The Effect of Consumer Minimalism on Sustainable Consumption: The Mediator Role of Perceived Consumer Effectiveness

Tüketici Minimalizminin Sürdürülebilir Tüketim Üzerine Etkisi: Algılanan Tüketici Etkinliğinin Aracı Rolü

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Abstract: This study aims to determine the effect of consumer minimalism on sustainable consumption and to reveal the mediation effect of perceived consumer effectiveness. The research sample consisted of 1010 consumers aged 18 and above. Structural equation modeling and Process Macro were utilized in data analysis. According to the findings "clutter removal" and "longevity" have an effect on "perceived consumer effectiveness". Perceived consumer effectiveness has an effect on "rethinking", "reusing", "refurbish", "reuse" and "repurpose". Further, "clutter removal" and "cautious shopping" has a direct effect on "rethinking", "refurbish" and "reuse". "Longevity" has a direct effect on "reusing", "refurbish" and "repurpose". Finally, "self-sufficiency" has a direct effect on "rethinking", "refurbish" and "repurpose". Mediation effects have been revealed by adding the "perceived consumer effectiveness" variable to the direct effect model for the "clutter removal" and "longevity" dimensions.

Keywords: Sustainable Consumption, Consumer Minimalism, Perceived Consumer Effectiveness

JEL Classification: M30, M31, M39

Öz: Bu çalışma, tüketici minimalizminin sürdürülebilir tüketim üzerindeki etkisini belirlemeyi ve algılanan tüketici etkinliğinin aracılık etkisini ortaya çıkarmayı amaçlamaktadır. Araştırmanın örneklemini 18 yaş ve üzeri 1010 tüketici oluşturmuştur. Verilerin analizinde Yapısal Eşitlik Modellemesi ve Process Macro kullanılmıştır. Bulgulara göre "dağınıklığın giderilmesi" ve "uzun ömürlülük", "algılanan tüketici etkinliği" üzerinde etkiye sahiptir. Algılanan tüketici etkinliğinin "yeniden düşünme", "yeniden kullanıyor olma", "yenileme", "tekrar kullanım" ve "yeniden değerlendirme" üzerinde etkisi vardır. Ayrıca "dağınıklığın giderilmesi" ve "dikkatli alışveriş" "yeniden düşünme", "yenileme" ve "tekrar kullanım" üzerinde doğrudan etkisi vardır. "Uzun ömürlülük", "yeniden kullanıyor olma", "yenileme" ve "yeniden değerlendirme" üzerinde doğrudan etkiye sahiptir. Son olarak "kendi kendine yeterlilik", "yeniden düşünme", "yenileme" ve "yeniden değerlendirme" üzerinde doğrudan etkiye sahiptir. "Dağınıklığın giderilmesi" ve "uzun ömürlülük" boyutları için doğrudan etki modeline "algılanan tüketici etkinliği" değişkeninin eklenmesiyle aracılık etkileri ortaya çıkarılmıştır.

Anahtar Kelimeler: Sürdürülebilir Tüketim, Tüketici Minimalizmi, Algılanan Tüketici Etkinliği

JEL Sınıflandırması: M30, M31, M39

1. Introduction

The necessity of saving resources and consumer awareness towards this has developed in recent years. The direction of the phenomenon of minimalism, which corresponds to "Less is More" in terms of consumer behavior, supports sustainability (Druică et al., 2023; Martin-Woodhead, 2022).

Minimalism is a progressively popular lifestyle that comprises voluntary reduction of consumption, minimizing, limiting, or keeping the number of possessions to a minimum (Martin-Woodhead, 2022). Minimalism, which includes a strong motivation to protect the environment (Martin-Woodhead, 2022), is defined as adopting a sustainable lifestyle (Kang et al., 2021). A "minimalist lifestyle" has to do with living with less, focusing on what is significant, and eliminating excessive items and clutter from one's life (Chen and Liu, 2023; Shukla et al., 2024).

Increasing social awareness about the importance of sustainable and environmentally friendly lifestyles makes the concept of minimalism more popular (Druică et al., 2023). Therefore, it is thought that consumers with minimalist tendencies have high environmental concerns and awareness and will attach importance to sustainable consumption. Sustainable consumption shows sensitivity to environmental problems and organizes product choices accordingly (Santos-Corrada et al., 2024). Therefore, not only the consumption stage but also sustainable consumer behavior in the purchasing, use, and disposal stage, which includes the consumption dimension, should also be taken into consideration. Because each purchase will have an impact on ethics, resources, waste, and society (Young et al., 2010).

At this point, perceived consumer effectiveness (PCE) can be considered as a motivation for consumers to reduce their consumption in line with their environmental concerns (Shukla et al., 2024). In other words, there are socially conscious attitudes toward the environment at the core of this concept (Ellen et al, 1991). PCE is a type of personal efficacy that relates to how much control people consider they have over their actions (Shukla et al., 2024). Minimalist consumers are one of the consumer groups that are becoming increasingly important. It is important to understand this consumer group and their characteristics, which are more conscious and careful about their consumption in terms of a sustainable future. In the concept of consumer minimalism, where a new consumer culture is created and there are simpler consumptions, environmental awareness is at a high level. There is an extended self-construct in consumer minimalism. Because possessions and their qualities are the focal point of the consumer in terms of created environmental impact. Therefore, the effect link between consumer minimalism and sustainability was established in the research model. Since the environmental impacts of consumption are considered important, more conscious decisions are made. The link between consumer minimalism-PCE and PCE-sustainable consumption stems from this point. In consumer minimalism, there is no overconsumption. There is a purchase in line with real needs. Therefore, the consumer's perception of value also differs from other types of purchases. This is the representation of a new lifestyle. It is anticipated

that consumer minimalism is a variable that can create major changes in terms of sustainable consumption. Although there are studies on sustainable consumption in the literature, studies based on consumer minimalism are quite limited. The contribution of the study in this respect is to discuss the role of consumer minimalism and perceived consumer effectiveness on sustainable consumption. With the study findings and the interpretation of these findings, recommendations for consumers and businesses can be developed and a useful framework can be created for future studies in the light of consumer minimalism.

Considering these explanations, this study aims to address the effect of consumer minimalism which is considered a consumer and consumption culture, sustainable lifestyle, on PCE and sustainable consumption. Besides, it examines the effect of PCE on both sustainable consumption and its mediation effect in the relationship between consumer minimalism and sustainable consumption through an integrated model. Also, It has been observed that there is a gap in the literature in addressing the effect of consumer minimalism on different dimensions of sustainable consumption with the mediation effect of PCE. The study was prepared to address this gap in the literature.

