



Investigating the Effect of Consumers' Environmental Values on Green Buying Behavior

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Abstract: *In academic studies, various models of green consumer behavior have attempted to explain green consumption behaviors based on traditional theories. In examining the literature, it has not been determined whether consumers' environmental values, attitudes, or intentions directly influence overall buying behavior. In this study, the influence of consumers' environmental values, attitudes, and intentions on green buying behavior is directly analyzed using the knowledge, attitude, and practice model (KAP). An online survey was conducted among 450 university students who may be representatives of Generation Z in Turkey. To test the hypotheses, structural equation modeling (SEM) is used. The results of the analysis showed that environmental values have a positive and significant effect on the attitude and intention to consume green. In addition, intention to consume green was found to have a positive and significant effect on green buying behavior. However, environmental values and green consumption attitude were found to have no significant effect on green buying behavior.*

Keywords: Green Buying Behavior, Green Consumption Intention, Green Consumption Attitudes, Environmental Values

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1. Introduction

While intensive use of natural resources has increased in the last century with population growth, industrialization, and urbanization, the natural ecosystem has gradually deteriorated due to activities such as intensive use of fossil fuels, power generation, agriculture, and transportation. The result is melting glaciers, rising sea levels, floods, hurricanes, fires, water scarcity, loss of agricultural production, ecosystem degradation, and species extinction. Environmental disasters caused by global warming and climate change have become an everyday problem for humanity. Nevertheless, it is clear that most companies competing to meet growing consumer demand do not prefer green production methods that are in harmony with nature.

Considering human as part of nature, these consumers adopt the idea of a sustainable environment. Many consumers who are aware of environmental developments and have environmental values are concerned about the future of the universe (Saleem et al., 2018). To this end, an environmental approach in both production and consumption could be supported by promoting green consumption with a sustainable development model and eco-innovation (Kumar et al., 2017).

In the academic literature, terms such as "green buying," "green product adoption," and "green purchasing" are used to explain consumers' environmental buying behavior (Yaraş et al., 2011; Çolakoğlu et al., 2013). It has been found that individuals' environmental awareness and knowledge, as well as the products functional and environmental attributes, are the triggers for buying behavior (Dagher & Itani, 2014). The low performance and high price of environmentally friendly products compared to non-environmentally

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friendly products, concerns about protecting the environment, consumers' lack of knowledge about environmentally friendly products, the absence of environmentally friendly products in outlets, and consumers' habits are considered the main barriers to purchasing behavior (Joshi & Rahman, 2015).

Green marketing is a movement of a brand with the idea of a clean environment and the protection of nature in marketing activities (Lee, 2008; Alniaçık, 2009). The increase in environmental awareness of consumers leads them to prefer environmentally conscious products in their buying behavior (Paylan & Varinli, 2015). Consumers' increasing concern for the environment is leading to significant changes in companies' marketing strategies (Amin et al., 2015). Green marketing develops in three different stages: Ecological, environmentally friendly and sustainable (Lee, 2008). In this context, green marketing provides for the introduction of environmental awareness in all processes, from packaging to the use of the product and its recycling as waste (Çabuk, 2013). To be called a "green product", a product must be durable, non-toxic, non-contaminating, recyclable, and manufactured with environmentally friendly methods in the production process (Biswas & Roy, 2015).

Studies on green consumer behavior in the literature have developed rapidly as a new marketing paradigm for marketers and researchers (Lai & Cheng, 2016; Yadav & Pathak, 2016; Wang et al., 2021). In addition, it has been widely thought in the literature that reasons such as green product knowledge, awareness and environmental concerns of the consumer have an impact on consumers' green product purchasing behavior (Dhir et al., 2021; Sharma, 2021; Wang et al., 2021). Meanwhile, it has been observed that consumers' awareness and environmental behavior towards environmentally friendly products has increased (Kuźniar et al., 2021). However, demand for eco-friendly products did not increase as much as anticipated (Lai & Cheng, 2016). When this situation is evaluated alongside the literature's findings, it reveals that there is a disconnect between what consumers say and what they do (Wang et al., 2021). Nonetheless, many studies in the literature have been analyzed using the Theory of Reasoned Action (TRA) and Theory of Planned Behavior (TPB) approaches guided by attitude, subjective norms, and perceived behavioral control (Joshi & Rahman, 2015; Wei et al., 2017; Dhir et al., 2021). Based on criticisms in the literature that this approach is insufficient to widen the attitude-behavior gap, the Knowledge, Attitude, and Practice (KAP) model was utilized in this study (Bernardes et al., 2018; Kuniar et al., 2021; Wang et al., 2021; Ryding et al., 2022). Thus, the objective is to contribute to the widening of the attitude-behavior gap in the literature regarding the purchase of green products. To this end, the effect of the concept of environmental value, which corresponds to the conscientious responsibility of the individual towards the environment, was investigated on green consumption attitude, intention, and purchasing behavior. It is anticipated that this study will fill an important gap in the literature because it examines this effect through the lens of environmental value.

