased costs. This negative perception of monetary investment has become a significant barrier to the adoption of upcycled products [30].

Social exclusion theory, grounded in fundamental human needs theory [21], posits that individuals experience psychological and behavioral responses when their basic needs for belonging, self-esteem, control, and meaning are threatened. This theoretical framework aligns with Smith et al. and Aviram's belongingness hypothesis, which emphasizes that humans

possess an innate drive to form and maintain interpersonal relationships [6,18]. When these social bonds are disrupted, individuals employ various coping mechanisms to restore their social connections [3,9,11,24,25].

2.3. Ethical Consumption in Contemporary Markets

Ethical consumption involves consumption practices that consciously consider societal and environmental consequences [39,40]. The expansion of ethical consumption practices has been enabled by market globalization, civic organization growth, technological advancement, and effective market campaigns [41]. Scholars have conceptualized ethical consumption through diverse perspectives, which range from conscious choice informed by moral beliefs [42] to extensive patterns of consumption behavior [43,44]. The contemporary manifestation of ethical consumption extends beyond simple purchase decisions to encompass a holistic approach to consumer behavior that includes pre-purchase consideration, usage patterns, and post-consumption disposal practices. This evolution reflects a growing awareness of consumption's broader implications for social justice, environmental sustainability, and economic equity. Market globalization has particularly accelerated this trend by increasing transparency in supply chains and highlighting the interconnected nature of global consumption patterns. The rise of digital platforms and social media has further transformed ethical consumption by enabling rapid information sharing about products' environmental and social impacts, while simultaneously creating communities of conscious consumers who can share experiences and best practices. This technological integration has democratized access to information about ethical consumption choices and created new channels for consumer advocacy and corporate accountability.

2.4. Self-Efficacy and Consumer Behavior

Self-efficacy, derived from social cognitive theory, signifies individuals' convictions in their abilities to effectively execute particular tasks [45–47]. This psychological construct profoundly impacts goal-setting behavior, task performance, and overall life outcomes [47,48]. In the context of work performance, self-efficacy is positively correlated with job satisfaction and productivity [49]. The role of self-efficacy in consumer behavior extends beyond basic purchase decisions to influence how individuals approach complex consumption choices, particularly those involving ethical or sustainable products. Consumers with higher levels of self-efficacy typically demonstrate greater confidence in their ability to evaluate product alternatives, understand environmental claims, and make decisions aligned with their values. This confidence often translates into more sustained ethical consumption patterns and greater resilience when faced with barriers to sustainable choices. Self-efficacy also plays a crucial role in bridging the intention–behavior gap often observed in ethical consumption contexts. Individuals with strong self-efficacy are more likely to translate their ethical consumption intentions into actual purchasing behavior, even when faced with higher costs or reduced convenience. This relationship becomes particularly significant in the context of novel or unfamiliar sustainable products, where consumers' confidence in their ability to evaluate and use these products effectively can significantly influence adoption rates. The relationship between self-efficacy and consumer behavior is particularly relevant in the evolving landscape of sustainable and ethical consumption, where consumers must often navigate complex trade-offs between different ethical considerations, price points, and practical constraints. Understanding this relationship provides valuable insights for marketers and policymakers seeking to promote more sustainable consumption patterns.

2.5. Consumer Innovativeness and Market Adoption

Consumer innovativeness reflects individuals' propensity to adopt new products and technologies ahead of their peers [50,51]. This attribute encompasses various dimensions,

including functional, hedonic, cognitive, and social orientations [52]. Typically, innovative consumers exhibit heightened enthusiasm for exploring novel technologies, autonomous learning capabilities, and a preference for advising others [52,53]. The integration of self-efficacy and consumer innovativeness provides a comprehensive framework for comprehending individuals' responses to novel sustainable products and ethical consumption opportunities. This theoretical framework implies that personal psychological characteristics considerably influence the relationship between social exclusion experiences and subsequent consumer behavior related to upcycled products and ethical consumption decisions.

2.6. Connection Between Social Exclusion and Sustainable Consumption

The theoretical intersection between social exclusion and consumer behavior can be better understood through the lens of social cognitive theory, particularly its self-efficacy component [45–47]. This theory suggests that individuals' beliefs about their capabilities influence their behavioral responses to social threats. In the context of consumer behavior, self-efficacy serves as a crucial mediating mechanism that influences how individuals respond to social exclusion through their consumption choices [47,48].

Consumer innovativeness theory [50,51] provides an additional theoretical foundation for understanding how individuals might respond to novel consumption opportunities, such as upcycled products, in the context of social exclusion. The multi-dimensional nature of consumer innovativeness, encompassing functional, hedonic, cognitive, and social orientations [52], offers a theoretical framework for explaining why socially excluded individuals might be particularly drawn to innovative, sustainable products as a means of social reconnection.

These theoretical perspectives converge in the domain of ethical consumption, which is conceptualized through moral decision-making frameworks [42–44]. The integration of these theories suggests that social exclusion may trigger a complex interplay between self-efficacy beliefs, innovative tendencies, and ethical consumption behaviors, as individuals attempt to restore their social connections through meaningful consumption choices. This theoretical synthesis provides a more robust foundation for understanding how social exclusion experiences might influence consumer behavior toward upcycled products, mediated by both individual psychological characteristics (self-efficacy) and consumer-specific traits (innovativeness). The interaction of these theoretical frameworks offers a more comprehensive explanation for the relationship between social exclusion and sustainable consumption behaviors.

