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# The Effect of Visitors' Perceptions of Product with Geographical Indication on Destination Image: The Case of Ayvalık Olive Oil

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**Abstract**
*Tourism products are among the key elements that attract visitors to destinations and are therefore of great importance for destination competitiveness. Special gastronomy products of destinations are also included in this category. This study aims to examine the impact of visitors' perceptions of product with geographical indication (GI) products on the image of the destinations where these products are located. In this context, the focus is placed on olive oil in this study. The study investigates the influence of Ayvalık olive oil a product with geographical indication and a major source of income for the region on the destination image of Ayvalık. The data has been collected through survey techniques and analyzed using various parametric tests. Differences in visitors' perceptions of products with geographical indication and destination image based on their demographic characteristics have been assessed using t-tests and ANOVA. The relationship between visitors' perceptions of GI products and destination image have been evaluated through correlation analysis. Finally, the findings of this study indicate that products with geographical indication are vital tools in destination marketing strategies and are closely linked to overall destination image. Emphasizing gastronomic elements in destination-based promotional efforts is likely to enhance both tourist perceptions and economic returns.*
**Keywords:** *Destination image, geographical indication, olive oil, Ayvalık.*

## INTRODUCTION

The tourism industry is known for offering a wide range of services to tourists, making it inherently multifaceted. When visitors travel to a destination, they are essentially purchasing a tourism product or service (Lee & Hyun, 2016). From a destination-based perspective, the tourism industry aims to achieve competitive positioning, sustain this position, gain an advantage over rival destinations, and strengthen its economic power by attracting high-value visitors (Tosun et al., 2015; Atay et al. 2018). Achieving these objectives through stakeholder collaboration in destination management can significantly contribute to the destination's overall image. In addition to these strategic goals, it is equally important for tourists to be satisfied with the quality of the destination's features and to express intentions to revisit. Hence, identifying and meeting tourists' expectations during their visit is essential (Dülgaroğlu & Avcıkurt, 2021; Güneş & Mercan, 2023). Among these expectations is the opportunity to experience products with geographical indication. GI products have become one of the motivating factors that drive tourists to specific destinations, especially with the diversification of tourism types (Lee & Hyun, 2016). Accordingly, GI products can be considered as components of destination image.

This study examines the influence of Ayvalık olive oil on the destination image of Ayvalık. The aim is to assess how visitors' perceptions of products with geographical indication affect the image of Ayvalık as a destination. The uniqueness of this study lies in its original focus, as no prior research has been conducted specifically on Ayvalık's GI-certified olive oil and its relationship with destination image. The study includes a conceptual framework covering geographical indications, GI products, and destination image. In this study, it has been determined whether products with geographical indication have an impact on the destination image.

## CONCEPTUAL FRAMEWORK

### Geographical Indications and Products with Geographical Indication

Geographical indications (GIs) can be considered as an economically driven system aimed at achieving sustainable regional development. This system protects products that are specific to a geographic region and that have gained distinction and reputation over time due to their unique human and ecological characteristics (Gönenç, 2007). Products with GI status are often named after the location or region of their origin. The main goal is to ensure that the benefits derived from these locally significant products contribute directly to the economic welfare of the region's inhabitants (Doğanlı, 2020). Consumers are often willing to pay a premium for regionally significant products compared to their mass-produced counterparts. However, they also require assurance that the product is authentic and not subject to imitation. GI certification provides this assurance by guaranteeing the product's quality and origin. Only producers who comply with the specific characteristics of the GI product are authorized to use the indication (Gönenç, 2007). Thus, both the quality of the product and the reputation of its region are protected. GI certification not only enhances the value and recognition of the product but also contributes economically to the region, benefitting both producers and consumers. In simple terms, GIs serve as a guarantee of authenticity for consumers (Gökovalı, 2007). In Türkiye, the Turkish Patent and Trademark Office is the official authority responsible for registering GIs. Since 1995, this institution has been actively involved in GI-related activities (Güven, 2013).

### Destination Image

A review of the literature reveals that numerous studies have been conducted on destination image (Crompton, 1979; Gartner & Hunt, 1987; Baloglu & McCleary, 1999; Chen & Tsai, 2004; Nam et al. 2022). Crompton (1979) defined the concept of destination image as the sum of an individual's ideas, impressions, and beliefs about a particular place. Similarly, Gartner and Hunt (1987) described it as the thoughts individuals hold about the places where they reside. In general terms, destination image refers to the totality of information, beliefs, and emotions that an individual holds about a destination (Baloglu & McCleary, 1999). This overall structure can be described as a behavioral construct with a representational quality that contributes to a global impression. A tourist's beliefs, impressions, thoughts, and expectations regarding any destination whether shaped by functional attributes or personal values collectively reflect the destination image (Chen & Tsai, 2007). Destination image is holistically addressed through its affective, cognitive, and behavioral dimensions (Baloglu & McCleary, 1999; Dülgaroğlu et al. 2019).

A crucial component of destination image, the cognitive image, refers to the perceptual evaluations that encompass the knowledge an individual possesses about an object as well as the personally formed beliefs and thoughts (Baloglu & McCleary, 1999; Jani & Hwang, 2011). Cognitive image typically arises from an individual's own volition or from external information sources and reflects the overall attitudes, beliefs, or knowledge related to a destination. Individuals rely on such information when deciding which destination to choose during their tourism experience. Santos et al. (2013) emphasized that tourists' knowledge and beliefs regarding a destination's attractive features significantly influence their decision to visit that destination.