The importance of minimalism as a consumption culture is steadily increasing. However, its awareness among consumers is still low. Being able to contribute to consumer awareness of the concept makes this study important. Therefore, it is important to identify and examine the variables that can support a better explanation of the concept. Studying sustainable consumption through the stages of "purchasing," "usage," and "disposal" will be able to determine which dimensions of consumer minimalism have an effect on sustainable consumption. At this point, the mediation effect of the PCE variable will be able to reveal and contribute to the existing literature as a research proposal.

2. Theoretical Framework and Hypotheses

2.1. Sustainable Consumption

According to the sustainable development goals, sustainable consumption is the key element in ensuring the continuity of current and future generations (United Nations, 2023). Sustainable consumption generally refers to considering basic needs and avoiding excessive consumption. In adopting sustainable consumption behavior, consumers should make conscious efforts to avoid excessive and incautious consumption that may have harmful effects on the environment (Quoquab and Mohammed, 2020). Sustainable consumption behavior, especially for individual consumers, is very important to effectively improve the ecological quality and living environment of the world for future generations (Minh and

Quynh, 2024). It aims to reduce the negative effects of consumption on the environment and society (Piligrimienė, et al., 2020; Tunn, et al., 2019). In this research, sustainable consumption has been studied through the dimensions Soyer and Dittrich (2021) derived as purchasing, usage, and disposal.

Sustainable Purchasing: Joshi and Rahman (2023) explain sustainable purchasing based on De Pelsmacker et al., (2005). It reflects the purchase of products with social, economic, and environmentally friendly traits. Three sub-dimensions of sustainable purchasing are defined as follows:

- Rethinking: It involves how needs are met and how products are designed, which is the proposal of new ideas and solutions to deliver specific product functions (Cooper, 2000; Morseletto, 2020; Soyer and Dittrich, 2021).

- Reusing: Using an object as it is without any processing to reduce pollution and waste. It also supports the purchasing and selling of used items (second hand) and their longevity (Manik, 2017).

- Reducing: It refers to reducing consumption and meeting only needs based on necessity, benefit, or situation, and effective planning of the resources, thereby increasing subjective well-being and quality of life (Pangarkar, et al., 2021).

Sustainable Usage: It has to do with the preservation, maintenance, and renewal of products. What is important for this dimension is price, ease of maintenance, and repair (Soyer and Dittrich, 2021). Three sub-dimensions of sustainable use are as follows:

- Retain: It refers to using the object as much as possible and not disposing of it as long as it is usable (Camacho-Otero et al., 2020).

- Repair: It involves correcting certain faults in a used product and/or restoring the product to a working condition. Thus, instead of buying again, items are repaired and used (Den Hollander et al., 2017)

- Refurbish: It refers to the process of returning an obsolete product to useful use by repairing, replacing, or refinishing all major components that are significantly damaged (Den Hollander et al., 2017).

Sustainable Disposal: The disposal stage explains how a product that has reached the final stage of its use is disposed of (Laitala, 2014; Soyer and Dittrich, 2021). Three sub-dimensions of sustainable disposal are defined as follows:

- Reuse: It includes donating, selling, and exchanging disposed of products. Therefore, reuse is the use of an object for its original purpose or to fulfill a different function (Lokhande et al., 2021; Soyer and Dittrich, 2021).

- Recycle: It is an effective method for reusing waste materials through different methods, protecting natural resources, and preventing pollution (Varotto and Spagnolli, 2017). Through recycling, the materials used are not thrown away and are saved. Thus, the amount of waste and pollution significantly decreases (Lokhande et al., 2021).

- Repurpose: It is the use of objects to perform a different function (Errázuriz and Greene, 2021).

2.2. Consumer Minimalism

Minimalism is a consumption style that explains conscious consumption (Dopierała, 2017). It refers to focusing on the important things in an individual's life, eliminating excess, reducing unnecessary consumption, and increasing the quality of life by giving up indulgence in consumerism (Shafqat et al., 2023).

Minimalism is a lifestyle that emphasizes sustainability, simplicity, and practicality. Minimalists carefully consider overconsumption and waste of resources, from purchasing decisions to disposal behaviors (Martin-Woodhead, 2022; Shafqat et al., 2023). Instead of making new purchases in a minimalist lifestyle, individuals prefer to repurpose and recycle their existing possessions. The underlying principle of minimalism is to live with less (Palafox, 2020). Therefore, minimalism encourages sustainable development (Fu et al., 2023). Consumer minimalism represents a consumption style that has gained popularity worldwide in recent years. With minimalist consumption, consumers reduce their consumption by making conscious purchases (Chen et al., 2024). For example, consumers with high environmental concerns may prefer a minimalist lifestyle by renting instead of owning (Mishra et al., 2024). Minimalism is strongly associated with consumption in terms of quantity and quality. In terms of quantity, minimalism means eliminating excess and keeping only practical things or limiting consumption. From a quality perspective, minimalists consume longer-lasting, more durable products and limit their consumption when it comes to disposable products. Therefore, this lifestyle is linked to anti-consumption and criticizes excessive consumption and its effect on the economy (Madias, 2023). Minimalists can reduce consumption by spending less on better quality products (Malik and Ishaq, 2023). A minimalist lifestyle tries to reduce clutter and thus improves well-being (Blackburn et al., 2024). Over-consumption and mass production have negative environmental effects.

However, consumers react to behavioral patterns that negatively affect the environment, such as over-consumption, and adopt lifestyles such as minimalism. Minimalists oppose mass consumption, and focus on limiting what they own, buying only the products they need and higher quality products that can last a long time. Therefore, minimalism is accepted as a lifestyle that encourages sustainable consumption. Minimalists attach importance to sustainable consumption and production methods. Minimalists generally practice "zero waste", which means reducing waste as much as possible, limiting consumption, and ensuring that products that can be recycled are consumed. Therefore, minimalist practices are seen as a solution to many of the major environmental problems globally (Madias, 2023).

According to Kang et al. (2021), minimalism was considered as the following four dimensions:

- Clutter Removal refers to avoiding clutter in individuals' lives by ignoring items that are outside of their primary goals. Regarding this dimension, consumers tend to eliminate complexity in their lives mentally and physically. This encourages a change in consumer attitudes and behaviors to value sustainability, simplicity, and shared access (Fu et al., 2023; Jain et al., 2023; Kang et al., 2021; Rasheed and Balakrishnan, 2023a).

- Cautious shopping describes settling for a small number of products and cautious thinking before making a new purchase. In the cautious shopping dimension, there is no tendency for compulsive, mindless, or unlimited purchases. This supports the consumer to move away from overconsumption and leads to sustainability (Dopierala, 2017; Kang et al., 2021; Shafqat et al., 2023).

- Longevity refers to using products as much as possible. It can also be defined as choosing not to purchase a new product until the product becomes completely unusable. This idea is reflected in the individuals' preferences and individuals value long-term use. Therefore, the longevity perspective appears to be compatible with sustainability (Fu et al., 2023; Kang et al., 2021).