In addition, the question that needs to be answered is: Do all consumers who value the environment prefer to buy environmentally friendly products? Especially among young consumers, such as university students, who we can call Generation Z, the ecological value judgment has developed strongly (Wang et al., 2022). Can we conclude that green purchasing behavior goes hand in hand with the increased environmental values and attitudes of these young consumers?

Based on this question, the study aims to determine whether environmental values, green consumption attitudes, and consumer intentions have an effect on green buying behavior. The study was based on the KAP model and the TPB to test above-mentioned effect. According to the TPB, intention is an important predictor of behavior, while attitude is an important determinant of intention (Ajzen & Fishben, 1980). In KAP model, it is known that information has an effect on attitude and attitude has an effect on practice (behavior) (Launiala, 2009). Instead of "knowledge", the starting point of the KAP model, the study used the concept of "value", which is a more developed and comprehensive concept (O'Dell et al., 1998). Because the values that people have (environmental values) arise as a result of more internalized and accepted information (environmental information) (Davenport & Prusak, 1998). From this perspective, the use of the concept of environmental value instead of environmental knowledge and the fact that the direct effects of the concept of environmental value on green buying behavior are tested is the original side of the

study. Thus, understanding consumers' green buying behavior is important both for the ecological structure of the world and for consumers and sellers of green products.

In the following sections below, first, the theories which explain green purchasing behavior were discussed and then the KAP model, which constitutes the theoretical infrastructure of this study was mentioned. Next, the hypotheses in the research model were explained based on the literature. Finally, the study was completed by presenting the findings obtained using SEM and the conclusions and recommendations reached in line with these findings.

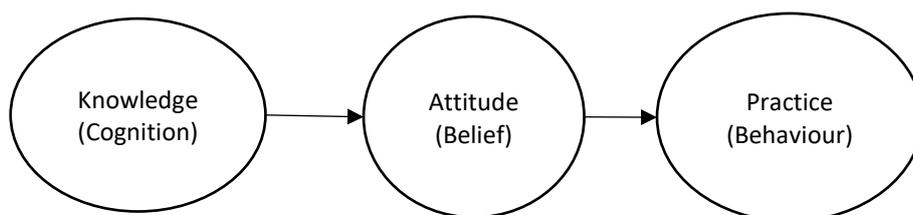
2. Literature Review and Hypotheses

Former studies have generally used the Theory of Reasoned Action (TRA) (Fishbein & Ajzen, 1975), Theory of Planned Behavior (TPB) (Ajzen & Fishbein, 1980), and their variants in order to explain the correlation between attitudes, intentions and behavior (Smith & Paladino, 2010; Hsu et al., 2017). In some studies, it was observed that some cognitive factors such as environmental anxiety, environmental knowledge, and perceived consumer effectiveness were added to TRA and TPB (Paul et al., 2016; Kumar et al., 2017; Hsu et al., 2017).

Such traditional attitude>intention>behavior models could deconstruct the external effects of ecological factors and situational context on consumer buying behavior (Zhang & Dong, 2020). In particular, they ignore consumers' habitual buying patterns or budget constraints. Guagnano et al. (1995) proposed the attitude-behavior-context (ABC) model to better figure out human action. Hereunder to this model, consumers' pro-environmental behavior is influenced not only by their attitudes but also by contextual factors. It states that positive contextual factors strengthen the consumer's willingness to engage in pro-environmental behavior, while negative contextual factors weaken this willingness. Olander and Thøgersen (1995) proposed the Motivation-Ability-Opportunity (MAO) model to understand consumer behavior. The model MAO uses two structures, ability and opportunity, as prerequisites for green consumer behavior. For example, without the easy availability of green products, green buying will not occur.

In this study, the Knowledge, Attitude, and Practice (KAP) model was used as the theoretical basis for developing hypothesized relationships. The KAP model was first used in the 1950s to understand family planning and population studies (Launiala, 2009). The model shows what people know (information), how they feel (attitude), and what they do (practice). According to the KAP model, knowledge forms attitude. Knowledge and attitude are the basis for practice. Kaliyaperumal (2004) defined knowledge as "understanding of any subject," attitude as "feelings toward that subject along with predetermined opinions," and practice as "ways of demonstrating their knowledge and attitudes through their actions." The KAP model has been used in various environmental studies (Ahmad et al., 2015, Ahamad & Ariffin, 2018; Kumar et al., 2019; Kuźniar et al., 2021; Öztürk, 2022). In this study, based on the KAP model, the knowledge (environmental value), attitude (green consumption attitude), and practices (green buying behavior) of Turkish university students were assessed in relation to environmental consumption. Figure 1 shows the KAP model.