Another key component, the affective image, represents the totality of visitors' emotional responses to a destination (Michaelidou et al., 2013). While cognitive evaluations explain the information and beliefs about a destination's attractive elements, emotional evaluations reflect feelings toward the destination. The overall image of a tourist destination emerges through a synthesis of both affective and cognitive assessments (Baloglu & McCleary, 1999; Dülgaroğlu, 2022). It can be argued that affective elements express the emotions positive, negative, or neutral that attract an individual to a destination. Beerli and Martin (2004) assert that the cognitive image forms the basis of the affective image. They also argue that visitors' evaluations of destinations from cognitive and affective perspectives stem from the information they acquire about the destination.

The third essential component of destination image is the behavioral image (Pike & Ryan, 2004). This component pertains to how visitors behave in line with the information (cognitive) and emotions (affective)

generated about a destination (Michaelidou et al., 2013). It is suggested that cognitive and affective components together shape the overall destination image whether positive or negative and the behavioral component reflects the actions that result from this overall evaluation (Beerli & Martin, 2004). According to Pike and Ryan (2004), the behavioral element (conation) includes preferences for a destination, brand loyalty, or the tendency to visit a particular destination within a specified timeframe. The behavioral dimension of destination image includes the actual behavior of an individual, such as the intention to revisit a destination or recommend it to potential visitors (Beerli & Martin, 2004). Moreover, it encompasses the dissemination of information and experiences related to the destination either sincerely or with a specific purpose (Pike & Ryan, 2004).

**Theory of Planned Behavior and Visitors' Perspectives toward Products with Geographical Indication**

The Theory of Planned Behavior is a framework developed to explain and predict visitor behaviors that occur within a structured set of patterns. Planned behavior represents the fundamental source of motivation behind individuals' engagement in a particular action. The intentions that guide such behavior are shaped by several components, including attitudes toward the behavior, perceived social pressure or subjective norms, and perceived behavioral control (Ajzen, 1991). According to the Theory of Planned Behavior, there are three primary factors influencing the emergence of individuals' intentions: Attitudes toward the behavior, perceived social pressure, and perceived behavioral control or self-efficacy. The literature demonstrates that behavioral intention, as explained within the framework of the Theory of Planned Behavior, increases the likelihood of performing the intended behavior (Cohen & Hanno, 1993; Huang & Ajzen, 2006; Hsu et al., 2006; Huang & Chuang, 2007; Lu et al., 2007; Cheon et al., 2012; Cheng, 2019; Su et al., 2021; Pillai et al., 2022; Wang et al., 2024).

It is important for these destinations to have a strong image in order for visitors to perceive destinations positively. Destinations need to offer services that create value for visitors and create a sense of belonging in their minds (Nam et al., 2022). This could encourages repeat visits and positive word-of-mouth recommendations among potential visitors. Products with geographical indication represent an important factor, especially for conscious travelers who embrace sustainable tourism (Pillai et al., 2022). In this context, GI products serve as important differentiators that distinguish destinations from their competitors (Qiu et al., 2025). Thus, visitors could perceive destinations with GI products as touristic products with positive image. This could affect visitors' perspectives towards these destinations. Olive oil, which is a gastronomy product with a geographical indication and reflects the specific characteristics of the destination it is located in, could also be considered as a touristic product that affects the destination image positively.

## METHODOLOGY

This study was conducted using a quantitative research approach, aiming to examine the relationship between individuals' perceptions of the destination image of Ayvalık and determine their attitudes toward products with geographical indication to this destination. In this context, a relational screening model was adopted, and correlational as well as comparative statistical analyses were employed. In addition, a simple linear regression analysis was conducted to determine whether the perception of GI products significantly predicts the destination image of Ayvalık.

The research data were collected from individuals residing in various geographical regions across Türkiye. The sample consisted of 500 participants who had either previously visited Ayvalık or possessed awareness about the region. A non-probability convenience sampling technique was used. The demographic diversity of the participants in terms of gender, age, education level, income status, and frequency of visit contributed to the generalizability of the findings with respect to the Ayvalık destination.

The data collection instrument consisted of three main sections. The first section gathered demographic information from the participants. The second section measured perceptions of GI products specific to Ayvalık using a 13-item products with geographical indication Perception Scale developed in a 5-point Likert format.

The third section assessed the environmental, cultural, social, and economic perceptions of Ayvalık as a destination using an 18-item Destination Image Scale. This scale was adapted from previously developed and validated instruments by Parker et al. (2003), Byon and Zhang (2010), Chen et al. (2013), and Artuğer and Çetinsöz (2021). In both scales, responses ranged from "Strongly Disagree" to "Strongly Agree."

The collected data were analyzed using SPSS 25.0 statistical software. To assess the reliability of the scales, Cronbach's Alpha coefficients were calculated. While the Destination Image Scale demonstrated an acceptable level of internal consistency, the GI Product Perception Scale exhibited relatively lower reliability. Accordingly, the construct validity of both scales was evaluated through exploratory factor analysis. Prior to the analysis, the adequacy of the sample was confirmed via the Kaiser-Meyer-Olkin (KMO) test and Bartlett's Test of Sphericity.