The intersection of social exclusion and sustainable consumption behaviors reveals important but previously unexplored connections in consumer research. While prior studies have extensively examined social exclusion's effects on consumer behavior, focusing primarily on compensatory consumption patterns and social reconnection strategies, the specific relationship with sustainable consumption, particularly regarding upcycled products, remains largely unexplored. The theoretical framework connecting these domains emerges through several key findings in the literature. As Mead et al. demonstrated, individuals experiencing social exclusion tend to spend and consume strategically to facilitate affiliation [12]. This aligns with research by Lee and Shrum showing that socially excluded individuals often engage in prosocial behaviors as a means of restoring their sense of belonging [17]. Importantly, individuals experiencing social exclusion demonstrate various response mechanisms, including imitation, conformity, and prosocial behavior [9,10]. These behaviors can manifest in consumption choices that signal intentions to establish social connections or build relationships with desired groups [12,13].

The connection between social exclusion and sustainable consumption can be understood through the lens of social cognitive theory, particularly its self-efficacy component [44].

This theoretical framework suggests that individuals' beliefs about their capabilities influence their behavioral responses to social threats, including their consumption choices. Furthermore, consumer innovativeness theory [49] provides additional insight into how individuals might respond to novel consumption opportunities, such as upcycled products, in the context of social exclusion. This synthesis of the literature points to a complex relationship where social exclusion may influence sustainable consumption through both direct and indirect pathways, mediated by psychological factors such as self-efficacy and consumer innovativeness. Understanding these connections provides valuable insights for promoting sustainable consumer choices while addressing social inclusion needs.

3. Hypotheses and Conceptual Research Model

3.1. Research Hypotheses

Research has consistently shown that individuals experiencing social exclusion exhibit various behavioral responses aimed at reconnecting with others or asserting their identity. People subjected to social exclusion experience heightened stress, sadness, and anger [5], along with feelings of emptiness [7,8] and psychological pain associated with feelings of worthlessness [53,54]. Social exclusion significantly influences consumers' psychological needs and consumption behavior [19]. Lee and Shrum distinguished between two primary types of social exclusion experiences, being ignored and being rejected, with each leading to distinct behavioral responses [17]. Studies have demonstrated that socially excluded individuals show greater switching behavior compared to non-excluded individuals [7,8,54], prefer unique products under certain conditions [13], and engage in riskier behaviors for potential gains [3]. Furthermore, individuals experiencing social exclusion attempt to restore their deficient social connections by forming relationships with products and brands [12,13]. When experiencing social exclusion, individuals demonstrate heightened preferences for consumption that fosters connectivity with others and products that signify group membership [12]. They tend to pay greater attention to social peripheral cues [25], shift from self-centered to other-centered perspectives, and exhibit improved imitation of others' behaviors [25]. Notably, socially excluded individuals often display increased prosocial behaviors, such as helping behavior and cooperation, as attempts to restore social relationships [10].

The effects of social exclusion have been persistently examined across various fields. College students who experience social exclusion attempt to enhance their self-worth through purchases to compensate for their deficient social relationships [55,56]. Consumers attempt to enhance negative emotions by promptly purchasing products that offer gratification [57]. They may also develop a sense of belonging through their product purchases [58].

Following social exclusion, individuals exhibit heightened preferences for consumption that fosters connectivity or relationships with others, as well as increased preference for products that signify their status or state as a member of a group or community [12]. When individuals experience social exclusion, they tend to pay greater attention to social peripheral cues [26], shift from self-centered to other-centered perspectives, more readily accept others' advice [9], and exhibit improved imitation of others' behaviors [25].

People who experience social exclusion exhibit heightened prosocial behaviors, such as helping behavior, cooperation, and fellowship, to restore social relationships with others [10]. Particularly, individuals' attribution of the cause of social exclusion to themselves fosters self-regulation and results in socially desirable behavior [59]. In contrast, social exclusion experiences can also trigger behaviors that emphasize an individual's uniqueness and manifests materially as a means of recovering damaged presence [13,17]. Previous studies indicate that people experiencing social exclusion demonstrate diverse consumption behavior patterns, including prosocial or antisocial behavior. This study assumes that social exclusion will affect consumers' ethical consumption behavior and purchase

intention for upcycled products as a form of prosocial behavior. Therefore, the following hypotheses can be established:

H1a. *Social exclusion has a direct positive effect on purchase intention for upcycled products.*

H1b. *Social exclusion has an indirect positive effect on purchase intention for upcycled products through ethical consumption perception.*

H2. *Social exclusion positively influences consumers' perception of ethical consumption.*

H3. *Enhanced perception of ethical consumption positively affects purchase intention for upcycled products.*

Self-efficacy is defined as the belief in one's ability to successfully execute actions to attain satisfaction [47], and this belief varies based on individual tendencies.

Regarding the moderating role of self-efficacy, research has shown that it significantly influences individual psychological achievement [47] and varies based on individual tendencies. Self-efficacy refers to the belief in one's ability to successfully execute actions [47], and higher self-efficacy leads to greater effort and commitment to task performance [59,60]. The higher self-efficacy, the greater the effort and the commitment to task performance [60,61]. Previous studies revealed that self-efficacy refers to consumers' confidence in their ability to use technology, which affects their perception of its ease of use [61,62]. Social learning theory posits that cognitive and emotional evaluations of one's psychological state, along with feedback from the external environment, significantly affect the development of self-efficacy [63,64]. Self-efficacy is an essential factor in comprehending consumer behavior because it significantly influences individual psychological achievement [65].

Because self-efficacy is related to self-regulation ability, which is the ability to maintain tasks, observe one's responses, correct mistakes, and evaluate, people with high self-efficacy exhibit superior self-regulation ability compared to those with low self-efficacy. The higher the level of self-efficacy, the lower the degree of anxiety in alternative selection situations, and the more effective alternative selection strategies are used [66]. Self-efficacy, as a positive belief in oneself, can serve as a variable that positively influences anticipated outcomes. This study predicted that self-efficacy would positively moderate the relationship between social exclusion, ethical consumption behavior awareness, and purchase intention for upcycled products. From these discussions, the following hypotheses can be established.