Figure 1. Knowledge-Attitude-Practice (KAP) Model



2.1. Environmental Values

"Environmental value" results from a person's reflection of moral, ethical, and such value judgments on perception, attitude, and behavior. Environmental value indicates that the consumer expresses the value of environmental protection by accepting and using environmentally friendly offerings (Gordon et al., 2018). There are three reasons that lead a person to be sensitive to the environment. These are personal attention, humanistic sacrifice, and concern for the ecological balance of the world (Rahnama & Rajabpour, 2017; Yıldız & Erciş, 2022). Personal attention comes from an individual's sensitivity to ecological balance. Humanistic sacrifice, on the other hand, is the idea that an individual changes his or her consumption habits by thinking of other people who live in that ecological environment. Sacrifice aimed at maintaining the ecological balance is based on the idea of devotion and sacrifice, which stops the individual from thinking only about people and includes all living beings living on the earth (Dietz et al., 2005). Dietz et al. (2005) noted in their "Values - Beliefs - Norms" model that the value of the environment is not directly reflected in behavior, but indirectly. Dembowski and Hanmer (1994) presented the "Environmental Value-Attitude System Model" and claimed that environmental values are fundamental factors that influence pro-environmental consumption behavior by affecting positive attitudes toward pro-environmental consumption. Kaiser et al. (1999) found that the value of the environment influences the behavior of an environmentally conscious consumer. Nguyen et al. (2016) concluded that consumers' environmental values positively affect their attitude towards environmentally friendly products. Based on these findings, it can be said that consumers' environmental values affect the attitudes toward green consumption. In line with these findings, this study hypothesized the following.

H₁: The environmental values of consumers have a positive effect on green consumption attitudes.

Intention to consume in an environmentally friendly manner indicates consumers' readiness to purchase environmentally friendly products. Intentions include motivational factors that affect consumers' green buying behavior (Mohd Suki, 2016). In the current literature, information is considered as one of the most effective factors that affect green product buying intention and behavior (Ahmad et al., 2015). According to some studies, consumers' knowledge about social and environmental issues has a positive effect on their attitude and purchase of green products (Smith et al., 2010; Mohd Suki, 2016; Ahamad & Ariffin, 2018). Therefore, the reasons for or opposite green consumption could directly affect consumers' intention to consume green. It can be assumed that as environmental knowledge increases, so will environmental awareness and sensitivity. This awareness will enable a person to be more sensitive to the environment. Therefore, it could be assumed that a consumer's intention to have an increasing environmental value would have a positive effect on their green consumption. In this context, H₂ hypothesis is formed as follows.

H₂: The environmental values of consumers have a positive effect on green consumption intentions.

Green buying is often associated with a responsible, ethical, sustainable and environmentally friendly buying model (Bray et al., 2011). This behavior promotes the purchase of energy-efficient products, avoids over-packaged products, preferring biodegradable and recycled products, and contributes to the purchase of fair trade and local products, not only to the equality and prosperity of society, but also to the reduction of pollution and the protection of the planet (do Paço et al., 2019). According to Kumar and Ghodeswar (2015), these buying decisions are made by supporting green businesses, adopting sustainable consumption practices, and investing more in green products. One way individuals shape their environmental values is by incorporating nature into their self-image and developing a sense of environmental responsibility (Ünal et al., 2008; Wang et al., 2021). Consumers' growing sense of responsibility and awareness for protecting nature may lead them to reach for more environmentally friendly products (Candan & Yıldırım, 2013). This sense of responsibility imposes on individuals the conviction that they are responsible for the beneficial and harmful consequences of a given action that they cause to the natural environment (Chwialkowska, 2020). Since green products are compatible with consumers' environmental values, consumers who have positive environmental values are more likely to buy green products (Gleim et al., 2013). However, the fact that consumers know about these environmentally and health friendly products does not mean that they will buy them. Moreover, consumers must have the necessary buying power.

Consumers' strong interest in environmental and social issues is one of the main motives shaping their green buying behavior (Jaiswal & Kant, 2018). Consumers' strong environmental and social values, as well as the functional and environmentally friendly properties of products, have a positive effect on green buying behavior (Makatouni, 2002). It is not sufficient to explain ecological behavior only by attitudinal factors such as attitude and intention towards green products (Kumar et al., 2017). It is necessary to reveal the behavior of green buying by considering cognitive factors such as environmental values. In this context, H3 hypothesis is formed as follows.

H₃: The environmental values of consumers have a positive effect on green buying behaviors.

2.2. Green Consumption Attitudes

Attitude has been considered a fundamental predictor of behavioral intention and actual behavior in green consumer psychology studies (Jaiswal & Kant, 2018). Attitude shows a person's tendency to react positively or negatively to a particular object (Fishbein & Ajzen, 1975). The sum of an individual's beliefs about certain behaviors shapes his or her attitude toward the behavior (Ajzen & Fishbein 1980). Past researches show that consumers have positive attitudes toward environmental protection (Ozaki, 2011; Liu et al., 2012). In environmental research, consumer attitudes are usually related to intention and behavior in buying environmentally friendly products (Joshi & Rahman, 2017). This attitudinal phenomenon masks a person's beliefs or feelings about the decision to purchase environmentally friendly products and the impact of certain behaviors on environmental outcomes. The literature states that consumers who have positive attitudes toward environmentally friendly products are more likely to purchase such products (Joshi & Rahman, 2015; Jaiswal & Kant, 2018). Attitudes have been shown to be the most consistent predictor of green buying behavior (Schlegelmilch et al., 1996). In accordance with this information, the following hypothesis has been proposed.

