# Residents' Place Image: A Cluster Analysis and its Links to Place Attachment and Support for Tourism

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**Abstract:** While there is a plethora of studies segmenting the lucrative tourism market, limited attention has been given to identifying potential segments of local residents based on their image of the place they live in as a tourist destination. This study aims to address this gap by a) clustering local residents of a tourist destination based on their images of that place; and b) identifying whether those image-based resident groups share similar/different levels of place attachment and intentions toward tourism (support for tourism, intention to recommend it to others). Analysis was based on a sample of 368 residents of Eilat, Israel. The findings suggest the presence of three resident groups with different images of Eilat - called *Nature Aesthete, Appreciator*, and *Critical* - and provide support that these groups exhibit dissimilar levels of attachment and intentions/behavior toward tourism. The *Appreciator* (residents with the most favorable image) were reported exhibiting higher levels of place attachment, support for tourism and were more likely to recommend their place to others as a tourist destination than the *Critical* (residents with the least favorable image). The implications of these findings to tourism theory and practice are discussed.

Keywords: Destination image, Local residents, Place attachment, Support for tourism, Segmentation

#### 1. Introduction

A growing number of cities, regions and countries are actively engaging in marketing themselves to their external stakeholders (i.e., tourists, investors) for several reasons including to formulate a positive image and entice potential tourists' visitation to the destination (Elliot, Papadopoulos & Kim, 2011; Zeugner-Roth & Žabkar, 2015). Additionally, a place communicates with its internal stakeholders including the local residents to reinforce their image, bonds with it and to solicit their support for additional tourism development (Nunkoo & Gursoy, 2012). An examination of the images of a tourist destination held by its varied stakeholders is important for the development of an effective tourism development and marketing plan by the local authority, tourism developers and destination marketers (Virgo & de Chernatony, 2006).

Determining residents' place image, in particular, is invaluable for understanding their a) intention to recommend the destination to others (Bigne, Sanchez, & Sanz, 2005; Schroder, 1996) and b) to support tourism development (Ramkissoon & Nunkoo, 2011; Schroeder, 1996; Stylidis, Biran, Sit, & Szivas, 2014). First, the image local residents have tend to be complex and residents often act as 'ambassadors' of their place - promoting its attractions to other people (e.g., Hudson & Hawkins, 2006; Shani & Uriely, 2012; Stylidis, Sit, & Biran, 2016) - having a considerable effect on tourists' image formulation and decision making prior visitation (e.g., Bigne et al., 2005; Walls, Shani, & Rompf, 2008). Residents' influence further extends to the in-situ stage of image formation, determining tourists' on-site experience, satisfaction with the destination, and word-of-mouth recommendations (Pizam, Uriely, & Reichel, 2000; Wilson, Fesenmaier, Fesenmaier, & van Es, 2001), since local people serve as a primary source of information for visitors and visiting friends/relatives, due to their familiarity with the destination. This is particularly relevant nowadays with the active involvement of local residents in various social media platforms, and thus the role of the latter in shaping the image of tourist destinations (Palmer, Koenig-Lewis & Jones, 2013; Tamajón & Valiente, 2017).

Second, a number of studies have established a positive relationship between residents' place image and their support for tourism development, with more positive images leading to higher levels of support (Ramkissoon & Nunkoo, 2011; Schroeder, 1996). Beyond tourism, empirical evidence also suggests that local residents harboring a negative image are also often characterized by lack of attachment to the place and apathy regarding community issues (Bonaiuto, Breakwell, & Cano, 1996; Chow & Healey, 2008), with place attachment further been linked to residents' support for tourism (Choi & Murray, 2010; Draper, Woosnam, & Norman, 2011; Gursoy & Rutherford, 2004). It is generally accepted nowadays that understanding how hosts' support for tourism is formed is imperative for the sustainable development of a tourist destination (Gursoy, Chi, & Dyer, 2010; Maruyama & Woosnam, 2015; Vargas-Sanchez, Plaza-Mejia, & Porras-Bueno, 2009). An understanding in particular of the factors that influence such support is essential for tourism policies to be developed (Perez & Nadal, 2005).

However, local residents' reactions are not homogenous as differences in value systems, benefits and perceptions, underpin the ways in which people interpret phenomena like

tourism (Fredline & Faulkner, 2000). To this end, Pearce, Moscardo and Ross (1996) suggest that social representations (see Moscovici, 1961, 1981) are particularly valuable for explaining reactions shared by various societal groups to salient issues within a community like tourism, "serving as a means of constructing and understanding social reality" (Meier & Kirchler 1998, p.757). Previous research, for instance, has highlighted differences in the level of support/opposition for tourism among various resident subgroups including tourism and non-tourism employees (Andriotis & Vaughan, 2003; Weaver & Lawton, 2013), native and non-native local residents (Xie, Bao, & Kerstetter, 2014) and between various ethnic minorities (Maruyama & Woosnam, 2015). Researchers thus call for additional research on how subgroups' support is formed (Byrd, Bosley, & Dronberger, 2009; Maruyama & Woosnam, 2015; Weaver & Lawton, 2013), with such knowledge being central to participatory planning and sustainable development of tourism (Byrd et al., 2009). Within this realm, segmentation analysis on local residents of a tourist destination has been extensively used to identify subgroups of this critical tourism stakeholder, so-called 'nested communities' (Madrigal, 1995, p.87).

Despite the evidenced importance of residents' place image for the development and marketing of a tourist destination, there is scarcity of research on segmenting the local residents based on their image (Schroeder, 1996). Resident subgroups' perceptions/images highlight the different meanings attributed to the place and the way in which these perceptions are linked to several issues within it (Simpson, 1999). Such representations allow groups to construct a common social reality (Andriotis & Vaughan, 2003) and provide guidelines to individuals on how to react to phenomenon like tourism (Fredline & Faulkner, 2000). Failing to gauge residents' images can have negative implications for sustainable tourism development activities (especially as negative images are often associated with the presence of tourists - Jutla, 2000), including subgroups resentment towards the industry and opposition towards proposed tourism development plans (Bandyopadyay & Morrais, 2005; Virgo & de Chernatony, 2006). A segmentation study based on residents' image will enable those with different perspectives to be identified and considered in the planning process of tourism, offering the possibility of reconciling differences, minimizing conflicts, and increasing residents' well-being (Concu & Atzeni, 2012). Additionally, such a study can inform the execution of marketing activities that target local residents, considering that subgroups with positive image are more likely to spread positive word-of-mouth. Overall, the above discussion indicates that the tourism industry cannot sustainably operate without the

active participation and goodwill of the vast majority of the hosts, nor can it flourish in a place with a negative image and a high rate of migration.

