

Changes in Local Residents' Segments Based on Reactions Towards Tourism: An Eighteen-Year Perspective

Abstract

Local residents' reactions to tourism play a central role in the tourism literature. Clustering studies are essential for developing policies to address the expectations of groups with different perceptions of tourism. Although such studies have increased in recent decades, most are single-wave. Consequently, further research based on repeated measurements over extended periods is necessary to provide a broader understanding of tourism-related societal changes over time. This study spans an 18-year period and employs a multi-stage analytical approach, using hierarchical, non-hierarchical, and two-step clustering techniques. The findings indicate that no clusters exhibit exclusively positive or negative perceptions; rather, all clusters recognise both benefits and costs. Moreover, the results highlight a decline in the proportion of residents with strongly positive or negative perceptions. Meanwhile, the number of individuals who are indifferent to tourism has increased. By integrating Social Exchange Theory and Social Representations Theory, this study illustrates how local communities' perceptions of tourism have evolved over time and provides crucial insights for long-term tourism development. In this context, it emphasises the necessity for more responsive tourism management strategies and more inclusive and multidimensional policies.

Keywords: local residents, reactions to tourism, clustering analysis, repeated cross-sectional study, Türkiye

1. Introduction

The local community plays a crucial role in tourism development. It serves as both a central attraction and a primary stakeholder affected by tourism (Del Chiappa, Atzeni, et al., 2018; Nguyen, 2022). Therefore, understanding public opinions and identifying groups with similar tourism perceptions are essential for sustainable tourism development. These issues are also central to tourism research (Basheer et al., 2024; Brida et al., 2010, Brida, Osti, et. al., 2011; Jordan et al., 2023; Zheng & Liang, 2021). Given varying perceptions within communities, classifying local residents can provide clearer insights into factors shaping their responses to tourism (Gu et al., 2021).

Clustering is a statistical technique used to group individuals based on shared characteristics. It is frequently applied in tourism marketing and studies on residents' perceptions (Brida, Riano, et al., 2011; Lopes et al., 2019). Fredline and Faulkner (2000) state that segmenting residents is effective for identifying varying perceptions of tourism impacts. Segmenting society helps decision-makers and planners understand diverse concerns and potential reactions (Brida et al., 2010; Inbakaran & Jackson, 2006; Lundberg, 2015; Soares et al., 2022) and provides valuable information for policy, communication, and management (Sinclair-Maragh et al., 2015).

Although clustering studies have increased in recent decades, most remain single-wave cross-sectional. As a result, they provide limited insight into how clusters evolve over time and highlight a notable lack of long-term

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research (Del Chiappa, Atzeni, et al., 2018; Fredline et al., 2013; García et al., 2015; Jordan et al., 2023; Ma et al., 2013; Soares et al., 2022; Zheng & Liang, 2021).

Long-term research compares data collected at two or more time points to examine changes over a given period (Ployhart & Vandenberg, 2010). Such studies are fundamental for expanding and deepening knowledge of local residents' reactions to tourism (Brida et al., 2010), offering broader insights and revealing transformations (Ma et al., 2013). Thus, they can assess the effectiveness of management measures and support sustainable planning (Nguyen, 2022).

This study compares data from 2002, 2012, and 2019 in Kuşadası, Türkiye, to analyse changes in tourism perceptions and support attitudes. It addresses the following questions:

- Can residents be clustered into meaningful homogeneous groups, based on their tourism perceptions and support attitudes?
- What are the main differences between these clusters?
- How have clusters evolved over the years?

This study fills a gap in clustering studies in the tourism literature. Covering an 18-year time span, it goes beyond most current temporal-scoping efforts. It may support the development of customised communication strategies for each cluster (Sinclair-Maragh et al., 2015), aid product and service planning (Brida et al., 2010; Vareiro et al., 2013), and help craft strategies to minimise negative effects and enhance community satisfaction and support (Nguyen, 2022; Perez & Nadal, 2005).

2. Literature review

2.1. Impacts of tourism and local residents' perceptions

With the development of tourism, various economic, environmental, and socio-cultural impacts arise (García et al., 2015). Tourism contributes to economic growth, tax revenue, investment flows, and local economic improvement (Ma et al., 2013). Thus, it boosts local business revenues, employment, income, and quality of life (Kim et al., 2021). However, it may also lead to rising prices for goods and services, a decline in traditional economic sectors, economic dependence on tourism, and the leakage of revenue to outsiders (Ibragimov et al., 2025).

Tourism fosters cultural preservation and revitalization and contributes to international peace by promoting cultural exchange (Nugroho & Numata, 2022). Thus, it enhances the destination image and strengthens social cohesion (Woosnam et al., 2022). Conversely, it can cause cultural commodification, social disruption, and an increase in illegal and immoral behaviours, including prostitution, addictive behaviours, and gambling (Song et al., 2021).

Tourism can support environmental conservation and infrastructure development, create public spaces, and bring environmental issues to the agenda of society (Kim et al., 2021). Yet, it may also lead to resource depletion, wildlife disruption, deforestation, traffic, and pollution (Holladay et al., 2025; Raifu & Obaniyi, 2025; Song et al., 2021).

Local residents' responses to tourism depend more on perceptions than on actual impacts. These perceptions vary across heterogeneous community segments (Fredline et al., 2013; Gu et al., 2021; Lundberg, 2015). The next section reviews clustering studies on these perceptions.

2.2. Clustering the local residents based on attitudes towards tourism

Over the past two decades, clustering studies have increased to better capture variations in local communities' tourism responses (Lopes et al., 2019; Sinclair-Maragh et al., 2015). Most of these studies have identified

two to five clusters, commonly three or four. These clusters reflect both the intensity of perceptions (strong, moderate, or weak) and the direction of support attitudes (supportive, neutral, or opposing).

To consolidate clusters with similar perceptual features and attitudinal orientations, clusters across studies were mapped along a continuum from highly positive to highly negative perceptions and attitudes. Consequently, this mapping provided a consistent taxonomy that more accurately reflects the attitudinal continuum and resulted in six distinct categories: strong supporters, prudent supporters, realists/ambivalents, neutrals, critical skeptics, and strong opponents (Table 1).

Individuals in the strong supporters group believe tourism has entirely positive impacts, with negligible or no negative impacts, and actively support tourism development (Ali et al., 2017; Del Chiappa, Atzeni, et al., 2018; Lopes et al., 2019; Zheng & Liang, 2021). Prudent supporters largely perceive (especially economic) gains, yet they acknowledge certain negative impacts. They particularly emphasise economic benefits, and their support remains strong, albeit measured (Del Chiappa, Atzeni, et al., 2018; Gu et al., 2021; Nguyen, 2022; Ven, 2016). Ambivalents recognise both positive and negative impacts as significant and roughly equivalent or mixed. They are occasionally supportive, yet generally demonstrate a balanced stance, showing neither clear support nor opposition (Brida, Riano, et al., 2011; Chen, 2011; Lundberg, 2015; Nguyen, 2022; Perez & Nadal, 2005). Perceptions of the neutral group do not translate into any clear positive or negative stance. This group represents a relatively indifferent position between supportive and critical attitudes (Ali et al., 2017; Del Chiappa, Atzeni, et al., 2018; Del Chiappa, Lorenzo-Romero, et al., 2018; Zheng & Liang, 2021). Critical sceptics partially accept positive impacts but focus primarily on negative aspects. Their stance is critical, yet not entirely oppositional (Gu et al., 2021; Lundberg, 2015; Zhou et al., 2014). Strong opponents perceive tourism predominantly negatively and are both dissatisfied with and strongly opposed to further tourism development (Nguyen, 2022; Zheng & Liang, 2021).