- Self-sufficiency refers to individuals' being content with what they already have and continuing their lives with the assets they have as much as possible. The direct equivalent of self-sufficiency based on sustainability is self-sustainability. The minimalist consumer will contribute to sustainability by reducing individual resource waste (Fu et al., 2023; Kang et al., 2021).

Although consumer minimalism is an important concept, little is known about its antecedents and its effect on consumer behavior (Pangarkar, et al., 2021). Rasheed and Balakrishnan (2023b) found that consumer minimalism has a positive effect on the behavioral intention of sharing economy-based services and minimalistic behavior will result in purchasing the sharing-economy-based services. Gao et al., (2023) established that minimalism has a significant positive effect on consumers' low-carbon innovation behavior. Also, Matte et al., (2021) emphasized that minimalism has a positive effect on experiential consumption.

In this direction, the H1 hypothesis was developed to determine the effect of consumer minimalism on sustainable consumption.

H1. Consumer minimalism ((a) clutter removal, (b) cautious shopping, (c) longevity, and (d) self-sufficiency) have a positive effect on sustainable consumption.

> *H1.1.* Consumer minimalism ((a) clutter removal, (b) cautious shopping, (c) longevity, (d) self-sufficiency) have a positive effect on sustainable purchasing ((a) rethinking, (b) reusing, (c) reducing).

> *H1.2.* Consumer minimalism ((a) clutter removal, (b) cautious shopping, (c) longevity, (d) self-sufficiency) have a positive effect on sustainable usage ((a) retain, (b) repair, (c) refurbish).

> *H1.3.* Consumer minimalism ((a) clutter removal, (b) cautious shopping, (c) longevity, (d) self-sufficiency) have a positive effect on sustainable disposal ((a) reuse, (b) recycle, (c) repurpose).

2.3. Perceived Consumer Effectiveness (PCE)

Perceived consumer effectiveness (PCE) is defined as "the individual's view of their capacity and that of their behavior to contribute to solving a certain social or environmental problem" (Palacios-González and Chamorro-Mera, 2022: 188). Consumers who believe that their decisions can importantly affect environmental and social issues will probably demonstrate sustainable behavior (Antonetti and Maklan, 2014). Perceived effectiveness has an effect on consumer behavior. When consumers perceive that a product, application, or initiative has an impact on the environment, they are more likely to engage in environmentally friendly behaviors, purchase green products, and support sustainable brands. This positive behavioral change stems from the belief that their actions can contribute to positive environmental outcomes (Abbas et al., 2024). PCE is an important factor affecting individuals' behavior both thought patterns and behaviors. Therefore, PCE can directly or indirectly shape individuals'

perceptions and actions. Individuals with high levels of PCE tend to exhibit more positive attitudes toward adopting and supporting sustainable practices (Liao et al., 2023). An individual's sustainable consumption behavior is closely related to PCE as it reflects the idea that choosing eco-friendly products can reduce environmental damage (Mahadeva, et al., 2024). From a PCE perspective, individuals will engage in sustainable behavior when they believe that their efforts will make a difference and contribute to sustainability (Sibtain et al., 2024).

According to Jaiswal and Kant's (2018) research, PCE has a positive and significant effect on attitudes toward green products and purchase intention for green products. Joshi and Rahman (2019) found that PCE is a vital determinant of consumers' sustainable purchase behavior. In addition to this, Kumar et al. (2022) determined that PCE has a significant influence on the purchase intention towards eco-friendly apparel.

Studies examining the direct and mediation effect of PCE between consumer minimalism and PCE could not be found in the relevant literature. The H2 hypothesis was developed to contribute to the literature through this phenomenon, which will be considered a unique point of the study. In addition, the H3 hypothesis was developed in line with the explanations regarding sustainable consumption explained above. Finally, in the H4 hypothesis, the PCE hypothesis was considered as a mediator variable. H2, H3 and H4 hypotheses as follows:

H2. Consumer minimalism ((a) clutter removal, (b) cautious shopping, (c) longevity, and (d) self-sufficiency) has a positive effect on PCE.

H3. PCE has a positive effect on sustainable consumption.

H3.1. PCE has a positive effect on sustainable purchasing ((a) rethinking, (b) reusing, (c) reducing).

H3.2. PCE has a positive effect on sustainable usage ((a) retain, (b) repair, (c) refurbish).

H3.3. PCE has a positive effect on sustainable disposal ((a) reuse, (b) recycle, (c) repurpose).

H4. PCE has a mediation effect on the relationship between consumer minimalism ((a) clutter removal, (b) cautious shopping, (c) longevity, (d) self-sufficiency), and sustainable consumption.

H4.1. PCE has a mediation effect on the relationship between consumer minimalism ((a) clutter removal, (b) cautious shopping, (c) longevity, (d) self-sufficiency) and sustainable purchasing ((a) rethinking, (b) reusing, (c) reducing).

H4.2. PCE has a mediation effect on the relationship between consumer minimalism ((a) clutter removal, (b) cautious shopping, (c) longevity, (d) self-sufficiency) and sustainable usage ((a) retain, (b) repair, (c) refurbish).

H4.3. PCE has a mediation effect on the relationship between consumer minimalism ((a) clutter removal, (b) cautious shopping, (c) longevity, (d) self-sufficiency) and sustainable disposal ((a) reuse, (b) recycle, (c) repurpose).

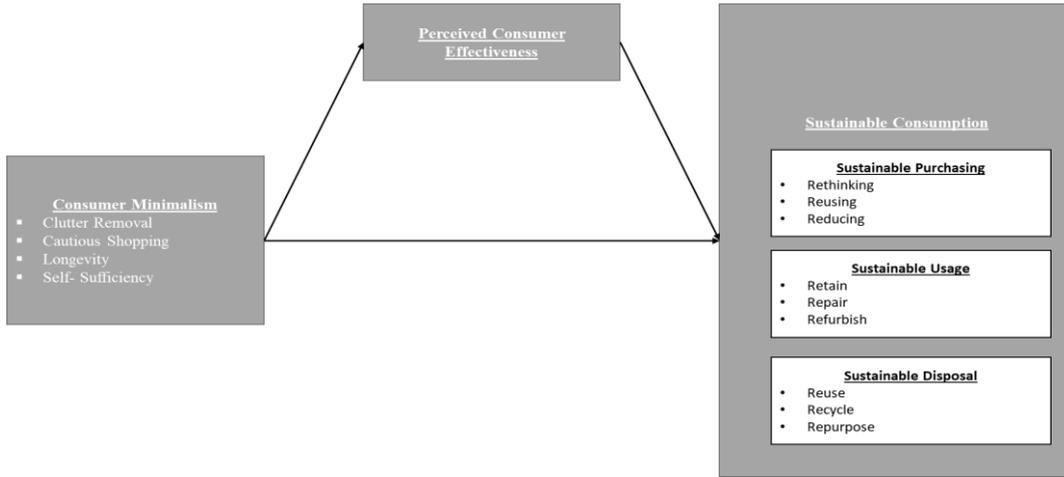The proposed research model is shown in Figure 1.

