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Analyzing Willingness to Pay for Geographically Indicated Products: A Study Using Binary Logistic Regression[1]

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Coğrafi İşaretli Ürünlere Yönelik Ödeme İstekliliğinin Analizi: İkili Lojistik Regresyon Yöntemiyle Bir Araştırma

Öz

Bu çalışma, coğrafi işaretli ürünlere yönelik tüketicilerin ödeme istekliliğini etkileyen faktörleri belirlemeyi amaçlamaktadır. Ön araştırmada, Antalya'ya özgü coğrafi işaretli ürünlerden Alanya Muzu'nun diğer ürünlere kıyasla daha yüksek bilinirlik ve satın alım oranına sahip olduğu tespit edilmiştir. Araştırma verileri, Eylül-Ekim 2023 tarihlerinde Google Forms aracılığıyla 628 katılımcıdan toplanmıştır. Coğrafi işaretli ürün satın almamış 234 katılımcı ve Alanya Muzu'nu daha önce satın almadığını belirten 86 katılımcı çalışma dışında bırakılmıştır. Alanya Muzu'nu satın aldığını belirten 308 katılımcının verileri ikili lojistik regresyon ile analiz edilmiştir. Analizler sonucunda, Alanya Muzu'na yönelik ödeme istekliliğini etkileyen faktörler meslek, gıda seçim kriterleri, alışveriş yeri, coğrafi işaretli ürün bilinirlik süresi, satın alma nedenleri ve algılar olarak belirlenmiştir.

Anahtar Kelimeler: Coğrafi İşaret, Coğrafi İşaretli Ürün, Ürün Algısı, Ödeme İstekliliği, Lojistik Regresyon

JEL Kodları: M31

Analyzing Willingness to Pay for Geographically Indicated Products: A Study Using Binary Logistic Regression

Abstract

This study aims to identify the factors influencing consumers' willingness to pay (WTP) for geographically indicated products (GIPs). Preliminary research revealed that Alanya Banana, a GIP unique to Antalya, had higher awareness and purchase rates compared to other regional GIPs. Data were collected via Google Forms from 628 participants in September-October 2023. Of these, 234 participants who had not purchased GIPs before and 86 participants who had never purchased Alanya Banana were excluded. The data from 308 participants who reported purchasing Alanya Banana were analyzed using binary logistic regression. The analysis identified profession, food selection criteria, shopping location, duration of awareness of GIPs, purchase reasons, and perceptions as factors influencing WTP for Alanya Banana.

Keywords: Geographical Indication, Geographical Indication Product, Product Perception, Willingness to Pay, Logistic Regression

JEL Codes: M31

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Yazarların Makaleye Olan Katkıları	Yazar 1'in katkı oranı %50 ve yazar 2'nin katkı oranı %50'dir.
Çıkar Beyanı	Yazarlar açısından ya da üçüncü taraflar açısından çalışmadan kaynaklı çıkar çatışması bulunmamaktadır.

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1. Introduction

Geographical indications refer to products that originate from a specific location and derive their unique qualities, reputation, or characteristics from that particular region (Bowen, 2010). The unique characteristics of the product and its connection to the region where it is cultivated enable it to be registered with a geographical indication, distinguishing it from other products and ensuring its protection through this registration (Koç, 2022). Consumers' attitudes and perceptions toward geographically indicated products (GIPs) influence their behavioral intentions regarding these products.

The potential use of GIPs as regional marketing tools to promote local values and destinations is one of the most emphasized topics in studies on GIPs found in the literature. For instance, Acar (2018) highlights that GIPs are traditional goods reflecting the cultural heritage of their production regions, which may spark consumer curiosity about these regions and contribute to destination promotion. Similarly, Suna and Uçuk (2018) note in their study that having a GIP can enhance the promotion of a destination, influence visitor preferences, and support product marketing efforts. On the other hand, the literature revealed that GIPs are often perceived as higher quality, more authentic, and reliable due to their specific origin, which can enhance consumer trust and WTP a premium (Aytop & Çankaya, 2022; Wang, 2021). Moreover, Zhou et al. (2022) discuss how consumers' sense of locality and belonging impacts their intentions to purchase and recommend GIPs. Toklu (2016) argues that perceptions of quality and reliability positively influence attitudes toward GIPs, which in turn increases WTP for them. However, the number of studies investigating the factors influencing consumers' WTP for GIPs remains limited in the literature (e.g. Jafarova, 2022; Koç, 2022; Sancak, 2019; Saïdi et al., 2020; Toklu, 2016). Identifying these factors is crucial not only for the sustainability of GIPs but also for regional development. The aim of the paper is to determine the factors affecting consumers' WTP for GIPs. This research would contribute to the literature due to the scarcity of studies in this area. Additionally, understanding the factors affecting WTP for GIPs would enable the companies and stakeholders to align the product quality with consumer expectations; and it contributes to local economic growth by creating demand for GIPS and maximizing the potential for regional development.

2. Literature Review

2.1. GIPs and Their Features

Geographical indications initially emerged in history as source markers indicating the origin of the regions where they were produced and were later incorporated into industrial property rights (İloğlu, 2014). The foundation of geographical indication protection lies in the desire to protect producers by associating the product with the region where it is produced, leading to legal regulations being established accordingly (Kızıltepe, 2005). A product must fall into certain categories to be eligible for geographical indication protection. These categories include "natural products, agricultural products, mineral products, handicraft products, and industrial products" (T.C. Presidency Legislation Information System, 1995).

Geographical indications help differentiate registered products from others, and the names, marks, and expressions associated with these products are referred to as "indication elements." In Turkey, geographical indications were categorized as "designation of origin" and "geographical indication mark" until 2017. With the enactment of new legislation in 2017, the term "traditional product names" was also introduced and officially protected.

The marks shown in Figure 1 represent those that must be applied to the product or its packaging, or, if this is not possible, must be easily visible. These marks indicate that the geographical indication or traditional product name is registered under the provisions of the law and are determined by the Turkish Patent and Trademark Office (T.C. Cumhurbaşkanlığı Resmî Gazete, 2017).

Figure 1: Geographical Indication and Traditional Product Emblems

Designation of Origin Geographical Indication Mark Traditional Product Name

Source: Turkish Patent and Trademark Office, 2023

2.2. The Literature on GIPs

The examination of various studies on GIPs in the literature reveals that products with geographical indication registration hold significant importance in several areas. These include supporting regional development and local production, ensuring cultural sustainability, and influencing consumer perceptions of GIPs by legally securing production methods and products (Doğan, 2015; İloğlu, 2014; Tepe, 2008). Additionally, GIPs serve as regional marketing tools by enhancing destination recognition (Li et al., 2023).

Geographical indication registration protects producers from unfair competition while enabling consumers to access accurate and reliable products. Through legal oversight and protection, the production, supply, sale, and delivery of products to consumers are ensured. This also prevents counterfeiting, thereby preserving the sustainability and cultural heritage of the products (Tepe, 2008). In addition to protecting production, safeguarding the traditional and cultural methods forming the basis of these products helps prevent mass production and standardization. This protection allows the characteristic features and values of regions to be passed on to future generations (İloğlu, 2014).