Scholars typically classify 'strong supporters' as supporters, enthusiasts, favourers, lovers, or optimists, whereas prudent supporters are labelled as developers or moderate optimists. The 'Realists/Ambivalents' group is generally labelled as ambivalent, cautious, in-betweeners, or realists, while 'Neutrals' are identified as indifferent or neutrals. Labels such as concerned for a reason, somewhat irritated, or sceptics are commonly used for Critical Sceptics, while haters, opponents, or protectionists are used for strong opponents (Table 1).

The analysis of clusters in the literature also clarified instances where identical or similar labels had been used for conceptually distinct clusters. For example, Ryan and Montgomery (1994) classified individuals who perceived tourism as moderately positive as 'Enthusiasts,' while they termed those with strong negative perceptions and non-supportive attitudes as 'Somewhat Irritated.' Ribeiro et al. (2013) termed the cluster with cautious attitudes towards tourism as 'Rationalists.' In contrast, Zhou et al. (2014) used the same term for those who partially accept the benefits of tourism development but perceive its costs much more strongly. Ven (2016) identified the group with negative perceptions of tourism and the least supportive attitudes as 'Ambivalent.' Similarly, Ali et al. (2017) used the label 'Favorers' to refer to those with a neutral stance towards tourism impacts. Individuals who perceived that the benefits of tourism outweighed its costs were labelled as 'Critics' (Del Chiappa, Atzeni, et al., 2018), whereas Del Chiappa, Lorenzo-Romero, et al. (2018) named those who maintained a neutral stance towards tourism impacts as 'Pessimists.' These discrepancies may arise from both the local context of the studies and the intention to highlight differences among the clusters within the sample. Scholars may have selected the labels based on the focus of their research.

Furthermore, most clustering studies are one-time, cross-sectional (e.g. Chen, 2011; Del Chiappa, Atzeni, et al., 2018; Jordan et al., 2023; Soares et al., 2022), offering a static snapshot and possibly leading to misinterpretations of change over time (Fredline et al., 2013; García et al., 2015). In contrast, repeated studies reflect evolving perceptions better (Ma et al., 2013) but remain rare.

Fredline et al. (2013) analysed Australian residents' perceptions of Formula 1 over three years and found five clusters: 'very negative, negative, unconcerned, positive, and very positive'. They found that 'unconcerned' increased from 40.3% to 60.8% while both negative and positive clusters shrank. The size of the negative cluster was halved. Ma et al. (2013) tracked Kaohsiung (Taiwan) residents' perceptions of the 2009 World Games, before, during, and after the games, covering a six-month period. Initially, three clusters emerged as positive, moderately positive, and neutral. After the event, the positive group disappeared, and only neutral and moderately positive clusters remained. Furthermore, similar to Fredline et al. (2013), they found that following the event, the neutral cluster expanded, and positive perceptions weakened.

However, since perceptions likely change over the long-term, short-term studies may fail to detect deeper transformations. Therefore, longer-term observations are essential to understand evolving perceptions (Lopes et al., 2019). This study examines the evolution of clusters within the local population. In this context, it contributes to the literature by offering a long-term temporal perspective on changes in residents' tourism-related perceptions.

Table 1
Categories of local resident clusters in previous studies

	Strong Supporters	Prudent Supporters	Realists/ Ambivalents	Neutrals	Critical Skeptics	Strong Opponents
Davis et al. (1988)	Lovers (20.0%)	Love'em for a reason (26.0%)	Cautious romantics (21.0%) In-betweeners (18.0%)			Haters (16.0%)
Ryan and Montgomery (1994)		Enthusiasts (22.2%)		Middle-of-the roaders (54.3%)		Somewhat irritated (23.5%)
Fredline and Faulkner (2000)	Lovers (22.8%)		Ambivalent supporters (Cautious romantics) (29.4%) Realists (23.7%)		Concerned for a reason (9.2%)	Haters (14.8%)
Andriotis and Vaughan (2003)	Advocates (42.5%)				Economic skeptics (18.0%)	Socially and environmentally concerned (39.5%)
Perez and Nadal (2005)	Development supporters (11.0%)	Alternative developers (18.1%) Prudent developers (26.3%)	Ambivalent and cautious (24.4%)			Protectionists (20.1%)
Inbakaran and Jackson (2006)	Tourism industry connection	High tourism connection		Neutral tourism development		Low tourism connection
Brida et al. (2010)	Development supporters (27.0%)	Environmental supporters (40.0%)	Ambivalents (18.0%)			Protectionists (14.0%)
Brida, Osti, et al. (2011)	Tourism supporters (49.8%)		Ambivalent and cautious (23.3%)			Protectionists (26.9%)
Brida, Riano, et al. (2011)	Developers (44.9%)	Tourism workers (11.0%)		Neutrals (28.6%)		Opponents (15.4%)
Chen (2011)	Embracers (30.1%)	Experiencers (24.2%)	Realists (45.7%)			
Fredline et al. (2013)	Very positive (11.2%→9.7%)	Positive (26.7%→19.9%)		Unconcerned (40.3→60.8)	Negative (14.1%→7.3%)	Very negative (7.8%→2.3%)
Ma et al. (2013)	Positive	Moderately positive		Neutral (46.0%)		
Ribeiro et al. (2013)	Optimistics (55.6%)	Rational (17.6%)		Indifferent (26.8%)		
Vareiro et al. (2013)	Enthusiasts (42.0%)	Moderate optimistics (40.0%)			Skeptics (19.0%)	

Table 1 (continued)

Zhou et al. (2014)			Ambivalents (34.3%)		Rationalists (65.7%)	
Lundberg (2015)	Development supporters (20.5%)	Prudent developers (32.2%)	Ambivalent/Cautious (23.7%)		Skeptics (23.7%)	
Ven (2016)	Absolute supporter (69.0%)	Beneficiary supporter (14.0%) Concerned supporter (11.0%)				Ambivalent (6.0%)
Ali et al. (2017)	Optimists (35.5%)	Favorers (43.3%)				Nay-Sayers (21.2%)
Del Chiappa, Atzeni, et al. (2018)	Enthusiastics (32.5%)	Moderate supporters (30.7%)	Critics (18.5%)	Indifferents (18.3%)		
Del Chiappa, Lorenzo-Romero, et al. (2018)	Optimistic (24.5%)		Skeptical/Cautious (58.5%)	Pessimistic (16.9%)		
Lopes et al. (2019)	Optimistics (47.0%)	Moderately optimistics (33.0%)		Indifferents (20.0%)		
Gu et al. (2021)	Enthusiastic supporters (39.8%)		In-betweeners (11.0%) Cautious romantics (27.5%)		Somewhat irritated (21.7%)	
Nguyen (2022)		Supporters (38.7%)		Neutralists (24.7%)		Pessimists (36.7%)

2.3. Theoretical framework

The Social Exchange Theory (SET), frequently used in tourism literature, predicts that local residents form their responses to tourism by evaluating its positive and negative impacts (Nguyen, 2022). SET assumes that society is heterogeneous, comprising segments with varying perceptions. However, it considers human decision-making purely rational and positivist, focusing primarily on economic impacts (Nguyen, 2022).

