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## APPLIED PSYCHOLOGY | RESEARCH ARTICLE

# Sustainable accommodation choice in tourism and emotional intelligence connected: An exploratory study looking for evidence

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**Abstract:** Emotional intelligence (EI) is considered an advantage in everyday life, starting from the area of work relationships to intimacy, from stress tolerance to the general well-being of an individual. However, the theme and issue of sustainability in tourism have become relevant after a growing awareness regarding the risks of an excessively massified tourism industry and excessive exploitation of the domain. This study aims to find evidence of the relation between EI and sustainable accommodation in tourism. This is done considering EI as a mental function that promotes adaptability and consciousness, while also assuming an environmental perspective. A survey was conducted on a sample of 157 (36.3% males and 63.7% females) Italian emerging adults and adults, aged between 19 and 37 years (mean = 26.5; DS = 4.4). In particular, we studied the contribution of EI in the building of clusters, including some dimensions of sustainable hospitality and some of social well-being. For this reason, bivariate analyses were conducted to evaluate the relationship between the variables, and a cluster analysis was accomplished to identify the groups on the basis of the scores obtained from the questionnaires. The results suggest that a psychological function, such as EI, could illustrate a more comprehensive framework of sustainable accommodation and identify a new criterion for market segmentation.

### ABOUT THE AUTHORS

Angelo Carrieri in 2012 obtained his degree in Psychology and he carried out his apprenticeship in the laboratory of psychometrics at University of Chieti. In 2015 he started his Ph.D. program in the University of Macerata (Italy). Since the time of the university he has dealt with emotional intelligence and issues of social urgency. Today he deals with the assumptions of sustainability starting from the psychological variables linked to emotions and the use of digital devices.

Alessandra Fermani has an MA and a PhD from the University of Macerata. In 2015, she was appointed as Associate Professor of Social Psychology of tourism in the course on International tourism and destination management at the University of Macerata. She has worked on various research projects regarding identity formation in adolescence and young adulthood and about sustainable choices in tourism, in collaboration with the University of Utrecht and University of Stenden (NE)

### PUBLIC INTEREST STATEMENT

The interest in environmental sustainability has grown over the years and with it the interest in sustainable tourism. Climate change is underlining the importance of sustainability in the economic sectors as well as in the tourist one because there was an interest by tourists in choosing tourist destinations with sustainable characteristics, as pointed out by Zhang and Lei (2012). The question that drove this study was: who are these people? What interest does it move? What individual characteristics do they have? The literature suggests that Emotional Intelligence can play a role in this connection between sustainable tourism and tourist differentiation, but to date there are no direct confirmations of this relation. We have looked for some data to confirm this connection and to understand how to develop this sector. The results seem to be encouraging.

**Subjects: Environmental Studies and Management; Statistics for Social Sciences; Tourism; Hospitality and Events; Public Health Policy and Practice**

**Keywords: sustainable tourism; sustainable tourism; sustainable accommodation; hospitality; well-being; emotional intelligence; market segmentation**

## 1. Introduction

According to the World Tourism Organization, sustainable tourism must contain certain characteristics:

1. Make optimal use of environmental resources that constitute a key element in tourism development, maintaining essential ecological processes, and help to conserve natural heritage and biodiversity.
2. Respect the socio-cultural authenticity of host communities, conserve their built and living cultural heritage and traditional values, and contribute to inter-cultural understanding and tolerance.
3. Ensure viable, long-term economic operations; providing fairly distributed socio-economic benefits to all stakeholders, including stable employment and income-earning opportunities and social services to host communities; and contributing to poverty alleviation. (UNEP and UNWTO, 2005)

Seen from this perspective, ecotourism constitutes a branch of sustainable tourism, since it is expected to support environmental conservation, generate economic opportunities (Zhang & Lei, 2012), and facilitate the local population's social growth (Torres-Sovero, Gonzales, Martin-Lopez, & Kirkby, 2012), through the exploitation of resources that themselves form the basis of the industry's future (Swarbrooke, 2002). This definition of ecotourism implicitly recognises the possible adverse impact of an uncontrolled development of the phenomenon and the consequent necessity to manage the natural resources and socio-cultural needs of the community that they belong to, so as to ensure the community's physical welfare. Green marketing first attracted the attention of researchers in the 70s when Henion and Kinnear published the first book on the subject, "Ecological Marketing", in 1976 (Polonsky & Mintu-Wimsatt, 1995). Since then, green marketing has become a real concern due to consumers' growing interest in preserving the planet and consequently in ecological or green products. Green marketing is a broad area; it involves the analysis of the ways to transform one's company, products, services, and management into eco-friendly entities and turn this move into a competitive advantage to fulfil customers' demands while being compatible with natural ecosystems (Fuller, 1999).