The aim of this study is, therefore, to: a) validate the utility of residents' place image as a segmentation tool capable to identify homogenous resident segments; b) identify the extent to which those image-based resident segments share similar levels of attachment to their place; and c) determine the extent to which those image-based resident segments share similar intentions toward tourism (intention to recommend, support for tourism development). The study advances existing research on sustainable tourism marketing and development by identifying the presence of subgroups of residents with different images of the destination. Understanding how resident communities develop and present their own representations of their place and of tourism itself is a necessary prerequisite for the development of more sustainable approaches to tourism (Moscardo, 2011). The study also extends the application of social representation theory in place image studies and responds to recent calls for research (Maruyama & Woosnam, 2015; Weaver & Lawton, 2013) by providing a better understanding of how resident subgroups' image shapes their support for tourism; intention to recommend; and level of place attachment. By establishing links between these subgroups and their corresponding level of place attachment, this research will further enlighten the relationship of the two constructs in the context of tourism development. In terms of its practical contribution, the study assists local authorities and place marketers to enhance image, attachment and support and to more effectively plan actions for improving a negative image and/or reinforcing a positive one via customized communication activities. For example, if heterogeneous image segments are identified between the local residents, differentiated communication strategies can be devised to enhance image and solicit their support for further tourism development.

### 2. Literature Review

### 2.1 Past Research on Local Residents

Local residents of a tourist destination are key stakeholders in tourism. Considering the potential changes inflicted by tourism in the host community (natural, economic, social and built environment), researchers advocate that managers, planners and local authorities should actively solicit and carefully assess the perceptions and attitudes of local residents, being essential for the sustainability of any tourism development project (Nunkoo & Gursoy, 2012; Nunkoo & Ramkissoon, 2012). Recognizing that residents are heterogeneous with regards to their perceptions and attitudes, a number of frameworks have been used to explain the presence of various subgroups within a community including Social Representations Theory (SRT) (Andriotis & Vaughan, 2003; Fredline & Faulkner, 2000; Moscardo, 2011; Pearce et al., 1996). Social representations are defined as "systems of preconceptions, images and values which have their own cultural meaning and persist independently of individual experience" (Moscovici, 1981, p. 122). Social representations are created from social interactions within groups as members share their experiences (Philogene & Deaux, 2001). A benefit of using SRT is that allows linking individuals' attitudes to the context in which they live and operate (Jenkins, 2003). Given that issues of sustainable development may vary from one place to the other, the need for place specific policies that consider the uniqueness of the destination are also highlighted (Nunkoo & Ramkissoon, 2011; Teye, Sonmez, & Sirakaya, 2002). A concept considered critical for urban planning and with the potential to elucidate the destination's characteristics and uniqueness is that of residents' destination/place image (Ramkissoon & Nunkoo, 2011; Schroeder, 1996; Stylidis et al., 2014), since a place serves to them as a communal setting where they live, work and socialize (Hudson, 1988).

Place image is commonly defined in the literature as the sum of beliefs, ideas and impressions people hold of a place (Kotler, Haider, & Rein, 1993); image is a mental construct based on a number of impressions chosen from the flood of information about a place (Echtner & Ritchie, 1991). The need to consider residents' place image can be understood in light of their "active" and "passive" role, as discussed in previous studies. Residents' active role refers to the idea that residents of a destination formulate their own images of that place, which can be compared with those of tourists (Gallarza, Saura, & Garcia, 2002). The studies adopting this line of thought stress that residents have a more comprehensive understanding of the destination's attributes and uniqueness than the tourists (Henkel et al., 2006; Jutla, 2000; Reiser & Crispin, 2009). Hence, recognizing their

perspective is important in identifying development trajectories that could bridge conflicting demands and images of the different stakeholders (Bandyopadyay & Morrais, 2005). This is further supported by studies conducted in the context of city image and place branding. For example, Merrilees, Miller and Herington (2009) argue that consideration of residents' image is important for facilitating developments which will sustain the place's valuable characteristics and address its negative aspects. Additionally, residents also use the recreational and tourism facilities available in their area, and can provide valuable insights for tourism development and marketing (Bigné et al., 2005; Hsu, Wolfe, & Kang, 2004; Leisen, 2001).

Residents' passive role in the literature is the outcome of a growing interest in understanding their attitudes toward tourism (Gallarza et al., 2002). This notion is reflected in the frequent consideration of residents as part of the image attributes the tourists have of a destination, namely residents' friendliness or hospitality (Echtner & Ritchie, 1991; Elliot et al., 2011). Accordingly, resident-tourist interactions along with residents' attitudes and support for tourism can influence tourists' perception of the destination (Gallarza et al., 2002). In the context of marketing, for example, Bandyopadyay and Morrais (2005) note that a dissonance between the external representation of the destination and the image held by the local community can lead to resentment toward tourists and the tourism industry. Such a dissonance can occur as a result of placing too much emphasis on the external stakeholders while neglecting local residents' views. Despite recent attempts to address the lack of research on residents' place image (see Ramkissoon & Nunkoo, 2011; Stylidis et al., 2014), gaps still exist in understanding the existence of resident subgroups with different images/perceptions in mind, and whether these potentially different perceptions of place shape residents' attachment, support for tourism and intention to recommend the destination to others. Market segmentation, further discussed below, is a technique widely used to identify the presence of different segments in a population.

### 2.2 Market Segmentation and Segmentation Studies in Tourism

Market segmentation has become a key concept in marketing theory and practice (Wedel & Kamakura, 2000). The market segmentation technique divides a heterogeneous market into smaller homogeneous groups with distinct characteristics (e.g. preferences or perceived attributes), allowing a business to serve the identified groups more efficiently (Kotler & Armstrong, 2001; Li, Meng, Uysal, & Mihalik, 2013). There are two main approaches in

segmenting a market, that is, a priori and a posteriori. The 'a priori' or 'common-sense' segmentation involves clustering people based on profile descriptors that are insightful and logical (Mazanec, 2000). For example, country of origin is often used to segment the visitors of a tourist destination as it offers practical advantages and allows destination management organizations (DMOs) to develop customized marketing strategies (Dolnicar, 2008; Zeugner-Roth, & Žabkar, 2015). The 'a posteriori' or 'data driven' segmentation is based on statistical techniques including cluster analysis, correspondence analysis and discriminant analysis to identify and delineate customer segments (Dolnicar, 2004). Cluster analysis, in particular, involves assigning people into mutually exclusive and exhaustive groups, by uncovering distinct response patterns among consumers (Neal, 2000), whereby discriminant analysis is used to confirm the validity of the cluster solution (Hosany & Prayag, 2013). Both a priori and a posteriori segmentation approaches can be useful; considering though their advantages and disadvantages, researchers propose their joint application for a better understanding of the market (Dolnicar & Lazarevski, 2009).