On the other hand, Social Representation Theory (SRT) seeks to elucidate the complexity within a community by showing how various groups' shared and differing perceptions shape their understanding of the surrounding world (Lundberg, 2015). While SET explains residents' rational cost-benefit evaluations, SRT complements it by illuminating the collective interpretations that shape these evaluations. SRT captures the socially constructed and shared nature of residents' perceptions, providing complementary insights for cluster interpretation (Nguyen, 2022).

SRT posits that individuals construct their understandings through personal experiences, social interactions, group communication, and media discourse (Ma et al., 2013). According to SRT, in the early stages of tourism development, locals adopt existing representations but later construct their own based on experiences (Andriotis & Vaughan, 2003). SRT thus provides an appropriate framework for investigating clusters (Fredline & Faulkner, 2000) and has been widely employed to identify tourism-related clusters among local residents (Chen, 2011; Lundberg, 2015; Nguyen, 2022).

In this study examining three datasets spanning 18 years, SET facilitates the understanding of how local residents perceive and respond to tourism. SRT, in turn, highlights how social representations evolve over time and guides the interpretation of different clusters within the local community, revealing how these clusters' perceptions of tourism are formed. Therefore, SET and SRT together provide a theoretical foundation and a robust framework for both explaining individual cost-benefit evaluations and identifying and interpreting the focal points around which groups coalesce.

3. Methodology

3.1. Study field, sampling, measurement and data collection

The study was conducted in Kuşadası, an important sea-sand-sun (3S) tourism destination on Türkiye's Aegean coast. Tourism has expanded significantly since the mid-1980s (Municipality of Kuşadası, 2019), and today it is the main income source for most residents (Kuşadası Chamber of Commerce [KUTO], 2021).

The 2002 questionnaire was adapted from Akis et al. (1996), Faulkner and Tideswell (1997), and Liu et al. (1987), and was subsequently reused in 2012 and 2019. The 2002 and 2012 questionnaires were identical. While the 2019 survey was broader, only the items common to all three surveys were analysed. Economic and environmental impacts were each assessed with five items, whereas socio-cultural impacts were assessed using seven items. Tourism support was measured with two items concerning infrastructure and advertising (Table 2). All items were rated on a 7-point Likert-type scale (1: Definitely disagree, 7: Definitely agree). Demographic information was also gathered.

Table 2
Items used and their coding

Abbreviation	Statement
PozEcon1	Tourism creates more job opportunities in Kuşadası
PozEcon2	Tourism attracts more investments for Kuşadası
NegEcon1	Tourism causes increase in prices of goods and services in Kuşadası
NegEcon2	Tourism causes economic troubles for local people in Kuşadası
NegEcon3	Overall economic condition in Kuşadası is not good because of tourism
PozSos1	Tourism has a positive impact on local culture in Kuşadası
PozSos2	Tourism leads to diversification of cultural activities in Kuşadası
NegSos1	Tourists have negative impact on local peoples' lifestyle in Kuşadası
NegSos2	Tourism increases crime rate in Kuşadası
NegSos3	Tourism causes traffic jam in Kuşadası
NegSos4	Tourism causes an increase in prostitution in Kuşadası
NegSos5	Tourism increases violence in society in Kuşadası
PozEnvi1	Tourism leads to restoration of historical buildings in Kuşadası
PozEnvi2	Tourism increases the number of recreational parks and green areas
NegEnvi1	Tourism destroys natural environment in Kuşadası
NegEnvi2	Tourism causes pollution in Kuşadası
NegEnvi3	Tourism causes overcrowding in Kuşadası
Sup1	I support that more quality restaurants and hotels should be operated to attract more tourist
Sup2	I support that Kuşadası should be advertised more to attract more tourist

Using a convenience sampling method, data were collected in busy commercial and residential areas at various times and days to ensure diversity and minimise sampling bias. The surveys were conducted with adult residents (18+). A total of 909 participants completed the surveys (346 in 2002, 339 in 2012, and 224 in 2019). After excluding incomplete responses and outliers, the final dataset included 314, 308, and 215 participants from 2002, 2012, and 2019, respectively. The relatively lower number of respondents in 2019 may be due to the normalisation of tourism as part of daily life, which may have reduced residents' motivation to express their views (Fredline et al., 2013). Anderson and Gerbing (1988) suggested that a minimum sample size of 200 is acceptable, and the sample size for each survey meets this threshold. Furthermore, Coolican (2014) recommended at least ten responses per item for statistical analysis. Given that the survey instrument comprised nine items, the sample sizes for all three years exceeded this criterion. Accordingly, the sample sizes for each survey year were deemed sufficient for analysis.

3.2. Data analysis and findings

3.2.1. Profile of respondents

Table 3
Demographic profile of respondents

VARIABLES	2002		2012		2019	
	N	%	N	%	N	%
GENDER						
Female	127	40.4	136	44.2	115	53.7
Male	187	59.6	172	55.8	99	46.3
AGE						
18-30	185	58.9	160	51.9	71	35.7
31-45	95	30.3	109	35.4	86	43.2
46 and over	34	10.8	39	12.7	42	21.1
MARITAL						
Single	177	56.4	133	43.2	91	45.3
Married	137	43.6	175	56.8	110	54.7
EDUCATION						
Primary education or less			41	13.4	25	11.6
Secondary education			91	29.6	55	25.6
Higher education			175	57.0	135	62.8
INCOME						
Minimum wage or less	110	36.8	36	16.1	58	38.2
Between 1 2 minimum wages	59	19.7	102	45.5	68	44.7
More than 2 minimum wages	130	43.5	86	38.4	26	17.1
OCCUPATION						
Economically inactive	155	49.4	81	26.3	66	31.4
Economically active	159	50.6	227	73.7	144	68.6

Table 3 presents the demographic profile of the participants. The proportion of younger participants (aged 18-30) decreased, while older age groups (31 and above) increased. Gender was balanced, with slightly more males in 2002 and 2012, and more females in 2019. In 2002, single participants slightly outnumbered married ones, while in 2012 and 2019, married participants were the majority. Educational data were not collected in the 2002 survey. Data from 2012 and 2019 indicated that most participants held an associate degree or higher.

This study adopts a repeated cross-sectional design, using different samples with similar characteristics (Del Chiappa, Atzeni, et al., 2018). Hence, it is crucial to ensure that the participant profiles in each survey period adequately represent the general population. A chi-square analysis (Table 4) revealed that, aside from education, demographic variables differed significantly across years. Nevertheless, these differences mainly showed small effect sizes (Coolican, 2014) and aligned with the broader societal and economic trends in Kuşadası and Türkiye. For example, the age distribution mirrored both national trends in Türkiye and the demographic profile of Kuşadası (Turkish Statistical Institute [TÜİK], n.d.-a). Gender and marital status patterns are also consistent with the overall population distribution of Kuşadası. Until the mid-2010s, males slightly outnumbered females; thereafter, females became slightly more numerous. Similarly, since the late 2000s, approximately 55-60% of the adult population in Kuşadası has been married (TÜİK, n.d.-a).

The sample included participants from various occupations and income groups in all research periods, with distributions evolving over time. In 2002, economically inactive (unemployed, students, homemakers, retirees) and active (public and private sector employees, employers, self-employed) participants were nearly equal in number. In subsequent years, the proportion of economically active individuals significantly increased.

Incomes were grouped by multiples of the minimum wage (\$115 in 2002, \$400 in 2012, and \$375 in 2019) (EuroNews, 2023). Incomes were higher in 2012, reflecting the broader economic context (Turkish Statistical Institute [TÜİK], n.d.-b).

Overall, participant profiles evolved across survey years; however, differences were consistent with population characteristics. Consequently, although minor demographic shifts could influence cluster outcomes, the samples can be considered reasonably representative of the population and free from substantial sampling bias.