Figure 1. Proposed Research Model

3. Methodology

3.1. Sampling and Data Collection

For this research, ethics committee approval was received from the Atatürk University Department of Social and Human Sciences Ethics Committee. This study is a quantitative research design. Due to the main populations' size was unknown, the sample size was calculated as a minimum of 384 ($\frac{\pi(1-\pi)z^2}{E^2}$, Malhotra et al., 2017: 453) at a 95% confidence interval and 5% margin of error. The research sample comprised of consumers who were aged 18 and above.

A convenience sampling method was preferred. In this direction, an online survey method was employed, and 1010 survey responses were analyzed. Participants were female (50.1%), between 34 and 41 age range (27.8%), married (68.2%), with a bachelor's degree (60.2%), private sector employees (38.3%), and a monthly household income of 10.001-15.000 TL (26.7%).

The survey form consists of two parts. While the first part consists of the research variables, the second part consists of the demographic questions. Concerning the research variables, the consumer minimalism scale was adapted from Kang et al.'s (2021) research, the PCE scale was adapted from Kim and Choi (2005), the sustainable consumption scale was adapted from Soyer and Dittrich's (2021) study.

The consumer minimalism scale has 13 items and 4 dimensions. PCE scale has five items. Lastly, the sustainable consumption scale has 33 items and 3 main dimensions. Each of these main dimensions has three sub-dimensions. A 5-point Likert-type scale was utilized. While 1 was used for "strongly disagree", 5 was used for "strongly agree".

Within the scope of this study, SEM (Structural Equation Modeling) was preferred. Because the research model is a cause-effect model and examines the relationships among multiple variables. According to Hair et al. (2014), SEM software simultaneously performs the discovery and confirmation of relationships among multiple variables.

SPSS and AMOS programs were utilized for data analysis. Since the validity and reliability of the scales were tested in previous studies; confirmatory factor analysis, structural equation modeling, and mediation analyses with the Sobel Test and SPSS Process Macro were conducted.

4. Results

4.1. Measurement Model

Firstly, a scale-based reliability analysis was done, to find out the internal consistency. No item was eliminated in the consumer minimalism variable, and Cronbach's alpha (α) value was determined as 0.897. For the PCE, one item was eliminated and the (α) value was determined as 0.832. For sustainable consumption, no item was eliminated, and the (α) value was determined as 0.909. According to DeVellis and Thorpe (2022), the minimally acceptable value for (α) is between 0.70 and 0.80, and the respectable value for (α) is between 0.80 and 0.90. Therefore, the research scales had internal consistency.

Secondly, confirmatory factor analysis (CFA), was made. In the CFA analysis, several modifications were made, because the goodness of fit values were not acceptable. Accordingly, in terms of the consumer minimalism variable, one item in the "cautious shopping" was eliminated. Considering sustainable consumption, in terms of "sustainable purchasing," three items in the "rethinking" were eliminated. "Reducing" was excluded from the analysis. In terms of "sustainable usage," "retain" and "repair" were excluded from the analysis. Lastly, in terms of "sustainable disposal," four items in the "reuse" were eliminated. In addition to this, the "recycle" was excluded from the analysis. The hypotheses of eliminated dimensions were rejected. Acceptable fit values were CMIN/df: 2.543, RMSEA: 0.039; RMR: 0.038; GFI: 0.940; AGFI: 0.924; NFI: 0.935; NNFI: 0.952; CFI: 0.960.

Besides these findings, internal consistency, and convergent and discriminant validity of constructs are presented in Table 1. and Table 2.

Table 1. Reliability and Validity

	(α)	CR	AVE	Confirmatory Factor Loading	t-values	p
Clutter Removal	**0.701**	**0.701**	**0.439**			
CR1				0.65	15.866	***
CR2				0.68	16.217	***
CR3				0.66	-	***
Cautious Shopping	**0.821**	**0.823**	**0.608**			
CS2				0.79	22.826	***
CS3				0.81	23.028	***
CS4				0.74	-	***
Longevity	**0.831**	**0.832**	**0.623**			
L1				0.80	25.184	***
L2				0.79	24.699	***
L3				0.78	-	***
Self-Sufficiency	**0.846**	**0.855**	**0.663**			
SS1				0.81	24.849	***
SS2				0.89	26.626	***
SS3				0.74	-	***
Perceived Consumer Effectiveness	**0.832**	**0.836**	**0.563**			
PCE1				0.64	18.358	***
PCE2				0.82	22.843	***
PCE3				0.82	22.699	***
PCE5				0.70	-	***
Sustainable Purchasing-Rethinking	**0.865**	**0.867**	**0.522**			
SPT1				0.73	-	***
SPT3				0.64	21.395	***
SPT6				0.68	22.939	***
SPT7				0.79	27.844	***
SPT8				0.78	27.548	***
SPT9				0.71	-	***
Sustainable Purchasing-Reusing	**0.925**	**0.927**	**0.864**			
SPU1				0.89	-	***
SPU2				0.97	25.408	***
Sustainable Usage-Refurbish	**0.784**	**0.786**	**0.648**			
SUF1				0.78	-	***
SUF2				0.83	25.543	***
Sustainable Disposal-Reuse	**0.763**	**0.762**	**0.517**			
SDU5				0.67	18.008	***
SDU6				0.77	-	***
SDU7				0.71	18.729	***
Sustainable Disposal-Repurpose	**0.774**	**0.784**	**0.647**			
SDP1				0.71	-	***
SDP2				0.89	21.626	***

According to Table 1 (α) values are ≥ 0.70, and Composite Reliability (CR) are ≥ 0.70. Factor loadings range from 0.64 (minimum) to -0.97 (maximum), and the t-values range from 15.866 (minimum) to -27.844 (maximum) and were significant at the 0.001 significance level (p value=***).

For discriminant validity, the Average Variance Extracted (AVE) value is generally higher than 0.50. AVE values are higher than research constructs' squared correlations (Fornell and Larcker, 1981).

Table 2. Discriminant Validity of Constructs

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Reuse (1)	**0,719**									
Clutter Removal (2)	-0,052	**0,662**								
Cautious Shopping (3)	0,062	0,642	**0,780**							
Longevity (4)	0,003	0,620	0,654	**0,789**						
Self-Sufficiency (5)	-0,027	0,625	0,519	0,720	**0,814**					
Perceived Consumer Effectiveness (6)	0,082	0,438	0,295	0,383	0,396	**0,750**				
Rethinking (7)	0,301	0,379	0,342	0,327	0,346	0,594	**0,723**			
Reusing (8)	0,488	0,012	0,048	0,105	0,067	0,091	0,183	**0,929**		
Refurbish (9)	0,374	0,152	0,235	0,314	0,261	0,293	0,464	0,308	**0,805**	
Repurpose (10)	0,394	0,209	0,209	0,351	0,303	0,290	0,414	0,299	0,815	**0,805**

According to Table 1 and Table 2 findings, generally, the constructs have internal consistency, convergent, and discriminant validity. From the findings above, the hypotheses were updated, and the eliminated dimensions of the hypotheses were rejected.