Sustainable living appears to be a great challenge for businesses and consumers, and a behavioural shift is required by society to modify consumption patterns in the domain of tourism as well to reduce the impact of goods and services on the environment in a general sense. Considering the other aspect of this work, the discipline of psychology has demonstrated a particular interest in the definition of intelligence, starting from the classical studies of Spearman (1904) and Cattell (1963), to more recent studies by Deary, Strand, Smith, and Fernandes (2007), (2010), Hill et al. (2018), and the proposed restructuring suggested by Gardner (2000). Intelligence was one of the first mental abilities to be measured through a mathematical relation (Binet & Simon, 1916); it is also the one that can have a profound effect on different areas of everyday life.

Till date, intelligence is assessed mainly through the WAIS test (Wechsler, 2014). More recently, it has been demonstrated that intelligence is related to a person's health, which may even include the risk of death (Deary, Weiss, & Batty, 2010; Calvin et al., 2017). Although the concept of intelligence has been revised and restructured several times, in the 90s, a new form of wide range intelligence, such as emotional intelligence (EI), was proposed (Salovey & Mayer, 1990). Daniel Goleman (1995a) exposed its application in workplaces and in everyday life for meaningful experiences in interpersonal interactions.

This study aims to relate EI and sustainable tourism, through an empirical analysis, as two different aspects of human awareness with regard to its social condition. It concerns an enhanced

understanding, if possible, to identify EI as a personal characteristic to determine the consumers who are more interested in sustainable tourism, for what it is, and more specifically, in sustainable accommodation. This finding could offer a new possibility in market development in the area of sustainability. In fact, it is possible to consider EI as a private psychological function that promotes overall well-being not only in an intrapersonal way but also in an interpersonal way, with others, that is, in society. From an environmental perspective, sustainable tourism concentrates on the conditions that render society's well-being possible, especially in the long run. This is realised through tourists' selection of sustainable alternatives within the tourism market.

From this perspective, there are no specific studies that associate EI with the individual's attitude towards sustainable tourism products and practices. Moreover, although the definition or the discovery of EI as a human cognitive ability has been offered in terms of different perspectives (see Goleman, Barlow, & Bennet, 2010; Rosati, 2017), this study may open a line of research that combines aspects of psychology and the market by referring to the existing, defined constructs that are in use. This study, to date, and as far as we know, is the only attempt to clarify the possible relationship between EI and sustainable hospitality based on evidence, in particular considering the relationship between attitudes towards the characteristic elements of sustainability and a validated scale of intelligence emotional. Other studies that will be taken into consideration in the literature are limited to considering EI and specific behaviours such as recycling or using the car, or they focus on the relationship between pro-environmental behaviours and the mental process on which these depend. Finally, the results of this study may contribute to the exposition of the market segment that includes sustainable tourists.

## 2. Literature review

### 2.1. Sustainability in tourism and market segmentation

Tourism has developed significantly and has become one of the world's important economic phenomenon (Marzuki, Hussin, Mohamed, Othman, & Som, 2011). It is possible to distinguish three types of tourist destinations: (1) destination target in the formation phase, which allows ample scope for growth with regard to attendance and arrivals, without the risk of compromising a territory's environmental and social balance; (2) sustainable destination, one that has a balance in terms of usage for tourism purposes and consideration of the ecological conditions. In this way, the tourist flow does not jeopardise sustainability and can offer the region the benefits of economic, social, and environmental well-being; (3) unaffordable destination, under which, tourism development is designed exclusively to increase the flow in terms of arrivals and presence of tourists. However, ecological and social problems that threaten the destination's survival arise. This leads to a decline in competitiveness, and consequently, the target destination's image is damaged (Pencarelli & Splendiani, 2010, January).

Sustainable tourism is particularly significant, because it emphasises the relationship between mankind and environment in a new theoretical framework that focuses on reciprocal well-being. Consequently, sustainable tourism can be considered as an answer to the issue of the possible high negative impact caused by mass tourism. The concept of sustainable tourism has as its central elements the management of the socio-cultural and natural resources and the host communities, since its aim is to allow the promotion of their economic well-being without altering the cultural capital. This is accomplished with the creation of an equitable distribution of costs and benefits by ensuring self-sufficiency on the one hand and the satisfaction of tourists on the other (Briassoulis, 2002).