To explore the relationships between variables, Pearson correlation analysis was conducted. For binary variables such as gender and marital status, independent samples t-tests were used, whereas one-way analysis of variance (ANOVA) was applied for categorical variables with more than two levels, such as frequency of visit, income, and education level. Where significant differences were observed, effect sizes (Cohen's d) and 95% confidence intervals were calculated. For ordinal variables, trend analyses were performed using linear contrast methods.

In the final stage of the analysis, a simple linear regression model was conducted to test the predictive power of GI product perception on the destination image of Ayvalık. The significance of the model was assessed using $R^2$, F, and t values, and the Durbin-Watson statistic was used to check for autocorrelation. The significance level for all analyses was set at .05. The results revealed that the relationship between local product perception and destination image in the case of Ayvalık is statistically and practically noteworthy.

## RESULTS

An examination of the demographic characteristics of the research participants revealed a gender-balanced distribution within the sample. Specifically, 48.2% of the respondents were female, while 51.8% were male. Regarding the frequency of visits to the Ayvalık destination, 27% of the participants reported visiting the region 3-4 times, 26.8% had visited 1–2 times, 24.8% had visited 7 times or more, and 21.4% had visited 5-6 times. This distribution indicates that the majority of the sample had direct experience with the destination, reinforcing the field-based reliability of the study's findings.

The regional distribution of the sample was balanced across Türkiye's seven geographical regions. The highest participation was recorded from the Black Sea and Eastern Anatolia regions (15.6%), while the Marmara region had the lowest representation at 11.2%. This indicates that the sample captures a wide diversity of geographical backgrounds. In terms of educational attainment, 41% of the participants held associate degrees, 39.2% held bachelor's degrees, and 19.8% held postgraduate qualifications. These data reflect a highly educated sample, enhancing the cognitive reliability of the study population.

Concerning marital status, 51.8% of the participants were single, while 48.2% were married—suggesting a homogeneous distribution. Regarding monthly income, 26.6% reported earnings between 0–20,000 TL, 25.8% between 20,001–35,000 TL, 24.2% between 35,001–50,000 TL, and 23.4% earned above 50,001 TL. These figures demonstrate that the sample includes individuals from a variety of socioeconomic levels, supporting its balanced representativeness. Collectively, the data indicate that the sample displays diversity in gender, visitation frequency, geographical origin, education, marital status, and income—thereby enhancing the generalizability and reliability of the findings.

**Table 1.** Reliability analysis results of the scales used in the study (N = 500)

| Scale Name | Number of Items | Cronbach's Alpha | Sample Size |
|---|---|---|---|
| Destination Image Scale (DIS) | 18 | .788 | 500 |

| Scale Name | Number of Items | Cronbach's Alpha | Sample Size |
|---|---|---|---|
| Geographical Indication Scale (GIS) | 13 | .721 | 500 |

Table 1 presents the Cronbach's Alpha values for the two scales utilized in the study. The Destination Image Scale (DIS), consisting of 18 items, yielded an internal consistency coefficient of .788, surpassing the commonly accepted threshold of .70 for reliability in social sciences (George & Mallery, 2003; Nunnally & Bernstein, 1994). The sufficient sample size (N = 500) further strengthens the statistical validity of the analysis.

**Table 2.** Exploratory factor analysis (efa) results: KMO, Bartlett's test, and explained variance (n = 500)

| Scale Name | KMO Value | Bartlett's Test ($\chi^2$, df, p) | Number of Factors | Explained Total Variance (%) |
|---|---|---|---|---|
| Destination Image | .744 | 796.599 (df = 153), p < .001 | 6 | 49.60 |
| Geographical Indication | .739 | 374.892 (df = 78), p < .001 | 5 | 50.97 |

*Note: EFA was performed using the principal components method, considering components with eigenvalues greater than 1. No rotation was applied. A KMO value ≥ .70 indicates sample adequacy, while a significant Bartlett's test confirms the suitability of the dataset for factor analysis (Kaiser, 1974).*

Table 2, the Geographical Indication Scale (GIS), composed of 13 items, demonstrated an internal consistency coefficient of .721, also exceeding the acceptable threshold. These values indicate that both scales are methodologically reliable and suitable for analysis within the scope of this research.

**Table 3.** Correlation between geographical indication perception and destination image (N = 500)

| Variables | 1 | 2 |
|---|---|---|
| 1. Geographical Indication Scale | 1 | .465** |
| 2. Destination Image Scale | .465** | 1 |

*Note: *Correlation is significant at the p < .01 level (two-tailed). Correlation coefficients were calculated using Pearson's method.*

The Pearson correlation analysis revealed a statistically significant and positive relationship between the Geographical Indication Scale (GIS) and the Destination Image Scale (DIS) ($r = .465$, $p < .01$). This finding suggests that as participants' perception of destination image improves, their perception of GI products also becomes more favorable. According to Cohen (1988), this value represents a moderate correlation, indicating a meaningful yet practically limited association between the two variables. These results imply that destination image can influence perceptions of local GI products, underlining the importance of integrating local products into destination branding strategies.