GIPs can be used as commercial goods to promote the economic development of the regions where they are produced. To enhance their contribution to rural development and the national economy, it is necessary to raise consumer awareness and support regional or local production through associations or cooperatives. This ensures the protection of local communities while preventing consumers from facing excessive pricing (Doğan, 2015). The registration, usage, and supervision of GIPs as a tool for regional and rural development require the establishment of adequate policies, the reduction of bureaucratic processes in registration applications, and the awareness of local communities, public authorities, and sectoral organizations (Eren, 2018; Işık, 2022; Kan et al., 2012). Among institutions prioritizing the geographical indication registration process, "Chambers of Commerce and Industry" rank first (Acar, 2018). Additionally, Polat (2017) emphasizes the importance of support from travel agencies and tour operators in enhancing tourist appeal and interest in local products.

As a system that considers and preserves the cultural identity and natural and human elements of the region where a product is produced, a geographical indication not only adds economic value to agricultural products but also serves as a regional marketing tool. The growing demand for high-quality, prestigious products and the desire for cultural identification has created a burgeoning market for value-added products strongly tied to specific geographic regions. In addition to Turkey, the European Union has effectively utilized local products for the social and economic development of rural areas. Since 1992, the EU has supported the protection and promotion of regional products through geographical indication (Babcock and Clemens, 2004; McCluskey and Loureiro, 2003). Furthermore, Jaelani et al. (2020) discuss how GIPs such as Lampung black pepper, Cilembu sweet potatoes, and Kintamani coffee from Indonesia contribute to regional development and can serve as commercial assets to enhance the economy of their respective regions.

Due to their distinctiveness, geographically indication registered products can be utilized as regional marketing tools for national or international recognition. Such products hold significance for both preserving local values and promoting tourism. For instance, Orhan (2010) discusses how İzmit Pişmaniye, a GIP, contributes to the promotion of Kocaeli province by acting as a tourism element. Oğuz (2016) highlights "Siirt Büryan Kebab" and "Siirt Pervari Honey" as examples of how geographical indication registration contributes to both product promotion and tourism. Suna and Uçuk (2018) emphasize the contributions of geographical indication registered Gaziantep Baklava to regional marketing and underline Gaziantep as one of the leading cities in Turkey for geographically indication registration applications.

Through geographical indication, local products and values transform into a tourism image. Organizing festivals for these products not only enhances tourism contributions to the region but also increases product recognition. Kaya and Keleş (2019) discuss the role of the "Herb Dishes Festival" held in Sürmeli Village, Bafra, Samsun, in promoting local products and enhancing the region's tourism appeal. Similarly, Paslı (2021) notes the importance of the "Aksu Festival" held in Giresun in promoting both the destination and the sustainability of GIPs. Kargiglioğlu and Kabacık (2017) cite the "International Urla Artichoke Festival" as an example of a festival directly focused on GIPs, contributing to the region's tourism appeal and regional marketing.

It is essential to provide clear and reliable information about local products to consumers through official channels. The organization of official websites by relevant institutions for the promotion of registered products both nationally and internationally enhances the destination's image and tourist appeal (Özkan, 2019; Sarıipek and Çevik, 2020). Additionally, Seçuk and Tugay (2021) examined the official websites of provincial culture and tourism directorates in cities within the Mediterranean Region and found that some sites adequately emphasized GIPs.

2.3. Willingness to Pay for GIPs

Geographical indication registration ensures that products meet specific standards and quality. Consumers' perceived quality and reliability influence their satisfaction and preferences. It has been observed that the elements of quality and reliability positively impact perceptions of GIPs, increasing consumers' WTP more for these products (Saïdi et al., 2020; Toklu, 2016). The willingness to pay (WTP) for GIPs is considered a sub-dimension of behavioral intention (Jafarova, 2022). Consumers are willing to pay more for products with a geographically indicated label if they believe the label signifies higher quality and a better

reputation. Reshuffling geographically indicated designations to better align with product quality can increase WTP without changing the product quality itself (Saïdi et al., 2020). The protection and certification of regional products prevent consumers from facing incorrect pricing and producers from encountering unfair competition. Perceived quality is identified as a significant determinant of consumers' willingness to purchase and pay for protected regional products (Ittersum et al., 2007). Confidence in geographical indication registration acts as a mediator between purchase intent and other factors, such as culture, health benefits, perceived product quality, and rural development (Garanti, 2019). Product image, shaped by satisfaction with the production quality and taste of regional products, influences consumer purchasing behavior and WTP higher prices (Schneider and Ceritoğlu, 2010; Zhu et al., 2018). A strong reputation of the geographical origin helps sustain high consumer expectations and uphold the product's positive image, which is essential for maintaining premium pricing (Kokthi & Kruja, 2017). Consumers express a WTP more for and purchase GIPs due to their perceived higher quality and taste, contributions to the regional economy, and greater reliability (Jafarova, 2022; Koç, 2022; Sancak, 2019). Extending this understanding of consumer preferences, the role of locality emerges as a distinct factor influencing WTP for GIPs.

The locality and origin perception of GIPs are considered quality elements by consumers, leading to an increased WTP more for GIPs (Bardají et al., 2009). Furthermore, when it comes to the perception of GIPs, consumers show a greater WTP for geographically indicated local products, not because of the geographically indication label itself but due to their locality. Those who believe that local GIPs are more reliable prefer to purchase and pay more for these products over non-local GIPs, even if the prices are higher. When prices are the same for local and non-local GIPs, consumers display a stronger WTP for local GIPs (Albayram et al., 2014). Additionally, when the price of standard products and GIPs is identical, consumers prefer the GIP and express a WTP more for this category (Meral and Şahin, 2013; Yılmaz, 2022; Zuluğ, 2010).

Attitudes, beliefs, and psychographic factors are found to influence the WTP more for GIPs (Teuber, 2011). Consumers' attitudes toward the region of origin directly affect their attitudes toward the protected regional product. The more positive a consumer's relative attitude toward the protected regional product, the less reactive they are to relative price increases (Ittersum et al., 2007). Trust in geographically indicated labels, preferences, and monthly food expenditure can influence WTP. For instance, in Turkey, awareness of a product being a GIP positively correlates with WTP, while higher monthly food expenditure negatively correlates with the tendency to pay more for GIPs (Çukur et al., 2020).

Consumers are more willing to pay extra if they believe that GIPs contribute to the local economy (Teuber, 2011). This indicates that consumers value locality, support for regional production, and cultural and traditional sustainability (Caniglia et al., 2008). When purchasing GIPs, consumers prioritize local businesses and regional markets (Koç, 2022). To increase the market share for local products and consumers' WTP more, local authorities must support perceptions of quality and reliability regarding these products (Gracia, 2014).