According to Dolnicar and Leisch (2008), there is a need to achieve higher long-term levels of environmental sustainability and to redefine the relationship between humankind and the environment. Tourists, indeed, are increasingly driven by the motivation to visit natural, intact, and inviolate areas and possess an increasing level of environmental awareness. In this regard, the concept of ecotourism is related to this perspective of sustainability even though different

definitions have emerged over the years. Thus, its first widely accepted and valid definition was established by The International Ecotourism Society (The International Ecotourism Society [TIES], 1990). It defined ecotourism as “responsible travel to natural areas that conserves the environment and improves the well-being of local people”. This perspective has been confirmed in the latest research works by Donohoe and Needham (2006), who emphasised the importance of a nature-based tourism and leaned towards the conservation of tourist destinations, as well as forwarded an ethical perspective that relies on education. The most interesting point from a theoretical perspective is that these prefigured outputs for ecotourism seem to correspond largely with those proposed by sustainable tourism in the definition provided by the World Tourism Organization (Boley & Green, 2016; Kiper, 2013; Stone, 2015).

Although recurrent and widely mentioned with reference to its social consequences, the relation between well-being and tourism according to the tourist’s perspective has not been adequately researched and has been mostly limited to the investigation of well-being as a by-product of a tourist experience. The basic question is whether well-being has a role as an antecedent or consequent element that drives people towards decisions in tourism, especially sustainable ones. For example, McCabe and Johnson (2013) proved that social tourism increases subjective well-being, while Chen, Lehto, and Cai (2013) found that well-being is boosted immediately after a holiday experience but dissolves afterwards. A particularly new aspect in this topic is, therefore, the discussion of the impact and benefit of well-being from travelling as an independent variable of change perceived by youngsters (Fermani, Cavagnaro, Staffieri, Carrieri, & Stara, *In press*). For the purpose of this study, the reference to well-being is linked to the definition offered by Keyes (1998). This definition appears to fit well with that of sustainable tourism. According to the author, there is strong evidence to support the connection between the prosocial involvement of the community, their well-being, and a well-lived life.

Based on the extremely limited studies in the literature on this area, the relationship between sustainable behaviours and well-being appears to be mediated by an emotional factor. From a practical perspective, there are some positive and negative emotional outputs related to acting in good or bad sustainable behaviours (Giebelhauseun & Chun, 2017). In other words, an action performed in accordance with the principles of environmental sustainability and those stated by a green program leads to positive emotions, while actions against the same principles lead to negative emotions.

All these factors confirm that there is a *de facto* relationship between sustainability and well-being, even in the individual sphere. These reasons bring to the fore the importance of sustainability in tourism, which needs to be considered as one of the most relevant topics of our time (Meek & Sullivan, 2012). From an economic standpoint, this interest opens up a new market segment, and according to Doniclar (2008), market segmentation allows researchers and tourists as well as industry players to study the opportunities to enjoy a competitive advantage in the marketplace. When the market is segmented, groups of individuals with similar interests and behaviours are created based on some personal characteristics. In other words, the segmentation of the market consists dividing all the customers into groups within which they share similar requests. In this way, different groups’ demands can be satisfied through different marketing strategies (McDonald & Dunbar, 2004).

Unlike the straightforward definition regarding the principles that guide sustainable tourism, the definition of tourists interested in sustainable tourism is not clear. This kind of tourist is generally considered a softer kind of ecotourist. In fact, from the earliest definitions, the term ecotourist has indicated various kinds of tourists interested in protecting the environment. Lindberg (1991) identified four types of ecotourists, ranging from those who are motivated to travel to unspoiled and unpopular places to those who include a naturalistic destination on a wider and traditional travel plan. Attempts to isolate ecotourists as people actively interested in environmental sustainability in a unique market segment has been reported by many researchers. After a tremendous amount of investigation based on their behaviour, preferences, and motivations, researchers

revealed that an ecotourist is likely to have a higher level of education and income (Eagles & Cascagnette, 1995; Wight, 1996, 2001; Kwan, Eagles, & Gebhardt, 2010). Ballantine and Eagles (1994) found that ecotourists tend to be middle-aged, possess a relatively high income and level of education and can be involved in environmental causes; this has also been confirmed in a more recent study (Alaeddinoglu, Turker, Can, & Ozturk, 2013; Maeran & Scolozzi, 2011).