4.2. Common Method Bias (CMB)

Since the detection of common method bias (CMB), the Harman Single Factor test was first applied (Podsakoff et al., 2003). According to Harman's Single Factor Test, to avoid CMB, a single factor should not explain more than 50% of the variance between variables (Podsakoff and Organ, 1986).

After Harman's Single Factor Test, it was determined that 23.968% of the total variance was explained. CMB does not exist, and the majority of variable variances are not explained by one general factor (Podsakoff et al., 2003).

Together with Harman's Single Factor Test, the common latent factor (CLF) method was conducted. According to Eichorn (2014), common method variance (CMV) is the square of the common variance of each path which is compared with the threshold value of 50%.

For these constructs, the common variance of each path is 0.331, the p-value of each variable is significant, and the t-value of each path is 10.621. The square of 0.331 is the CMV.

Accordingly, the square of the CMV is 0.109 (%10.9). This value is less than a threshold value. In this regard, it can be stated that CMV does not exist in terms of study.

4.3. Structural Model

4.3.1.Findings of Direct Effect Model Test

Before the mediation model, the direct effect model was analyzed. Regarding the direct effect model test, which is between consumer minimalism and sustainable consumption, results are presented in Figure 2.
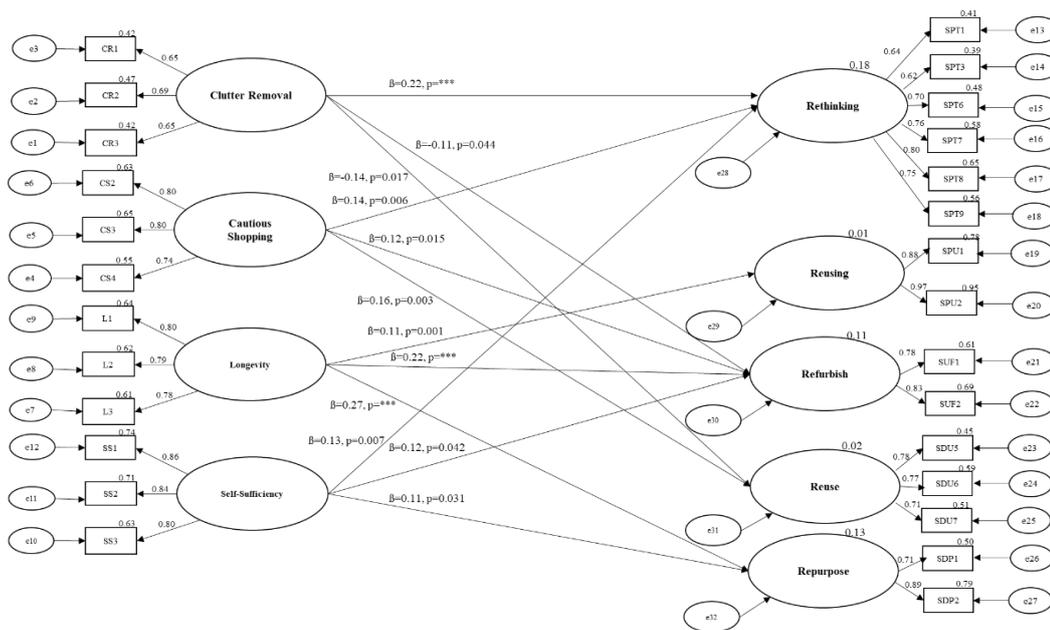

Figure 2. Direct Effect Model Test

Note(s): ß= standardized regression weight. **= p<0.05. ***= p<0.001.

Because of the direct effect model did not have an adequate fit, several modifications were made, and insignificant paths were eliminated. After the modification and elimination of the insignificant paths, the direct effect model reached an adequate fit. Fit index values; CMIN/df: 2.121, RMSEA: 0.033; RMR: 0.038; GFI: 0.957; AGFI: 0.944; NFI: 0.953; NNFI: 0.969; CFI: 0.974. Besides this, estimate values are presented in Table 3.

Table 3. Estimate Values of Direct Effect Model

			Estimate	Standard Error	t values	P	ß
Rethinking	<---	Clutter Removal	0.197	0.058	3.389	***	0.217
Refurbish	<---	Clutter Removal	-0.135	0.067	-2.011	0.044	-0.111
Reuse	<---	Clutter Removal	-0.177	0.074	-2.378	0.017	-0.136
Rethinking	<---	Cautious Shopping	0.089	0.032	2.773	0.006	0.143
Refurbish	<---	Cautious Shopping	0.100	0.041	2.441	0.015	0.120
Reuse	<---	Cautious Shopping	0.147	0.049	3.011	0.003	0.164
Reusing	<---	Longevity	0.153	0.048	3.216	0.001	0.108
Refurbish	<---	Longevity	0.215	0.062	3.485	***	0.221
Repurpose	<---	Longevity	0.258	0.053	4.852	***	0.268

			Estimate	Standard Error	t values	P	ß
Rethinking	<---	Self-Sufficiency	0.100	0.037	2.716	0.007	0.125
Refurbish	<---	Self-Sufficiency	0.124	0.061	2.036	0.042	0.116
Repurpose	<---	Self-Sufficiency	0.120	0.055	2.161	0.031	0.113

**= p<0.05. ***= p<0.001, ß= Standardized regression weight

According to the findings,

- The clutter removal has a positive effect on rethinking, refurbish, and reuse.

- The cautious shopping has a positive effect on rethinking, refurbish, and reuse.

- The longevity has a positive effect on reusing, refurbish, and repurpose.

- The self-sufficiency has a positive effect on rethinking, refurbish, and repurpose.

- Other hypotheses were rejected.