It has been observed that the geographically indicated label is particularly significant for higher-educated buyers in terms of their WTP more (Čačić et al., 2011). The more informed and aware consumers are about the geographically indicated system, the greater their WTP (Lu and Sajiki, 2021). Awareness of GIP labels not only promotes conscious consumption but

also influences preference and WTP for labeled products (Alataş, 2021; Loureiro and McCluskey, 2000; Zuluğ, 2010). Consumers state that they would choose a GIP when faced with alternatives and perceive this choice as a rational decision (Jafarova, 2022). It has also been noted that consumers are willing to pay slightly more on average for products with designation of origin labels compared to those with geographical indication labels (Aprile et al., 2012).

Building on the literature review, the role of education, awareness, and labeling emerges as a key determinant in shaping consumer preferences and WTP for GIPs.Income level is one of the demographic factors influencing WTP for GIPs. Price-sensitive consumers are less likely to be aware of the geographically indication logo. Higher-income groups tend to place greater value on geographically indicated-registered products (Çakaloğlu and Çağatay, 2017; Latik, 2022; Loureiro and Umberger, 2005; Teuber, 2011).

Gender is another demographic factor affecting WTP for GIPs. Women are observed to have more knowledge of GIPs than men (Sancak, 2019). Female consumers, who are primarily responsible for food shopping and are concerned with food quality and safety, are noted to support mandatory origin-certified labeling systems more (Loureiro and Umberger, 2003). The desire to purchase local products is stronger among women than men (Sajiki et al., 2009), but men are observed to be more willing to pay higher prices for GIPs than women (Albayram et al., 2014; Čačić et al., 2011).

3. Method

This cross-sectional research is designed to identify the factors influencing consumers' WTP for GIPs. Within this research design, a survey—one of the data collection tools commonly used in quantitative studies—was distributed to participants online via Google Forms on a voluntary basis. The statements included in the survey were adapted to the study with permission from researchers who used the original expressions (Tleis et al., 2017; Zuluğ, 2010). Then, binary logistic regression was utilized to analyse the data.

3.1. Data Collection

3.1.1. Preliminary Research

The preliminary research, consisting of three sections, was conducted online via Google Forms between February 21 and February 28, 2023. In the first section, participants were provided with information on the essential components of GIPs: *designation of origin*, *geographical indication*, and *traditional specialty guaranteed*. The second section included questions about 14 geographically indicated food products specific to Antalya (Alanya Avocado, Alanya Banana, Alanya Loquat, Alanya Gülüklü (Hülüklü) Soup, Antalya Bergamot Peel Jam, Antalya Pumpkin Dessert, Antalya Paça Soup, Antalya Piyaz, Antalya Layered Pastry, Antalya Rabbit Heart (Tavşan Yüreği) Olive, Antalya Bitter Orange Peel Jam, Korkuteli Karyağdı Pear, Manavgat Golden Sesame, and Finike Orange). These questions explored awareness of GIPs, purchasing behaviors and frequency, and WTP. The final section contained demographic questions. The data collected from the preliminary research informed the development of questions for the pilot study.

3.1.1.1. Preliminary Research Findings

Among the 37 participants in the preliminary research, 30 (81.1%) were women, and 7 (18.9%) were men. The most well-known GIPs were as follows: *Alanya Banana* ranked first with 18 yes (48.6%) and 19 no (51.4%) responses; *Antalya Piyaz* ranked second with 18 yes

(48.6%) and 19 no (51.4%); and *Antalya Bitter Orange Peel Jam* ranked third with 15 yes (40.5%) and 22 no (59.5%).

Regarding prior purchases of these products, the results were: *Alanya Banana* had 28 yes (75.7%) and 9 no (24.3%) responses; *Antalya Piyaz* had 14 yes (37.8%) and 23 no (62.2%); and *Antalya Bitter Orange Peel Jam* had 11 yes (29.7%) and 26 no (70.3%) responses.

The data revealed that participants had higher awareness of and purchase behavior for *Alanya Banana* and *Antalya Piyaz* compared to *Antalya Bitter Orange Peel Jam*. Consequently, the pilot study questionnaire focused on *Alanya Banana* and *Antalya Piyaz*, excluding questions related to *Antalya Bitter Orange Peel Jam*.

3.1.2. Pilot Study

The pilot study, consisting of four sections, was conducted online via Google Forms between March 29 and April 4, 2023. In the first section, participants were asked questions related to food shopping. The second section measured participants' knowledge of GIPs. The third section, based on the results of the preliminary research, included questions regarding GIP knowledge, purchasing behavior, and WTP for the top two products with the highest awareness and purchase rates: *Alanya Banana* and *Antalya Piyaz*. The final section comprised demographic questions. The pilot study ensured the clarity and consistency of the statements, leading to the finalization of the survey.

3.1.2.1. Pilot Study Findings

Of the 28 participants in the pilot study, 9 were excluded after responding "no" to the first screening question, *"Are you generally responsible for food shopping in your household?"* An additional 5 participants were excluded after responding "no" to the second screening question, *"Have you ever purchased a GIP?"* Valid data were obtained from the remaining 14 participants.

Among these 14 participants, 10 (35.7%) were women, and 4 (14.3%) were men. In response to the question about knowledge of GIPs related to *Alanya Banana*, 8 participants (28.6%) said "yes," while 6 (21.4%) said "no." Regarding the purchase of *Alanya Banana*, 13 participants (46.4%) responded "yes," and 1 (3.6%) responded "no." For knowledge of GIPs related to *Antalya Piyaz*, 4 participants (14.3%) answered "yes," while 10 (35.7%) answered "no." In response to the purchase question for *Antalya Piyaz*, 9 participants (32.1%) answered "yes," and 5 (17.9%) answered "no."

The data indicated that participants had higher knowledge of and purchase rates for *Alanya Banana* compared to *Antalya Piyaz*. As a result, the final survey for the main study included questions regarding *Alanya Banana*, while questions related to *Antalya Piyaz* were excluded from the final research.

3.1.3. Final Research

In the final research, based on the data obtained from the preliminary and pilot studies, it was determined that consumer knowledge and purchase rates for the GIP *Alanya Banana* were higher than for *Antalya Piyaz*. Therefore, unlike the preliminary and pilot studies, the final research included statements exclusively related to *Alanya Banana*, focusing on GIP knowledge, purchasing behavior, and WTP. Additionally, the statement *"Are you generally responsible for food shopping in your household?"* from the pilot study was excluded from the final research as it did not align with the study's purpose.

In the first section, questions related to food shopping were included. Three of the statements in this section were adapted from the original statements in the study by Tleis et

al. (2017). For example, one of the statements was *"What is generally your criterion for food selection?"* The statements used in the study and their sources are provided in Table 1.

Table 1: Statements Related to Food Shopping Used in the Research and Their References

Statement	Reference
Food Shopping	Tleis et al., 2017
What is generally your criterion for food selection?	
Where do you usually do your food shopping?	
How would you describe yourself?	

Source: Table prepared by the authors.