Although these data indicate agreement concerning some socio-demographic characteristics of ecotourists, the definition of ecotourists remains uncertain and closer to that of a sustainable tourist. Furthermore, there are also many studies that have produced different results due to the different cultural basis for the same motivations for sustainability; for instance, a new research work regarding ecotourist's gender in Italy appears to be contradictory to previous Italian literature, in which greater pro-environmental behaviour was observed in women (Fermani, Crespi, & Stara, 2016; Ferruzza, Lucarelli, Talucci, & Ungaro, 2014). Despite ongoing studies and those already mentioned in this market study, the traits that define the sustainable tourist are still vague and unclear, because they overlap with different characteristics of the ecotourists, with whom they share some common purposes in terms of the definition. Moreover, the identification of the market sectors can also take place through different criteria. In addition to personal characteristics, market segmentation can be accomplished using geographic, demographic, and psychographic criteria (Rajasenani, Varghese, & Bijith, 2012). Geographic segments include region, the size of an area, population density, and climate. Demographic segmentation involves age, gender, family size, occupation, income, ethnicity, nationality, religion, and social class, some of the variables used by marketers. Psychographic segmentation considers consumers according to their lifestyle. Some psychographic variables include activities, interests, opinions, attitudes, and values. On the basis of these distinctions, it follows that the segmentation of a market is a complex and fragmented process, probably confused because it involves too many criteria.

## 2.2. Emotional intelligence

Derived from the Latin word *Intelligere*, the meaning of intelligence is generally defined as the ability to understand something, solve problems, face challenges, know something, and generate an autonomous consciousness. In this regard, intelligence is related to adaptive behaviours, as is commonly known and scientifically understood (Charlesworth, 1976). This view of intelligence was the first step towards the scientifically comprehension of human adaptability functions related to consciousness.

EI is a relatively new field of investigation, full of controversies; so, a unique and unambiguous understanding of the term has not been reached yet.

The first definition of EI as a skill model (Salovey & Mayer, 1990) was proposed in the early 90s. The authors conceived EI as a pure form of mental ability, similar to the cognitive one, involving specific skills which are interrelated: the ability to perceive emotions in oneself and others; the ability to understand and modify emotions in oneself and others; the ability to use these emotions to facilitate decision-making. Although, a commonly understood aspect in the definition of EI is the presence of an interaction between emotion and cognition, the debate is still open. The question is whether to consider IE as a pure form of intelligence, skill, or predisposing factor, which implies a factor consisting of cognitive abilities and aspects of one's personality (D'Amico & De Caro, 2008).

Petrides, Furnham, and Mavroveli (2001) claim that a type of measurement rather than a theory is required to determine the nature of the model. They distinguish between ability EI and trait EI, considering the latter as a series of self-perceptions and provisions related to emotions and the domain of personality. In fact, studies, which use the model of skills as a reference point, employ measurement tools based on performance and assess EI as the ability to solve problems that involve emotional skills. Mixed models of EI and trait EI employ self-assessment questionnaires (self-report) that measure not actual intelligence, but that perceived by the subject or an individual component of EI. Therefore, differences in conceptual terms are reflected in the different approaches applied for the measurement of EI.

Among the various interpretations of EI, one of the best known ones is the one given by Goleman (1995b). In his works, he adopts the definition of emotional competence proposed by Boyatzis (1982). In this definition, EI is described as the ability to recognise, understand, and use emotional information relating to oneself and others that guide or cause effective performance or a performance that is above the average. It is a definition that has over time gained a very peculiar connotation, especially due to the close association it establishes between EI and the workplace, as it is apparent that it was present in several works by Goleman and his collaborators (Boyatzis, Goleman, & Rhee, 2000; Goleman, Boyatzis, & McKee, 2002). The current version of Goleman's model (Boyatzis et al., 2000) identifies a set of specific skills divided into four domains, defined as (1) self-awareness, that is, awareness of one's own emotions and being able to employ them in decision-making; (2) social awareness, that is, empathy, and understanding of social relations; (3) self-management, that is, controlling those emotions and the ability to adapt them to different situations; (4) relationship-management, that is, the management of social relations. According to Goleman, EI can be improved and augmented throughout the course of one's life, unlike the intelligence measured by IQ tests, which becomes fixed around late teens.