4.3.2.Findings of Mediation Effect Model Test

After the direct effect paths were determined, PCE, which is the mediator variable, was included. The findings are presented in Figure 3.
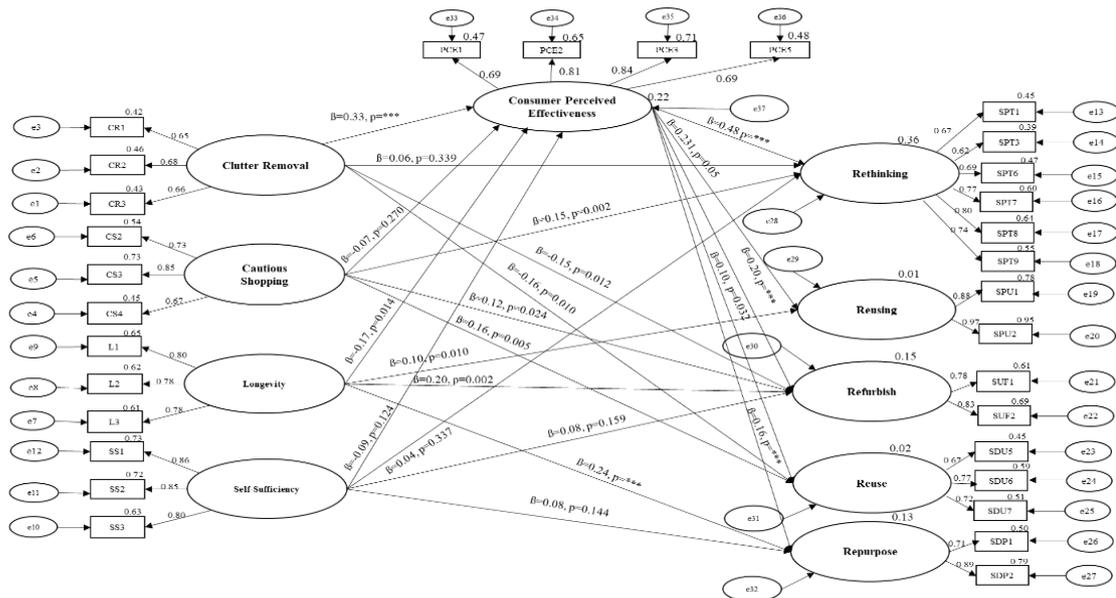

Figure 3. Mediation Effect Model Test

Note(s): ß= standardized regression weight. **= p<0.05. ***= p<0.001

Fit index values; CMIN/df: 2.195, RMSEA: 0.038; RMR: 0.034; GFI: 0.948; AGFI: 0.934; NFI: 0.944; NNFI: 0.963; CFI: 0.969. Besides this, estimate values are presented in Table 4.

Table 4. Estimate Values of Mediation Effect Model

			Estimate	Standard Error	t values	P	ß
PCE	<---	Clutter Removal	0.309	0.064	4.818	***	0.329
PCE	<---	Cautious Shopping	-0.048	0.044	-1.102	0.270	-0.067
PCE	<---	Longevity	0.127	0.052	2.459	0.014	0.167
PCE	<---	Self-Sufficiency	0.074	0.048	1.539	0.124	0.089
Rethinking	<---	Clutter Removal	0.054	0.057	0.957	0.339	0.058
Refurbish	<---	Clutter Removal	-0.175	0.070	-2.501	0.012	-0.145
Reuse	<---	Clutter Removal	-0.211	0.082	-2.591	0.010	-0.164
Rethinking	<---	Cautious Shopping	0.107	0.035	3.095	0.002	0.150
Refurbish	<---	Cautious Shopping	0.107	0.048	2.250	0.024	0.117
Reuse	<---	Cautious Shopping	0.154	0.055	2.808	0.005	0.157
Reusing	<---	Longevity	0.136	0.053	2.584	0.010	0.095
Refurbish	<---	Longevity	0.194	0.064	3.048	0.002	0.199
Repurpose	<---	Longevity	0.232	0.054	4.310	***	0.241
Rethinking	<---	Self-Sufficiency	0.034	0.035	0.960	0.337	0.040
Refurbish	<---	Self-Sufficiency	0.086	0.061	1.407	0.159	0.080
Repurpose	<---	Self-Sufficiency	0.081	0.056	1.461	0.144	0.077
Rethinking	<---	PCE	0.476	0.044	10.780	***	0.478
Reusing	<---	PCE	0.085	0.071	1.197	0.231	0.045
Refurbish	<---	PCE	0.260	0.055	4.746	***	0.203
Reuse	<---	PCE	0.131	0.061	2.140	0.032	0.095
Repurpose	<---	PCE	0.198	0.050	3.950	***	0.156

**= p<0.05. ***= p<0.001, ß= Standardized regression weight

By adding the mediator variable to the research model, the mediation effects can be interpreted, and the following inferences can be made regarding the Supported/Not Supported status of the hypotheses in Table 5.

Table 5. Hypotheses Testing Results

Hypotheses	Supported (S) /Not Supported (NS)
H1.1:	
Consumer minimalism (a) clutter removal has a positive effect on sustainable purchasing (a) rethinking.	NS
Consumer minimalism (b) cautious shopping has a positive effect on sustainable purchasing (a) rethinking.	S
Consumer minimalism (c) longevity has a positive effect on sustainable purchasing (b) reusing.	S
Consumer minimalism (d) self-sufficiency has a positive effect on sustainable purchasing (a) rethinking.	NS
H1.2:	
Consumer minimalism (a) clutter removal (b) cautious shopping (c) longevity have a positive effect on sustainable usage (a) refurbish.	S
Consumer minimalism (d) self-sufficiency has a positive effect on sustainable usage (a) refurbish.	NS
H1.3:	
Consumer minimalism (a) clutter removal (b) cautious shopping have a positive effect on sustainable disposal (a) reuse.	S
Consumer minimalism (c) longevity has a positive effect on sustainable disposal (b) repurpose.	S
Consumer minimalism (d) self-sufficiency has a positive effect on sustainable disposal (b) repurpose.	NS

H2:	
Consumer minimalism (a) clutter removal (c) longevity has a positive effect on PCE.	**S**
Consumer minimalism (b) cautious shopping (d) self-sufficiency has a positive effect on PCE.	**NS**
H3.1:	
PCE has a positive effect on sustainable purchasing (a) rethinking (b) reusing.	**S**
H3.2:	
PCE has a positive effect on sustainable usage (a) refurbish.	**S**
H3.3:	
PCE has a positive effect on sustainable disposal (a) reuse (b) repurpose.	**S**

As stated in the hypotheses presented above, the mediation effect occurred in terms of clutter removal and longevity dimensions. Since simple mediation was performed in the sense of the interpretability of the mediation effect (for hypothesis H4), the Sobel Test was used first. Because of the computing the ratio of ab to its estimated standard error (Preacher and Hayes, 2008: 880). Sobel Test findings are presented in Table 6.

Table 6. Sobel Test Findings

Mediation effect of PCE between;	**Sobel test statistics**	**p value**
Clutter Removal-Rethinking	4.398	0.000
Clutter Removal-Refurbish	3.381	0.000
Clutter Removal-Reuse	1.955	0.050
Longevity-Reusing	1.076	0.281
Longevity-Refurbish	2.183	0.029
Longevity-Repurpose	2.087	0.036

quantpsy.org (2023)

In addition to the mediation effect with the Sobel Test, the Hayes Mediation Model as a second method was followed and the SPSS Process Macro was used. The reason why Process Macro was preferred as a second method is that Process estimates all the path coefficients, standard errors, t- and p values, confidence intervals, and other statistics under simple mediation conditions (Hayes et al., 2017: 77). The conditions that should be met to reveal the mediation effect regarding Hayes Mediation Steps and the mediation test findings are presented in Table 7.