H4-1. *Individuals' levels of self-efficacy will moderate the relationship between social exclusion and purchase intention for upcycled products.*

H4-2. *Individuals' levels of self-efficacy will moderate the relationship between social exclusion and the perception of ethical consumption.*

H4-3. *Individuals' levels of self-efficacy will moderate the relationship between the perception of ethical consumption and purchase intention for upcycled products.*

Consumers' cognitive innovation tends to generate new objects regarding how to interpret facts and processes or how to do things. Cognitive creators understand the causal relationship among dual-path events. In other words, consumers' sensory and cognitive innovation tendencies influence new product use intention, leading to increased contemplation and enjoyment of mental activities [62]. Consumers exhibiting high cognitive innovation tendencies actively seek and evaluate information regarding new products, determining their functionality and usage. Research on fashion shopping mall loyalty and satisfaction demonstrates that consumers

exhibiting high innovation tendencies acquire more information from media advertising, such as TV advertising, than consumers with low innovation tendencies [67].

Finally, considering consumer innovativeness, defined as the degree to which one accepts and adopts new ideas [67,68], research suggests that consumers with high innovation tendencies are more likely to experiment with new products and pursue changes rather than adhering to existing consumption patterns [68,69]. Individual innovation tendencies are assessed to be correlated with consumers' ethical consumption behavior or purchase intention for eco-friendly products. Therefore, it was predicted that consumer innovation would positively moderate the relationship between social exclusion, ethical consumption behavior awareness, and purchase intention for upcycled products.

H5-1. *Individuals' level of innovativeness will moderate the relationship between social exclusion and the purchase intention for upcycled products.*

H5-2. *Individuals' level of innovativeness will moderate the relationship between social exclusion and the perception of ethical consumption.*

H5-3. *Individuals' level of innovativeness will moderate the relationship between the perception of ethical consumption and purchase intention for upcycled products.*

3.2. Research Model

This study's research model was designed based on factors that influence consumer social exclusion and the perception of ethical consumption and purchase intention toward upcycled products by identifying the terms of social exclusion based on the above discussion and review of the literature. Hypotheses 1 and 2 explain how social exclusion affects purchase intention toward upcycled products and the perception of ethical consumption. Hypothesis 3 elucidates the effects of perceived ethical consumption on purchase intention toward upcycled products. Hypothesis 4 explains the moderating effects of self-efficacy on the relationship between social exclusion and purchase intention toward upcycled products, as well as between social exclusion and the perception of ethical consumption. Hypothesis 5 explains the moderating effects of consumer innovativeness on the relationship between social exclusion and purchase intention toward upcycled products, as well as between the perception of ethical consumption and purchase intention toward upcycled products. Figure 1 presents the research model, which outlines the study design.

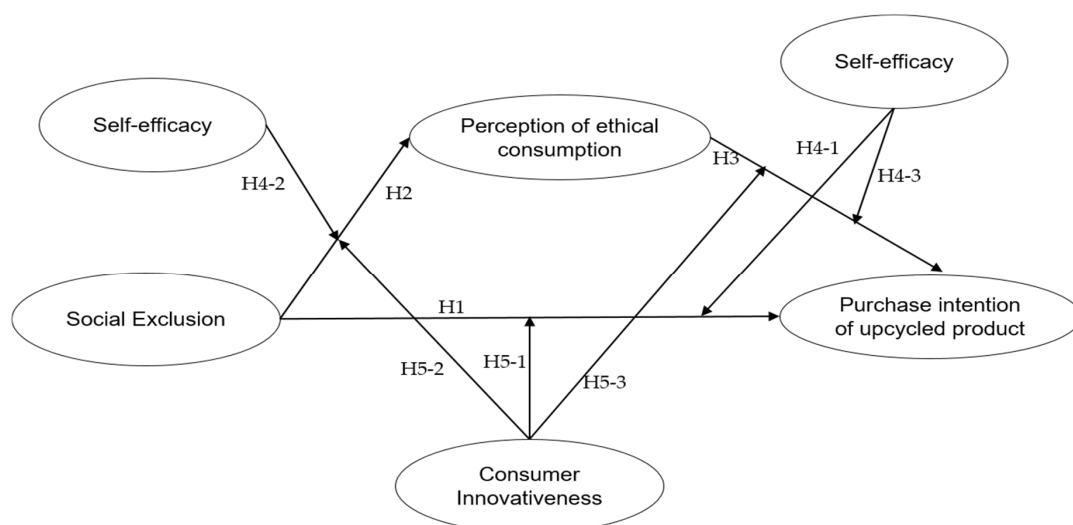


Figure 1. Conceptual research model.

4. Method and Analysis

4.1. Data Collection and Measurement

Social exclusion is a state wherein individuals are excluded from social groups and relationships that should foster a sense of belonging; thus, such a state indicates a lack of social connectivity. Three questionnaire items were adopted from previous studies [3–6]. The response format for each measurement item was structured using a 5-point Likert scale, ranging from “strongly disagree” (1 point) to “strongly agree” (5 points). Higher scores indicate higher levels of social exclusion resulting from exposure to weak social networks. Upcycled products refer to new products that are created using reused waste or garbage. Purchase intention for upcycled products was assessed using four items derived from questionnaire items utilized in prior research [32–34]. The perception of ethical consumption denotes consumers making deliberate decisions based on ethical value assessments when purchasing goods or services, or opting for ethically correct choices [39,40]. The questionnaire was restructured using items frequently employed in previous studies, comprising 16 items on a 5-point Likert scale. Higher scores indicate higher levels of ethical consumption awareness.