Despite the different, even if limited, definitions of EI, there is a lot of evidence about its importance in the promotion and protection of a person's personal well-being. In fact, Salovey, Bedell, Detweiler, and Mayer (1999) demonstrated that a person's EI can help improve their personal coping strategies, while Stueve, Dohrenwend, and Skodol (1998) had previously proved the way in which EI can protect an individual against depression and stress. More recently, Armstrong, Galligan, and Critchley (2011) confirmed the positive effect of EI in stress management. Assuming a social viewpoint, Lopes et al. (2004) stated that EI promotes good relations with others through since it allows the management of emotions. Furthermore, Brackett, Mayer, and Warner (2004) found that high scores of EI negatively correlate with negative utterances, deviant behaviour, drug abuse and alcohol consumption, and few social bonds.

It was only recently that some interest has been generated in the relationship between affect and pro-environmental behaviours even in a "green" business growth outlook for companies and organisations (Bissing Olson, Iyer, Fielding, & Zacher, 2013). In this study, the authors found that a positive affect can predict daily task-related pro-environmental behaviour in a group of employees. From a different perspective, a Latin-American research exhibited the importance of emotions in the prediction of pro-environmental behaviours concerning the minor use of automobiles (Durán, Alzate, López, & Sabucedo, 2007). In particular, this study highlighted the role of anger as a trigger for pro-environmental behaviour, and the results demonstrated that the emotional side of behaviour may have greater relevance in protecting oneself, as compared to the perception of control. However, specifically, no studies seem to have been conducted to understand the relationship between cognitive-emotional functions and pro-environmental choices, particularly concerning the tourist's choice in hospitality and EI from the point of view of sustainability.

### 3. Objective and research hypothesis

The main concern of this exploratory study is to determine if EI has a correlation with social interest as that shared by sustainable tourism in its definition and if the identification of a new criterion for market segmentation in sustainable tourism can be useful. Further details to define people who prefer selecting their destination target according to the principles of sustainable tourism is required.

To achieve this goal, we identified two research hypotheses to test the following:

H1: EI and sustainable tourism dimensions are both connected to the feeling of well-being from a social perspective.

H2: The total EI score can help identify people who want to choose accommodation based on sustainable tourism principles.

## 4. Method

### 4.1. Procedure

The study is based on a non-experimental design conducted with a convenience sample. Participants were informed about the study and asked if they wished to participate. Approximately 99% of the approached sample chose to participate. Researchers contacted the participants at their homes and in university classrooms and asked them to fill out the anonymous questionnaire packet. The questionnaires were paper-based and only one respondent returned the questionnaire without completing it and, for this reason, was excluded from the final sample. Results were analysed with IBM SPSS software version 22.

The analyses were divided into two parts in order to allow the validation of the two hypotheses separately. For the first, the bivariate correlational analysis was performed; for the second, a two-step cluster analysis was conducted (Bacher, Wenzig, & Vogler, 2004; Chiu, Fang, Chen, Wang, & Jeris, 2001).

### 4.2. Participants

For this research, a convenience sample was used and composed by the subjects who were over 18 years of age, mainly by university students. The final sample consisted of 157 (36.3% males and 63.7% females) emerging Italian adults and adults, aged between 19 and 37 years (mean = 26.5; DS = 4.4), having a minimum educational level of a high-school diploma (high-school diploma = 64.7%; university degree = 35.3%). Employment levels were 41.4% student, 46.1% employed, 11.8% unemployed, while 0.7% did not respond to this query.

### 4.3. Measures

All participants completed the first section that constituted items related to socio-demographics (gender, age, educational level, job situation, marital status, yes/no children) and eight items pertaining to intentions/expectations about sustainable target destination, the Social Wellbeing Scale (SWB), and the Emotional Intelligence Scale (EIS).

#### 4.3.1. Sustainable tourism dimensions

To evaluate sustainable accommodation attitudes in tourism, we developed a brief scale as an adaptation of a more extensive survey conducted in 2012 by the Ces. Co. Com. (tr. Advanced Studies Center on consumption and communication) to evaluate motivations/expectations regarding sustainable target destinations (for instance, “The location is easily accessible by public transportation”; “The accommodation promotes direct contact with nature”). We also considered the other topics present in other surveys and reports conducted by two major national Italian research institutes: ISTAT and IPR Marketing (from 2012 to 2014). The items that emerged were related to three themes common across studies conducted by these national research institutions: contact with and respect of local environment, sustainable mobility, and less massified vacation choices. The response alternatives varied from strongly disagree (1) to strongly agree (5). The reliability of the scale measured with Cronbach’s  $\alpha$  was found to be sufficient ( $\alpha = 0,687$ ). Considering the possible bias due to the non-homogeneity of the items’ content and the reduced number of the same, a factor that can lead the measurement of Cronbach’s  $\alpha$  to underestimate the value of reliability, the value of Guttman lambda-2 was also taken into consideration to assess the reliability. Guttman’s lambda-2 value turned out to be sufficient for our research intentions ( $\lambda - 2 = 0,709$ ) (Callender & Osburn, 1979; Tang & Cui, 2012). The scale was labelled “Sustainable Hospitality”.

