emerald PUBLISHING

The TQM J

Exploring Pro-Environmental Behaviour of religious tourists based on motivations: the case of Assisi visitors

Journal:	*The TQM Journal*
Manuscript ID	TQM-07-2024-0266.R2
Manuscript Type:	Research Paper
Keywords:	Tourism, sustainability, Sustainable Development, Cultural Heritage

Exploring Pro-Environmental Behaviour of religious tourists based on motivations: the case of Assisi visitors

Abstract

Purpose: The pro-environmental behavior of tourists is becoming a topic of growing interest for both scholars and policy makers, given the numerous implications that it can have . Recent studies have considered the role of visitor motivations for the adoption of on-site sustainable practices. This research contributes to this ongoing debate by examining the case of religious destinations and investigating the extent to which travel motivations influence environmentally-oriented behaviors.

Design/methodology/method: Using a sample of individuals who visited Assisi in the second half of 2022, a cluster analysis focused on the intensity of the motives of the visit was performed, followed by a confirmatory factor analysis centered on pro-environmental behavior, and by a simple linear regression.

Findings: Three clusters of visitors (the "Poorly Spiritual - Cultural - Escape - Motivated (S-C-E-M) ", the "Spirituals", and the "Strongly Spiritual - Cultural - Escape - Motivated (S-C-E-M") emerged, with a different propensity to adopt pro-environmental behavior. Strongly S-C-E-M visitors, driven by cultural, spiritual and escape motives, adopt pro-environmental behavior to a greater extent than the other two groups; the spirituals are placed in an intermediate position, while the Poorly S-C-E-M are the least accustomed to sustainability practices.

Originality: The paper fits into the debate concerning the antecedents of pro-environmental behavior, focusing on travel motivations. It offers a new perspective for understanding the implementation of sustainability practices by visitors to religious places, highlighting that spirituality can be a catalyst for pro-environmental behavior, particularly when combined with cultural and escape motivations.

Keywords: Religious tourism; Sustainable tourism, Travel Motivations; Pro-Environmental Behaviour

1. Introduction

The environmental impact of tourism has long been a cause for concern, as the ecological balance of destinations is under ever-increasing pressure. The urgency of fighting climate change and global concern for the future of our planet raise the importance of sustainable tourism development to a level that can no longer be postponed. In this scenario, the need emerges for a deeper understanding of the interconnection among the local cultural, spiritual and environmental dynamics that shape tourist behavior.

Moreover, part of research has already focused on the demand side, examining tourists' pro-environmental behavior (PEB) as a tool for promoting destination sustainability (Ramkissoon and Mavondo, 2017; Kang, 2022; Težak Damjanic et al., 2023; Creutzig, 2018). Many studies have focused on antecedents of PEB (Yayla et al., 2023; Zhang et al., 2024) as well as on the demographic characteristics of "responsible tourists" (Torgler and García-Valiña, 2007; Brécard et al., 2009). They all underscore the need for a more refined approach to evaluating how individual and collective behaviors are influenced by broader sociocultural and economic factors.

This study analyzes the case of visitors to a world-renowned religious destination: Assisi, Italy. The choice is guided by the ability - inherent spirituality, to provide a meaningful context for understanding how individuals perceive and respond to environmental issues. Assuming that the link between spirituality and sustainability is already established in the literature, integrating this spiritual dimension can reveal how spiritual beliefs and values translate into pro-environmental actions, offering a more holistic perspective beyond purely economic or pragmatic motivations (Lin et al., 2022).

While motivations for visiting religious destinations are diverse, encompassing not only spiritual aspects but also cultural and leisure interests (e.g., Abbate and Di Nuovo, 2013; Chun et al., 2018), the relationship between these diverse motivations and pro-environmental behaviors remains largely unexplored (Ajayi & Tichaawa, 2023). Recent research highlighted the role of visitors' spiritual motivations for the implementation of on-site pro-environmental behaviors (Splendiani et al., 2024). Although some authors have dealt with the relationship between travel motivation and tourist behavior (Caijaio et al., 2022), our research interest focuses on the possibility that different combinations of motivations can impact differently pro-environmental behavior. Furthermore, the impact of global environmental awareness on these motivations introduces an additional layer of complexity to how traditional and contemporary motivations intersect and influence sustainable tourism practices.