Consumer innovativeness refers to the extent to which an individual can embrace and adopt new ideas and systems [51,52]. Ten questionnaire items were adopted from previous studies. Self-efficacy refers to an individual’s perceived capacity to attain their goals. Four questionnaire items from previous studies were utilized [47,48,70]. All items were measured on a 5-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). SPSS 27 and structural equation modeling were employed for technical data analysis and hypothesis validation to verify the moderating effect. As shown in Appendix A, questionnaire items for this study, with operational definitions of the variables, were extracted from previous studies.

Research data were gathered via an online survey administered by a professional research institute over a period of approximately two weeks, from 4 to 24 October 2024. The survey aimed to verify research hypotheses and address research questions. Before the main survey commenced, the initial screen of the online survey presented the conceptual definition of ethical consumption and examples and explanations of upcycled products. Additionally, the concept of social exclusion was introduced to assist survey participants in comprehending the context. Precautions for survey participation were provided, and respondents were directed to read them carefully to ensure comprehension. Subsequently, items were introduced to measure the study’s moderating and outcome variables. Demographic characteristics pertaining to participants’ gender, age, education level, and income were also incorporated. The survey targeted general consumers and ensured sample representativeness by incorporating diverse age groups, which ranged from 20 s to 60 s. The survey was conducted with 870 participants. Out of these, 13 responses were excluded because of a lack of knowledge about upcycled products, a lack of experience with them, or incomplete responses. Finally, 857 completed surveys were incorporated into the analysis.

4.2. Descriptive Statistics

As shown in Table 1, the gender distribution of respondents is relatively balanced, with males comprising 48.1% ($n = 412$) and females comprising 51.9% ($n = 445$). The age groups are evenly distributed from 20 s to over 50 s, with each group representing approximately 23–28% of respondents. Regarding education level, university graduates constitute the largest portion, at 69.1%. Regarding occupation, professionals accounted for the largest proportion (20.9%), followed by self-employed workers (19.6%), company employees (18%), students (16.6%), and public officials (14.4%). Regarding monthly income, the USD 2000–3000 range represents the largest segment at 34%, followed by individuals earning less than USD 2000, which accounts for 26%.

Table 1. Demographic profile.

Index (n = 857)		Frequency	%
Sex	Male	412	48.1
	Female	445	51.9
Years	20–29	212	24.7
	30–39	208	24.3
	40–49	198	23.1
	Over 50	239	27.9
Education Level	High school or below	102	11.9
	Graduation from college	76	8.9
	Graduation from university	392	69.1
	Over graduate school	87	10.2
Occupation	Students	142	16.6
	Public officer	123	14.4
	Employee	154	18
	Professional	179	20.9
	Self-employed	168	19.6
	Other (housewife, etc.)	91	10.6
Monthly income in USD	below USD 2000	223	26
	2000~3000	291	34
	3000~4000	160	18.7
	4000~5000	80	9.3
	Above USD 5000	103	12

4.3. Measurement Validity

This study assessed the reliability, convergent validity, and discriminant validity of the constructs before evaluating the structural model. The reliability of the scales employed in this study was analyzed using Cronbach's alpha. The study tested the scales' reliability and validity using exploratory factor analysis (EFA) before assessing the hypothesized relationships illustrated in Tables 2 and 3. The study initially conducted principal components factor analysis with varimax rotation in SPSS (n = 857) on the initial items, employing a factor weight of 0.50 as the minimum cutoff value. Cronbach's alpha exceeded the standard acceptance norm of 0.70 for all variables. The exploratory stage fulfills the criteria for the verification of a research hypothesis model.

Tables 2 and 3 show the results of the confirmatory factor analysis examining convergent and discriminant validity. Convergent validity indicates that similar results should be achieved despite employing different methodological indicators to measure the same construct, whereas discriminant validity demonstrates that if constructs are different, their measurements should reveal significant differences. The factor loadings obtained from the confirmatory factor analysis met the standard loading criterion (exceeding 0.5). The analysis employed Maximum Likelihood (ML) estimation, which assumes multivariate normality. In the comparison of AVE values, construct reliability, and standardized loadings, the AVE value should exceed 0.5. All concepts employed in this study were confirmed to have convergent validity because they satisfied the threshold criteria for AVE (greater than 0.5), construct reliability (greater than 0.7), and standardized loadings (greater than 0.5).

To verify discriminant validity, the squares of the correlation coefficients among latent variables were compared against the AVE values. The results confirmed discriminant validity, as the AVE values exceeded the squared correlation coefficients of the latent variables. The results showed that the measurement model sufficiently fit the data (goodness-of-fit statistics: $\chi^2 = 726.883$, $df = 276$; $\chi^2/df = 2.636$. CFI = 0.961, TLI = 0.953, GFI = 0.901, RMSEA = 0.06). The measurement model fit's verification confirmed that it satisfied the goodness-of-fit criteria.

Table 2. CFA results.