#### 4.3.2. Emotional intelligence

EI was assessed using the EIS (Di Fabio et al., 2008; Shutte et al., 1998), a self-report instrument comprising 33 items, with a 5-step Likert scale for response (1 = “Strongly disagree” to 5 = “Completely agree”).

The Italian validation proposes a factor solution in three dimensions: “Evaluation and Expression of Emotions” ( $\alpha = .84$ ), “Adjustment of Emotions” ( $\alpha = .82$ ), and “Using Emotions in Problem Solving” ( $\alpha = .79$ ) (for instance, “I can understand how others feel by listening to the tone of their voice”; “I control my emotions”).

#### 4.3.3. Social well-being

The measurement of social well-being was conducted using Keys’ 1998 Scale of Social Well-being (SWB). According to the author of this paper, personal well-being is linked to some social dimensions that are also regarded as social challenges (for instance, “You feel like you are an important part of your community”; “You think you have something valuable to give to the world”). The items’ responses were on a 5-step Likert scale (1 = “Strongly Disagree” to 5 = “Completely agree”).

This scale comprises five factors: social integration, social contribution, social coherence, social actualisation and social acceptance. As indicated, these five factors can be considered the social variables that determine the feelings of well-being. In particular, Keys defined these factors as follows. Social integration implies the evaluation of the quality of one’s relationship with their society and community; social acceptance involves the mental perception of society created through the generalisation of the characters and qualities of other people; social contribution implies the evaluation of one’s social value; social actualisation entails the evaluation of the potential and trajectory of society. In this study, we used the Italian validated version of the SWB scale by Zani and Cicognani (1999) excluding the social acceptance dimension, because it is not a real evaluation scale of the self in society but an interpretation regarding the subject’s perception of society, as stated above.

### 5. Results

This section presents the results of the data analyses in detail. The data have been explored considering two different hypotheses, through an analysis of correlations with the former and cluster analysis for the latter. The results will therefore be presented in this order.

#### 6. H1: EI and sustainable tourism dimensions are both connected to the feeling of well-being from a social perspective

A correlation analysis was conducted to assess the relation between EI, sustainable hospitality, and social well-being. As shown in Table 1, there is a positive correlation between EI scoring and social well-being. In particular, social integration is strongly related with the total EI score ( $r = .609$ ;  $p < .01$ ). The weaker correlation instead emerges between the total score of EI and social actualisation ( $r = .309$ ;  $p < .01$ ). All correlations between EI and variables of social well-being were found to be significant at  $p < .01$ .

Conversely, all correlations between sustainable hospitality and social well-being factors were found to be significant at  $p < .01$ , although they are lower than the correlations of the same factors with EI. The highest correlation was found between sustainable hospitality and social actualisation ( $r = .406$ ;  $p < .01$ ). The lowest correlation was found for the social coherence factor ( $r = .276$ ;  $p < .01$ ). From a more analytic perspective, it is possible to explore the relationship between factors related to social and EI, extracting them from the scale they comprise and assessing them individually.

**Table 1. Correlation among Tot EIS, Sust hosp and Social well-being rs**

	Social integration	Social contribution	Social actualization	Social coherence
Tot EIS	,609**	,461**	,309**	,359**
Sust hosp	,368**	,319**	,406**	,276**

Note: \* $p < .05$ , \*\*  $p < .01$ , and \*\*\* $p < .001$ .



Table 2 presents the examined correlations between factors of social well-being and EI.

Results demonstrate the different impacts of EI factors on those of social well-being. In particular, using emotions in problem solving with social actualisation displayed the weakest positive correlation among all other correlation analyses performed ( $r = .195$ ;  $p < .01$ ), while the same EI factor yielded the highest positive correlation among all the others on the social integration factor ( $r = .510$ ;  $p < .01$ ). Also, in this case, all the correlations had a significance level of  $p < .01$ . The EI adjustment of emotions factor showed the highest correlation in terms of average values. This could indicate that emotional stability can be configured as a more significant input or output in relationship with well-being perceived in society.

**6.1. H2: The total EI score can help identify people who want to choose accommodation based on sustainable tourism principles**

A two-step auto-cluster analysis was conducted to define the number of many clusters that can satisfactorily define groupings of scores related to total EI and sustainable hospitality.