In Section 2, participants were asked a total of 16 questions related to geographically indicated product information and perception. One of these questions is the first screening question in the study: "Have you previously purchased a geographical indication product?" Another question assesses participants' knowledge of GI product labels: "If you have previously purchased a geographical indication product, did you pay attention to the 'origin name, certification mark, or traditional product name' labels?"

Three other expressions were adapted from the study by Tleis et al. (2017). An example of the first statement on geographical indication product information is: "What is generally the origin (place of production) of the geographical indication products you purchase?"

Eleven of the statements on the perception of geographical indication products were adapted from Zuluğ (2010). An example of the first statement on GIP perception is: "The product is said to be produced in the relevant geographical area." For each statement regarding the perception of GIPs, a 5-point Likert scale was used.

The expressions used in the study and their sources are listed in Table 2.

Table 2: Expressions Used in the Study on Geographical Indication Product Perception and References

Statements	Reference
Information About GIPs	Tleis et al., 2017
Where is the origin (place of production) of the GIPs you purchase?	
When did you first hear about GIPs?	
What is your main source of information about "GIPs"?	
Perception of GIPs	Zuluğ et al., 2010
“What do you understand from "GIP"?	
It indicates that the product is produced in the relevant geographical area.	
It means the product is subject to independent inspection.	
It suggests that the product might be more suitable for children.	
It signifies that sustainable quality is ensured in the product.	
It implies that the product will be more expensive.	
It indicates a lower likelihood of fraud in the product.	
It suggests that the product is healthy (free of preservatives, hormones, or agricultural residues).	
It implies that agricultural workers’ incomes might increase.	
It suggests that the product will be more delicious.	
It means the product is made using traditional production methods.	
It implies the product is handmade and very labor-intensive.	

Source: Table prepared by the authors.

In the third section, questions regarding the geographically indicated food product unique to Antalya, the "Alanya Banana," are adapted from the study by Tleis et al., 2017. This section includes seven statements. One of these statements is the second screening question of the study: *"Have you ever purchased Alanya Banana before?"* The first of the remaining statements is given as an example: *"Do you know that Alanya Banana is a GIP?"* The statements used in the study and the reference source are provided in Table 3.

Table 3: Statements and References Related to Geographically Indicated Food Products Used in the Study

Statements	**Reference**
Geographically Indicated Food Products	Tleis et al., 2017
Do you know that Alanya Banana is a GIP?	
Have you ever purchased Alanya Banana before?	
How much would you pay for geographically indicated Alanya Banana?	
What is your primary reason for purchasing geographically indicated Alanya Banana?	
Would you increase your purchase of geographically indicated Alanya Banana in the future?	
Under what circumstances would your purchase of geographically indicated Alanya Banana increase in the future?	
If you choose not to purchase it in the future, what would be your reason for not buying geographically indicated Alanya Banana?	

Source: Table prepared by the authors.

In the final section, socio-demographic questions are included (gender, age, city, marital status, education level, occupation, income, household size, presence of children in the household, and number of children in the household).

4. Data Analysis

In the study examining the factors influencing consumers' purchase intention and WTP for GIPs, a total of 628 participants took part in the online survey via Google Forms between September and October 2023 by employing convenience sampling due to its cost and time efficiency advantages (Winton and Sabol, 2021). The population of this study consists of consumers who purchase GIPs specific to Antalya. The sample size includes 308 participants. Although Hair et al. (2019) suggest that the sample size for binary logistic regression should exceed 400 participants, it is emphasized that smaller samples can also yield successful results in such analyses.

The survey included two screening questions. The first screening question, "Have you ever purchased a GIP?", resulted in 234 participants answering "no" and thus being excluded from the survey. After this screening question, the valid number of participants decreased to 394. For the second screening question, "Have you ever purchased Alanya Banana?", 86 out of the 394 participants answered "no" and proceeded to the demographic questions section. The remaining 308 participants, who answered "yes," continued to respond to the other questions related to Alanya Banana, a GIP unique to Antalya. The responses from these participants formed the dataset used for the binary logistic regression analysis conducted to answer the research questions. The demographics of the respondents are presented in Table 4.

Table 4: Demographics of the Respondents

Gender	***f***	**%**
Female	232	75.3
Male	76	24.7
Total	**308**	**100**
Age	***f***	**%**
25 and below	39	12.7
26-35	121	39.3
36-45	93	30.2
46-55	34	11.0
56 and above	21	6.8
Total	**308**	**100**
City	***f***	**%**
I live in Antalya.	157	51.0
I live outside Antalya.	151	49.0
Total	**308**	**100**
Marital Status	***f***	**%**
Married	181	58.8
Single	127	41.2
Total	**308**	**100**
Education Status	***f***	**%**
Primary school, middle school, high school	57	18.5
University (Associate degree, undergraduate)	203	65.9
Graduate (Master's degree, PhD)	48	15.6
Total	**308**	**100**
Occupation	***f***	**%**
Unemployed	24	7.8
Retired	18	5.8
Housewife	39	12.7
Student	20	6.5
Full-time employee	149	48.4
Part-time employee	11	3.6
Self-employed	47	15.3
Total	**308**	**100**
Monthly Income	***f***	**%**
Lower than minimum wage	31	10.1
High than minimum wage	194	63.0
Do not want to specify	83	26.9
Total	**308**	**100**
Household Size	***f***	**%**
1	32	10.4
2	76	24.7
3	109	35.4
4	71	23.1
5 and above	20	6.5
Total	**308**	**100**
Children at Home	***f***	**%**
Yes	134	43.5
No	174	56.5
Total	**308**	**100**

Source: Table prepared by the authors.

Logistic regression analysis aims to establish an acceptable model that explains the relationship between dependent and independent variables using the fewest variables. In logistic regression analysis, stronger and more effective predictions are made regarding the likelihood of one of the possible outcomes of the dependent variable (Atasoy, 2001). When the dependent variable is binary and the independent variable is either continuous or categorical, binary logistic regression, a subtype of logistic regression analysis, is preferred to examine the relationship between dependent and independent variables (Hair et al., 2019).

In line with the aim of the study, binary logistic regression analysis was deemed appropriate due to the two levels of the dependent variable. The goal was to identify the factors influencing the WTP for Alanya Banana. The WTP for Alanya Banana was evaluated with two categories (I would pay the same as for non-GIPs; I would pay more than for non-GIPs). In this model, those who are willing to pay the same as for non-GIPs are placed in the reference category and coded with a value of 0. Those who are willing to pay more than for non-GIPs are placed in the target category and coded with a value of 1.

In the model, the independent variables include demographic factors (gender, age, city, marital status, education level, occupation, monthly income, household size, and children in the household), the geographical indication product perception scale, food selection criteria, food shopping location, self-identification, geographical indication product label awareness, the origin of the geographical indication product (place of production), the time of learning about the geographical indication product, the source of information about the geographical indication product, and the reason for purchasing Alanya Banana.