Construct	Item	Standardized Loadings	t-Value	(Cronbach's Alpha)	CR	AVE
Social Exclusion	SE1	0.688	9.584	0.915	0.954	0.592
	SE2	0.684	11.83			
	SE3	0.716	15.26			
Perception of Ethical Consumption	PEC1	0.555	18.30	0.857	0.902	0.696
	PEC2	0.653	18.19			
	PEC3	0.691	18.78			
	PEC4	0.615	18.47			
	PEC5	0.519	19.05			
	PEC6	0.635	18.73			
	PEC7	0.697	19.05			
	PEC8	0.633	19.12			
	PEC9	0.672	18.07			
	PEC10	0.702	18.52			
	PEC11	0.604	19.00			
	PEC12	0.631	11.07			
	PEC13	0.643	11.52			
	PEC14	0.703	11.35			
	PEC15	0.689	12.53			
	PEC16	0.690	9.824			
Purchase Intention for Upcycled Product	PIUP1	0.734	32.02	0.909	0.967	0.741
	PIUP2	0.704	32.13			
	PIUP3	0.653	36.73			
	PIUP4	0.623	26.78			
Self-Efficacy	SE1	0.672	9.854	0.910	0.951	0.602
	SE2	0.766	11.84			
	SE3	0.699	15.26			
	SE4	0.697	18.58			
Consumer Innovativeness	CI1	0.681	19.00	0.831	0.879	0.672
	CI2	0.701	19.14			
	CI3	0.639	18.80			
	CI4	0.460	18.64			
	CI5	0.531	18.70			
	CI6	0.609	18.05			
	CI7	0.674	13.99			
	CI8	0.676	15.78			
	CI9	0.751	11.97			
	CI10	0.659	17.59			

Notes: N = 857. Goodness-of-fit statistics: $\chi^2 = 15,948.5$, $df = 253$; $\chi^2/df = 2.636$. CFI = 0.961, TLI = 0.953, GFI = 0.901, RMSEA = 0.06, CR = composite reliability, AVE = average variance extracted.

Table 3. Construct inter-correlations.

Constructs	SE	PEC	PIUP	SE	
SE	0.350 ^a				
PEC	0.151	0.484 ^a			
PIUP	0.311	0.397	0.549 ^a		
SE	0.323	0.421	0.156	0.362 ^a	
CI	0.341	0.203	0.114	0.332	0.452 ^a

Note: SE = social exclusion, PEC: perception of ethical consumption, PIUP: purchase intention of upcycled product, SE: self-efficacy, CI: consumer innovativeness, ^a AVE: squared average variance extracted.

4.4. Hypothesis Testing

Table 4 shows that the goodness-of-fit analysis results for the structural equation model (SEM) established for hypothesis testing in this study indicated a high validity of the measurement items within the structural model. The structural equation model was additionally tested using EQS 6.4. The structural model exhibited a strong fit with the data. Goodness-of-fit statistics are $\chi^2 = 15,948.6$, $df = 253$, $\chi^2/df = 1.84$. CFI = 0.952, TLI = 0.912, GFI = 0.953, RMSEA = 0.08.

Table 4. Hypotheses testing.

H	Direct Effects Path	Standardized Coefficient Path	t-Value	p-Value	Results
H1a	SE → PIUP	0.242	7.297	<0.05	Supported
H2	SE → PEC	0.250	7.552	<0.001	Supported
H3	PEC → PIUP	0.605	22.216	<0.001	Supported
H1b	Indirect effects SE → PEC → PIUP		0.142 ($p < 0.05$)		

Note: SE: social exclusion, PEC: perception of ethical consumption, PIUP: purchase intention of upcycled product. Goodness-of-fit statistics: $\chi^2 = 15,948.6$, $df = 253$, $\chi^2/df = 1.84$. CFI = 0.952, TLI = 0.921, GFI = 0.935, RMSEA = 0.08. Total variance explained: R^2 of PEC = 0.174, R^2 of PIUP = 0.380.

Table 4 presents the path coefficients for the causal relationships within the tested structural model and the R^2 for the endogenous variables. Hypotheses H1a to 3 seek to test the relationship between social exclusion, the perception of ethical consumption, and purchase intention toward upcycled products.

The analysis revealed several significant correlations. First, a positive and significant relationship has been demonstrated ($\beta = 0.242$, $p < 0.05$), indicating that consumers exhibit an increased intention to purchase upcycled products when they experience social exclusion. Additionally, social exclusion positively influenced consumers' perception of ethical consumption ($\beta = 0.250$, $p < 0.001$). Furthermore, consumers with higher perceptions of ethical consumption demonstrated greater intentions to purchase upcycled products, indicating the most robust relationship among the variables ($\beta = 0.605$, $p < 0.001$). All three hypotheses were supported by these findings, indicating that social exclusion plays a significant role in both ethical consumption perceptions and upcycled purchase intentions. Furthermore, ethical consumption perceptions significantly influence purchase intentions for upcycled products. The hypotheses in the study could indeed benefit from a more precise formulation. The current H1a posits a direct relationship between social exclusion and purchase intention for upcycled products, but the study's theoretical framework and results actually suggest both direct and indirect pathways through ethical consumption perception. The structural equation modeling results reveal a direct effect ($\beta = 0.242$, $p < 0.05$) as well as an indirect effect through ethical consumption perception (0.142, $p < 0.05$).

4.5. Moderating Effects of Self-Efficacy and Consumer Innovativeness

The hypothesized causal paths were estimated to assess the causal relationships posited in the conceptual research model. A multiple-group analysis was conducted to test the moderating effects of self-efficacy and consumer innovativeness. Respondents were categorized into low and high groups based on the median rating of self-efficacy (Mdn = 3.27) and consumer innovativeness (Mdn = 3.57). Subsequently, the chi-square (χ^2) difference between the constrained and unconstrained models was examined in relation to the difference in degrees of freedom to assess the differential effects of self-efficacy and consumer innovativeness.