As shown in Table 3, we used the Bayesian Information Criterion (BIC) to choose the number of clusters to consider the optimal value. The results suggest two group clustering as the optimum model. In fact, two groups have a reasonably large ratio of BIC changes (1,000) and a large ratio of distance measures (2,271).

The descriptive analyses presented in Table 4 related to the two-step cluster analysis reveal a correspondence with the means of the variables. In fact, higher scores of EI ( $M = 120.84$ ) correspond with higher scores of sustainable hospitality in the same cluster ( $M = 33.77$ ), while lower scores of EI ( $M = 103.91$ ) match with lower scores of sustainable hospitality in the same cluster ( $M = 25.64$ ). The distribution of subjects in the clusters also indicates that there were a number of subjects, about 30% of the total, that can be identified as forming an intersection between those with high levels of EI and those interested in sustainable hospitality.

**7. Discussion and conclusions**

The present work attempted to build a bridge between two major areas, as hospitality preferences in tourism, according to sustainable tourism characteristics and EI, so as to define a new field of research. There is a general interest in sustainable tourism as a more community-based tourism (Zhang & Lei, 2012) and a specific perspective of EI as a psychological sensitivity that promotes adaptiveness (Boyatzis et al., 2000). In this study, we tried to connect these two topics based on the common interest in the well-being derived from a social viewpoint, as established by the definition provided by the World Tourism Organization (UNEP & UNWTO, 2005). To test our hypotheses, we employed a brief ad hoc scale to measure motivational orientation towards sustainable hospitality derived from a previous and broader survey (Ces. Co. Com, 2012), the validated SWB, and the validated EIS. Results demonstrated an important relation between EI and sustainable hospitality, first, through an external and shared positive correlation with social

**Table 2. Correlations between factors of social well-being and EI**

	Social integration	Social contribution	Social actualization	Social coherence
Evaluation and expression of emotions	,485**	,443**	,323**	,216**
Adjustment of emotions	,506**	,319**	,295**	,485**
Using emotions in problem-solving	,510**	,287**	,194*	,278**

Note: \* $p < .05$ , \*\*  $p < .01$ , and \*\*\* $p < .001$ .

**Table 3. BIC measures for the different clusters number**

Number of clusters	Schwartz's Bayesian criterion	BIC change <sup>a</sup>	Ratio of BIC change <sup>b</sup>	Ratio of distance measure <sup>c</sup>
1	236,872			
2	183,546	-53,325	1,000	2,271
3	171,381	-12,165	228	1,372
4	167,993	-3,389	064	1,780
5	174,949	6,956	-130	1,430
6	185,897	10,949	-205	1,139
7	197,980	12,083	-227	1,057
8	210,500	12,520	-235	1,422
9	225,308	14,808	-278	1,215
10	241,074	15,766	-296	1,375

Note: <sup>a</sup> The changes are from the previous number of clusters in the table.

<sup>b</sup> The ratios of the change are with respect to the change at the two clusters.

<sup>c</sup> The ratios of distance measures are based on the current number of clusters against the previous numbers of clusters.

**Table 4. Clusters' description with mean, SD and number of cases**

		Centroids				
		N	TotEIS		SustHosp	
			Mean	SD	Mean	SD
Cluster	1	112	103,9196	11,01444	25,6429	3,93,610
	2	45	120,8444	8,58,634	33,7778	3,75,916

well-being, and subsequently, within the groups, as indicated by the cluster analysis. The positive correlations between sustainable hospitality and EI through the social well-being factors confirmed our H1 hypothesis (EI and sustainable tourism dimensions are connected to the feeling of well-being from a social perspective) leading us to employ EI as a useful factor to define orientation towards sustainable tourism. To facilitate the understanding of the contribution of EI in generating interest in social well-being, we considered its different factors separately in a second correlation analysis. Beyond the specific correlations, the adjustment of emotions factor was found to be on average stronger than the others.

The results expressed in terms of correlation can be considered as indicative of a theoretical relation of constructs, from which the concepts of EI and sustainable hospitality are derived. This would confirm, albeit indirectly, the hypotheses proposed by Goleman et al. (2010) and Rosati (2017). In fact, the former proposed a transition to ecological intelligence in social terms and the latter a reconsideration in terms of the definition of intelligence. Further, this result would confirm the possibility of using the construct of EI in the context of sustainability without necessarily referring to subsequent developments of this concept or its derivations.