Segmentation studies in tourism have mainly paid attention to the tourists and less to the local residents of a tourist destination. A tenable explanation for this preference is that tourists stimulate economic activities for a tourism destination; their perceptions and experiences are frequently studied to facilitate the development and execution of marketing activities to stimulate their behaviours (e.g., intention to revisit, intention to recommend) (Goeldner & Ritchie, 2009). Tourism literature clusters tourists into homogeneous sub-groups using either a-priori or a-posteriori segmentation approach (Dolnicar, 2004). Variables commonly used to a-priori segment the tourist market include tourists' socio-demographic or geographic characteristics (Kim, Lehto, & Morrison, 2007; Reid & Reid, 1997) and/or frequency of visitation (Baloglu & McCleary, 1999). Among the variables used in a posteriori segmentations (Bieger & Laesser, 2002; de Guzman, Leones, Tapia, Wong, & de Castro, 2006), benefits sought (Frochot, 2005; Molera & Albaladejo, 2007), recreation experience (Lee, Jan, Tseng, & Lin, 2017) and destination image (Dolnicar & Huybers, 2007; Leisen, 2001; Prayag, 2010).

With regards to the local residents of a tourist destination, segmentation of the host community is usually performed a posteriori in the context of tourism development; that is, based on residents' perceptions of tourism impacts and support for tourism development (Andriotis & Vaughan, 2003; Fredline & Faulkner, 2000; Madrigal, 1995; Weaver & Lawton,

2013; Williams & Lawson, 2001). The underlining reason for such segmentation is the notion that understanding residents' reactions towards tourism allows those responsible for tourism development to more effectively plan remedial actions aimed at avoiding or minimizing the negative impacts of tourism, and thus facilitating further support (Fredline & Faulkner, 2000; Weaver & Lawton, 2013). Existing a posteriori segmentation analyses of residents based on their perceptions of tourism reveal that host communities comprise a number of distinct groups of residents with similar views (Fredline & Faulkner, 2001; Weaver & Lawton, 2013). For example, in the study of Weaver and Lawton (2013) in Gold Coast, Australia the segments identified using cluster analysis were termed 'supporters', 'conditional supporters', 'conditional opponents' and 'opponents'. Summarizing previous study findings, Andriotis and Vaughan (2003) noted that residents' segments can be placed in a continuum according to their degree of positivity/negativity in their responses to tourism, commonly ranging from 'advocates' to 'ambivalent' to 'haters'. 'Advocates' expressed stronger support for tourism development, whereas 'haters' appeared unsupportive.

From the preceding discussion, it can be concluded that past research mainly used perceptions of tourism impacts to segment residents, as this variable a) provides a good basis for segmentation and b) helps explain how differences in residents' support for tourism develop. Yet, there is a dearth of research on resident segmentation based on their image of the place they live in as a tourist destination, despite the previously noted merits of this concept for sustainable tourism development and marketing. Additionally, variables such as community attachment and place image clearly tap into differences in values rather than differences in impact and as such are better descriptors of residents' attitudes toward tourism (Fredline & Faulkner, 2000). In line with Kitnuntaviwat and Tang (2008), the nature and strength of residents' place image and attachment can be important determinants of successful coexistence between residents and the tourism industry. The following sections further discuss the significance of segmenting the local population based on place image, by linking residents' place image with attachment, support for tourism and intention to recommend the destination to others.

### 2.3 Residents' place image and place attachment

The concept of place attachment is often defined as a personal sentiment towards one's place or community (Goudy, 1990; Tuan, 1974). Studies in social and environmental psychology suggest that the way people perceive their physical environment and the established bonds

with it greatly influence their behaviour (Carrus et al., 2005; Devine-Wright & Howes, 2010; Larson, De Freitas, & Hicks, 2013), including intention to migrate (Brower, 2003), proenvironmental behaviour (Clayton, 2003; Scannell & Gifford, 2010), and support/opposition for development projects (Devine-Wright & Howes, 2010; Twigger-Ross, Bonaiuto & Breakwell, 2003). Similarly, place attachment has been studied in the tourism literature in relation to residents' attitudes toward tourism development (Choi & Murray, 2010; Gursoy & Rutherford, 2004; McGehee & Andereck, 2004). Draper et al. (2011), for example, reported that more attached residents tend to be less positive toward tourism development. With regards to the relationship between residents' place image and their level of place attachment, studies in environmental psychology (e.g., Brehm, Eisenhauer, & Krannich, 2006; Hidalgo & Hernandez, 2001; Rollero & De Piccoli, 2010; Scannell & Gifford, 2010), suggest that the more favourable a place is perceived, the stronger the levels of attachment to it. This link has been further supported by research conducted in geography, which emphasized how the physical setting shapes place attachment (Brown & Raymond, 2007; Brown, Raymond, & Corcoran, 2015; Brügger, Kaiser, & Roczen, 2011; Mayer & Frantz, 2004; Schultz, Shriver, Tabanico, & Khazian, 2004). For example, Stedman's (2003) study conducted in Northern Wisconsin (US) demonstrated that landscape attributes were important to constructed meanings, and that these meanings were not exclusively social. Nevertheless, the link between residents' place image and place attachment within the context of tourism development is still little understood.

### 2.4 Residents' place image and support for tourism development

The significance of place image in influencing people's behaviour has been established in environmental psychology (e.g., Lynch, 1960), geography (e.g., Bolton, 1992; Kearsley, 1990), place and product marketing (Ashworth & Voogd, 1990; Elliot et al., 2011), and tourism (Ramkissoon & Nunkoo, 2011; Schroeder, 1996; Stylidis et al., 2014). Although not many, studies in tourism suggest that residents' place image positively affects their behaviour and attitude, including perception of tourism impacts and support for its development (Ramkissoon & Nunkoo, 2011; Schroeder, 1996; Stylidis et al., 2014). Among the few studies available, Ramkissoon and Nunkoo (2011) examined a link between residents' place image, their perception of tourism impacts and support for its development. Their findings indicate that residents with more positive images of a place are more likely to perceive the impacts of tourism favourably. Stylidis et al. (2014) also reported that residents with more favourable images of Kavala, Greece displayed more positive perceptions of tourism impacts

and greater disposition toward tourism development. Schroeder (1996) similarly found that residents with more favourable images of North Dakota displayed greater disposition towards state funding for tourism development and promotion (support for tourism) and were more likely to recommend the destination to others. Bramwell and Rawding (1996) further suggest that residents may be dissatisfied with developments which promote "standardized placeless images" (p. 203), whereas they are more likely to support development efforts which promote the distinctiveness of the place and its local inhabitants. Studies also in environmental psychology have acknowledged the significance of place image in understanding residents' attitudes and behaviours toward planned development projects (e.g., Carrus, Bonaiuto, & Bonnes, 2005; Devine-Wright & Howes, 2010). However, with the exemption of Schroeder (1996), no other study appears to have explored whether subgroups of residents with different levels of support for tourism.