H₄: Green consumption attitudes of consumers have a positive effect on green buying behaviors

2.3. Green Consumption Intention and Buying Behavior

The intention or willingness to purchase green means the willingness of consumers to buy green products for the benefit of the environment. This willingness motivates to buy green products. This is because consumers are interested not only in the ecological quality of products, but also in their impact on the environment (Dagher & Itani, 2014). Even though the number of people wanting to purchase green products has increased in recent years, there is little evidence that green product sales have increased (Arli et al., 2018). In spite of environmental awareness and positive consumer attitudes to sustainability and green products, the market share of green products is limited to only between 1 to 4% of the total market (Majhi, 2020). One of the reasons is that the prices of green products are on average 3 times more expensive than their non-green counterparts. The high price of green products brings consumers' environmental and ethical assessments to the forefront. In this case, the attitude toward buying green products widens the behavioral gap (Gleim et al., 2003). The other is that non-green products do not function adequately because of their organic and natural structure. Green products that do not perform adequately are not preferred by consumers in the belief that they serve their purpose (Joshi & Rahman, 2015). Even though green products made from some recyclable materials are cheaper, they are still not preferred because they are of poor quality and durability (Biswas et al. 2000). From these considerations, it appears that consumers often disregard environmental impacts when making purchases. In addition, some studies have concluded that the easy availability of environmentally friendly products positively effects environmentally friendly buying behavior (Vermeir & Verbeke, 2008; Young et al., 2010). In addition, factors such as perceived consumer efficacy, perceived behavioral control, consumers' environmental, social, and ethical values, trust in green products, environmental knowledge, subjective and social norms, and reference groups are effective for intention (Joshi & Rahman, 2015).

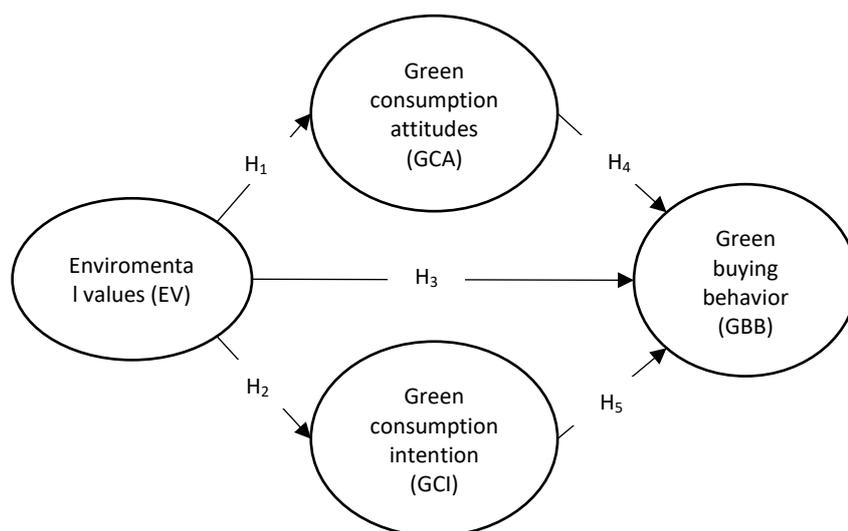
The current literature has shown that intention is a fundamental predictor of buying behavior in environmental behavior research (Jaiswal & Kant, 2018). However, this does not mean that it will have a

consistent relationship in every case. In fact, some studies have found results showing that intention does not lead to the desired behavior (Grunert & Juhl, 1995). Based on these findings, the following hypothesis is proposed.

H₅: Green consumption intentions of consumers have a positive effect on green buying behaviors.

Figure 2 shows the conceptual framework of the study based on the discussions in the literature and the hypotheses developed.

Figure 2. The Conceptual Framework



3. Methodology

3.1. Sample and Data Collection

The population of the research is made up of university students at Karabuk University. In terms of representing the population, data were collected from 450 people using the online survey tool using the convenience sampling method. Generation Z (Gen Z) is a basic demographic classification comprised of individuals born between 1995 and 2012 (Turner, 2015). This generation is considered the "green generation" because it demonstrates greater environmental consciousness than previous generations (Wang et al., 2022). This has piqued the interest of researchers who wish to comprehend the Z generation's green consumption patterns (Su et al., 2019). Today, undergraduate students, who are a young and well-educated segment of the Z generation, are becoming increasingly conscious of sustainable practices and environmentally conscious behaviors (Kumar et al., 2017).