Table 4
Results of crosstab analyses

Variable	Chi-square (Pearson)	df	p-value	Phi	Cramér's V
Year*Gender	9.299	2	0.010	0.105	0.105
Year*Age	28.756	4	0.000	0.187	0.132
Year*Education	1.757	2	0.415	0.058	0.058
Year*Marital	12.091	2	0.002	0.121	0.121
Year*Income	74.320	4	0.000	0.332	0.235
Year*Occupation	38.652	2	0.000	0.216	0.216

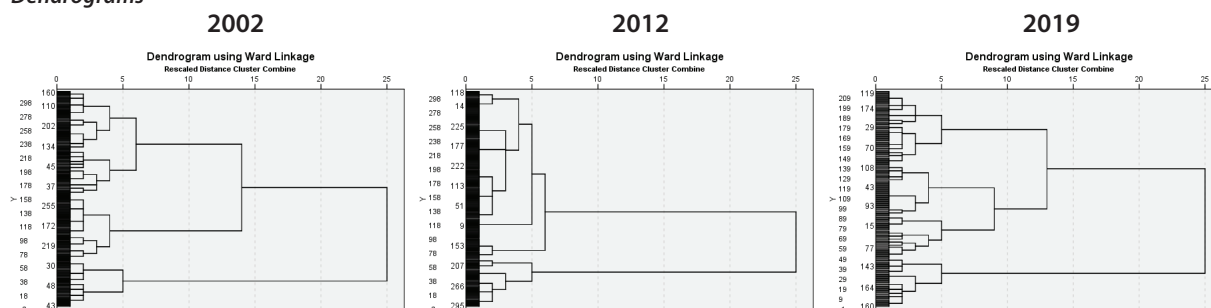
3.2.2. Cluster analysis

First, assumptions of normality and multicollinearity were assessed. Skewness and kurtosis values were -1.734 and 4.756 for 2002, -1.106 and 4.860 for 2012, and -0.957 and 1.820 for 2019. Kline (2011) posited that skewness and kurtosis values exceeding 3 and 10, respectively, indicate non-normality. Byrne (2010) proposed thresholds of 5 for skewness and 7 for kurtosis, whereas Ryu (2011) identified critical values of 2 and 7, respectively. Therefore, the data were considered normally distributed. Tolerance values, ranging from 0.262 to 0.918 across surveys, indicated no multicollinearity among variables.

Determining the number of clusters involves subjective judgment (Nguyen, 2022). For instance, using the same dataset, Brida et al. (2010) identified five clusters (grouped into four categories), whereas Brida, Osti, et al. (2011) identified only three clusters. Hence, cluster analysis requires careful application. Many researchers applied cluster analysis to factor-derived structures (Chen, 2011; Del Chiappa, Arzeni, et al., 2018; Gu et al., 2021). However, factor analysis may cause premature information loss and distort results (Fredline & Faulkner, 2000; Nguyen, 2022). Following Andriotis and Vaughan (2003), Lopes et al. (2019), and Nguyen (2022), this study therefore performed clustering directly on items measuring perceptions and support attitudes.

The analysis was multi-stage. First, hierarchical clustering was performed using Ward's method with squared Euclidean distance. Dendrograms indicated that between two and nine, two and eight, and two and ten clusters were plausible for 2002, 2012, and 2019, respectively (Figure 1).

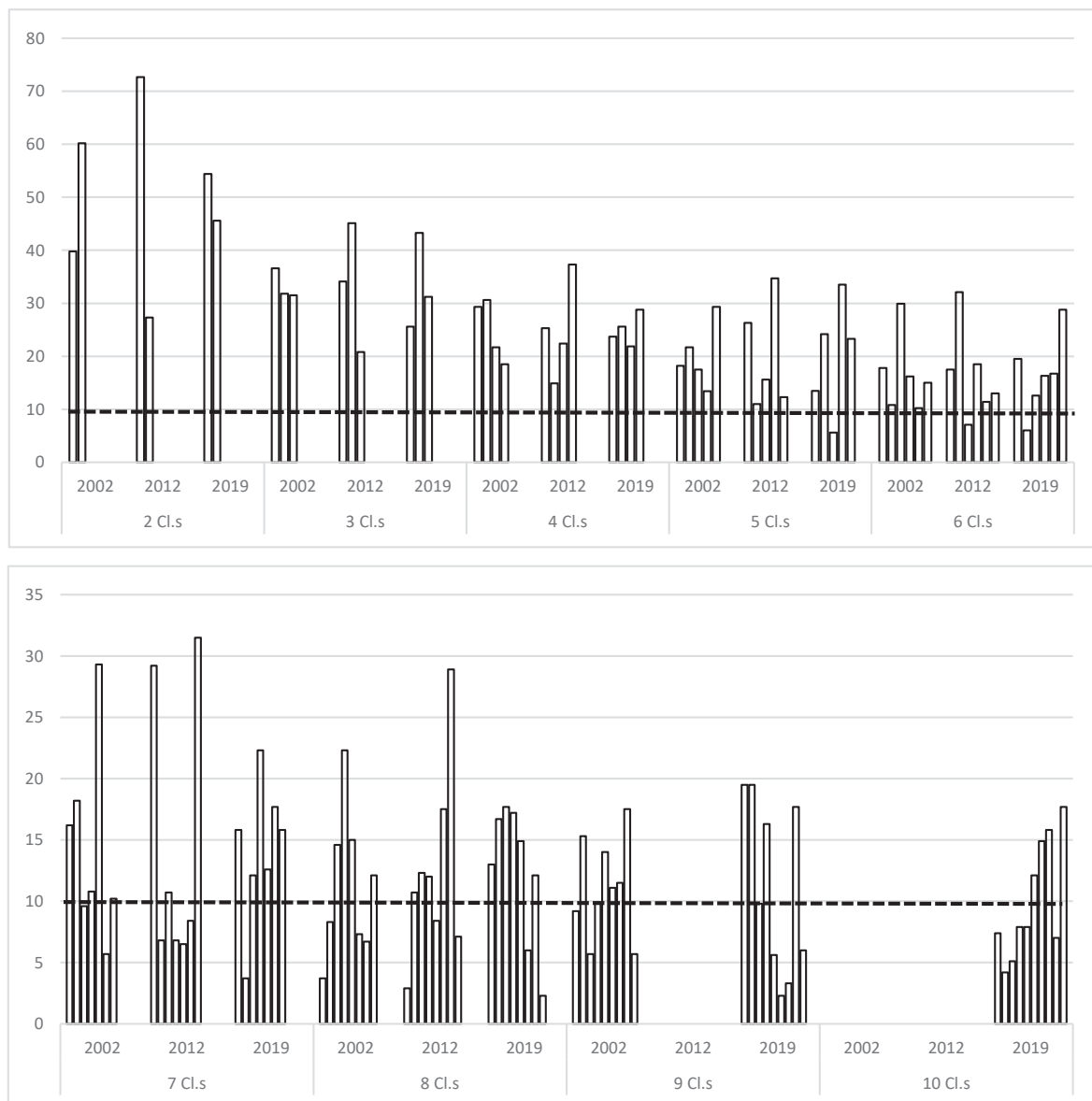
Figure 1
Dendrograms



Note. Dendrograms illustrating the optimal cluster numbers via hierarchical clustering using Ward's method with squared Euclidean distance.