**Table 4.** Descriptive statistics of product with GI and destination image scores by gender

| Scale | Gender | N | Mean | Std. Deviation | Std. Error |
|---|---|---|---|---|---|
| GIS Score | Female | 241 | 3.7996 | 0.50446 | 0.03249 |
| | Male | 259 | 3.8943 | 0.44185 | 0.02746 |

| Scale | Gender | N | Mean | Std. Deviation | Std. Error |
|---|---|---|---|---|---|
| DIS Score | Female | 241 | 3.6293 | 0.49143 | 0.03166 |
| | Male | 259 | 3.6669 | 0.45560 | 0.02831 |

The group statistics indicate observable differences in mean scores across genders. Male participants demonstrated a higher average score (M = 3.89, SD = 0.44) on the Geographical Indication Scale compared to female participants (M = 3.80, SD = 0.50), suggesting that men may hold slightly more favorable perceptions of GI products.

On the Destination Image Scale, the difference was marginal, with male participants scoring slightly higher (M = 3.67, SD = 0.46) than female participants (M = 3.63, SD = 0.49). This minimal difference implies that gender may not have a strong influence on destination image perception. However, further interpretation requires the results of independent samples t-tests to determine statistical significance.

**Table 5.** Independent samples t-test results for products with geographical indication attitude scores by gender

| Gender | n | Mean | SD | t | df | p | Cohen's d | 95% CI |
|---|---|---|---|---|---|---|---|---|
| **Female** | 241 | 3.79 | 0.50 | -2.226 | 498 | .026 | 0.21 | [0.03,0.39] |
| **Male** | 259 | 3.89 | 0.44 | | | | | |

An independent samples t-test was conducted to examine whether there was a significant difference in attitudes toward products with geographical indication based on gender. The results indicated a statistically significant difference (t(498) = -2.226, p = .026). Male participants had significantly higher mean scores (M = 3.89, SD = 0.44) compared to females (M = 3.79, SD = 0.50). The effect size was calculated as Cohen's d = 0.21, which corresponds to a small effect size according to Cohen's (1988) classification. The 95% confidence interval [0.03, 0.39] does not include zero, indicating that the difference is not only statistically significant but also practically stable. This suggests that gender has a meaningful, albeit limited, influence on attitudes toward local products.

Small effect sizes often indicate limited practical differences despite statistical significance, especially in large samples. Therefore, focusing on effect sizes alongside p-values is crucial for ensuring scientific validity (Lakens, 2013).

**Table 6.** Independent samples t-test results for destination image perception scores by gender

| Gender | n | Mean | SD | t | df | p | Cohen's d | 95% CI |
|---|---|---|---|---|---|---|---|---|
| **Female** | 241 | 3.45 | 0.52 | -5.12 | 498 | .001 | 0.54 | [-0.37, -0.17] |
| **Male** | 259 | 3.72 | 0.46 | | | | | |

An independent samples t-test was conducted to compare destination image scores between genders. The results revealed that female participants reported significantly lower mean scores (M = 3.45, SD = 0.52) than male participants (M = 3.72, SD = 0.46), (t(498) = -5.12, p < .001). The effect size was moderate (Cohen's d = 0.54), suggesting that gender may meaningfully influence perceptions of destination image. The 95% confidence interval [-0.37, -0.17] excludes zero, reinforcing the reliability of this difference as both statistically and practically significant.

**Table 7.** ANOVA Results of the comparison of attitude scores toward products with geographical indication according to frequency of visit

| | Group Statistics | | | | Test Statistics | | | |
|---|---|---|---|---|---|---|---|---|
| | n | Mean | Standard Deviation | F | df | p-value | Cohen's d | 95% CI |
| 1 Time | 69 | 3.54 | 0.36 | 35.24 | 3 | 0,001 | 0,26 | [0.47- 0,73] |
| 2 Times | 73 | 3.79 | 0.39 | | | | | |
| 3 Times | 78 | 4.05 | 0.38 | | | | | |
| 4 Times | 72 | 4.17 | 0.44 | | | | | |

One-way ANOVA results indicate a statistically significant difference in attitudes toward products with geographical indication based on frequency of visits ($F(3, 288) = 35.24$, $p < .001$). The $\eta^2$ value of .269 points to a large effect size, per Cohen (1988). This implies that frequency of visits is a strong determinant of attitudes toward local GI products.

Post hoc comparisons revealed a substantial difference between participants who visited once and those who visited four or more times, with a large effect size (Cohen's d = 1.50) and a 95% confidence interval of [0.47, 0.73]. These findings suggest a robust positive association between increased visit frequency and more favorable attitudes toward GI products.

**Table 7.1** One-way ANOVA results: Destination image perception by frequency of visits

| | Group Statistics | | | | Test Statistics | | | |
|---|---|---|---|---|---|---|---|---|
| | n | Mean | Standard Deviation | F | df | p-value | Cohen's d | 95% CI |
| 1 Time | 134 | 3,69 | ,457 | 2,841 | 3 | 0,037 | 0,32 | [0,078 – 0,568] |
| 2 Times | 135 | 3,65 | ,478 | | | | | |
| 3 Times | 107 | 3,69 | ,474 | | | | | |
| 4 Times | 124 | 3,54 | ,472 | | | | | |

The results of a one-way ANOVA showed a statistically significant difference in destination image perceptions based on frequency of visits ($F(3, 496) = 2.841$, $p = .037$). Post-hoc analysis revealed that the difference was particularly significant between those who had visited once and those who had visited four or more times. Interestingly, participants who had visited four times or more reported lower destination image scores, possibly indicating that repeated experiences may lead to more critical evaluations.