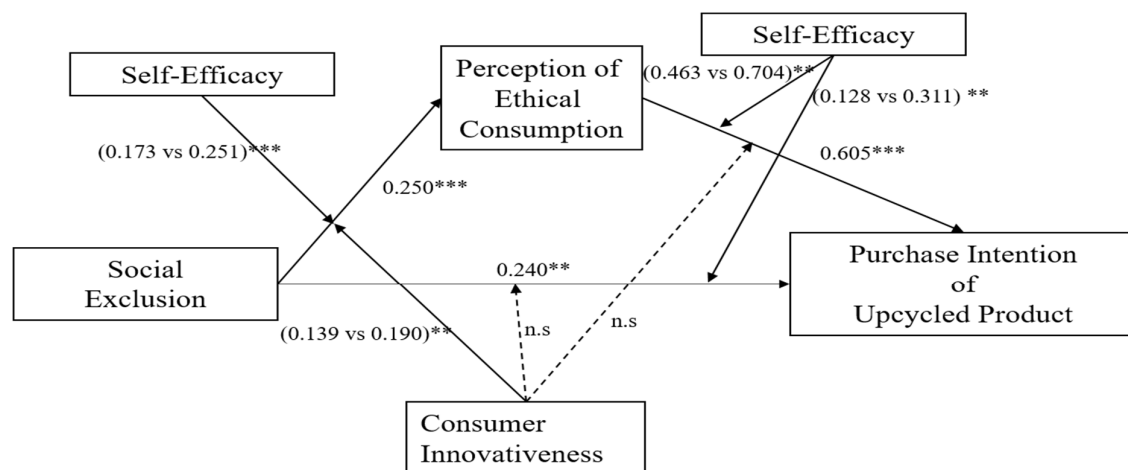
Table 5 and Figure 2 demonstrate that self-efficacy significantly influenced the relationships between social exclusion and the purchase intention of upcycled products

($\Delta\chi^2 = 0.132$, $t = 2.957$, $p < 0.05$), between social exclusion and the perception of ethical consumption ($\Delta\chi^2 = 0.079$, $t = 4.087$, $p < 0.001$), and between the perception of ethical consumption and the purchase intention of upcycled products ($\Delta\chi^2 = 0.704$, $t = 2.161$, $p < 0.05$). Thus, H4-1, 4-2, and 4-3 were supported.

Table 5. Results of moderating effect.

H	Main Effect of Self-Efficacy	Low Self-Efficacy	High Self-Efficacy	$\Delta\chi^2$ ($\Delta df = 1$)	p-Value
H4-1	SE $\rightarrow$ PIUP	0.128 (t = 2.177)	0.311 (t = 4.387)	0.132 (t = 2.957)	<0.05
H4-2	SE $\rightarrow$ PEC	0.173 (t = 3.420)	0.251 (t = 5.285)	0.079 (t = 4.087)	<0.001
H4-3	PEC $\rightarrow$ PIUP	0.463 (t = 10.209)	0.704 (t = 20.190)	0.109 (t = 2.161)	<0.05
H	Main Effect of CI	Low CI	High CI	$\Delta\chi^2$ ($\Delta df = 1$)	p-Value
H5-1	SE $\rightarrow$ PIUP	0.238 (t = 5.571)	0.209 (t = 4.869)	0.057 (t = 1.063)	0.240
H5-2	SE $\rightarrow$ PEC	0.139 (t = 2.335)	0.190 (t = 3.222)	0.161 (t = 4.543)	<0.001
H5-3	PEC $\rightarrow$ PIUP	0.465 (t = 12.83)	0.439 (t = 11.10)	0.046 (t = 0.745)	0.296

Note: SE = social exclusion, PEC: perception of ethical consumption, PIUP: purchase intention of upcycled product, CI: consumer innovativeness.



Notes: (Path coefficient for low SE and CI vs. Path coefficient for high SE and CI). SE: Self-Efficacy, CI: Consumer Innovativeness), ** $p < 0.05$, *** $p < 0.001$, n.s.: not significant

Figure 2. Results of the structural model.

People with high self-efficacy are inclined to engage in proactive actions to address instances of social exclusion. Because purchasing upcycled products positively impacts the environment and society, individuals with high self-efficacy may leverage this as a means to realize social value and regain their sense of belonging. People with high self-efficacy often consider broader social contexts, even in instances of social exclusion. They are more likely to recognize the significance of ethical consumption, which may enhance their motivation to reestablish social connectivity through such behavior. People with high self-efficacy are inclined to believe that their consumption behavior can effectuate tangible change. When ethical consumption awareness is high, self-efficacy increases the likelihood of translating it into actual purchasing behavior. All these results were statistically significant ($p < 0.05$), with particularly notable significance ($p < 0.001$) in the relationship between social exclusion and ethical consumption awareness mediated by self-efficacy. This suggests that self-efficacy serves as an essential psychological mechanism in fostering ethical consumption behavior.

The results demonstrated that consumer innovativeness significantly impacted the relationship between social exclusion and the perception of ethical consumption ($\Delta\chi^2 =$

0.161, $t = 4.543$, $p < 0.001$). However, consumer innovativeness exhibited no significant effect on the relationships between social exclusion and the purchase intention of upcycled products ($\Delta\chi^2 = 0.057$, $t = 1.063$, $p > 0.05$) and between the perception of ethical consumption and the purchase intention of upcycled products ($\Delta\chi^2 = 0.046$, $t = 0.745$, $p > 0.05$). Thus, H5-2 was supported, whereas H5-1 and 5-3 were not.

Consumer innovativeness significantly influences the relationship between social exclusion and ethical consumption perception, suggesting that more innovative consumers may be more inclined to recognize and appreciate the ethical aspects of consumption when feeling socially excluded. Innovative consumers are generally more open to new ideas and concepts, rendering them more inclined to understand ethical consumption as a significant reaction to social exclusion. They may perceive ethical consumption as a means to articulate their uniqueness and values, particularly when confronted with social exclusion. The lack of a significant effect on purchase intentions for upcycled products indicates that innovation alone does not inherently lead to actual purchasing behavior.