Some categories of independent variables were transformed in SPSS for a clearer and more understandable interpretation of the findings within the scope of the study's purpose. The 5-category age variable (25 and under, 26-35, 36-45, 46-55, 56 and over) was transformed into 3 categories (18-35 years, 36-55 years, 56 and over); the 7-category occupation variable (unemployed, retired, housewife, student, full-time employed, part-time employed, self-employed) was transformed into 4 categories (unemployed and housewife, retired, student, employed); and the 5-category household size variable (1, 2, 3, 4, 5 and more) was transformed into 3 categories (living alone, living with 2-4 people, living with 5 or more people) (see Table 5). Additionally, the 11-item geographical indication product perception scale, being a 5-point Likert scale, was not coded for the items as an exception.

Table 5: Independent Variables in the Model

Gender Female (0 / Reference Group) Male (1)	**Age** 18-35 age (0 / Reference Group) 36-55 age (1) 56 and above (2)
Location I live in Antalya (0 / Referans Group) I live outside of Antalya (1)	**Marital Status** Married (0 / Referans Group) Single (1)
Education Level I have not received formal education (0 / Reference Group) Primary school, middle school, high school (1) University (Associate degree, Bachelor's degree) (2) Graduate (Master's degree, Doctorate) (3)	**Occupation** Not working and Housewife (0 / Reference Group) Retired (1) Student (2) Employed (3)

Monthly Income (Based on the 2023 Net Minimum Wage) Low (0 / Reference Group) High (1) Prefer not to specify (2)	**Household Size** Living alone (0 / Reference Group) Living with 2-4 people (1) Living with 5 or more people (2)
Children in the Household Yes (0 / Reference Group) No (1)	**Geographical Indication Product Perception Scale (11-item)**
Food Selection Criteria I prefer food from a trusted familiar brand. (0 / Reference Group) I prefer food that is good for my health. (1) I prefer food that is low-priced. (2) I prefer food that tastes good. (3) I prefer local products. (4) I prefer food sold nearby. (5)	**Food Shopping Place** Supermarket (0 / Reference Group) Stores selling healthy food (1) Stores selling organic products (2) Grocery stores/small markets (3) From the nearest place (4)
Self-Identification I care a lot about my health. (0 / Reference Group) I enjoy eating delicious food. (1) I love traditional family meals. (2) I care about nature. (3)	**Geographical Indication Product Label Awareness** Yes (0 / Reference Group) No (1)
Origin of Geographical Indication Product (Place of Production) They are GIPs produced in Turkey. (0 / Reference Group) They are GIPs from abroad. (1) I don't know. (2)	**Time of Learning About Geographical Indication Product** Recently (this year) (0 / Reference Group) Previously (2-5 years ago) (1) A long time ago (more than 5 years ago) (2)
Source of Information About Geographical Indication Product Newspapers, magazines, radio (0 / Reference Group) Social media, internet (1) Travel agencies/Tour operators (2) Television (3) Promotional brochures (4) School/Work environment (5) Friends/Family members (6)	**Reason for Purchasing Alanya Banana** Being healthier (0 / Reference Group) Being tastier (1) Being less harmful to the environment (2) Being of higher quality (3) Family traditions (4) Contributing to the regional economy (5) Being low-cost (6) Popularity of geographically indicated food products (7)

Source: Table prepared by the authors.

To test the reliability of the scales, the Cronbach's Alpha (α) value must be 0.70 or higher to be considered acceptable (Kılıç, 2016). As a result of the reliability analysis of the GIP perception scale with 11 items, which was adapted from Zuluğ (2010), the Cronbach's Alpha value was found to be 0.904. It was concluded that the reliability coefficient of this scale ($\alpha > 0.70$) is sufficient. When the skewness and kurtosis values of the relevant data were examined, it was observed that they were below the accepted value of 3, and it was concluded that the data is suitable for analysis (Kline, 2011).

5. Findings

5.1. General Findings of the Study

Of the 308 participants, 219 (71.1%) reported that they previously purchased GIPs but they did not pay attention to the "place of origin, geographical indication, or traditional product name" label. Of the participants, 271 (88%) reported that their previous purchases of GIPs were produced in Turkey, while 8 (2.6%) mentioned those were from abroad. Additionally, 29 (9.4%) participants were unsure about the origin of the GIP they had purchased. Of the 308 participants, 114 (37%) reported that they became aware of GIPs

recently (this year), 110 (35.7%) mentioned to be aware 2-5 years ago, and 84 (27.3%) stated they became aware a long time ago (more than 5 years ago).

5.2. Binary Logistic Regression

5.2.1. Assumptions

Firstly, multicollinearity between the scale items was checked. It was examined whether there was a multicollinearity problem among the variables of the GIPs perception scale since the perception of GIPs scale is measured with 11 items (Zuluğ, 2010). The highest VIF value was found to be 3.028, which is less than the cutoff value 10 (Kim, 2019). Consequently, no multicollinearity was detected among the items of the GIPs perception scale.

To evaluate the model's fit, the Omnibus Tests of Model Coefficients table is used to check the significance level of the p-value for the chi-square statistic, which represents the difference between the -2LL value of the baseline model (containing only the constant/dependent variable) and the -2LL value of the final model (including all variables, both dependent and independent) (Gürbüz and Şahin, 2018). If the difference in -2LL values between the two models is statistically significant, it indicates that the independent variables meaningfully improve the model's fit and that the model, as a whole, is statistically appropriate. Additionally, the smaller the -2LL value difference, the better the model's fit can be considered (Hair et al., 2019).

When Table 6 is examined, the significance of the p-value for the chi-square value of the model indicates that the model is appropriate ($p<0.05$). This significance strengthens the relationship between the independent variables and the dependent variable.

Table 6: Chi-Square Value for the Model

Omnibus Tests of Model Coefficients		
Model Chi-Square	**df**	**Sig**
105.224	55	0.000

Source: Table prepared by the authors.

In addition to assessing the adequacy of the model, pseudo R^2 statistics are examined to measure the strength of the relationship between the dependent and independent variables. McFadden, Cox-Snell, and Nagelkerke R^2 statistics are among the most commonly used measures. Among these, Nagelkerke R^2 is often preferred for interpretation as it is more likely to yield larger values (Şenel and Alatlı, 2014). If the Nagelkerke R^2 statistic is greater than 0.2, the model is considered adequate. According to the analysis results, when the Nagelkerke R^2 statistic is examined, it is determined that the model meets the desired value (0.386 > 0.20). This indicates that 38.6% of the variance in the dependent variable, WTP for Alanya Bananas, is explained by the independent variables.

The Hosmer and Lemeshow Test, used to examine whether the model and data fit are at a sufficient level, is defined as a chi-square-based test that compares observed probabilities with those predicted by the model and evaluates their statistical significance. For model and data fit, the p-value should be non-significant, meaning it should be greater than 0.05 (Hair et al., 2019: 550). Upon examining the relevant Table 7, it is determined that the model adequately fits the data (0.556 > 0.05).