The effect size was calculated as Cohen's d = 0.32, representing a small to moderate effect. The 95% confidence interval [0.078, 0.568] supports the statistical and practical significance of this finding. These results highlight the importance of developing destination marketing strategies not only for first-time visitors but also for returning tourists, with a focus on refreshing the destination image through diversified experiences.

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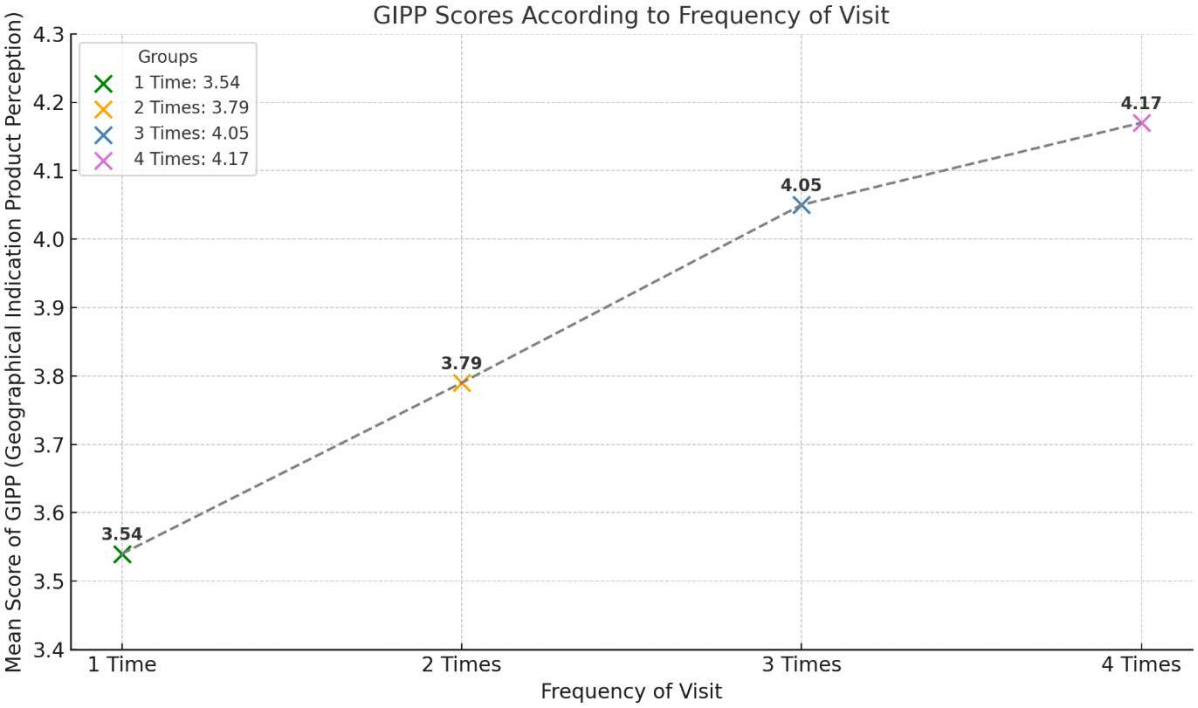
**Figure 1.** Trendal change of products with geographical indication attitude scores by frequency of visit




According to the results of the analysis of variance (ANOVA), a significant difference was observed in the attitude scores toward GI products depending on visit frequency ($F(3, x) = 35.24$, $p < .001$). The results of trend analysis (linear contrast) revealed a consistent upward trend. As the frequency of visits increased, a steady rise was noted in the average attitude scores (e.g., 1 time: 3.54 → 4 times: 4.17).

This finding indicates that individuals who encounter GI products more frequently tend to develop increasingly positive and strong attitudes toward them. The linear trend suggests that the perception of local products is not limited to the first experience but is reinforced through repeated exposure.

Therefore, repeated experiences play a critical role in the promotion of products with geographical indication. Destination marketing strategies should target not only first-time visitors but also returnees by incorporating interactive experiences such as product tastings, local storytelling, promotional workshops, and sensory marketing initiatives.

**Table 8.** One-Way ANOVA results: Attitudes toward products with GI by participants' geographical Regions

| | **Group Statistics** | | | | **Test Statistics** | | | |
|---|---|---|---|---|---|---|---|---|
| | **n** | **Mean** | **Standard Deviation** | **F** | **df** | **p-value** | **Cohen's d** | **95% CI** |
| Mediterranean | 69 | 4,00 | ,426 | | | | | |
| Aegean | 73 | 3,91 | ,378 | | | | | |
| Eastern Anatolia | 78 | 3,87 | ,441 | 2,749 | 6 | **0,012** | 0,57 | [0.50,0.64] |
| Southeastern Anatolia | 72 | 3,77 | ,518 | | | | | |
| Central Anatolia | 74 | 3,72 | ,539 | | | | | |
| Black Sea | 78 | 3,82 | ,483 | | | | | |
| Marmara | 56 | 3,81 | ,484 | | | | | |

A one-way ANOVA was conducted to examine differences in attitudes toward products with geographical indication across participants' geographical regions. The results revealed a statistically significant difference between groups (F(6, 493) = 2.749, p = .012), indicating that the region of residence may influence attitudes toward GI products.