Moreover, this young audience, capable of creating differences in consumer behavior, can also lead the sustainability trend of the coming era (Kumar et al., 2017). The research meets the minimum sample size criteria proposed by Tabachnick and Fidell (2007) formula $N > 50 + 8M$ (M = the number of independent variables) and Stevens' (1996) hypotheses, 15 subject per independent variable subject. The data were collected between October and December 2021, and the respondents' confidence was guaranteed. The demographic characteristics and descriptive statistics of the participants are shown in Table 1.

3.2. Measurement of the Constructs and Data Analysis

The survey form consists of two parts. In the beginning of survey, there are 14 items aimed at measuring the variables included in the research model. In the second section, questions related to demographic characteristics are included. The items used to measure the structures have been adapted from existing studies that exhibit a high level of scale reliability and validity.

Four scales whose validity and reliability had previously been established by the researchers were used to collect data on the research variables via the questionnaire. The expressions comprising the scales in the questionnaire were adapted from the scales used by these researchers. The first of these is the “environmental values” scale, which consists of four statements and is used by Oliver (2007), and Biswas and Roy (2015). The second one is the “green consumption attitudes” scale, which consists of three statements and is used by Chan (2001), Biswas et al. (2000), and Woo and Kim (2019). The third is the “green consumption intention” scale, which consists of three statements and is used by Mohd Suki (2016), and Lee (2008). The fourth is the “green buying behavior” scale, which consists of four statements and is used by Kumar et al. (2017), Jaiswal and Kant (2018), and do Paço et al. (2019).

These items were first translated into Turkish by marketing academicians. They were then translated back into English by another faculty member to ensure consistency. The constructs used in this study are measured with a decimal Likert scale ranging from strongly disagree (1) to strongly agree (5). Following this scheme, a pilot application was conducted with 30 consumers who had previously purchased environmentally friendly products. Participants provided feedback on the appropriateness, understandability of the survey items, and the data collection process. Based on this feedback, some of the items were revised to make them clear and understandable.

Survey data were analyzed quantitatively using factor analysis and structural equation modeling. Initially, analyzes were conducted for all variables using IBM SPSS Statistics 22 to assess the reliability and validity of the structures. The result of the analysis was that all scales had acceptable reliability. In this study, explanatory factor analysis (EFA), confirmatory factor analysis (CFA), and structural equation modeling (SEM) were used to examine the conceptual factors of the scales that belong to the variables included in the model.

4. Findings

4.1. Demographic Characteristics of Respondents

The demographic characteristics and descriptive statistics of the participants are shown in Table 1 below.

Table 1. Demographic Characteristics of the Participants

	Frequency	Percentage		Frequency	Percentage
Age			Education		
18-20	206	45.8	Associate Degree	197	43.8
21-23	184	40.9	Undergraduate	228	50.1
24-26	36	8	Postgraduate	25	5.5
≥27	24	5.3	Income (Turkish Lira)		
Gender			0-3000	186	41.3
Female	205	45.6	3001-6000	169	37.6
Male	245	54.4	6001-9000	59	13.1
			Over 9000	36	8

According to Table 1, most university students (86.9%) are between 18-23 ages. Participants show a balanced distribution in terms of gender. 45.6% of the participants are women, and 54.4% are men. When the education levels are examined, it is seen that most of them are undergraduate (50.1%) and associate degree students (43.8%). When the family income status of the students is examined, it is seen that most of the participants (41.3%) have an income between 0-3000 Turkish Liras (TL). Since the sample consists of university students, the demographic results show a balanced distribution. These results show that the data is ready for a healthy analysis process.

4.2. Explanatory Factor Analysis

Explanatory factor analysis (EFA) was performed to reveal the factor structure of 14 expressions included in the research sample. In the Table 2, the mean attendance values, factor loads, Cronbach's Alpha and the described variance values of the expressions are listed.

Table 2. Mean of the Variables, Factor Loadings (λ), Cronbach's α , Explained Variance

Items	\bar{X}	λ	Cronbach's α	Variance Explained
Enviromental values (EV)				14.121
EV1-People should understand the lifecycle of the nature and adapt to it.	4.80	0.801	0.830	
EV2-People should live in peace with nature.	4.76	0.759		
EV3-Humans are a part of the nature.	4.75	0.878		
EV4-Next generations will suffer for the consequences if we do not protect the nature today.	4.78	0.705		
Green consumption attitudes (GCA)				7.556
GCA1-I like the idea of consuming eco-friendly products.	4.59	0.833	0.859	
GCA2-Eco-friendly consumption is a good idea.	4.68	0.882		
GCA3-I have positive attitudes towards eco-friendly consumption.	4.57	0.803		
Green consumption intention (GCI)				5.275
GCI1-I am thinking about buying eco-friendly products in the future as they are less contaminant.	4.54	0.926	0.877	
GCI2-I will prefer eco-friendly products due to ecological issues.	4.44	0.791		
GCI3-Instead of products that are harmful for the environment, I am planning on wasting more on eco-friendly products.	4.10	0.787		
Green buying behavior (GBB)				48.668
GBB1-I prefer to buy eco-friendly products.	4.41	0.647	0.888	
GBB2-I pay special attention to buy eco-friendly products.	4.14	0.796		
GBB3-I avoid buying products that are harmful for the environment.	4.09	0.878		
GBB4-If I am to choose between two products, I would buy the one less harmful for the environment.	4.39	0.861		
KMO: 0.904; Total Variance Explained: 75.620%				