Non-hierarchical K-means clustering was then applied. To ensure classification quality, clusters comprising less than 10% of the sample were excluded, as smaller clusters are often considered spurious (Lundberg, 2015; Ven, 2016). Stable groupings occurred with 2-6 clusters in 2002, 2-5 in 2012, and 2-4 in 2019 (Figure 2).

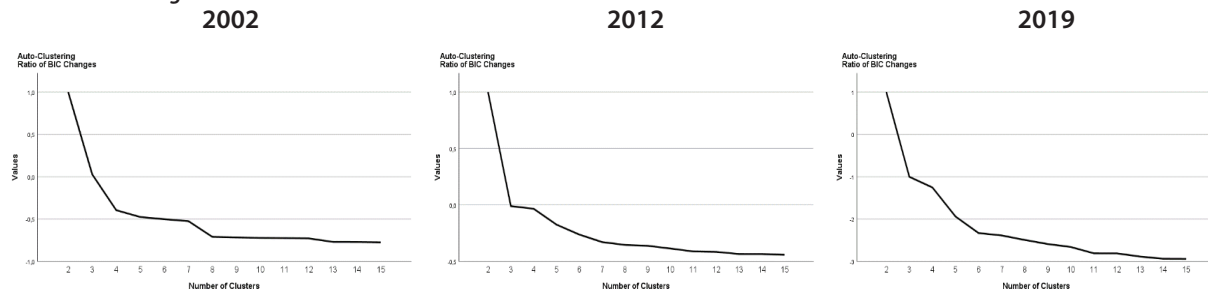
Figure 2
Percentages of the sample by cluster numbers in each survey year



Note. The bar charts illustrate how the relative weight of clusters shifts over time, revealing substantial temporal variation in the composition of the sample.

In the third stage, Two-Step Clustering was applied using changes in Schwarz's Bayesian Criterion (BIC). Large BIC shifts indicate improper cluster merges (Ma et al., 2013). The optimal number of clusters was determined to be four or eight in 2002, three or seven in 2012, and three or six in 2019 (Figure 3). Considering all analysis phases, four clusters were chosen for 2002 and three for both 2012 and 2019. Clusters were then grouped via Two-Step Clustering.

Figure 3
Ratio of BIC changes



Note. The plots indicate the optimal cluster numbers for each year based on the ratio of BIC changes.

In the final stage, discriminant analysis confirmed that clusters were reliable and differed significantly in all years. Chi-square tests assessed the statistical significance of canonical discriminant functions across all three surveys. Throughout all survey years, the first canonical functions explained most of the variance, with eigenvalues ranging from 0.450 to 3.402 (Table 5).

Table 5
Summary of discriminant analysis results

	Discriminant function	Eigenvalue	% of variance	Canonical correlation	Wilks' lambda	Chi-square	df	Sig.
2002	1	3.402 ^a	63.3	0.879	0.062	837.717	57	<0.01
	2	1.521 ^a	28.3	0.777	0.274	390.851	36	
	3	0.450 ^a	8.4	0.557	0.689	112.109	17	
2012	1	2.887 ^b	71.1	0.862	0.119	631.318	38	<0.01
	2	1.171 ^b	28.9	0.734	0.461	229.488	18	
2019	1	2.729 ^b	75.7	0.855	0.143	394.998	38	<0.01
	2	0.877 ^b	24.3	0.684	0.533	127.835	18	

(^a) First 3, (^b) First 2 canonical discriminant functions were used in the analysis

Tests of Equality of Group Means confirmed significant differences between clusters each year, validating cluster appropriateness and item contributions (significance<0.001), except for NegEcon3 and Sup2 in 2019 (Table 6) (Zhou et al., 2014). F-values identified the key discriminators as NegEnvi2, NegEnvi1, and NegEnvi3 in 2002 and 2012, and NegSoc4, NegSoc5, and NegSoc2 in 2019. Conversely, the least effective items were NegEcon3, PozSoc2, and PozEnvi2 in 2002; PozSoc2, NegEcon3, and PozSoc1 in 2012; and PozSoc2, NegEcon2, and Sup1 in 2019 (Table 6).

Thus, local residents were clustered based on negative environmental impact perceptions in 2002 and 2012, shifting to negative social impacts in 2019. Negative economic impacts, especially 'overall the economic condition in Kuşadası is not good because of tourism,' and positive environmental and socio-cultural impacts, particularly 'tourism leads to diversification of cultural activities in Kuşadası,' contributed least to cluster discrimination. Classification matrices showed grouping accuracy well above 70% (Inbakaran & Jackson, 2006). Specifically, 87.9%, 93.2%, and 89.3% of cases were correctly classified in 2002, 2012, and 2019, respectively, confirming the reliability of the impact items for clustering (Table 7).

Table 6
Mean scores of clusters and results of F-test and significance

Survey year		2002				2012			2019			F-ratio			Significance		
Cluster category	Cluster name	Prudent Supporters	Prudent Supporters	Realists/ Ambivalents	Realists/ Ambivalents	Neutrals	Prudent Supporters	Prudent Supporters	Neutrals	Prudent Supporters	Prudent Supporters						
		Cluster 1: Economy-Based Advocates	Cluster 2: Eco-Social Cautious Supporters	Cluster 3: Realists	Cluster 4: Critical but Supporters	Clusters 1: Indecisives	Cluster 2: Eco-Social Cautious Supporters	Cluster 3: Economy-Based Advocates	Clusters 1: Indecisives	Cluster 2: Economy-Based Advocates	Cluster 3: Eco-Social Cautious Supporters						
% of Sample		27.4	21.3	31.8	19.4	13.6	69.5	16.9	57.7	20.5	21.9	2002	2012	2019	2002	2012	2019
Positive impacts	PozEcon1	6.70	6.72	5.71	6.84	4.64	6.31	6.79	5.03	6.29	6.36	40.236	69.978	32.304	0.000	0.000	0.000
	PozSos1	6.35	6.33	5.17	6.70	4.57	6.21	6.71	4.85	6.05	6.29	26.553	71.871	32.682	0.000	0.000	0.000
	PozSos2	5.28	3.34	3.40	4.54	4.07	5.18	4.52	4.22	6.27	4.54	14.944	9.284	29.872	0.000	0.000	0.000
	PozEnv1	5.24	5.88	5.25	6.13	4.57	5.82	5.54	5.20	5.86	5.70	4.867	17.380	5.001	0.003	0.000	0.008
	PozEnv2	6.48	6.27	5.04	6.16	3.67	5.93	5.60	4.19	6.18	4.86	21.579	48.660	26.085	0.000	0.000	0.000
	Average	5.76	4.33	4.20	5.00	3.86	5.27	3.29	4.26	5.59	5.17	11.220	38.445	11.450	0.000	0.000	0.000
	Average	5.97	5.48	4.80	5.90	4.23	5.79	5.41	4.63	6.04	5.49						
Negative impacts	NegEcon1	5.28	6.04	5.87	6.77	4.40	6.13	5.48	4.92	5.14	6.17	12.675	44.189	12.270	0.000	0.000	0.000
	NegEcon2	2.48	3.79	4.37	5.23	3.98	5.35	2.58	3.89	3.77	4.85	25.561	63.958	6.300	0.000	0.000	0.002
	NegEcon3	4.66	4.76	4.82	5.74	4.26	5.23	3.90	4.66	4.43	5.13	4.851	14.643	2.718	0.003	0.000	0.068
	NegSos1	2.70	2.87	4.55	4.95	3.76	5.27	3.02	3.38	2.70	4.53	22.768	56.627	15.773	0.000	0.000	0.000
	NegSos2	2.29	3.87	4.29	5.52	4.00	5.10	2.08	3.00	1.50	4.72	39.593	89.686	78.052	0.000	0.000	0.000
	NegSos3	3.31	4.64	5.22	6.43	4.14	5.56	3.60	4.89	4.07	5.91	32.837	43.599	16.084	0.000	0.000	0.000
	NegSos4	3.02	4.78	5.52	6.16	4.57	5.13	2.54	3.08	1.46	5.22	41.531	49.099	90.299	0.000	0.000	0.000
	NegSos5	1.60	2.22	3.68	4.98	3.57	4.90	1.71	2.74	1.41	4.55	48.953	89.323	78.323	0.000	0.000	0.000
	NegEnv1	1.66	5.34	5.10	5.56	3.79	5.64	2.08	4.12	2.05	5.15	97.595	157.896	50.059	0.000	0.000	0.000
	NegEnv2	2.14	5.37	5.26	6.16	3.86	5.74	1.71	4.43	2.14	5.12	99.865	180.096	45.877	0.000	0.000	0.000
	NegEnv3	2.23	3.12	4.52	6.48	4.24	5.53	2.10	4.33	2.23	5.38	59.499	150.933	44.205	0.000	0.000	0.000
	Average	2.85	4.25	4.84	5.82	4.05	5.42	2.80	3.95	2.81	5.16						
Support	Sup1	6.65	6.88	6.04	6.84	4.88	6.01	6.27	5.41	6.41	5.61	33.522	18.604	10.901	0.000	0.000	0.000
	Sup2	6.84	6.99	6.38	6.93	5.12	6.39	6.87	5.81	6.34	6.04	41.540	37.407	2.960	0.000	0.000	0.054
	Average	6.75	6.94	6.21	6.89	5.00	6.20	6.57	5.61	6.38	5.83						