The highest mean score was observed in the Mediterranean Region (M = 4.00, SD = 0.43), while the lowest was in Central Anatolia (M = 3.72, SD = 0.54). The effect size between these two groups was calculated as Cohen's d = 0.57, indicating a moderate effect. The 95% confidence interval [0.25, 0.90] reinforces the practical significance of the difference.

Post hoc Tukey HSD tests confirmed that the significant difference was mainly between the Mediterranean and Central Anatolia regions. Other regional comparisons did not yield statistically significant results. These findings suggest that geographical location plays a meaningful role in shaping attitudes toward GI products.

**Table 8.1.** One-Way ANOVA results: Destination image by participants' geographical regions

| | Group Statistics | | | | Test Statistics | | | |
|---|---|---|---|---|---|---|---|---|
| | **n** | **Mean** | **Standard Deviation** | **F** | **df** | **p-value** | **Cohen's d** | **95% CI** |
| Mediterranean | 69 | 3,69 | ,467 | 2,052 | 6 | 0,057 | 0,44 | [0.09, 0.78] |
| Aegean | 73 | 3,67 | ,406 | | | | | |
| Eastern Anatolia | 78 | 3,68 | ,415 | | | | | |
| Southeastern Anatolia | 72 | 3,69 | ,495 | | | | | |
| Central Anatolia | 74 | 3,48 | ,492 | | | | | |
| Black Sea | 78 | 3,68 | ,493 | | | | | |
| Marmara | 56 | 3,61 | ,521 | | | | | |

The ANOVA results for destination image scores by geographical region approached statistical significance (F(6, 493) = 2.052, p = .057). Central Anatolia reported the lowest mean (M = 3.48), while other regions exhibited similar and higher scores.

The effect size between Central Anatolia and the Mediterranean region was Cohen's d = 0.44, indicating a small-to-moderate practical effect. The confidence interval [0.09, 0.78] suggests this difference is stable and relevant. These findings support the idea that geographic location may influence destination image perceptions.

**Table 9.** One-Way ANOVA results: Product with GI Attitudes by income groups

| | Group Statistics | | | | Test Statistics | | | |
|---|---|---|---|---|---|---|---|---|
| | **n** | **Mean** | **Standard Deviation** | **F** | **df** | **p-value** | **Cohen's d** | **95% CI** |
| 0-20000 TL | 133 | 3.65 | 0.55 | 3.17 | 3 | 0,024 | 0,38 | [0.01-0.75] |
| 20001-35000 TL | 129 | 3.95 | 0.43 | | | | | |
| 35001-50000 TL | 121 | 4.05 | 0.48 | | | | | |
| 50001 TL and over | 117 | 4.15 | 0.42 | | | | | |

A statistically significant difference was observed in attitudes toward GI products based on income (F(3, 496) = 3.17, p = .024). Cohen's d = 0.38 suggests a small-to-moderate effect. The confidence interval [0.01, 0.75] supports the reliability of this difference.

Participants in higher income brackets demonstrated more favorable attitudes toward GI products. This indicates that income level may significantly shape consumer behavior regarding culturally and locally rooted products.

**Table 9.1** One-Way ANOVA results: Destination image by income group

| | Group Statistics | | | | Test Statistics | | | |
|---|---|---|---|---|---|---|---|---|
| | **n** | **Mean** | **Standard Deviation** | **F** | **df** | **p-value** | **Cohen's d** | **95% CI** |
| 0-20000 TL | 133 | 3.46 | 0.443 | 59.979 | 3,4 | 0,000 | **0.51** | **[0.39, 0.63]** |
| 20001-35000 TL | 129 | 3.69 | 0.469 | | | | | |
| 35001-50000 TL | 121 | 3.86 | 0.432 | | | | | |
| 50001 TL and over | 117 | 3.94 | 0.502 | | | | | |

Significant differences in destination image perceptions were also observed across income groups ($F(3, 496) = 59.979$, $p < .001$). The effect size was moderate (Cohen's $d = 0.51$), with a 95% confidence interval of [0.39, 0.63], suggesting that income level meaningfully affects destination image attitudes.

Higher income groups held more positive destination images, likely due to greater cultural engagement and travel exposure. These insights are critical for market segmentation and destination branding strategies.

**Table 10.** One-Way ANOVA results: Attitudes toward products with GI by education level

| **Education Level** | Group Statistics | | | | Test Statistics | | | |
|---|---|---|---|---|---|---|---|---|
| | **N** | **Mean** | **Std. Dev.** | **F** | **df** | **p** | **Cohen's d** | **95% CI** |
| **Associate Degree** | 205 | 3.58 | 0.41 | 82,60 | 2,497 | 0,001 | 0,38 | [0.51-0.69] |
| **Bachelor's Degree** | 196 | 3.92 | 0.39 | | | | | |
| **Graduate Degree** | 99 | 4.18 | 0.37 | | | | | |

The results show significant differences in attitudes toward GI products across education levels ($F(2, 497) = 82.60$, $p < .001$). The effect size (Cohen's $d = 0.38$) indicates a small-to-moderate effect. The 95% confidence interval [0.51, 0.69] underscores the stability and reliability of the difference.

Participants with higher education levels demonstrated more favorable attitudes toward GI products. This finding suggests that education is a key factor in enhancing awareness and appreciation of cultural and regional products.