To address this gap, this study will first segment visitors to Assisi into distinct groups based on the primary motivations for their visit, as identified in the literature on religious tourism . We will then investigate the relationship between these clusters and visitors' pro-environmental behavior. A key objective is to explore the potential link between different combinations of motives behind the visit and visitors' attitudes towards sustainable practices. Through this approach, the study will contribute to strategic planning for tourism management, aiming to harness and enhance the intrinsic values that promote environmental respect and conservation.

2. Literature review and research questions

2.1 Motivations behind tourism in religious destination

Religious tourism, a significant sector with economic and social impact, encompasses travel undertaken by individuals to sacred places or events, where they participate in various activities (Timothy and Olsen, 2006; Almuhrzi and Alsawafi, 2017; Rinschede, 1992). As a form of spiritual tourism, it attracts individuals from diverse cultures and religious backgrounds, motivated to travel to destinations they consider significant for fulfilling their spiritual aspirations (Ozcan et al., 2019; Poria et al., 2003; Scaffidi Abbate and Di Nuovo, 2013; Kruger and Saayman, 2016). These motivations can range from the search for meaning in life and personal growth (Liro, 2021) to the desire for escape from daily routines (Ashton, 2018).

Understanding the complexity of motivations behind traveling to religious destinations is crucial (Terzidou et al., 2018). Scholars categorize these motivations into "push factors" (internal desires) and "pull factors" (relating to destination's resources) (Bilim and Düzgüner, 2015). Push factors include seeking spiritual benefits, life meaning, relaxation, or spending quality time with loved ones (Ashton, 2018). Pull factors encompass participation in religious festivals and exploring historical, cultural, or environmental attractions (Bond, 2015; Canoves and Prat Forga, 2016; Kainthola et al., 2021). While strictly religious motivations remain significant (Bideci and Albayrak, 2016), other factor, such as the desire for escape, cultural experiences (Bilim and Düzgüner, 2015), and even the pursuit of devotional objects (Damari and Mansfeld, 2014), often play a crucial role.

Therefore, it is clear that various reasons can lead to visiting religious destinations (Kim et al., 2020). A review of the literature suggests that three primary motivations typically drive visitors to religious destinations: religiosity/spirituality, cultural enrichment, and the desire for escape (Carvache-Franco et al., 2024; Liro, 2021; Ashton, 2018; Wang et al., 2016; Bilim and Düzgüner, 2015).

Spiritual tourists engage in specific activities (e.g., meditation, prayers, pilgrimages, introspection) aimed at cultivating spiritual well-being, even in non-denominational contexts (Norman, 2011). This motivation, whose intensity varies based on individual beliefs and social context (Raj et al., 2015; Ozcan et al., 2019; Tomazzoni and Tineo Beck, 2019; Rotherham, 2015; Henderson, 2011), seeks a deep and meaningful spiritual encounter (Hassan et al., 2024) and the opportunity to reconnect with one's faith community (Bond, 2015).

Given the strong connection between religious and cultural tourism (Richards and Fernandes, 2006), as religious sites often possess significant historical and cultural value, scholars have increasingly recognized the importance of cultural enrichment as a key travel motivation. This dimension stems from a desire for knowledge and discovery of the attractions and communities where past generations' religious beliefs inspired sacred art, architecture (churches, basilicas), and intangible aspects like religious celebrations, art representations, and festivals. The visitor who is mainly driven by this type of motives, named by Bond (2015) "heritage-oriented" religious tourist, prioritizes cultural aspects, including historical figures, sites, and monuments (Amaro et al., 2018; Sanagustín-Fons et al., 2019).