Table 7
Classification results

	2002			2012			2019		
	N	%	Hit-ratio	N	%	Hit-ratio	N	%	Hit-ratio
Cluster 1	86	27.4	95.3%	42	13.6	71.4%	124	57.7	93.5%
Cluster 2	67	21.3	77.6%	214	69.5	97.2%	44	20.5	88.6%
Cluster 3	100	31.8	85.0%	52	16.9	94.2%	47	21.9	78.7%
Cluster 4	61	19.4	93.4%						
Total	314	100	87.9%	308	100	93.2%	215	100	89.3%

Using the data from Table 6 and the scale in Table 8, the clusters can be assessed as follows:

Table 8
Scale for assessing clusters

Category	Positive impacts/ Support	Negative impacts
Strongly favour	6.5-7.0	1.0-2.0
Prudent	5.5-6.4	2.1-3.4
Realist/Ambivalent	4.5-5.4	4.5-5.4
Neutral	3.5-4.4	3.5-4.4
Critical	2.1-3.4	5.5-6.4
Strongly oppose	1.0-2.0	6.5-7.0

In 2002, members of Clusters 1, 2, and 4 emphasized employment and investment opportunities. Cluster 1 also recognized other positive impacts, particularly the benefits of restoring historical buildings. Although it had some reservations regarding economic costs, Cluster 1 largely overlooked negative impacts. Clusters 2 and 4 highlighted the diversification of cultural activities and the facilitation of historical building restoration. However, they placed less emphasis on expanding recreational parks and enhancing local culture. While both clusters acknowledged increases in prices, Cluster 4 strongly emphasized problems such as traffic congestion, prostitution, pollution, and overcrowding. In contrast, Cluster 2 emphasized these issues moderately. Regarding other adverse effects, Cluster 2 maintained a low awareness, while Cluster 4 expressed a medium stance. Cluster 3 was moderately aware of most positive and negative tourism effects. While acknowledging the positive effects to some degree, it adopted a careful and critical perspective regarding the costs of tourism. This cluster maintained a balanced stance between benefits and potential drawbacks. All clusters in 2002, however, demonstrated robust support for tourism development.

In 2012, Cluster 1 exhibited a generally neutral stance toward tourism. It recognized some benefits, including cultural activity diversification, employment, and investment, while acknowledging costs such as pollution and price increases. Cluster 2 clearly perceived tourism's contributions to employment, investment, historical building restoration, and cultural activity diversification. However, it regarded its impacts on local culture and recreational parks as less significant. Among negative effects, it was highly aware of economic costs, traffic congestion, overcrowding, rising crime, prostitution, and pollution. Cluster 3 focused on tourism benefits in employment and investment. Moreover, it was moderately aware of the impacts on local culture, historical building restoration, and cultural activity diversification. It adopted a nearly neutral stance regarding tourism's positive influence on recreational parks and green areas. Although it sensed a moderate increase in prices due to tourism, it generally perceived other negative effects as limited. Furthermore, Cluster 1 showed partial support, whereas Clusters 2 and 3 strongly supported tourism investments and promotional activities.

In 2019, Cluster 1 moderately recognised tourism benefits, particularly regarding cultural activity diversification, employment, and investment. It maintained a cautious stance toward historical building restoration and local culture. It perceived increases in prices and prostitution moderately and remained largely indifferent to other negative effects. Cluster 2 perceived tourism's benefits relatively positively, especially in employment, investment, historical building restoration, local culture, and cultural activities. It maintained neutral or low awareness of other adverse impacts, except for price increases. Cluster 3 also viewed tourism positively, particularly in employment, investment, and cultural activities, though slightly less intensely than Cluster 2. It was most aware of negative impacts, notably price increases, pollution, traffic congestion, prostitution, and overcrowding. Clusters 1 and 3 exhibited moderate support for tourism development, while Cluster 2 was strongly supportive.

Clusters 1 and 2 in 2002, Clusters 2 and 3 in 2012 and 2019, align with Prudent Supporters. They correspond to labels such as 'Love 'em for a reason,' 'Enthusiasts,' 'Supporters,' 'Cautious Romantics,' 'Concerned Supporter,' 'Moderate Supporters/Optimistics,' or 'Environmental supporters' (Brida et al., 2010; Del Chiappa, Atzeni, et al., 2018; Davis et al., 1988; Nguyen, 2022; Ryan & Montgomery, 1994; Vareiro et al., 2013; Ven, 2016). Given their strong emphasis on economic benefits, Clusters 1 (2002), 3 (2012), and 2 (2019) are

termed 'Economy-based Advocates'. Clusters 2 (2002 and 2012) and 3 (2019) were concerned about local culture, recreational parks, increases in traffic, crime rates, prostitution, environmental harms, and pollution. Therefore, they are labelled 'Eco-Social Cautious Supporters'.

Neither overly optimistic nor pessimistic, the third cluster in 2002 recognized both positive and negative impacts while supporting tourism development. It resembled 'Realists' (Fredline & Faulkner, 2000), 'Rational' (Ribeiro et al., 2013), and 'In-betweeners' (Gu et al., 2021). It was consequently labelled 'Realist,' consistent with Fredline & Faulkner (2000) and Chen (2011). Meanwhile, the fourth cluster in 2002 critically assessed the negative impacts but also recognized the contributions of tourism and endorsed its further development. Accordingly, this cluster corresponds to 'Ambivalent Supporters' (Fredline & Faulkner, 2000), 'Moderate Optimists' (Vareiro et al., 2013), 'Ambivalent/Cautious' (Lundberg, 2015), and 'Cautious Romantics' (Gu et al., 2021), and was named Critical but Supporters.