### 2.5 Residents' place image and intention to recommend the destination to others

Similarly, only a few studies have reported empirical findings for the relationship between residents' place image and their intention to recommend the destination to others. Those studies revealed that residents with more favourable images tend to spread positive word-of-mouth, indirectly demonstrating their support for tourism (Hsu et al., 2004; Schroeder, 1996). For example, Schroeder (1996) provides empirical evidence indicating that residents who hold a more positive image are more likely to recommend North Dakota as a place to visit, as opposed to those holding a less positive image of the place. This relationship has been well established in the tourism literature, with destination image known to influence tourists' behavioural intentions in relation to the destination (Choi, Tkachenko, & Sil, 2011). A positive recommendation serves as a credible source of information for potential tourists (Yoon & Uysal, 2005). This is particularly useful in tourism, which heavily relies on positive word-of-mouth (Williams & Soutar, 2009). Limited empirical evidence, though, is available regarding the resident segments that are willing to spread positive word of mouth about their place, which is one of the objectives of this study.

From the preceding discussion is becomes evident that this study aims to benefit the tourism literature pertaining to sustainable development and marketing by providing an understanding of the different segments of residents based on their image of their place as a tourist destination, along with the identified segments' level of attachment, support for tourism, and

intention to recommend their place to others. The next section outlines the research methods used to achieve the study's objectives.

### 3. Study Methods

### 3.1 Setting and Sample

The city of Eilat in Israel, was selected as the setting of this study for three main reasons: a) Eilat is the most popular destination for domestic tourists, b) tourism plays a key role in the local economy sustaining about 7,300 in Eilat, and c) there is a dearth of research on tourist destinations located in the Middle East region. Eilat (population 47.500) is situated at the northern end of the Red Sea on the Gulf of Eilat/Aqaba. It is Israel's most highly developed sea, sun, and sand resort. The city currently offers 10,956 hotel rooms, about one-quarter (24.6%) of all hotel rooms in Israel (Israeli Ministry of Tourism, 2012). International tourists spent 1,084,000 nights and domestic tourists 5,671,000 nights in Eilat (50% of all Israeli nights domestically) in 2011.

Heterogeneous purposive sampling (Finn, Elliot-White & Walton, 2000) was utilized with the aim of ensuring heterogeneity and variance among the local residents. While the sampling procedure followed is helpful in achieving a balanced composition of respondents, it may limit the generalizability of the findings to other destinations. Self-administered questionnaires were distributed to local residents between November 2012 and March 2013. Following Chen, Lin and Petrick (2013), four trained research assistants approached residents in their neighborhoods and/or in the center of the city and asked to participate in the study. The interviewers were required to exercise their judgment in selecting an equal number of respondents from each neighborhood. The process was closely supervised and monitored by one of the authors. A screening question in the survey was used in order to differentiate between permanent residents and tourists. The sample consisted of adults (over the age of 18) who are permanent residents of Eilat. Members of the same household often hold similar views, so to avoid introducing a bias in the results, only one person out of each household approached was allowed to participate (Andriotis, 2005). The residents that agreed to participate in the study were 368 out of 580 initially approached and the response rate in that case stood to a satisfactory 63%.

### 3.2 Research Instrument

A questionnaire was designed to examine the image local residents have of Eilat as a tourist destination, their level of attachment to it and their behavioral intentions toward tourism development. The first section of the questionnaire aimed to measure respondents' image of Eilat. The multi-item scale was preferred to a single measurement, because past research has

delineated a number of destination image dimensions and concluded that image is a complex and multifaceted concept (e.g., Beerli & Martin, 2004; Lin et al., 2007). A list of place image dimensions/attributes was developed based on previous destination image research (e.g., Baloglu & McCleary, 1999; Beerli & Martin, 2004; Chen & Tsai, 2007; Chi & Qu, 2008; Lin, Morais, Kerstetter & Hou, 2007; Prayag, 2010). These items covered place attributes such as scenery, natural attractions, climate, friendliness of the locals, nightlife, appealing cuisine, shopping and accommodation facilities, safety and tourist activities. Given the great variety of attributes in the literature, attention was given to 'universal attributes' (i.e., scenery, weather, accommodation), excluding attributes that did not fit to the context of Eilat (i.e., ski facilities). Second, the items were further revised based on a number of discussions with residents and tourists to ensure their relevance to the locality (Poudel, Nyaupane & Budruk, 2016). Finally, a pilot study was conducted using a sample of residents and tourists. Overall, the list of attributes was developed with the assumption that they best represented the core image of Eilat (see Prayag & Ryan, 2012). The final list of image dimensions along with the items they involve are: Natural Environment (scenic beauty, climate, beaches), Amenities (restaurants, accommodation, shopping facilities, service quality), Attractions (attractions, festivals, tourist activities), Social Environment (safe, friendly, clean, value for money), and Accessibility (access, infrastructure, transportation). These items were presented to 30 local residents and tourists who confirmed their suitability for capturing the image of Eilat as a tourist destination. Following previous research on image, a 7-point Likert-type scale was used, with '1' indicating 'strongly disagree' and '7' indicating 'strongly agree' (e.g., Chi & Qu, 2008). Apart from the multi-item image scale, local residents were asked to evaluate the overall image of Eilat as a tourist destination on a 7-point scale ranging from 1 (very unfavorable) to 7 (very favorable) (e.g., Baloglu & McCleary, 1999; Beerli & Martin, 2004).

The second section of the questionnaire measured place attachment and behavioral intentions toward tourism. Respondents' level of attachment to Eilat was captured using three items (I feel like home; I am interested in what's going on in the city; I feel sorry to leave) drawn from studies conducted by Goudy (1990) and Gursoy and Rutherford (2004). A five-point Likert scale was used with values ranging from '1' (strongly disagree) to '5' (strongly agree). Intention to recommend Eilat to others as a tourist destination was evaluated on a scale from '1' (very unlikely) to '7' (very likely) (e.g., Prayag & Ryan, 2012; Qu, Kim & Im, 2011). Support for tourism development was assessed using three items (support further tourism development; additional municipal funding allocated to tourism promotion; there should be

an increase in the number of tourists visiting Eilat), based on the studies of Latkova and Vogt (2012), McGehee and Andereck (2004) and Nepal (2008), on a scale of '1' (strongly disagree) to '7' (strongly agree). Finally, the third section involved questions about respondents' demographic characteristics (gender, age, years living in the community and income). A pilot study was conducted prior to the main data collection, to ensure the clarity, relevancy and suitability of the research instrument. Apart from correcting a few wording problems, no other substantial changes were made.

### 4. Findings

A two-stage cluster analysis was conducted to segment Eilat residents based on their scores on the 17 destination image attributes. Following Hair, Black, Babin and Anderson (2014), hierarchical cluster analysis was initially conducted to identify a set of cluster solutions followed by a non-hierarchical clustering to confirm or refine the results. Prior to analysing the data, the Cronbach's alpha value was estimated to test the reliability of the image scale, with the alpha value of 0.85 exhibiting a satisfactory internal consistency of the 17 image items.