Table 7: Hosmer and Lemeshow Test's Result

Hosmer and Lemeshow Test		
Chi-Square	**df**	**Sig**
6.823	8	0.556

Source: Table prepared by the authors.

Detailed information about the Hosmer and Lemeshow test can be found in the probability table generated for this test. In this table, the data is divided into ten groups based on the dependent variable, and it is concluded that the observed and predicted values being close to each other indicates that the model and data are compatible (Gürbüz and Şahin, 2018: 308). The values related to the model are presented in Table 8.

Table 8: Possibility Table

Contingency Table for Hosmer and Lemeshow Test						
		Willingness to Pay for Alanya Bananas = I Would Pay a Similar Amount		**Willingness to Pay for Alanya Bananas = I Would Pay More**		**Total**
		Observed	**Expected**	**Observed**	**Expected**	
Step 1	1	31	28.904	0	2.096	31
	2	21	24.137	10	6.863	31
	3	22	21.575	9	9.425	31
	4	19	18.464	12	12.536	31
	5	13	15.701	18	15.299	31
	6	15	13.222	16	17.778	31
	7	12	10.552	19	20.448	31
	8	6	7.461	25	23.539	31
	9	6	4.585	25	26.415	31
	10	1	1.398	28	27.602	29

Source: Table prepared by the authors.

Finally, in the classification table of the baseline model, which does not include independent variables, the total classification percentage is 52.6%, whereas in the classification table of the final model, which includes the independent variables, the total classification percentage is found to be 72.4%. Due to the increase resulting from the inclusion of independent variables, it can be concluded that the model-data fit is adequate (Süsler, 2022). The corresponding values are presented in Table 9 and Table 10.

Table 9: Classification Table of The Baseline Model

Classification Table					
	Observed		**Predicted**		
			Willingness to Pay		**Percentage Correct**
			Pay Similar	**Pay More**	
Step 0	**Willingness to Pay**	**Pay Similar**	0	146	0
		Pay More	0	162	100
	Overall Percentage				**52.6**

Source: Table prepared by the authors.

Table 10: Classification Table of The Final Model

Classification Table					
	Observed		Predicted		
			Willingness to Pay		Percentage Correct
			Pay Similar	Pay More	
Step 1	Alanya Banana Payment Amount	Pay Similar	101	45	69.2
		Pay More	40	122	75.3
	Overall Percentage				**72.4**

Source: Table prepared by the authors.

5.2.2. Binary Logistic Regression Results

In the model created using binary logistic regression in the research, the independent variables statistically influencing the dependent variable, which is the WTP for geographically indicated Alanya Banana, were determined to be occupation, food selection criteria, food shopping location, time of learning about the geographical indication product, reasons for purchasing Alanya Banana, and geographical indication product perception. The data related to the variables in the model are presented in Table 11.

In the model where occupation, a demographic variable, is considered as an independent variable, the reference group is determined as "not working and housewives." It can be stated that the willingness of retirees to pay for geographically indicated Alanya Banana is 9.224 times higher than those who are not working and housewives.

In the model where the food selection criterion is considered as an independent variable, the reference group is assigned to "prefer food from a trusted familiar brand." It is observed that those who prefer local products have a WTP for geographically indicated Alanya Banana 3.186 times higher than those who prefer food from a trusted familiar brand.

In the model where food shopping location is considered as an independent variable, the reference group is assigned to "supermarkets." It is observed that those who do their food shopping at stores selling organic products have a WTP for geographically indicated Alanya Banana 0.148 times lower than those who do their food shopping at supermarkets.

In the model where the time of learning about the geographical indication product is considered as an independent variable, the reference group is assigned to "recently becoming aware of the geographical indication product." It can be stated that those who became aware of geographical indication products a long time ago have a WTP for geographically indicated Alanya Banana 2.420 times higher than those who became aware recently.

In the model where the reason for purchasing geographically indicated Alanya Banana is considered as an independent variable, the reference group is assigned to "due to its healthier nature." It is concluded that those who purchase Alanya Banana because it is more delicious, due to family habits, because it contributes to the regional economy, and because geographically indicated food products are popular, are less willing to pay for Alanya Banana compared to those who purchase it for its healthier nature, with respective reductions of 0.204, 0.047, 0.122, and 0.075 times.

It can be stated that those who perceive geographically indicated Alanya Banana as a more delicious product are 1.782 times more willing to pay for it compared to those who do not perceive it as more delicious.

Table 11: Data on Variables in the Model

Variable	B	S.E.	Wald	df	Sig.	Exp(B)
Occupation						
Not working and Housewife (Reference Group / 0)	-	-	5.924	3	0.115	-
Retired (1)	**2.222**	**0.978**	**5.165**	**1**	**0.023**	**9.224**
Student (2)	-0.490	0.816	0.361	1	0.548	0.613
Working (3)	0.252	0.456	0.307	1	0.580	1.287
Food Choice Criteria						
I prefer food from a trusted brand (Reference Group / 0)	-	-	13.800	5	0.017	-
I prefer food that is good for my health (1)	-0.178	0.376	0.223	1	0.637	0.837
I prefer low-cost food (2)	-2.046	1.187	2.973	1	0.085	0.129
I prefer food that tastes good (3)	-0.840	0.463	3.288	1	0.070	0.432
I prefer local products (4)	**1.159**	**0.585**	**3.930**	**1**	**0.047**	**3.186**
I prefer food sold nearby (5)	-2.747	1.544	3.165	1	0.075	0.064
Place of Food Purchase						
Supermarket (Reference Group / 0)	-	-	9.779	4	0.044	-
Health food stores (1)	-0.228	0.632	0.130	1	0.719	0.796
Organic food stores (2)	**-1.914**	**0.715**	**7.161**	**1**	**0.007**	**0.148**
Grocery/small markets (3)	-1.639	1.277	1.647	1	0.199	0.194
Closest place (4)	0.357	0.485	0.543	1	0.461	1.430
Time of Learning About GIPs						
Recently (this year) (Reference Group / 0)	-	-	4.080	2	0.130	-
Previously (2–5 years ago) (1)	0.425	0.367	1.345	1	0.246	1.530
Long ago (more than 5 years ago) (2)	**0.884**	**0.440**	**4.029**	**1**	**0.045**	**2.420**
Reason for Buying Alanya Bananas						
Healthier (Reference Group / 0)	-	-	12.314	7	0.091	-
Tastier (1)	**-1.588**	**0.757**	**4.400**	**1**	**0.036**	**0.204**
Less harmful to the environment (2)	-22.368	28332.926	0.000	1	0.999	0.000
Higher quality (3)	-0.954	0.819	1.357	1	0.244	0.385
Family tradition (4)	**-3.064**	**1.212**	**6.386**	**1**	**0.012**	**0.047**
Contribution to the local economy (5)	**-2.105**	**0.811**	**6.736**	**1**	**0.009**	**0.122**
Low cost (6)	-23.833	14781.751	0.000	1	0.999	0.000
Popularity of GIPs (7)	**-2.584**	**1.211**	**4.555**	**1**	**0.033**	**0.075**
Perception of GIPs (Production Location) The product is produced in the relevant geographic area.	-0.262	0.212	1.529	1	0.216	0.769
Perception of GIPs (Inspection) Independent inspection is conducted for the product.	-0.001	0.164	0.000	1	0.994	0.999
Perception of GIPs (Suitability for Children) The product is more suitable for children.	-0.290	0.198	2.149	1	0.143	0.748
Perception of GIPs (Quality) Sustainable quality is ensured in the product.	0.090	0.216	0.175	1	0.676	1.094
Perception of GIPs (Price) The product is expected to be high-priced.	-0.207	0.167	1.543	1	0.214	0.813