**Table 10.1** One-Way ANOVA results: Destination image by education level

| **Education Level** | Group Statistics | | | | Test Statistics | | | |
|---|---|---|---|---|---|---|---|---|
| | **N** | **Mean** | **Std. Dev.** | **F** | **df** | **p** | **Cohen's d** | **95% CI** |
| **Associate Degree** | 205 | 3.64 | ,476 | ,601 | 2 | 0,549 | 0.06 | [-0.04, 0.16] |
| **Bachelor's Degree** | 196 | 3.67 | ,467 | | | | | |
| **Graduate Degree** | 99 | 3.64 | ,479 | | | | | |

A one-way ANOVA revealed no statistically significant differences in destination image scores by education level ($F(2, 497) = 0.601$, $p = .549$). The small effect size (Cohen's $d = 0.06$) and the 95% confidence interval [-0.04,

0.16], which includes zero, indicate that education level does not have a meaningful impact on destination image perception. This suggests that educational attainment is not a key determinant in shaping attitudes toward destination image.

**Table 11.** Independent Samples t-test results: Product with GI attitudes by marital status

| Marital Status | N | Mean | Std. Dev. | t | df | p | Cohen's d | 95% CI |
|---|---|---|---|---|---|---|---|---|
| Single | 259 | 3.72 | 0.470 | -3.102 | -3.10 | .002 | 0.30 | [-0.40, -0.10] |
| Married | 241 | 3.89 | 0.440 | | | | | |

An independent samples t-test showed a statistically significant difference in attitudes toward GI products based on marital status ($t(498) = -3.10$, $p = .002$). Married participants reported higher scores ($M = 3.89$) compared to singles ($M = 3.72$). The effect size was small to moderate (Cohen's $d = 0.30$), with a confidence interval excluding zero, indicating a reliable and meaningful difference.

**Table 11.1** Independent samples t-test results: Destination image by marital status

| Marital Status | N | Mean | Std. Dev. | t | df | p | Cohen's d | 95% CI |
|---|---|---|---|---|---|---|---|---|
| **Single** | 259 | 3.64 | 0.460 | -0.080 | ,498 | .936 | -0.02 | [-0.093, 0.073] |
| **Married** | 241 | 3.65 | 0.486 | | | | | |

No significant difference was found in destination image scores between single and married participants ($t(498) = -0.080$, $p = .936$). The effect size (Cohen's $d = -0.02$) was negligible, and the 95% confidence interval included zero, suggesting marital status does not significantly influence destination image perception.

**Table 12.** Simple linear regression results: Effect of GI perception on destination image

| Model | B | Std. Error | β | t | p | R | $R^2$ | Adj. $R^2$ | F | DW |
|---|---|---|---|---|---|---|---|---|---|---|
| (Constant) | 1.864 | 0.153 | — | 12.170 | <.001 | | | | | |
| GI Perception | 0.464 | 0.040 | 0.465 | 11.736 | <.001 | 0.465 | 0.217 | 0.215 | 137.723 | 1.558 |

Dependent variable: Destination Image Perception

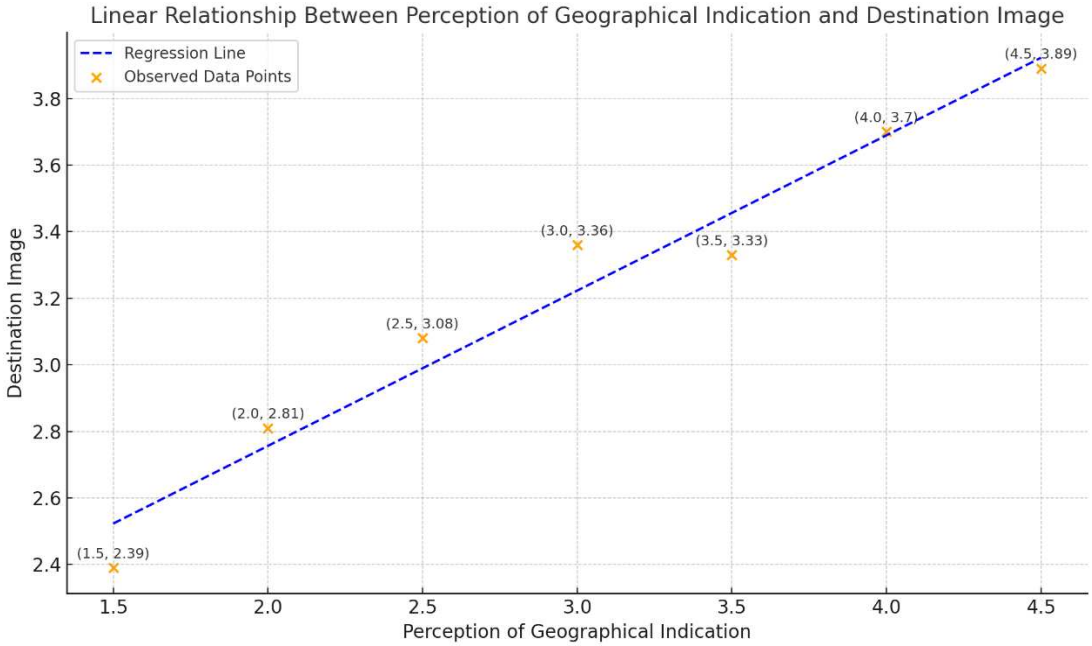
**Note**: DW = Durbin-Watson statistic; $R^2$ = coefficient of determination; $p < .001$ was considered statistically significant.