Hierarchical cluster analysis using the Ward's method with squared Euclidean distances was applied first to obtain the agglomeration schedule. A range of two- to five-cluster solutions were examined and the highest increase in the agglomeration coefficient was noticed in the step between the third and second stage. A closer inspection revealed that the three-cluster solution offered the most meaningful and interpretable result. Next, the non-hierarchical analysis (K-mean algorithm) further verified the three-cluster solution being the most meaningful in comparison to other solutions. Hence, the three-cluster solution was accepted in this study. As can be seen in Table 1, the first and largest image cluster constitutes half of the participants (n = 166, 49%) and holds a neutral to positive image of the city. The residents that form this group have a rather favourable perception of the physical environment and the amenities available in Eilat, thus termed 'Nature Aesthete'. The second cluster, representing one third of the total sample (n = 114, 33%) is termed 'Appreciator', as they hold the most favourable image of Eilat among the three clusters identified. This group praises Eilat's physical and social environment, the recreation opportunities offered and have the most favourable opinion about the local attractions. The third cluster, labelled 'Critical', accounts for one fifth (n = 61, 18%) of the total sample and holds the least favourable image of Eilat. This group is principally concerned with the lack of accessibility to Eilat, highlights the lack of recreational opportunities (shopping, service quality) and feels that the local residents are not very friendly.

### [Table 1 About Here]

Discriminant analysis was conducted next to assess the classification accuracy of the three cluster solution. The two canonical discriminant functions extracted were significant at the .001 level (see Table 2). The canonical correlation for both functions is high, suggesting that

the model explains a significant relationship between the functions and the dependent variable (Hosany & Prayag, 2013). The classification results also indicate that the hit ratio is high (88%), that is, for the sample of 341 observations, 88% (n = 300) of the sample respondents were correctly classified in their respective cluster by the discriminant functions (Hair et al., 2014).

### [Table 2 About Here]

To further establish the external validity of the cluster solution, the statistical relationship of the clusters identified with a theoretically relevant variable was examined (see Hair et al., 2015; Hosany & Prayag, 2013). One-way ANOVA followed by Tukey's post-hoc test was conducted using residents' overall image of Eilat as the dependent variable and cluster membership as the fixed factor. The literature strongly supports the existence of a positive relationship between destination image attributes and the overall image (Echtner & Ritchie, 1991; Fu, Ye, & Xiang, 2016). The findings of this study (F = 49.914, p < 0.001) are in line with past research, as the *Appreciator* have the most favourable overall image (M = 6.00) whereas the *Critical* have the least favourable image of Eilat (M = 4.13). These results reinforced the three cluster solution's external validity.

### 4.1 Cluster profiling by residents' demographic characteristics

To profile the three cluster solution, each cluster was cross-tabulated with socio-demographic variables including gender, age, and the years lived in the community. According to Table 3, the three clusters were independent of sociodemographic characteristics apart from the years residents have been living in Eilat, in which statistically significant differences were found between the three groups. The majority (53%) of the *Critical*, in particular, has been living in Eilat for less than four years, whereas half of the *Appreciator* are residents for more than 10 years.

### [Table 3 About Here]

# 4.2 Linking place image to support for tourism, intention to recommend and place attachment

ANOVA followed by Games-Howell post-hoc test was conducted next to identify whether differences exist in a) the way the three groups intend to recommend Eilat to others as a

tourist destination (Table 4), b) their level of support for tourism development (Table 5) and c) their level of attachment to Eilat (Table 6). Games-Howell test was preferred as it is considered the most powerful and accurate in cases where the size of the clusters is not equal (Field, 2013). The results of the Games-Howell test showed that significant differences exist between the three groups in their intention to recommend Eilat to others, with the *Critical* appearing less likely to promote Eilat to others in contrast to *Appreciator* who are highly likely to do so (Table 4).

### [Table 4 About Here]

Table 5 suggests that significant differences also exist between the three groups in their level of support for tourism development, with the *Appreciator* and the *Nature Aesthete* being more supportive of tourism development in Eilat than the *Critical* who appeared less supportive of tourism. Residents belonging in the first two clusters agreed more fervently that a) tourism should be developed further in their community; b) additional public funding needs to be diverted to tourism promotion; and c) they would like to see an increase in the number of tourist in the area.

### [Table 5 About Here]

Lastly, the three groups exhibit different levels of attachment to Eilat (Table 6). Specifically, the *Appreciator* are reported having stronger bonds to the place, as they feel like home and are interested in what is going on in the city, whereas the *Critical* exhibited the lowest level of attachment among the three groups. The implication of all these findings to tourism theory and practice are discussed in the following section.

### [Table 6 About Here]

### 5. Discussion

This study aimed to cluster local residents of a tourist destination based on their images of that place and to identify the extent to which those image-based resident groups share similar/different levels of place attachment, support for tourism and intention to recommend their place to others. In terms of the first objective, the findings suggest the existence of three resident groups or nested communities with different images of Eilat, providing empirical evidence that place (destination) image can serve as a meaningful criterion for segmenting the local population of a tourist destination. The first resident segment includes residents who share rather positive impressions of Eilat's natural setting, thus termed Nature Aesthete. The people in this cluster comprise 49% (n = 166) of the sample and appear to perceive some aspects of Eilat positively, while the mean scores on most other items are very close to 4.0. On the positive side, residents highly recognized the natural elements of Eilat (scenery, weather, beaches) along with the amenities provided (hotels, restaurants, shops). However, this cluster as a whole have had less positive perceptions of Eilat's infrastructure and transportation, cleanliness and value for money. Of all the clusters, Nature Aesthete residents show the strongest agreement with the statement that Eilat hosts interesting festivals. Overall, they hold opinions of a somewhat similar nature to those of the Appreciator (discussed below), but to a less extreme degree.

The second resident segment was termed *Appreciator*. These are the people who appreciate their place the most and comprise 33% (n = 114) of the sample. There are proportionately more people in this cluster who have lived in Eilat for more than 10 years. They could be described as place appreciators since they gave the highest ratings to attributes like "scenic beauty", "pleasant weather", "nice beaches" "quality hotels" and "appealing restaurants." Some of the extreme opinions (compared to other groups) expressed by this cluster include: it is the only group who agrees that Eilat offers convenient transportation; they are alone in agreeing that Eilat has developed infrastructure; and only they believe that Eilat offers good value for money and a clean environment. The third resident segment termed *Critical* is the smallest one comprising 18% (n = 61) of the total sample. These are the residents who least appreciate their city as they give the lowest scores to the vast majority of the attributes including "nice beaches", "service quality", "transportation", "infrastructure" and "cleanliness" among others. They are mainly newcomers (0-4 years) and are aged up to 54 years old. They are the only cluster which disagrees that Eilat provides convenient transportation and developed infrastructure; and only they disagree that it offers a variety of

shops and excellent service quality. Among this group there was basically limited concession to acknowledging any positive aspects of Eilat with their highest scores being for scenic beauty, pleasant weather, personal safety and appealing restaurants. The identification of three clusters with different images is in line with the study of Schroeder (1996) who similarly identified three resident groups based on image, termed *most positive* (31.9%), *average* (41.6%), and *least positive* (26.5%). However, Schroeder (1996) did not use any sophisticated cluster analysis technique but assigned residents to a group based on their overall place image score.