5. Discussion and Conclusions

5.1. Conclusions

This research demonstrates that social exclusion significantly influences consumers' intentions to purchase upcycled products, both directly and indirectly through enhanced ethical consumption awareness. The findings reveal that individuals experiencing social exclusion may turn to sustainable consumption as a means of social reconnection and self-expression. Self-efficacy emerged as a crucial moderating factor across all relationships in the model, while consumer innovativeness showed a more limited moderating effect, specifically on the relationship between social exclusion and ethical consumption perception. These results provide valuable insights for marketers, retailers, and policymakers in promoting sustainable consumption practices, suggesting that strategies focusing on building consumer confidence and emphasizing social connection through sustainable choices may be particularly effective. The study advances our understanding of the psychological mechanisms linking social exclusion to sustainable consumption behaviors, while also highlighting the complex interplay between individual characteristics and consumption decisions in the context of upcycled products.

5.2. Theoretical and Practical Implications

The relationship between social exclusion and consumer behavior in sustainable markets reveals fascinating patterns, especially regarding upcycled products. Research indicates that individuals facing social exclusion exhibit a heightened inclination to purchase upcycled products, highlighting an intriguing correlation between social dynamics and sustainable consumption choices. Individuals experiencing social exclusion instinctively pursue avenues to reintegrate into society and reconstruct their self-identity. This desire for reconnection is evident in deliberate consumption behaviors, specifically through the purchase of upcycled products. Such purchases function as a form of symbolic self-completion, enabling individuals to demonstrate their environmental consciousness and possibly aid their reintegration into environmentally aware social groups. The psychological mechanisms that underlie this behavior are particularly noteworthy. Social exclusion heightens an individual's awareness of ethical and social issues, potentially compensating for their exclusion. This heightened sensitivity frequently results in increased empathy and concern for broader societal issues, especially environmental sustainability. The research verifies that ethical consciousness acts as a principal incentive for the purchase of upcycled products.

While the manuscript presents a compelling analysis of COVID-19's catalytic role in accelerating the development of an untact society, its theoretical framework would

benefit from incorporating contemporary polycrisis scholarship. Lawrence et al. emphasize that modern societal challenges manifest as interconnected systems where environmental, economic, and social crises create mutually reinforcing feedback loops [70]. The pandemic has not merely accelerated existing trends but has fundamentally altered the landscape of social interaction and consumption patterns. Matlovič and Matlovičová demonstrate how COVID-19 served as a revelation mechanism, exposing and intensifying pre-existing systemic vulnerabilities across multiple domains [71]. This understanding is particularly crucial when examining social exclusion dynamics, as the compounding effects of concurrent crises—health, environmental, economic, and social—create complex patterns of individual behavior and social connectivity. The theoretical framework should be expanded to explicitly address how these overlapping crises influence consumer behavior, particularly regarding sustainable consumption choices such as upcycled products. This integration would strengthen the manuscript's analytical depth by situating the emergence of untact society within a broader context of systemic crisis interactions, thereby providing a more nuanced understanding of contemporary social transformations and their implications for sustainable consumption patterns.

This research provides significant theoretical contributions by integrating social exclusion theory with sustainable consumption behavior. It forges novel links between social psychology and environmental consumer behavior, providing new perspectives on how negative social experiences may lead to positive consumption choices. The findings establish a comprehensive framework for understanding the psychological motivations underlying ethical consumption, while emphasizing the significance of examining both direct and indirect relationships in consumer behavior. The study revealed intriguing insights concerning moderating factors. Self-efficacy emerged as a crucial moderator, influencing various relationships within the model. Individuals with high self-efficacy demonstrated an enhanced capability to convert their experiences of social exclusion into positive purchase intentions for upcycled products. This indicates that self-efficacy is essential in bridging the gap between intention and actual purchasing behavior in ethical consumption contexts.

The discussion section's treatment of self-efficacy's role could be strengthened by connecting the findings more explicitly to the established literature. While the paper demonstrates significant moderating effects of self-efficacy across all relationships ($p < 0.05$), it could better contextualize these results within existing self-efficacy research on consumer behavior.

Unexpectedly, consumer innovativeness had no significant moderating effect on the relationships between social exclusion and purchase intention, nor between ethical consumption perception and purchase intention. This unexpected finding indicates that practical factors such as price, availability, or quality concerns may override innovative tendencies in purchasing decisions regarding upcycled products. These findings hold significant practical implications for various stakeholders. Marketers should formulate comprehensive strategies that enhance consumers' confidence in making environmentally conscious choices while prioritizing community development through sustainable consumption. Retailers would benefit from creating inclusive shopping environments that reinforce customers' confidence in sustainable decision-making and fostering community-oriented initiatives centered on sustainable consumption. Product developers should focus on producing upcycled products that exhibit a distinct environmental impact while offering transparent details regarding their benefits. Additionally, they should contemplate creating products that promote social connection through sustainable consumption practices.

This research proposes that policymakers should prioritize the development of interventions aimed at enhancing public confidence in sustainable consumption. This may involve creating educational initiatives that link social inclusion with environmental responsibility and formulating supportive policies for upcycled product markets. The research presents multiple

prospects for further inquiry, including exploring the influence of emotional states on sustainable consumption decisions, examining the impact of psychological resources on ethical consumption, and investigating the mechanisms that connect innovative attitudes to actual purchase behavior. Furthermore, the relationship between social experiences and ethical consumption choices requires further investigation. This comprehensive analysis offers valuable insights for industry stakeholders and academics, establishing a basis for comprehending the intricate interplay between social exclusion, ethical consumption, and purchasing behavior regarding upcycled products. The findings enhance our theoretical understanding and provide practical guidance for executing effective strategies in the sustainable products market.