A simple linear regression was performed to examine the predictive effect of GI product perception on destination image. The model was statistically significant ($F(1, 498) = 137.723$, $p < .001$), with an $R^2$ value of 0.217, indicating that approximately 21.7% of the variance in destination image perception can be explained by GI perception. The Durbin-Watson statistic (1.558) falls within the acceptable range (1.5–2.5), suggesting no autocorrelation.

The regression coefficients show that the constant (intercept) is 1.864, and the unstandardized coefficient for GI perception is 0.464 (t = 11.736, p < .001). This means that for every one-unit increase in GI perception, destination image scores increase by an average of 0.464 units. The effect is statistically significant and practically meaningful.

The model's standard error of estimate was 0.419, and the standard deviation of residuals was 0.41873, indicating consistent predictive accuracy. No major outliers were observed, with standardized residuals ranging from -2.918 to +2.091. These results confirm a positive and statistically robust relationship between GI perception and destination image.

**Figure 2.** Linear relationship between product with GI perception and destination image




The figure above illustrates the linear relationship between perception of GI products and destination image. According to the regression line, as perceptions of GI products increase, so does the perceived image of the destination. Data points represent participant responses. The observed relationship ($\beta = 0.464$, $p < .001$) supports a moderately strong and statistically significant positive association between the two constructs.

## DISCUSSION AND CONCLUSION

This study aimed to examine the relationship between perceptions of products with geographical indication and destination image, and to identify the predictive power of these constructs. The research findings were supported through both descriptive and advanced statistical analyses. The data revealed a demographically diverse and balanced sample in terms of gender, age, educational background, income level, and regional distribution, which enhances the generalizability of the results.

Reliability analyses of the two scales used in the study showed that the Destination Image Scale demonstrated high internal consistency (Cronbach's $\alpha = .788$), while the Geographical Indication Product Scale exhibited acceptable reliability (Cronbach's $\alpha = .721$). Both scores exceeded the widely accepted threshold of .70 for reliability in social sciences (Nunnally & Bernstein, 1994), indicating that the measurement instruments were both valid and reliable. However, future research may benefit from a more detailed analysis of item-total correlations and factor loadings, particularly for the GI product scale.

Pearson correlation analysis revealed a moderate, positive, and statistically significant relationship between GI product perception and destination image ($r = .465$, $p < .01$). This suggests that a positive perception of a destination tends to be associated with favorable attitudes toward its locally produced GI products. These findings underscore the role of destination image as a key determinant in local product branding strategies. Widayati et al. (2020) also found that the branding of local products contributes positively to overall destination image, while Yuliana et al. (2023) concluded that tourists feel more connected to destinations where local products are effectively branded.

T-test analyses by gender revealed that male participants reported significantly higher scores for both GI product perception ($t = -2.226$, $p = .026$) and destination image ($t = -5.12$, $p < .001$) than female participants. Although these differences were statistically significant, effect sizes (Cohen's d) ranged from small to moderate, suggesting limited practical implications. Similarly, Kovacic et al. (2022) found that male tourists had more favorable perceptions of destination image than their female counterparts, and Muça et al. (2021) reported that men demonstrated greater sensitivity and appreciation toward GI-labeled products.

ANOVA results based on visit frequency indicated significant differences in both GI perception scores ($F = 35.24$, $p < .001$) and destination image scores ($F = 2.841$, $p = .037$). The increasing trend in attitudes corresponding with the number of visits suggests that repeated experiences reinforce positive perceptions of both the product and the place. These findings align with those of Chou et al. (2024), who reported that increased visit frequency enhances tourist attachment and word-of-mouth intention. Herrero-Crespo et al. (2024) similarly concluded that visit frequency plays a significant role in destination loyalty.

Income and education level were also found to significantly influence perceptions of GI products and destination image. Individuals in higher income and education groups exhibited more positive attitudes toward both constructs. These findings corroborate existing literature on the influence of socioeconomic status on consumer perceptions. For example, Firoozzare et al. (2024) reported that awareness of GI products increases with educational attainment, and that more educated visitors are more likely to seek out GI-labeled products during their travels. He et al. (2024) similarly demonstrated that the frequency of GI product consumption increases with income level.

The simple linear regression analysis confirmed that GI product perception is a significant and positive predictor of destination image ($R^2 = .217$, $\beta = .464$, $p < .001$). This result suggests that improving the image of a destination can enhance the perceived value of its GI products, and vice versa. Zhu et al. (2024) found that higher perceived value of food and beverage products at a destination contributes positively to destination image, especially when these products carry a GI label. Velikova et al. (2024) also demonstrated that locally branded products significantly contribute to a favorable destination image, further supporting the positive effect of GI products.

In summary, the findings of this study indicate that products with geographical indication are vital tools in destination marketing strategies and are closely linked to overall destination image. Emphasizing gastronomic elements in destination-based promotional efforts is likely to enhance both tourist perceptions and economic returns. Particularly, GI-certified food and beverage products—being representative of local culinary culture—offer considerable advantages to the destinations they are associated with (Örgün et al., 2020).

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