Perception of GIPs (Low Fraud) The likelihood of fraud in the product is lower.	0.133	0.228	0.341	1	0.559	1.143
Perception of GIPs (Health) The product is healthy (no preservatives, hormones, or agricultural residue).	-0.056	0.239	0.055	1	0.814	0.945
Perception of GIPs (Farmer Income) It increases the income of agricultural workers.	-0.212	0.186	1.308	1	0.253	0.809
Perception of GIPs (Taste) The product is expected to be tastier.	**0.578**	**0.208**	**7.694**	**1**	**0.006**	**1.782**
Perception of GIPs (Traditional Production) The product is made using traditional production methods.	0.162	0.214	0.571	1	0.450	1.176
Perception of GIPs (Handmade) The product is handmade and labor-intensive.	-0.037	0.200	0.034	1	0.854	0.964
Sample size = 308, **Nagelkerke R^2** = 0.386, **X^2** = 105.224 (**p** = 0.000), **Hosmer and Lemeshow Test X^2** = 6.823 (**p** = 0.556)						

Source: Table prepared by the authors.

6. Conclusion

In this research, the aim is to identify the factors affecting consumers' WTP for GIPs. Throughout the study, consumer perspectives on food shopping, knowledge of GIPs, and evaluations of these food items were explored. The data, collected through an online survey, was analyzed using a binary logistic regression model, contributing findings to the literature. The limited number of studies examining factors influencing WTP for GIPs underscores the significance of this research. The findings not only enrich the literature but also offer recommendations for the sustainability of these products and their support for regional development.

The research question of the current study, “What factors lead to WTP for geographically indicated food products?”, was examined using data collected from consumers and the second binary logistic regression model. Among the demographic variables, the profession was identified as a significant factor influencing WTP for geographically indicated Alanya bananas. The results showed that retirees were more willing to pay for these bananas compared to non-working individuals and housewives. This finding differs from previous literature, such as Yılmaz (2020), which suggested that the profession does not play a role in WTP for GIPs.

Other variables influencing WTP for geographically indicated Alanya bananas were also analyzed. Consumers who prefer local products when choosing food were more willing to pay for geographically indicated Alanya bananas than those who trust well-known brands. This result aligns with the findings in the literature. For instance, Ittersum et al. (2007) noted that consumers' positive attitudes and beliefs towards the region where GIPs are grown reduce their sensitivity to price increases and enhance their WTP. Similarly, Bardají et al. (2009) observed that consumers perceive the locality of GIPs as a quality element, which increases their WTP.

Consumers who shop for food from organic stores were less willing to pay for geographically indicated Alanya bananas compared to those shopping at supermarkets. This finding is consistent with Jafarova (2022), who found that consumers generally prefer

supermarket chains for food shopping and less frequently choose organic stores, organic markets, or direct producers.

Another finding revealed that those who had been aware of GIPs for a long time were more willing to pay for geographically indicated Alanya bananas compared to those who had only recently become aware. Awareness and familiarity with these products appear to influence the WTP positively. Similar conclusions can be drawn from the literature. For example, Alataş (2021) emphasized that consumers with knowledge of geographical indication labels are more likely to pay above the reference price if they are also aware of the product's origin. Lu and Sajiki (2021) similarly highlighted that higher levels of consumer knowledge and awareness of the geographical indication system increase WTP.

Consumers' WTP for geographically indicated Alanya bananas is also influenced by perceptions such as being healthier, tastier, a family tradition, contributing to the regional economy, and the popularity of geographically indicated food products. While the literature includes insights on taste, family tradition, and regional economic contributions, no specific findings address the popularity of geographically indicated food products. For instance, Sancak (2019) found that consumers are willing to pay more for GIPs due to their superior taste compared to regular products. Meral (2013) highlighted that family traditions play a moderately important role in purchasing decisions. Jafarova (2022) reported that consumers are more willing to pay and purchase GIPs because of their contribution to the regional economy. Teuber (2011) similarly stated that consumers are more willing to pay if they are convinced that GIPs support the local economy. However, the present study found that perceiving geographically indicated Alanya bananas as healthier was particularly significant compared to other factors.

Consumers who perceive GIPs as tastier were more willing to pay for Alanya bananas than those who did not hold this perception. This finding aligns with the existing literature. For example, Koç (2022) reported that the majority of consumers were willing to pay more for GIPs due to their superior taste. Jafarova (2022) also noted that consumers prefer to pay more for GIPs because of their enhanced flavor. Schneider and Ceritoğlu (2010) suggested that the positive perception of regional products' taste leads to a greater WTP higher prices.

6.1. Implications

In light of the findings from this study, several recommendations are proposed to enhance consumer awareness and promote GIPs. It is crucial to educate consumers about what geographical indications entail and the characteristics they encompass. Since the majority of participants in the study associate the perception of GIPs with the statement “The product is produced in the relevant geographical area,” making these products visible becomes significant. Websites of institutions such as municipalities, governorates, and district governorates can feature the region’s registered GIPs, updates, and events. This approach could contribute to the awareness, promotion (both nationally and internationally), preservation, and sustainability of these products.

Organizing festivals, symposiums, exhibitions, fairs, and similar events could also increase awareness. Dedicated stands at such events would not only verbally or visually explain the concept of GIPs but also provide tangible product displays, enhancing consumer understanding and interest.

Most participants indicated that they do not pay attention to labels such as “designation of origin,” “geographical indication,” or “traditional product name” when purchasing GIPs. Thus, providing clear and concise information about these labels on product packaging is essential. Educating consumers about reading these labels could further foster an informed purchasing habit. Additionally, creating awareness about the broader impact of buying GIPs—such as contributions to the local economy, support for agricultural workers, traditional production, cultural preservation, and sustainability—could enhance consumer engagement.

The study revealed that individuals aged 36–55 are more likely to purchase Alanya bananas than those aged 18–35, and retirees show higher WTP compared to non-working individuals and housewives. To address this gap, targeted marketing efforts such as informational campaigns, posters, discounts, and in-store tastings could attract younger consumers and non-working groups.