Table 7. Process Test Findings

Condition 1	**Condition 2**	**Condition 3**
Direct effect of Clutter removal on PCE	Direct effect of Clutter removal on rethinking	Indirect effect of Clutter removal on rethinking
β= 0.356	β= 0.288	β= 0.447
p= 0.000	p= 0.000	p=0.000
CI= 0.282 to 0.391	CI= 0.222 to 0.337	CI= 0.400 to 0.517
Clutter removal on PCE		Clutter removal on refurbish
	Clutter removal on refurbish	
β= 0.356	β= 0.116	β= 0.232
p=0.000	p= 0.000	p= 0.000
CI= 0.282 to 0.391	CI=0.067 to 0.217	CI= 0.218 to 0.384
Clutter removal on PCE	Clutter removal on reuse	Clutter removal on reuse

β= 0.356	β= -0.041	β= 0.079
p=0.000	**p= 0.193**	p= 0.019
CI= 0.282 to 0.391	CI= -0.139 to 0.028	CI= 0.019 to 0.208
Longevity on PCE	Longevity on reusing	Longevity on reusing
β= 0.338	β= 0.093	β= 0.050
p=0.000	p= 0.003	**p= 0.134**
CI= 0.240 to 0.340	CI= 0.046 to 0.227	CI= -0.026 to 0.197
Longevity on PCE	Longevity on refurbish	Longevity on refurbish
β= 0.338	β= 0.261	β= 0.175
p=0.000	p= 0.000	p= 0.000
CI= 0.240 to 0.340	CI= 0.224-0.357	CI= 0.147 to 0.309
Longevity on PCE	Longevity on repurpose	Longevity on repurpose
β= 0.338	β= 0.279	β= 0.172
p=0.000	**p= 0.000**	p= 0.000
CI= 0.240 to 0.340	CI= 0.249 to 0.383	CI= 0.145-0.309

Note: β= Standardized coefficient, p= significance level, CI= Confidence interval, level of confidence for all confidence intervals in output: 95,0000, Number of bootstrap samples for percentile bootstrap confidence intervals: 5000.

Mediation hypotheses findings are presented in Table 8.

Table 8. Mediation Hypotheses Findings

Hypotheses	BootLLCI/ BootULCI*	Mediation effect
PCE has a mediation effect on the relationship between consumer minimalism (a) clutter removal and sustainable purchasing (a) rethinking.	BootLLCI= 0.113, BootULCI=0.206.	Partial
PCE has a mediation effect on the relationship between consumer minimalism (a) clutter removal and sustainable usage (a) refurbish.	BootLLCI= 0.051, BootULCI=0.119	Partial
PCE has a mediation effect on the relationship between consumer minimalism (a) clutter removal and sustainable disposal (a) reuse.	Not supported condition 2	No
PCE has a mediation effect on the relationship between consumer minimalism (c) longevity and sustainable disposal (b) reusing.	Not supported condition 3	No
PCE has a mediation effect on the relationship between consumer minimalism (c) longevity and sustainable usage (a) refurbish.	BootLLCI= 0.031, BootULCI=0.090.	Partial
PCE has a mediation effect on the relationship between consumer minimalism (c) longevity and sustainable disposal (b) repurpose.	BootLLCI= 0.030, BootULCI=0.089	Partial

Note: *Standardized indirect effect(s)

5. Discussion and Conclusion

Based on the obtained results,

As to clutter removal, consumers who do not buy unnecessary products behave in this direction thinking that they will positively contribute to the environment. "Clutter removal" has an effect on PCE. In addition, clutter removal has a direct effect on "rethinking,"

"refurbish" and "reuse." By adding the mediating variable PCE to the direct effect model, the interpretation of this variable, whose mediation effects are revealed, can be made as follows,

Consumers, who tend to reduce their ownership, focus more on sustainability with the awareness of their individual impacts on the environment and pay attention to this criterion when purchasing products and brands. In the sustainable usage stage, in case products are damaged, they use these products for different purposes. In terms of sustainable disposal, they exhibit some behaviors such as exchanging or selling with family, and friends or through online platforms.

"Cautious shopping" has a direct effect on "rethinking" "refurbish" and "reuse." By adding the mediating variable PCE, it was determined that cautious shopping has no effect on PCE and not have a mediation effect. In this respect, the interpretation of "cautious shopping" can be made as follows,

Cautious shopping consumers are individuals who do not make unplanned purchases spend accordingly. Therefore, in terms of sustainable purchasing, they will tend to purchase by considering the sustainability aspects of the products they will purchase. In terms of sustainable use, they will continue to use the existing product/brand for different purposes. Regarding the sustainable disposal stage, while disposing of products/brands, they will show the behavior of exchanging them with family/friends/consumers with similar characteristics on online platforms and/or selling them to these individuals.

"Longevity" has an effect on PCE. In addition, "longevity" has a direct effect on "reusing," "refurbish" and "repurpose." By adding the mediating variable PCE, the interpretation of this variable, whose mediation effects are revealed, can be made as follows,

Longevity consumers are "longevity-oriented" consumers and act with the idea of "continuing use as long as it is usable". Therefore, they buy second-hand products and prefer online applications that digitally sell second-hand products for their purchases. Regarding the sustainable usage stage, they act with the awareness of their individual impacts on the environment and continue to use the product or its parts for different purposes. In the sustainable disposal stage, with the awareness of their individual impacts on the environment, they evaluate their products for different purposes and take parts that they can reuse before disposing of them.

"Self-sufficiency" has a direct effect on "rethinking," "refurbish" and "repurpose." By adding the mediating variable PCE, it was determined that self-sufficiency had no effect on PCE and had no mediation effect. In this respect, the interpretation of "self-sufficiency" can be made as follows,

Those with self-sufficiency tendencies seek to live a self-sufficient life. These self-sufficient consumers are aware of sustainability. As an individual, they make purchases by considering environmentally friendly brands and features. In the usage stage, as in other sub-dimensions, products are used for different purposes. In the disposal stage, they separate the usable parts from the main products by evaluating the products for different purposes.

Given the relevant literature, minimalism aims to save resources and reduce waste. Environmental concern influences consumers' choices and gives rise to the minimalist lifestyle trend. Therefore, environmental concern directs consumers to minimalist behaviors (Jain et al., 2023). Consumers with minimalistic tendencies have an effort and purpose to improve the natural environment (Rich et al., 2020). Minimalism includes sustainable and environmental behaviors. Minimalism provides an environmental satisfaction (Palafox, 2020). Minimalism-oriented consumers aim to reduce unnecessary possessions by choosing to turn the act of consumption into a conscious behavior. They are aware that excessive consumption and accumulation are harmful to the environment (Oliveira de Mendonca et al., 2020). Besides this, this study's findings are in accord with Kang et al.'s (2021) and Shafqat et al.'s (2023) study. While Kang et al. (2021) stated that consumer minimalism is based on sustainable lifestyle rules, Shafqat et al. (2023, p. 1) also stated that minimalism is a sustainable lifestyle preference.