The first clusters in 2012 and 2019 exhibited neither pronounced positive nor negative perceptions and showed no clear supportive attitudes. Their evaluations generally fell at the 'neither agree nor disagree' level and in the Neutral range (Table 6). Consequently, they align with the 'Neutrals' category (Del Chiappa, Atzeni, et al., 2018; Lopes et al., 2019; Ribeiro et al., 2013) and were named 'Indecisives'.

A cross-tabulation analysed demographic differences (gender, age, marital status, education, occupation, income) between clusters. Results indicated no significant socio-demographic differences, except for education in 2019 and income in 2012. In 2019, primary-educated individuals were evenly spread across clusters. Secondary and higher-educated participants predominantly belonged to Cluster 1 (71.5% and 51.9%) and were generally indifferent to tourism. In 2012, economically active participants were more likely to belong to Cluster 2. This finding proposes that, since tourism is the main economic activity and income source in Kuşadası (KUTO, 2021), economically active individuals appreciate tourism's positive impacts. Consequently, they tend to support its development, while remaining aware of its adverse effects (Table 9).

Table 9
Socio-demographic profile of clusters

		Clusters									
		2002				2012			2019		
		I	II	III	IV	I	II	III	I	II	III
Gender	Female	41(47.7%)	23(34.3%)	42(42.0%)	21(34.4%)	18(42.9%)	90(42.1%)	28(53.8%)	68(55.3%)	21(47.7%)	26(55.3%)
	Male	45(52.3%)	44(65.7%)	58(58.0%)	40(65.6%)	24(57.1%)	124(57.9%)	24(46.2%)	55(44.7%)	23(52.3%)	21(44.7%)
	Chi-square	3.924				2.392			0.805		
	Significance	0.270				0.302			0.669		
Age	18-30	41(47.7%)	46(68.7%)	58(58.0%)	40(65.6%)	26(61.9%)	108(50.5%)	26(50.0%)	42(36.5%)	14(33.3%)	15(35.7%)
	31-45	33(38.4%)	17(25.4%)	30(30.0%)	15(24.6%)	10(23.8%)	80(37.4%)	19(36.5%)	49(42.6%)	18(42.9%)	19(45.2%)
	46 and over	12(14.0%)	4(6.0%)	12(12.0%)	6(9.8%)	6(14.3%)	26(12.1%)	7(13.5%)	24(20.9%)	10(23.8%)	8(19.0%)
	Chi-square	8.865				2.939			0.371		
	Significance	0.181				0.568			0.985		
Marital status	Married	43(50.0%)	38(56.7%)	56(56.0%)	40(65.6%)	22(52.4%)	90(42.1%)	21(40.4%)	56(47.5%)	17(41.5%)	18(42.9%)
	Single	43(50.0%)	29(43.3%)	44(44.0%)	21(34.4%)	20(47.6%)	124(57.9%)	31(59.6%)	62(52.5%)	24(58.5%)	24(57.1%)
	Chi-square	3.529				1.725			0.566		
	Significance	0.317				0.422			0.753		
Education	Primary education					6(14.6%)	32(15.0%)	3(5.8%)	13(10.5%)	8(18.2%)	4(8.5%)
	Secondary education					7(17.1%)	62(29.0%)	22(42.3%)	41(33.1%)	6(13.6%)	8(17.0%)
	Higher education					28(68.3%)	120(56.1%)	27(51.9%)	70(56.5%)	30(68.2%)	35(74.5%)
	Chi-square					8.916			10.690		
	Significance					0.063			0.030		

Table 9 (continued)

Income	Economically inactive	41(47.7%)	29(43.3%)	48(48.0%)	37(60.7%)	10(23.8%)	64(29.9%)	7(13.5%)	41(33.6%)	15(34.9%)	10(22.2%)
	Economically active	45(52.3%)	38(56.7%)	52(52.0%)	24(39.3%)	32(76.2%)	150(70.1%)	45(86.5%)	81(66.4%)	28(65.1%)	35(77.8%)
	Chi-square	4.275				5.993			2.277		
	Significance	0.233				0.050			0.320		
Occupation	Minimum wage or less	26(33.8%)	24(37.5%)	33(33.7%)	27(45.0%)	7(21.9%)	25(16.8%)	4(9.3%)	32(39.0%)	9(25.7%)	17(48.6%)
	Between 1-2 minimum wages	11(14.3%)	16(25.0%)	18(18.4%)	14(23.3%)	9(28.1%)	71(47.7%)	22(51.2%)	38(46.3%)	20(57.1%)	10(28.6%)
	More than 2 minimum wages	40(51.9%)	24(37.5%)	47(48.0%)	19(31.7%)	16(50.0%)	53(35.6%)	17(39.5%)	12(14.6%)	6(17.1%)	8(22.9%)
	Chi-square	8.277				5.965			6.697		
	Significance	0.219				0.202			0.153		

4. Discussion and conclusion

Segmenting local populations by tourism perceptions and monitoring changes are vital for sustainable tourism and targeted strategies (Jordan et al., 2023; Nguyen, 2022). Although research on resident segmentation is growing, the majority is cross-sectional, static, and often confined to short timeframes (Fredline et al., 2013; Ma et al., 2013). Longer-term research is necessary to guide future actions effectively (Lopes et al., 2019). By examining changes over 18 years, this study offers valuable insights for both academic research and policymakers on community dynamics.

This study confirms that tourism perceptions and support attitudes effectively cluster local residents, revealing heterogeneity and notable changes over time. Unlike previous research identifying fully positive (Strong Supporters) or negative (Strong Opponents) clusters (Del Chiappa, Atzeni, et al., 2018; Davis et al., 1988; Fredline et al., 2013), such categories were absent here. All clusters acknowledged both positive and negative tourism impacts, with some emphasising benefits. While Ma et al. (2013) and Soares et al. (2022) link this to destination ‘maturity,’ this study’s long-term scope across development stages highlights the key role of economic aspects. Considering tourism’s central economic role in Kuşadası (KUTO, 2021), residents experience negatives but prioritise benefits. Some clusters, notably the Eco-Social Cautious Supporters, perceive negative impacts relatively strongly, yet they continue to express strong support for tourism. This pattern reflects that individuals primarily value the economic benefits of tourism and continue supporting it due to their economic dependency (Ibragimov et al., 2025). Simultaneously, they remain aware of specific social and environmental drawbacks. Alternatively, growing familiarity may desensitise residents to negative impacts, making tourism a routine part of life (Ma et al., 2013; Woosnam et al., 2022).

Throughout all periods, the local population included two distinct clusters within the Prudent Supporter category. One cluster perceived benefits strongly and costs weakly (Economy-Based Advocates). The other largely appreciated the positive impacts but also voiced concerns regarding local culture, recreational areas, and increases in traffic, crime, prostitution, environmental degradation, and pollution (Eco-Social Cautious Supporters). These clusters together accounted for nearly half of the population in 2002 and 2019 (48.7% and 42.4%, respectively), representing a large segment in 2012 (86.4%). While they were relatively evenly distributed in 2002 and 2012, the proportion of Eco-Social Cautious Supporters increased substantially in 2019 (69.5%).

In 2002, over half of the participants in two clusters fell into the Realists/Ambivalents category, while in 2012 and 2019, they were not identified. The first cluster (Realists) exhibited a relatively balanced stance regarding perceived impacts and support, without pronounced optimism or pessimism. The other cluster (Critical but Supporters) perceived negative impacts relatively more strongly but still provided strong support for tourism development.