Both Appreciator and Nature Aesthete seem to highly recognize the natural environment dimension of Eilat's image. This element has been previously reported to be valued by residents (e.g., Schroeder, 1996) given that an aesthetically appealing environment contributes to a more pleasant life (Florida, Mellander, & Stolarick, 2011). For example, Glaeser, Kolko, and Saiz (2000) reported that physical attributes such as weather, architectural beauty, and scenery significantly influence the population growth of a city. These two resident segments also favorably perceived the amenities provided in Eilat including restaurants, shopping opportunities and accommodation facilities. Amenities are central to tourism, representing one of the four key components of a tourist place as discussed by Cooper, Fletcher, Fyall, Gilbert and Wanhill (2008, pp. 105-7). Appreciator residents though assessed more positively the social environment of Eilat, in contrast to the other two clusters. The social environment is also considered a significant component of place image (e.g. Chen & Tsai, 2007; Chi & Qu, 2008). With regards to the accessibility dimension, residents belonging to the Critical segment disagreed that Eilat offers convenient transportation, has a developed infrastructure and is easily accessible. Indeed, the city is significantly remote from other major urban centres, the distance to Beersheba, the nearest city, being 241 kilometers (150 miles). The image of Eilat as a remote place is further reflected in Israeli culture, as expressed in a verse by Nathan Zach, a well-known Israeli poet: "we met outside our lives; in Eilat." Critical residents also disagreed that Eilat provides a variety of opportunities for entertainment including interesting festivals, attractions and a variety of tourist activities. Previous studies have highlighted the influential role entertainment opportunities play in tourists' destination choice (Chen & Tsai, 2007; Lin et al., 2007).

The study further explored the way the three resident groups respond to tourism, with the Appreciator being very supportive of tourism development, Nature Aesthete showing moderate levels of support, while the Critical being the least supportive among the three groups identified. This result indicates that residents' responses to tourism are partially shaped by the way they perceive their place, helping to further establish a link between residents' place image and their support for development in the tourism context (Ramkissoon & Nunkoo, 2011; Schroeder, 1996; Stylidis et al., 2014). Ramkissoon and Nunkoo (2011), for example, reported that residents with more favorable place images displayed greater disposition toward tourism development. This finding also corroborates past research in environmental psychology which found that residents' place image can affect the acceptance/rejection of proposed development projects (Carrus et al., 2005; Devine-Wright & Howes, 2010). A tenable explanation in line with Devine-Wright and Howes (2010) is that residents are likely to support/oppose developmental plans that fit/do not fit to the place's image, as for example when 'natural' areas are impacted by plans interpreted by locals as 'industrial'. In this study, the majority of residents perceive Eilat as an attractive place and also exhibit a pro-tourism attitude, providing an indication that most of them evaluate the development of tourism to be compatible (fit) to the image of the city. Additionally, given that Appreciator tend to be longer-term residents, this study corroborates the results of Weaver and Lawton (2013), reflecting perhaps Eilat's longstanding status as a developed tourist destination.

Given that hardly any segmentation study exists on residents' place image, these results can only be compared to previous segmentation studies that have been conducted in the context of tourism development. Previous research indicates that the various resident groups are not homogenous in their responses to tourism. Weaver and Lawton (2013) study in Gold Coast, Australia for example, reported that the four segments identified ('supporters', 'conditional supporters', 'conditional opponents' and 'opponents') exhibited different behavioral intentions towards tourism; the supporters were more keen to support additional tourism development in contrast to the opponents segment. Similarly, Andriotis and Vaughan (2003) found that 'advocates' expressed stronger support for tourism development, whereas 'haters' appeared unsupportive. However, the current study extends past research as it revealed that apart from residents' perceptions of tourism impacts, their image of their place as a tourist destination can also be used as a meaningful segmentation base, further explaining why there

are various levels of support within a community. Those belonging to the *Critical* segment, for example, were the least supportive for tourism development among the three clusters.

Another key finding of this study is that the Appreciator and the Nature Aesthete demonstrate an intention to recommend Eilat to others, whereas the Critical appear less likely to do so. This is in line with past research which also noted that residents with more favorable images tend to spread positive word-of-mouth (Hsu et al., 2004; Schroeder, 1996), indirectly demonstrating their active support for tourism. Schroeder (1996), for example, found that residents with a more positive image of North Dakota are more likely to recommend it as a place to visit as opposed to those holding a less positive image of it. Positive word of mouth, a credible source of information for potential tourists is particularly useful in the tourism industry, which relies heavily on it (Zhang, Fu, Cai & Lu, 2014). Lastly, this study found that the Appreciator and the Nature Aesthete exhibit also higher levels of place attachment. In contrast, the Critical residents appear less attached, slightly disagreeing that they are interested in what is going on in the city and also reporting that they would not feel sorry if they had to leave. Similar to Weaver and Lawton (2013) residents belonging to this cluster seem to have far less attachment and perhaps less proclivity to fight for the place. A tenable explanation for this finding is that the Critical segment mainly comprises residents who have been living in Eilat for less than four years. In line with past research, the dimension of time tends to be an influential factor shaping people's bonds to a place (Haralambopoulos & Pizam, 1996; Snaith & Haley, 1999). The results of this study confirm the key role place image plays in formulating residents' level of attachment to their place (Brehm, Eisenhauer & Krannich, 2006; Hidalgo & Hernandez, 2001; Scannell & Gifford, 2010; Stedman, 2003). For example, Brehm et al. (2006), Matarrita-Cascante, Stedman and Luloff (2010) and Marcouyeux and Fleuri-Bahi (2010) reported that the more positively people evaluate the characteristics of the physical environment, the higher their level of attachment to the place. People, therefore, seem to develop bonds to a place not only due to the close ties with those living there, but also due to its physical assets and climate (Lewicka, 2011). An increased sense of place attachment has been reported to lead to increased community participation (Mayaka, Croy & Cox, 2017). As such place/destination image should be jointly examined with place attachment to better explain residents' attitudes toward planned development projects in the future.

Overall, the findings provide evidence that the three clusters exhibit dissimilar levels of attachment, support for tourism and intention to recommend Eilat to others. Given the varying degrees of consensus among the clusters identified here, it can be concluded that *emancipated* representations exist here as the sub-groups have somewhat differentiated opinions and ideas about their place and tourism (Dickinson & Dickinson, 2006). *Nature Aesthete* appeared to be attached to the city, supportive for tourism development and positively inclined to recommend Eilat to others. *Appreciators* are also supportive of tourism, exhibited the greatest intention to recommend Eilat to others and are the most attached group to Eilat. The *Critical* residents, on the other hand, were reported having the lowest levels of attachment and support for tourism among the three groups and are less likely to recommend Eilat to others. A combination of positive representations of the place and positive levels of attachment seem to give rise to strong supportive opinions of residents toward tourism.