Consumers who shop at small markets or grocery stores are more likely to increase future purchases of Alanya bananas compared to supermarket shoppers. Conversely, those shopping at organic stores are less willing to pay for Alanya bananas than supermarket shoppers. This indicates a need to promote GIPs across various sales points. Both producers and retailers should work collaboratively to increase the visibility and accessibility of Alanya bananas and other GIPs. Special sections dedicated to GIPs—similar to those for gluten-free, organic, or vegan products—could be introduced in retail spaces to improve product recognition and availability.

The study found that consumers who receive information about GIPs through television are more likely to increase their future purchases of Alanya bananas than those who rely on newspapers, magazines, or radio. Additionally, those who have been aware of GIPs for a long time are more willing to pay compared to recent adopters. Television advertisements on local or national channels could play a crucial role in raising awareness and educating consumers and potential buyers about Alanya bananas.

6.2. Future Research Directions

This study utilized a quantitative research methodology focusing on consumer perspectives. Future studies could adopt mixed-method approaches and incorporate producers’ insights to provide a comprehensive understanding of GIPs. Expanding the scope to include other geographically specific products or regions could further enrich the literature.

Additionally, considering the insufficient accessibility of Alanya bananas in Antalya, future research could explore the causes and propose solutions. Including both consumer and producer perspectives in such studies could offer valuable contributions to the literature and practical implications for improving the distribution and marketing of GIPs.

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Extended Summary

Analyzing Willingness to Pay for Geographically Indicated Products: A Study Using Binary Logistic Regression

Geographical indication is defined as a quality mark that specifies the unique characteristics of a product, the region where it is produced, and the relationship between the product's features and the region of production. Through the registration of products with geographical indication, the quality, sustainability, traditional value, and the impact on regional development of the product are preserved and guaranteed. GIPs not only provide national and international recognition for the region but also contribute economically. In this context, efforts should be made both in terms of legal regulations and by public institutions or organizations to raise awareness, protect, and ensure the sustainability of GIPs among consumers.

Consumers' attitudes and perceptions toward GIPs influence their behavioral intentions, including willingness to pay (WTP), which is a key sub-dimension of behavioral intention (Jafarova, 2022). GIPs are increasingly seen as valuable regional marketing tools. They reflect cultural heritage, spark consumer interest, and support destination promotion (Acar, 2018; Suna & Uçuk, 2018). Additionally, GIPs are perceived as higher quality, authentic, and reliable, boosting consumer trust and WTP a premium (Aytop & Çankaya, 2022; Wang, 2021). Geographical indications are associated with higher product quality, reputation, and reliability, which influence consumer satisfaction and WTP more (Saïdi et al., 2020; Toklu, 2016). Consumer attitudes, beliefs, and psychographic factors, such as trust in geographically indicated labels and local economic contributions, also impact WTP more (Teuber, 2011). Higher education and awareness of geographical indication labels correlate with a greater WTP (Čačić et al., 2011; Lu & Sajiki, 2021). Additionally, income level influences WTP, with higher-income consumers more likely to value GIPs (Çakaloğlu & Çağatay, 2017; Teuber, 2011). Gender differences are observed, with women generally more informed and supportive of geographical indication labeling systems, but men often willing to pay higher prices for GIPs (Sancak, 2019; Albayram et al., 2014). Despite the positive influence of perceptions on WTP (Toklu, 2016), studies exploring these factors remain limited, making further research essential for both the sustainability of GIPs and regional development.

The aim of this study is to identify the factors that influence consumers' WTP for GIPs and to offer recommendations to producers and relevant institutions. In the preliminary and pilot research conducted before the main study, it was found that Alanya Bananas, a GIP unique to Antalya, had higher recognition and purchase rates as a GIP compared to other GIPs specific to Antalya. In line with the purpose of the study, data for the final research was collected through an online survey via Google Forms from 628 participants between September and October 2023. Among the 628 participants, 234 did not buy GIPs before, so their surveys were terminated, while the remaining 394 participants were asked only demographic questions as 86 of them stated they had never purchased Alanya Bananas. The data obtained from the 308 participants who indicated they had purchased Alanya Bananas were analyzed using binary logistic regression.

Binary logistic regression analysis was used to identify factors influencing the WTP for Alanya Banana as the dependent variable. The WTP for Alanya Banana was evaluated with two categories (I would pay the same as for non-GIPs (coded 0); I would pay more than for non-GIPs (coded 1)). Independent variables included demographic factors (gender, age, city, marital status, education, occupation, income, household size, children), perceptions of GIPs, food selection criteria, shopping location, self-identification, geographical indicated product label awareness, place of production, timing and source of learning about GIPs, and reasons for purchasing Alanya Banana. Categories of some variables were simplified for clearer interpretation, such as age, occupation, and household size. The 11-item geographical indicated product perception scale was left unencoded as an exception.

As a result of the analysis, the factors influencing the WTP for geographically indicated food products were identified. Retirees showed a higher WTP than non-working individuals and housewives, diverging from previous literature suggesting profession has no impact. Consumers favoring local products over well-known brands demonstrated higher WTP, consistent with research linking positive attitudes toward geographically indicated regions with reduced price sensitivity (Ittersum et al., 2007; Bardají et al., 2009). Supermarket shoppers had higher WTP compared to those frequenting organic stores, aligning with studies showing supermarkets are preferred for GIPs (Jafarova, 2022). Longer awareness of GIPs positively influenced WTP, as familiarity enhances perceived value (Alataş, 2021; Lu & Sajiki, 2021). Factors such as health benefits, taste, family tradition, and contributions to the regional economy significantly influenced WTP. Superior taste and healthiness were particularly impactful, supporting findings from Koç (2022) and Jafarova (2022). Overall, the factors influencing the WTP for Alanya Bananas were occupation, food selection criteria, food shopping location, time of learning about the GIP, reasons for purchasing Alanya Bananas, and the perception of GIPs

To enhance consumer awareness and promote GIPs (GIPs), targeted strategies are recommended. Educating consumers about the meaning and significance of GIPs is crucial, emphasizing their link to specific regions. Institutions like municipalities and governorates can showcase registered GIPs on their websites, along with updates and events, to boost visibility and awareness. Organizing festivals, fairs, and exhibitions with dedicated stands can further promote GIPs through tangible displays and interactive explanations.

Given that many consumers overlook labels like "designation of origin" or "geographical indication," packaging should feature clear, concise information about these terms. Awareness campaigns highlighting GIPs' economic, cultural, and sustainability benefits could foster informed purchasing habits. Marketing efforts should target younger consumers and non-working groups, using strategies like posters, discounts, and in-store tastings. Retail visibility is key, with dedicated sections for GIPs in supermarkets and small markets. Collaboration between producers and retailers can enhance accessibility. Since television is a significant source of geographically indicated product awareness, local and national advertisements could effectively educate and engage consumers.

Future studies should consider mixed-method approaches, incorporating producer insights to provide a holistic view of GIPs. Expanding research to include other regions and products would enrich the literature. Addressing the limited availability of Alanya bananas in Antalya, with perspectives from both consumers and producers, could offer solutions to improve GIP distribution and marketing.