Cronbach's alpha values of the variables used in the study were calculated as $\alpha = 0.830$ for environmental values, $\alpha = 0.859$ for green consumption attitude, $\alpha = 0.877$ for green consumption intention, $\alpha = 0.888$ for green buying behavior. The results of the reliability analysis of the scales have a lower limit of acceptable value, above 0.70 therefore, it can be said that the scales used in the survey are reliable (Nunnally, 1978). The Kaiser-Meyer-Olkin (KMO) test result is 75.620 and it can be said that the data set is suitable for analysis.

4.3. Confirmatory Factor Analysis

Exploratory factor analysis (EFA) was performed for the research model, followed by confirmatory factor analysis. It has been observed that the goodness-of-fit values obtained are in the acceptable range (Bentler & Bonett, 1980; Fornell & Larcker, 1981; Brown & Cudeck, 1993; Hu & Bentler, 1999). Table 3 lists the recommended and actual values of the compliance indices.

Table 3. The Recommended and Actual Values of Fit Indices

Fit index	χ^2/df	GFI	AGFI	TLI	CFI	RMSEA
Recommended Values	≤5	≥0.85	≥0.85	≥0.90	≥0.90	<0.08
Actual Values	244.672/71=3.446	0.929	0.895	0.945	0.957	0.074

In order to ensure convergent validity, all average variance extracted (AVE) values must be greater than 0.5 and all composite reliability (CR) values must be greater than 0.7 (Bagozzi & Yi, 1988). As shown in Table 4, the values for the composite reliabilities range from 0.882 to 0.955 and are greater than the specified value of 0.7. The values of AVE range from 0.693 to 0.838 and are greater than the fixed value of 0.5. Hence, convergent validity was exemplified. Additionally, all Alpha values were more than 0.7, suggesting a good reliability (Gefen et al., 2000). Thus, all the scales demonstrated reliability, convergent validity, and discriminant validity.

Table 4. AVE and CR Values of the Structural Model

Construct	AVE	CR
Environmental values	0.556	0.832
Green consumption attitudes	0.679	0.864
Green consumption intention	0.724	0.886
Green buying behavior	0.676	0.893

Table 5 reports the mean, standard deviation, correlation and square root of average variance extracted (AVE). It was found that there is a positive relationship between environmental values, green consumption attitude, green consumption intention, and green buying behavior. Discriminant validity results are as seen in Table 5.

Table 5. Discriminant Validity Results of the Measurement Model

Construct	EV	GCA	GCI	GBB
EV	0.863			
GCA	0.668**	0.907		
GCI	0.522**	0.642**	0.922	
GBB	0.430**	0.566**	0.800**	0.906
Mean	4.778	4.616	4.362	4.261
Standard Deviation	0.450	0.687	0.774	0.813

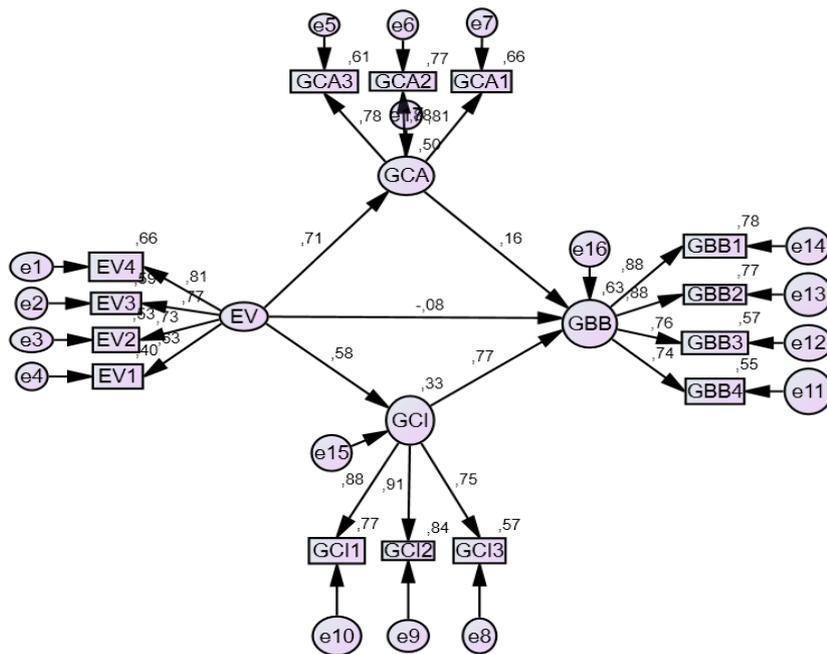
Notes: ** p < 0.01; Diagonal values show square root of AVE for each construct.