These findings have a number of practical implications for local authorities, place marketers and tourism planners. First, the study assists local authorities to identify the various community groups based on the image they have of their place along with the most and least favorably perceived aspects of this image. Understanding particular segments' needs provides information for the appropriate allocation of limited resources that might otherwise be spent ineffectively (Prayag, 2010). To sustain or enhance place image of the actionable segments, destination planers and marketers could utilize the outputs of this study to tailor their strategies to meet the unique needs of each resident sub-segment. For example, tours designed for locals, free admissions to local attractions and events promoting indigenous culture may be offered to newcomers who are likely to belong to the Critical segment. The study can also help in place re-imaging by appealing to the interests and expectations of the various resident segments (Reiser & Crispin 2009), which in turn can foster attachment to the place, or even to what Tuan (1974) describes as 'topophilia.' This practice is in line with the sustainable development of a place's image because the more realistic the image promoted, the more likely it is to be accepted by the majority of the stakeholders (Bennett & Koudelova, 2001), while the exclusion of residents may lead to hostility toward the new image or even affect the host-guest relationship (McCarthy, 2004). In the case of Eilat, the current development of a new city airport along with plans for establishing a train connection with other urban hubs, are expected to have a positive impact on the accessibility issue of Eilat's image.

Second, the study should be used as a starting point in encouraging residents' involvement in tourism planning, assisting planners to focus on projects that will be compatible (fit) to the residents' place image. Such knowledge is beneficial for the development of alternative development planning models which pay more attention to the wellbeing of the local community (Moscardo, 2011). The relationships observed between cluster membership and the other variables tested confirm, to some extent, the assertion that the groups identified are fairly internally homogenous, and yet quite discreet from one another. The relationship between place image and support for tourism, in particular, indicates that tourism should be used as a tool for the development of the whole place (Nunkoo & Ramkissoon, 2010). For the city of Eilat, local planners should take action to convince the residents that tourism development will not negatively affect the residents' place image. Proposed plans that are expected to address the negative aspects of a place's image, or further enhance its positive elements serve this scope and are expected to receive local residents' support. Especially in relation to new development projects, the opinion of *Critical* residents should be carefully examined to scrutinize whether specific strategies are required to reduce their concerns. In the case of Eilat this involves investing in tourism projects that will improve the elements that are currently being perceived less favorably by some segments like the Critical or Nature Aesthete (i.e., entertainment opportunities including festivals and attractions). In that way the local authorities and planners will achieve an improvement in these groups' image of the city, which in turn is expected to increase their support for tourism development.

By further deploying marketing campaigns targeted at local residents such developments should be further highlighted, underlining their positive contribution to the city's image, gaining greater support for it. Along with the findings, cultivating a positive destination image among residents will also increase the likelihood of recommending it to others as a tourist destination, as only satisfied residents with positive perceptions of their city will reinforce and communicate favourable associations with that place (Wang & Xu, 2015). This is of importance, considering residents' role as destination ambassadors to non-residents (Hudson & Hawkins, 2006; Leisen, 2001; Schroeder, 1996), influencing their destination image, travel decision making, and on-site experience (Campelo, Aitken, Thyne, & Gnoth, 2014; Gallarza et al., 2002; Walls et al., 2008), since "residents and interactions with such residents are essential elements of place brands" (Blichfeldt, 2005, p.394). To this end, representatives of the different resident clusters of Eilat should become involved, for

example, in choosing a new logo for the city, as in the case of Syracuse in the United States (e.g., Short, Benton, Luce, & Walton, 1993).

Lastly, there are practical implications stemming from the positive relationship established between place image and place attachment, namely, residents who hold more positive images exhibit stronger levels of place attachment. Further cultivating residents' attachment is significant as it motivates individuals to work to improve their place. Past research, for example, has found that attached residents seek to actively participate in the decision making for community development (Matarrita-Cascante et al., 2006). The *Critical* in the case of Eilat appear to be less interested in what is happening in the city, which poses a threat to the active participation of this group in tourism planning. In line with a number of studies residents who do not participate in community decision-making are less likely to support tourism development (Nunkoo, 2015). It is, therefore, recommended that the local authorities, planners and developers consider the perceptions and behavior of this segment and direct their efforts toward increasing their level of attachment through a number of strategies such as community oriented events and festivals. To this end, the internal marketing campaigns and education programs used by local authorities for enhancing residents' image are expected also to reinforce residents' place attachment.

This study has a number of limitations that should be mentioned. First, it was conducted on a single tourist destination, namely Eilat; caution should be exercised in generalizing the results to other destinations. Second, the study examined residents' images of Eilat as a tourist destination. However, the latter is not of paramount concern for the local population. It would be interesting to further investigate the image local people hold of their place as a place to live, and its links with support for tourism or place attachment. Third, the study was conducted during a rather low season for Eilat tourism, possibly affecting residents' images; further research is required during other tourism seasons. Fourth, the exclusion of the affective component of image is another limitation of this study. Additional psychological attributes (e.g., fame) (Echtner & Ritchie, 1991), as well as affective attributes (e.g., relaxing, exciting, pleasant) should be incorporated into the measurement of residents' place image. Fifth, the dataset was translated from Hebrew to English; although every effort has been made in this process, some bias might have been introduced in the data analysis. Next, there is a need to carry out more studies of this type for different types of destination (urban, rural, etc.) and exploring various types of residents (e.g., long-term vs. short-term; based on their

neighbourhood, etc.). Finally, it would be worthwhile to explore other components of image (including the sensory) and their relation to place attachment and/or behavior towards tourism.

### 6. Conclusion

Understanding residents' place image is central to participatory planning, sustainable development and marketing of tourism. Limited research, however, has focused on segmenting local residents based on their image of the place they live in as a tourist destination. By doing so, this study contributes to tourism theory in three ways; first, it validated the applicability of place/destination image as segmentation base to identify homogenous segments comprising local residents of a tourist destination. The three cluster solution reported here supports the application of social representations theory in the tourism marketing and development context, providing a basis for the interpretation and categorization of phenomena like tourism (Fredline & Faulkner, 2000). Second, significant and substantive relationships were observed between cluster membership and a number of variables including levels of attachment to their place, support for tourism and intention to recommend it to others. Such findings enlighten the relationship between place image and attachment in the context of tourism and assist in identifying the profile of resident who is willing to spread positive word of mouth about their place. The study as such manages to respond to the call of Vargas-Sanchez et al. (2009) for identifying new intrinsic variables (i.e., residents' image) that condition the attitude of the individual toward tourism, contributing to the theoretical advancement of sustainable tourism (Gursoy et al., 2010). Third, the study provides additional evidence to support the role of residents in place image research, advancing their position in the marketing and planning process of tourism (Murphy, 1985), reinforcing the need for a sustainable approach in place marketing. Lastly, the study provides managerial recommendations, assisting destination managers and planners to a) effectively enhance or change the image of a place and make it more attractive to both its external and internal audiences; and b) increase residents' support for tourism development via community involvement in planning and customized communication activities (Ramkissoon & Nunkoo, 2011; Stylidis et al., 2014).