In the study conducted by Joshi and Rahman (2019), they stated that PCE is one of the main determinants of consumer sustainable purchase decisions. Similarly, Kang et al. (2013) found that consumers' perceived effectiveness indirectly effected purchase intention for environmentally sustainable textiles and apparel. According to Antunes et al.'s (2023) research findings, environmental concerns, and PCE have a direct and positive effect on Generation Z's intention to purchase sustainable clothing. The current research findings appear to be similar to these studies.

Besides this, PCE has an effect on "rethinking," "reusing," "refurbish," "reuse" and "repurpose." Consumers who act with a sustainable future in mind avoid purchasing environmentally hazardous products and take into account the sustainability features of the products. These consumers, who have environmental awareness, turn to "second-hand" purchases, and use websites and applications that sell second-hand products for purchases. Consumers, who think that they can individually contribute to the environment and behave environmentally friendly, continue to use their products for different purposes. When these consumers with environmental awareness dispose of their products, they sell them to their friends/family and show exchange behavior through online platforms and/or with their

friends/family. In addition to these consumers with environmental awareness repurpose their products for different purposes before disposing of them and benefit from product parts that they can reuse.

5.1. Theoretical Contributions and Managerial Implications

In accordance with the results, the following recommendation can be made,

The first characteristic of consumers who adopt a minimalism-oriented lifestyle is clutter removal. "Smart technology products" designs can be realized for this consumer group. In this way, overconsumption can be prevented, and sustainable consumption can be increased. In addition to material production, producers should focus on services that facilitate consumers to use their time more meaningfully and contribute to overall consumer well-being. Therefore, companies can adjust their offerings to meet consumer needs more precisely (Shafqat, et al., 2023). Another suggestion could be an influence on market penetration. The same consumer group-product/brand can be used more and for different purposes. This strategy will be valid not only for consumers with a tendency towards clutter removal but also for the other three dimensions of minimalism. Marketing managers can increase interest in minimalist consumption with positioning strategies. Businesses operating in this sector can conduct activities to create brand perception, brand value, and brand loyalty (Wilson and Belezz, 2022).

This study's results have shown that "refurbish" is significant in terms of all dimensions of minimalism. For consumers who tend to clutter removal, the reference group effect can be used in marketing communications. Managers who want to promote minimalist products should make efforts to increase consumers' desire to establish social connections with others (Chen et al., 2024). This requires a different marketing strategy, because of minimalists want high-quality products with fewer options (Jain et al., 2023). At the same time, the impact of C2C platforms can be strengthened and an active position can be achieved on these platforms. Along with similar suggestions that can be made for consumers who engage in "cautious shopping," a "price-performance product" marketing message can also be given to cautious shopping consumers. Longevity is the dimension of minimalism in which functional features can be offered to consumers. Since these consumers aim for maximum benefit and lifespan. Emphasizing careful and conscious consumption, minimalists pay attention to sustainable and ethical aspects of their purchases. Some minimalists contribute to sustainability by purchasing second-hand products (Martin-Woodhead, 2022). Second-hand products and the marketing of these products are gaining more importance in this regard. Support can be received from new

marketing campaigns, and various promotional opportunities can be offered. Emphasizing recycling and remanufacturing from recycled products may positively affect the attitudes of environmentally conscious consumers. For the minimalist consumer group aiming for a self-sufficient lifestyle, marketing communication efforts can be carried out to show how they can contribute to the environment on an individual basis. Social media helps increase interest in minimalism (Martin-Woodhead, 2022). In the era of widespread consumption, minimalism, a new concept of consumption, advocates not buying more than what is truly needed. This concept of consumption has attracted a lot of attention in recent years with the popularity of videos reflecting minimalist lives on social media platforms (Zhang, 2022). Social and cultural environments are effective in the adoption of a minimalist lifestyle. Social media can encourage society to embrace minimalism (Fu et al., 2023). Social media campaigns are one of the most effective platforms where this contribution and impact can be created. Based on consumer typology, different minimalist consumer types can be interacted with. Businesses can support word-of-mouth communication by establishing better personal interaction with minimalist consumers and building customer loyalty. It can also create personalized recommendations (Pangarkar et al., 2021). Viral marketing can be considered a tool in this respect and social marketing can be considered as another tool.

5.2. Limitations and Recommendations for Future Studies

This research did not focus on any product/service sector. The research was conducted in Turkey and its sample consisted of Turkish consumers.

In the research model, consumer minimalism, which is thought to be a new concept in marketing literature, and sustainable consumption have been discussed through the mediation of PCE. This study was examined the concepts of consumer minimalism, PCE, and sustainable consumption, which are important concepts for a sustainable future, and the relationships between these concepts. With the research model designed, both the concept of consumer minimalism, which is expressed as a new culture and lifestyle, has been clarified and sustainable consumption has been addressed with its nine different sub-dimensions. The effect of consumer minimalism on sustainable consumption, which is one of the main objectives of the study, has been examined. Another objective of the study is the role of PCE in the relationship between these two variables was aimed to be revealed. PCE is one of the concepts that best explains conscious consumer behavior. Because this concept involves conscious consumption, questioning the impact of consumption on the environment.

Therefore, it is thought that this study will contribute to the literature and future studies with these aspects.

For future studies, the "lifestyle" as a variable can be included. Environmental knowledge, awareness, and environmental consciousness can be discussed in different aspects. Cross-cultural studies can be carried out on consumers' minimalist tendencies and their effect on sustainable consumption. Meanwhile, studies on market segmentation can also be carried out. At the same time, eco-friendly products and minimalism can be studied together. A research model can be constructed based on consumer minimalism and both pricing and willingness to pay.

In future studies, the concept of minimalism can be addressed in terms of generations. The perceptions of generations can be discussed. In addition, nowadays social media is as prominent as mainstream media. Consumer minimalism behaviors can be addressed in terms of social media platforms. In this respect, qualitative studies, such as in-depth interviews, can be conducted. The engagement behaviors and reactions of these consumer groups to the content can be measured. By determining which content is attractive for the minimalist consumer, advertising messages can be created. Advertising effectiveness can be considered as an output variable. The effect of minimalist consumer reactions on advertising effectiveness can be revealed. Minimalist consumer preferences can be determined. In terms of businesses, more effective competition strategies can be created. Because the minimalist consumer is a niche consumer group. Thus, new online and offline market structures can be determined.

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