Confirmatory factor analysis goodness of fit values (Table 3) the results of the tests and the reliability of the structural model (Table 4 and Table 5) were eligible to be made with structural equation modeling tests the relationship between the variables.

4.4. The Structural Model

Structural equation analysis was performed after the measurement model requirements were met. The structural model of the research is as shown in Figure 3.

Figure 3. Structural Equation Model



In order to determine the relationships between the variables included in the research model and to test the hypotheses, p values and standardized regression weights were examined. Table 6 lists path requirements and their significance.

Table 6. Hypothesis Results

Structural Paths	Hypothesis	Standardized Regression Weights	Result
Environmental values → Green consumption attitudes	H ₁	0.710***	Supported
Environmental values → Green consumption intention	H ₂	0.578***	Supported
Environmental values → Green buying behavior	H ₃	-0.075 n.s	Rejected
Green consumption attitudes → Green buying behavior	H ₄	0.158 n.s	Rejected
Green consumption intention → Green buying behavior	H ₅	0.766***	Supported

Notes: * p<0.05; ** p<0.01; *** p<0.001; R2: GCA=0.50; GCI=0.33; GBB=0.63

As seen in the Table 6, environmental values have a positive effect on consuming attitude ($\beta=0.71$, $p<0.01$) and intention ($\beta=0.57$, $p<0.01$). In addition, green consumption intention ($\beta=0.76$, $p<0.01$) has a significant and positive effect on green buying behavior. However, it was not found that green consumption attitudes ($\beta=0.15$, $p>0.05$) and environmental values ($\beta= -0.07$, $p>0.05$) have a significant effect on green buying behavior. As a result, the H₁, H₂, H₅ hypotheses were supported, while the H₃ and H₄ hypotheses were not supported. When the R2 values are examined, it is seen that environmental values and green consumption attitude and intention explain 63% of the green buying variable. Based on the results of the study, it has been seen that the most important premise of environmental buying behavior is buying intention.

5. Discussion

5.1. Theoretical Implications

The KAP model indicates what a person knows about environmental issues (e.g., their knowledge of pollution), how they think about environmental protection (e.g., their attitude toward environmental protection), and their practices (e.g., their ecologically aware behavior). The KAP model is used by many national governments/NGOs in areas such as public health management, education, psychology, behavioral science, water, and sanitation. KAP theory states that 'K', 'A', and 'P' are in a linear order ($K \rightarrow A \rightarrow P$ is realized by following a single-row path). Therefore, Wang et al. (2013) suggest that the direct and indirect effect of 'K' on 'P' is ignored.

In KAP theory, the role of affection factor is ignored, which in a way questions the reality and applicability of KAP theory. Therefore, some scholars have revised KAP theory by adding a mediator (e.g., affection) between cognition and belief and proposed the knowledge-affection-belief-practice (KABP) model (Lu & Zhen, 2004). In this study, an attempt was made to make the application variable in the KAP model more understandable. For this purpose, the intention variable was added to the KAP model, which is based on the TRA (Theory of Reasoned Action) model, in addition to the attitude variable. Thus, this study was the first attempt in the literature to develop a KAIP (Knowledge-Attitude-Intention-Practice) model based on the KAP model. This is because the intention variable TRA is one of the most important antecedents of cognitive theories such as TPB. For this reason, it was felt that the intention variable would fill an important gap to increase the explainability of the application variable in the KAP model. From this point of view, it can be said that it is a hybrid model because it is based on the KAIP, TRA, and KAP models. Since it is a hybrid model, it can also be used in different studies by combining it with other previous research models such as TRA and TPB. It can be seen that the intention variable, which acts as a strong bridge between attitude and behavior in TRA and TPB, explains the application variable more decisively together with attitude in the KAP model.

5.2. Practical Implications

Implementing environmentally friendly measures increases operational efficiency and therefore serves as a source of superior competitive advantage. Companies reap benefits such as a positive image, tax deductions, various subsidies, an increase in market share, brand loyalty, access to new markets, better compliance with legislation, and an improvement in their ability to innovate by producing green products. But the high price of green products, their low availability, and the lack of consumer confidence are the biggest barriers to buying green products.

Moreover, the environmental awareness of university students, whom we can call young consumers, is much higher than that of previous generations. For this reason, their environmental value also seems to have greatly improved. In this context, this consumer group has the potential to be a consistent customer of green brands. Defined as more independent and libertarian, Generation Z people have better environmental awareness, buying power, and buying intentions compared to previous generations. As a result, they are expected to choose a green product when purchasing one (Wang et al., 2022). All this promises great opportunities for eco-friendly brands. From this point of view, companies can develop sustainable marketing strategies that address the green buying behavior of young consumers and the factors affecting them.

If companies want to be environmentally friendly, they must first establish sustainable production without harming air, water and soil by initiating a process of environmental education. It is true that costs are slightly higher for companies that produce environmentally friendly products, but setting price tags that are more expensive than expected by presenting high costs creates unacceptable pricing for consumers. "Green thinking" is considered part of the work culture and ethics of all business owners. The fact that companies want to offer products that are safe for the environment and accessible to all consumers does not give them a competitive advantage. In this way, they can successfully encourage consumers and society to become "environmentalists".