Meanwhile, a new cluster, the Indecisives, emerged in 2012 and 2019. Initially, indifference pertained mainly to economic impacts but later expanded to all impacts. The 'Indecisives' grew from 13.6% in 2012 to 57.7% in 2019, becoming the largest group. These results indicate that there were persistent tourism supporters, but a general decline in both positive and negative impact perceptions, aligning with findings from other long-term (Fredline et al., 2013; Ma et al., 2013) and single-wave cross-sectional studies (Ali et al., 2017; Weaver & Lawton, 2013; Zheng & Liang, 2021).

Ali et al. (2017), Nguyen (2022), and Ryan and Montgomery (1994) found that residents with negative tourism perceptions tend to oppose development. However, consistent with Andriotis and Vaughan (2003) and Soares et al. (2022), this study shows that nearly all clusters, even those with relatively intense negative perceptions, supported tourism. The exception was the limited support among 'Indecisives' in 2012 and 2019. Notably, support among Indecisives increased significantly in 2019, aligning with Weaver and Lawton (2013), who argued that ongoing tourism does not necessarily heighten negativity.

Contrary to studies suggesting predominantly negative local perceptions (e.g., Del Chiappa, Lorenzo-Romero, et al., 2018; Zhou et al., 2014), these findings align with Lopes et al. (2019), Ven (2016), and Zheng & Liang (2021), indicating that residents generally emphasize tourism's positive impacts. Similarly, research on 3S destinations by Lundberg (2015) and Ribeiro et al. (2013) found that, despite acknowledging negative aspects, local attitudes remained largely favourable. This trend is also evident in Mediterranean countries like Portugal, Spain, and Italy, where tourism perceptions are mostly positive (Del Chiappa, Arzeni, et al., 2018; Jordan et al., 2023).

The findings also highlight a shift in what shapes perception. Environmental concerns were initially more influential, while social impacts grew more relevant over time. This supports Nguyen (2022), who noted that physical effects are immediate, while social ones emerge gradually. However, this contrasts with Sinclair-Maragh et al. (2015), who identified environmental impacts central to perception in early-stage destinations like Göynük and Çamyuva. The discrepancy may reflect the maturity of Kuşadası tourism, suggesting perceptions are also destination-specific.

4.1. Theoretical implications

As a main theoretical contribution, this study confirms that Social Exchange Theory (SET) and Social Representation Theory (SRT) effectively explain local tourism perceptions. The findings support SET's view that communities are heterogeneous due to differing views on tourism's costs and benefits. However, consistent with Nugroho and Numata (2022), the study challenges SET's assumption that stronger perceptions of negative impacts reduce support, as even residents with negative views support tourism.

The findings highlight that tourism-related social representations evolve over time. Initially, individuals focused on environmental aspects, likely shaped by personal observations and information from the media and their social environment. Over time, their attention shifted toward social issues. Discriminant analysis indicates that environmental degradation, pollution, and overcrowding were key concerns in 2002 and 2012, whereas crime, prostitution, and violence became prominent in 2019. This shift illustrates SRT's premise that social perceptions evolve gradually. According to SRT, representations initially emerge from externally acquired information and are subsequently consolidated through personal experiences and social interactions (Andriotis & Vaughan, 2003; Fredline & Faulkner, 2000). While studies such as Zhou et al. (2014) observed growing awareness of tourism's impacts and others noted rising negativity (Song et al., 2021; Weaver & Lawton, 2013), this study instead finds increasing indifference. The Indecisives cluster first emerged in 2012 and comprised only 13.6% of the sample, but by 2019 it had expanded substantially, reaching 57.7%. These results confirm SRT's relevance as a framework for understanding how community attitudes shift over time, based on relatively long-term analysis.

The study identified three main social representations of tourism among Kuşadası residents. While the Prudent Supporter clusters persisted, the Realist/Ambivalent clusters from 2002 were replaced by Indecisives in later years. Thus, residents hold ‘emancipated’ (moderately differing) rather than ‘polemic’ (strongly opposing) views (Fredline & Faulkner, 2000). The sharp rise of the ‘Indecisives’ cluster between 2012 and 2019 suggests a shift toward hegemonic ‘indifference,’ likely influenced by the prevalent all-inclusive tourism model. Since tourists mainly stay in all-inclusive hotels, local-tourist interactions decrease, fostering resident indifference as many tourism impacts go unnoticed (Woosnam & Erul, 2017).

This study, moreover, empirically supports Zhou et al. (2014), who emphasised social and environmental factors over demographics in shaping social representations, and Lundberg (2015), who stated that tourism perception-demographic links are destination-specific. Some researchers (Del Chiappa, Lorenzo-Romero, et al., 2018; Nguyen, 2022; Vareiro et al., 2013; Zheng & Liang, 2021) found weak or unclear demographic correlations. However, this study, like Del Chiappa, Lorenzo-Romero, et al. (2018) and Nguyen (2022), found no demographic influence on cluster membership, except for education in 2019 and income in 2012. Since most participants held associate degrees or higher, this aligns with findings that higher education enhances access to information and expression of opinions (Del Chiappa, Lorenzo-Romero, et al., 2018; Ma et al., 2013).

4.2. Practical implications

This study empirically reveals the heterogeneity of tourism perceptions, thereby enabling policymakers and industry stakeholders to address a wide range of concerns. From the outset, educating locals about both direct and indirect benefits may cultivate more realistic views. Authorities should combine traditional outreach methods, such as meetings, focus groups, and surveys, with new technologies and social media (Del Chiappa, Atzeni, et al., 2018; Sinclair-Maragh et al., 2015). Furthermore, enhancing local governance of the sector through civic organisations may constitute an effective strategy.

The study reveals that residents are ‘tourism-hungry’ in their strong support, yet are becoming increasingly ‘tourism-realized’ in their perceptions (Ven, 2016). Therefore, to prevent a shift toward ‘tourism-saturated,’ decision-makers should adopt proactive measures. Organizing events that foster cultural pride and enhance resident-tourist interactions can strengthen community engagement (Zhou et al., 2014).

Industry representatives could sponsor social and cultural events to demonstrate commitment to society and the environment, thereby fostering positive and balanced media coverage (Weaver & Lawton, 2013). Authorities should enforce relevant laws and conduct awareness campaigns to mitigate immoral behaviours like prostitution and substance abuse (Sinclair-Maragh et al., 2015). Behavioural codes can ensure tourists’ respect for local norms without imposing excessive restrictions. Given that all-inclusive tourism in Kuşadası limits opportunities for resident-tourist interactions, diversifying tourism types and accommodation options is vital to enhance local engagement.

4.3. Limitations

Although measures were taken to reach various societal segments, the use of convenience sampling and collecting data from different individuals in each survey period are key limitations of this study. Future research should apply probabilistic sampling to represent broader populations and, where possible, collect data from the same individuals over time. Moreover, in this study, data were not collected at equidistant temporal intervals. Future research should systematically prioritise gathering data at consistent intervals. Adopting such methodological rigour would facilitate a more robust and coherent examination of social changes and improve temporal comparability.

Additionally, future studies could assess tourism impacts more comprehensively (Ma et al., 2013), since this study considered only a limited range of effects. Moreover, employing qualitative methods could deepen understanding of cluster formation and tourism representations. Although socio-demographics showed limited influence, socio-economic factors like tourism employment, income dependency, or proximity to tourism were not examined and warrant investigation. The rise of ‘indifference’ as a dominant perception calls for follow-up surveys or longitudinal research in Kuşadası and other destinations with different tourism types.

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Declaration of Competing Interests

The authors declare that they have no known competing interests that could have appeared to influence the work reported in this paper.

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