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| 1                             |                    | 1 8                |                   |
|-------------------------------|--------------------|--------------------|-------------------|
|                               | Cluster 1<br>n=166 | Cluster 2<br>n=114 | Cluster 3<br>n=61 |
| Natural Environment           |                    |                    |                   |
| Scenic beauty                 | 6.30               | 6.41               | 5.87              |
| Pleasant weather              | 5.58               | 5.96               | 4.69              |
| Nice beaches                  | 5.26               | 5.86               | 3.74              |
| Amenities                     |                    |                    |                   |
| Quality hotels                | 5.55               | 6.12               | 3.62              |
| Appealing restaurants         | 5.44               | 5.99               | 4.00              |
| Excellent service quality     | 4.42               | 5.60               | 2.51              |
| Variety of shops              | 5.16               | 5.64               | 2.84              |
| Attractions                   |                    |                    |                   |
| Interesting festivals         | 4.17               | 4.01               | 2.79              |
| Well known attractions        | 4.28               | 5.09               | 2.92              |
| Variety of tourist activities | 4.52               | 5.28               | 3.48              |
| Accessibility                 |                    |                    |                   |
| Convenient transportation     | 3.05               | 4.70               | 2.00              |
| Developed infrastructure      | 2.86               | 4.43               | 2.31              |
| Ease of access                | 4.05               | 4.83               | 3.51              |
| Social Environment            |                    |                    |                   |
| Personal safety-security      | 4.78               | 5.67               | 4.13              |
| Friendly local people         | 4.86               | 5.78               | 3.56              |
| Good value for money          | 3.56               | 5.28               | 2.80              |
| A clean environment           | 3.66               | 5.38               | 2.77              |

## Table 1. Mean responses of clusters to the 17 place image items

Scale: 1 'strongly disagree' - 7 'strongly agree'

| Discriminant Functions Results |            |                        |                            |                |                |  |  |
|--------------------------------|------------|------------------------|----------------------------|----------------|----------------|--|--|
| Discriminant<br>Functions      | Eigenvalue | Cannonical correlation | Wilk's<br>lambda           | Chi-<br>square | Significance   |  |  |
| 1                              | 2.686      | .854                   | .207                       | 523.98         | .000           |  |  |
| 2                              | .309       | .764                   | .709                       | 89.544         | .000           |  |  |
| Classification results         |            |                        |                            |                |                |  |  |
| Actual                         | No of      | Prec                   | Predicted group membership |                |                |  |  |
| group                          | cases      | 1                      | 2                          |                | 3              |  |  |
| Classien 1                     | 166        | 150 (90%)              | 11                         | 11             |                |  |  |
| Cluster 1                      | 166        | 130 (90%)              | (7%)                       |                | (3%)           |  |  |
| Cluster 2 114                  | 114        | 16                     | 98                         |                | 0              |  |  |
|                                | 114        | (14%)                  | (86%)                      |                | (0%)           |  |  |
| Cluster 3                      | 61         | 11                     | 0                          | 0              |                |  |  |
|                                | 01         | (18%)                  | (0%)                       | (0%)           |                |  |  |
|                                |            |                        |                            |                | Hit-ratio: 88% |  |  |

## Table 2. Discriminant analysis of image clusters

| Demographic           |           | Clusters (%) |           |        | ~.   |
|-----------------------|-----------|--------------|-----------|--------|------|
|                       | Cluster 1 | Cluster 2    | Cluster 3 | square | Sig. |
| Gender                |           |              |           | 1.182  | .554 |
| Male                  | 47%       | 41%          | 41%       |        |      |
| Female                | 53%       | 59%          | 59%       |        |      |
| Age                   |           |              |           | 11.988 | .286 |
| 18-34                 | 69%       | 70%          | 66%       |        |      |
| 35-54                 | 22%       | 24%          | 31%       |        |      |
| 55+                   | 9%        | 6%           | 3%        |        |      |
| Years living in Eilat |           |              |           | 14.314 | .026 |
| 0-4 years             | 45%       | 33%          | 53%       |        |      |
| 5-9 years             | 12%       | 18%          | 16%       |        |      |
| 10+                   | 43%       | 49%          | 31%       |        |      |

|   |   | Clusters                 |                              | ANOVA       |             |
|---|---|--------------------------|------------------------------|-------------|-------------|
| Items                                     | Cluster 1<br><i>Nature</i><br><i>Aesthete</i> | Cluster 2<br>Appreciator | Cluster 3<br><i>Critical</i> | F<br>Ratio* | Post<br>Hoc |
| Intention to recommend<br>Eilat to others | 5.47  | 6.21                     | 3.98                         | 50.972      | All         |

| <b>Table 4. Differences</b> | n intention to recommend Eilat | to others by cluster |
|-----------------------------|--------------------------------|----------------------|
|                             |                                |                      |

Scale: 1 'very unlikely' - 7 'very likely', \*F-value is significant at 0.001

|                                      |   | Clusters                 |                              | ANOVA              |                   |
|--------------------------------------|---|--------------------------|------------------------------|--------------------|-------------------|
| Items                                | Cluster 1<br><i>Nature</i><br><i>Aesthete</i> | Cluster 2<br>Appreciator | Cluster 3<br><i>Critical</i> | <i>F</i><br>Ratio* | Post<br>Hoc       |
| Further tourism development          | 5.97  | 6.02                     | 4.85                         | 17.063             | All except<br>1-2 |
| Public funding for tourism promotion | 5.73  | 5.91                     | 4.71                         | 15.203             | All except<br>1-2 |
| Increase in the volume of tourists   | 5.71  | 5.81                     | 4.63                         | 11.817             | All except<br>1-2 |

## Table 5. Differences in expressed support for tourism development by cluster

Scale: 1 'strongly disagree' - 7 'strongly agree', \*All reported F-values are significant at 0.001

|   |   | Clusters                 |                              | ANOVA       |                   |
|---|---|--------------------------|------------------------------|-------------|-------------------|
| Items                                     | Cluster 1<br><i>Nature</i><br><i>Aesthete</i> | Cluster 2<br>Appreciator | Cluster 3<br><i>Critical</i> | F<br>Ratio* | Post<br>Hoc       |
| Feel like home                            | 5.54  | 6.08                     | 4.50                         | 23.607      | All               |
| Interested in what's going on in the city | 5.17  | 5.49                     | 3.72                         | 27.225      | All except<br>1-2 |
| Feel sorry to leave                       | 4.64  | 5.70                     | 3.57                         | 30.672      | All               |

## Table 6. Differences in levels of place attachment to Eilat by cluster

Scale: 1 'strongly disagree' - 7 'strongly agree', \*All reported F-values are significant at 0.001