In the order in which global capital owners oppose many climate change conventions and protocols, the environment and industry constantly face each other as two opposite poles. Many brands claim and boast that their products are environmentally friendly. But unless the production processes are environmentally friendly, one cannot speak of environmental friendliness. The presence of organic, natural or ecological terms on packaging does not make the production processes environmentally friendly. Companies should approach green marketing with a classical understanding, associating it only with the marketing department. All departments of the company, such as production, R&D, human resources, logistics, should be deconstructed in terms of the green marketing approach and ensure that they act as a whole. For example, they can provide energy efficiency with innovative concepts that combine mechanics, electricity and software, such as smart manufacturing, smart supply chains and a digital working environment (Feroz et al., 2021). Another point that is foreseen from this day is that every step that companies take using blockchain technology will be recorded and certified according to their specific competencies (Kunkel & Matthes, 2020). Thus, the success rate of companies that do not meet the criteria will decrease. Companies with a low success rate will have to operate in the lower markets. Today, computer companies have turned into technology companies, food and beverage companies have turned into nutrition and health companies, book publishers have turned into education companies. This transformation is forcing companies to make data-based decisions, avoid waste of resources, adopt continuous improvement, and change the way they do business through intelligent networked machine systems (Feroz et al., 2021). In short, until Industry 4.0, the pollution of nature was observed in the whole process. Now, with Society 5.0, technology is expected to be used for the benefit of humanity and take on the task of saving the world.

6. Conclusion, Limitations and Future Research

The structural model analysis revealed a positive and statistically significant effect of environmental values on green consumption attitude and intention. In addition, a significant and positive relationship was discovered between green consumption intention and green buying behavior. However, environmental values and green consumption attitudes had no impact on green buying behavior. The H₁, H₂, and H₅ hypotheses were supported, whereas the H₃ and H₄ hypotheses were rejected.

The literature findings support the conclusion that the most important antecedent of green purchasing behavior is purchase intention (Kumar et al., 2017; Jaiswal & Kant, 2018; Al Mamun et al., 2018; Dhir et al., 2021). In addition, the conclusion that environmental values influence attitudes and intentions regarding green consumption is supported by the research (Yadav & Pathak, 2017; Hu, 2019; Ji, 2019; Sivapalan et al., 2021). However, consistent with previous research, it has been found that environmental values have no direct influence on green purchasing behavior (Chaudhary, 2018; Wang & Zhou, 2019; Kautish & Sharma, 2021; Ma et al., 2021).

Price, performance, and availability are significant factors in consumers' decisions to purchase environmental products (Vermeir & Verbeke, 2008; Nath et al., 2014). Despite the fact that consumers' environmental values and green consumption attitudes have evolved, the individual's income is a significant factor in the purchasing decision. According to studies, the relationship between income level and environmental product purchasing behavior is direct (Woo & Kim, 2019). It is predicted, based on the study's sample, that students with limited funds will have a high price sensitivity towards environmentally friendly products. This price sensitivity is believed to render environmental values and attitudes irrelevant to green buying behavior.

As with many studies, there are certain limitations to this study. The study was conducted with university students in Turkey. The convenience sampling method was used, which is a non-probabilistic sampling method given the existing time constraints and the difficulty in getting the sample. For this reason, caution should be exercised regarding the generalizability and external validity of the results of the study.

Consumers are usually unaware of the contribution they make to the environment when they buy environmental products, either in numbers or as an effect. A green package wrapping the product and a few words with environmental connotations on it (eco, natural, organic, bio) are not necessarily meaningful to

the consumer. When consumers buy such products, they want to know how big a contribution they are making to the environment. This is because this lack of clarity can create a feeling that the consumer is spending more money for nothing. Consumers have witnessed for years how much damage many harmful energy and chemical companies have done to the environment by using green colours and environmentally friendly expressions. For this reason, companies that manufacture detergents and cleaning products in particular must take concrete steps to change this perception. However, the consumer belief in this regard is that "environmentalists are not born environmentalists." For this reason, companies that act as environmentalists from the beginning, that is, born environmentalists, are much more reliable. Companies that add environmentally friendly products to their product line after the fact are not perceived as environmentally friendly. This is because if a consumer sees both an environmentally friendly and a non-environmentally friendly product from Brand A on the shelf, he or she will not find Brand A convincing. However, certificates for environmental sustainability issued by independent organizations whose international validity and reliability in this respect are recognized create trust (e.g., the EU Ecolabel). At this point, the question of whether consumers who have environmental values have an awareness of green, eco-friendly, and ecological labels is at the top of the agenda. Since these labels allow consumers to choose the most environmentally friendly products, they are of great importance in the purchasing process. In future studies, the effect of eco-label awareness on purchase intention and behavior can be investigated with the research model to be based on the TPB or the model designed in this study.

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