5.3. Summary and Outlook

This research investigation has yielded compelling insights into the complex relationship between social exclusion and sustainable consumption behaviors, particularly focusing on upcycled products. The findings reveal a nuanced interplay between social psychological factors and environmental consciousness, demonstrating that social exclusion can function as an unexpected catalyst for sustainable consumption practices through both direct and indirect pathways.

The study establishes a pioneering theoretical framework that bridges social psychology with sustainable consumption behavior, revealing how negative social experiences can paradoxically generate positive environmental outcomes. The research identifies two primary mechanisms: a direct pathway leading to increased purchase intentions for upcycled products, and an indirect pathway operating through enhanced ethical consumption awareness. Notably, self-efficacy emerges as a crucial moderating variable that influences the strength of these relationships across all pathways. The study also demonstrates that consumer innovativeness mediates the relationship between social exclusion and ethical consumption awareness, though this mediation does not extend to direct purchase intentions.

In an era characterized by mounting environmental challenges and increasing social isolation, these findings carry significant implications for both theory and practice. The research suggests that marketing strategies for sustainable products could benefit from incorporating social inclusion elements, while public policy initiatives might effectively promote both social connection and environmental sustainability simultaneously. The emergence of upcycled products as vehicles for social reconnection presents unique opportunities for manufacturers and marketers, particularly in product development strategies that integrate social connection features while maintaining environmental benefits.

The study's methodology presents several constraints that warrant consideration. The research relied on online surveys, with a sample restricted to specific age groups and regions, potentially limiting its generalizability. The cross-sectional nature of the data collection prevents the observation of temporal changes, while the laboratory settings used to assess social exclusion may not fully capture real-world dynamics. Additionally, the focus on specific types of upcycled products results in limited product diversity within the analysis.

Several promising avenues for future research emerge from this study. Cross-national comparative studies could provide valuable insights into cultural variations in the relationship between social exclusion and sustainable consumption. Investigation of additional moderating variables, such as environmental consciousness, social norms, and price sensitivity, could further enrich our understanding of these dynamics. The continued growth of digital platforms and virtual communities may create new opportunities for linking social connection with sustainable consumption practices, particularly among younger generations who demonstrate heightened environmental awareness. The study provides a robust foundation for understanding how social psychological factors influence sustainable consumption behaviors. As society continues to navigate both environmental challenges

and social isolation, these insights offer a valuable direction for future research and practical applications in promoting sustainable consumption practices. The findings suggest that educational initiatives and marketing communications should emphasize building consumer confidence in making sustainable choices, while considering the role of emerging technologies and changing social dynamics in shaping consumer behavior.

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Institutional Review Board Statement: The study was conducted according to the guidelines of the Declaration of Helsinki and the Ethics Committee of the Kyonggi University Review Board approved through its decision Project No. 2024-003/20-05-2024 that the research protocol followed in the present study does not need examination by the committee of the University.

Informed Consent Statement: The questionnaires used/completed for the purposes of the study were anonymous and did not contain any information that could lead to the identification of respondents.

Data Availability Statement: Data supporting the study are available upon reasonable request from the corresponding author.

Conflicts of Interest: The authors declare no conflicts of interest.

Appendix A

Table A1. Statistics of the construct items.

Construct	Survey Measures
Social Exclusion	I sometimes feel rejected by the groups I belong to.
	I occasionally experience feelings of social isolation and alienation.
	I often feel that others disregard or ignore me.
	I understand ethical consumption as purchasing products from companies that fulfill their social responsibilities through donations and community service.
	I avoid consuming products from companies that cause environmental or social problems.
	I make efforts to reduce single-use product consumption.
	When purchasing products, I prioritize environmentally friendly options (LOHAS, organic, energy-efficient appliances).
Perception of Ethical Consumption	I consistently practice waste segregation when disposing of garbage.
	I minimize consumption of imported fruits and vegetables
	I maintain awareness of fair trade information in my consumption practices.
	When purchasing chocolate or coffee, I prioritize fair trade products.
	I engage in consumption practices that consider and support workers’ human rights.
	When traveling, I participate in ethical tourism practices, such as walking tours that minimize environmental impact.
	I make specific efforts to reduce consumption (purchasing only necessities, buying in small quantities, eating less).
	I choose to walk or cycle for short-distance travel.
	I strive to maintain and extend the longevity of my current possessions.
	I participate in sharing and donating to the Third World and neighboring communities.
	I send unnecessary items to recycling centers.
	I make monthly contributions or volunteer for specific organizations.

Table A1. Cont.

Construct	Survey Measures
Purchase Intention for Upcycled Product	I will prioritize upcycled products in my purchasing decisions. I will purchase upcycled products despite their potentially higher prices. I will recommend upcycled products to others. I have the intention to purchase upcycled products.
Self-Efficacy	I believe I can handle unexpected situations effectively. I trust in my ability to appropriately manage unexpected outcomes. I believe I can resolve difficult situations through effort. I am confident in my ability to accomplish any task I set my mind to. I enjoy learning new things. I like trying new ideas and methods. I enjoy tackling complex problems.
Consumer Innovativeness	I make efforts to understand how new technologies and products function. I prefer solving problems using novel approaches. I desire to be an early adopter of newly released products. I feel compelled to purchase new and unique products when I discover them. I enjoy trying new brands or products that others haven't experienced yet. I actively seek information about new products and services. I tend to quickly adopt new trends and fashions.

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