The second hypothesis H2 (the total EI score can help identify people who want to choose accommodation based on sustainable tourism principles) was verified through a two-step cluster analysis, using the BIC to classify the cases in the clusters. Cluster analysis is a useful tool for the segmentation of consumers (Zani & Cerioli, 2007), and in this case, we used the two-step cluster approach to prevent the researcher from choosing cluster numbers with a good reliability for continuous variables (Bacher et al., 2004).

The two clusters obtained seem to clearly suggest that it is possible to reach a better understanding of market segmentation in sustainable tourism by looking for people with a good EI. In fact, high scores of EI correspond with higher scores of sustainable hospitality orientation. According to our sample, nearly 30% of the subjects appeared to be interested in sustainable accommodation or motivated to opt for it. This result seems to be in continuity with the few previous studies that have been conducted on the subject. In the study conducted by Bissing-Olson et al. (2013), the authors found that a positive feeling can predict daily task-related pro-environmental behaviour in a group of employees. These findings suggest that fostering pro-environmental attitudes and, to some extent, a positive feeling among employees could help organisations promote pro-environmental behaviour in the workplace. From a different perspective, in a study carried out by Durán et al. (2007), the researchers exhibited the importance of emotions in the prediction of pro-environmental behaviours concerning the minor use of automobiles. More recently, the relationship between emotions and pro-environmental behaviours has been confirmed (Giebelhausen & Chun, 2017). According to this research, an action performed in accordance with the principles of environmental sustainability and those stated by a green program leads to positive emotions, while actions against the same principles lead to negative emotions. All these studies, however, seem to be uncomplete because they consider the emotional aspect as an instant feeling instead of a mental ability or a personality trait. In our case, we consider an emotion like an instrument under the control of the self-awareness, as the result of a personal training of your own emotion. For this reason, we refer to EI.

These results seem to suggest a definition of the tourist oriented towards sustainability, not only and no longer as a less polarised expression of the ecotourist, but as a tourist who makes choices consistent with the sensitivity with which they interact with and adapt to social situations. Further, the ecotourist is not relocated within the market, because this term continues to define tourists strongly involved in terms of motivation and value (Alaeddinoglu et al., 2013; Maeran & Scolozzi, 2011). Investigation is required to analyse the role of EI to better understand if this implies an effective overlap between an ecotourist and a sustainable tourist, or whether they belong to two neighbouring but not overlapping sectors, the first being the result of an attitude, while the second forms a result of actual choices. In other words, it is necessary to understand if EI creates the common ground between sustainable tourists and ecotourists, or if with or without it, the two are based on different processes and therefore refer to two different market segments that share similar purposes but not necessarily the same practices.

### **7.1. Limitations**

These results have to be considered carefully, since there are some critical points to underline.

In this study, the cluster analysis was performed using a brief EI scale that involves only the basic factors, and these were considered as total scores. This evidence implies that the results provided above cannot discriminate if there is a specific factor or component that can predict motivation towards sustainable hospitality orientation in a more comprehensive manner. Further, the choice to employ the total EI score can offer stability to the results, minimizing the differences that could occur if other scales of EI based on different factors and different theories are used. Finally, the measurement of sustainable hospitality orientation choice constitutes an ad hoc scale with a sizeable Cronbach's  $\alpha$ , but for more definite results, it would be more suitable to replicate the research with a larger sample size and submit it to for psychometric validation.

In conclusion, it is possible to claim that EI can be useful in defining people who prefer a sustainable accommodation and that it could initiate a new area of research in the greater domain of sustainable tourism.

### **7.2. Future research**

Despite the limitations of a small convenience sample and self-report measures, the current preliminary exploratory study contributes to the thus far very limited pool of research regarding

the characteristics and motivations of sustainable accommodation in light of EI. Furthermore, to our knowledge, it is the first peer-reviewed study to investigate characteristics and motivations of sustainable accommodation in relation to high or low scores of EI.

The results of this study suggest that tourists oriented towards sustainable hospitality not only simultaneously perceive a general sense of social well-being but have higher overall EI than those who are not oriented towards sustainable hospitality. However, future research should focus on replicating the current findings in a larger, more representative sample, in order to support or refute this conclusion. Furthermore, a large-scale investigation of the role of EI in choosing sustainable accommodation preferences would also be of interest, particularly with a focus on the different variables of EI, considering the different scales involved. This would allow us to better understand the variables of EI that support the preference for sustainable accommodation, allowing us to plan actions to help develop these emotional skills. It would also be useful to investigate the correspondence of clusters between those who claim to be in favour of sustainable hospitality and those who claim to already be in sustainable housing.

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