Furthermore, underlying visits to religious sites there may also be reasons related to the desire to escape from daily routine and work pressure (Abbate and Di Nuovo, 2013; Amaro et al., 2018; Wang et al., 2016). In this regard, it should be noted that this motivation could have great relevance, since religious destinations are seen as ideal places to escape from routine, where an atmosphere pervaded by peace and tranquility "embraces" the visitor who intends to rest and relax.

Although these motivations have been widely explored by scholars, their investigation has not always occurred contextually. In this regard, it should be considered that they often coexist within the same visitor, albeit with varying intensity.

Literature on demand segmentation in religious tourism is currently poorly developed (Carvache-Franco et al., 2024). Various empirical studies have explored this topic using psychographic variables and travel motivations. Among these, Martínez et al. (2009) analyzed visitors to Santiago de Compostela, identifying two distinct segments: pilgrims and non-pilgrim tourists. Zouni and Digkas (2019) conducted a similar study in Thessaloniki, Greece, categorizing tourists as explorers of religious history and pilgrims. While explorers are interested in the broader context of the sacred site, pilgrims primarily focus on the sacred experience itself. Carvache-Franco et al. (2024) proposed a three-segment model, consisting of believers, religious individuals, and a passive group characterized by low levels of both spiritual and religious motivation.

Despite existing research, a comprehensive understanding of religious and spiritual tourism demand remains elusive. This study aims to contribute to this gap by identifying and analyzing distinct segments of religious tourists based on the motivations underlying their visit. To this end, the primary research question is:

RQ1: What types of visitors to religious places can be identified on the basis of their motivations?

2.2 Pro Environmental Behaviour and Religious Tourists

Pro-environmental behaviors (PEBs) encompass a wide range of deliberate actions individuals take to protect the environment. These actions can range from active measures, such as recycling or using public transportation, to more passive ones, like avoiding littering and conserving energy (Puciato et al., 2023; Lange and Dewitte, 2019). PEBs manifest in diverse forms, including waste reduction initiatives, water and energy conservation practices, eco-friendly transportation choices, sustainable purchasing decisions, and support for environmental organizations (Larson et al., 2015). Within the tourism context, PEBs are characterized by actions that minimize a tourist's environmental footprint on the destination (Yayla et al., 2023). As noted by Wu et al. (2019) and Cotrell (2023), tourists' PEBs are specifically aimed at reducing the environmental footprint of their travel activities.

Several studies have linked responsible behaviors and continuous engagement with environmental issues to socio-demographic factors (Brécard et al., 2009; Sangkhaduang et al., 2023; Han, 2015). Education level and age are consistently identified as significant influences (Klineberg et al., 1998; Torgler and García-Valiña, 2007). Higher education appears to be a key factor in promoting pro-environmental behaviors (PEB) (Kang, 2022; Puciato et al., 2023; Torgler and García-Valiña, 2007; Brécard et al., 2009). The impact of age, however, is less clear. Suhartanto et al. (2023) found younger individuals exhibiting higher PEB, possibly due to their greater exposure to environmental issues. Conversely, Carneiro et al. (2021) reported that older tourists displayed more responsible disposal and transportation habits.

Whileseveral studies suggest a link between visiting religious sites and responsible behavior (Bülbül, 2024; Suhartanto et al., 2023; Alotaibi and Abbas, 2023; Skalski et al., 2022; Kato and Progano, 2017; Felix et al., 2018), current research has limitely explored the influence of travel motivation on tourists' adoption of sustainable behaviors during their trips (Ajayi and Tichaawa, 2023).

Some studies focused on the pro-environmental motivations of tourists as predictors of their pro-environmental behavior (e.g., Jayasekara et al., 2024; Lee and Jeong, 2018). Recent

research has explored the relationship between travel motivations and pro-environmental behavior. For example, Cajiao et al. (2022) identified groups of tourists who visited Antarctica based on their travel motivations and assessed their pro-environmental behavioural intentions, but found no significant associations between these factors. Instead, Splendiani et al. (2024) with specific reference to religious tourism, found a significant relationship between visitors' spiritual motivation and their pro-environmental behavior, also verifying that this type of motivation mediates the relationship between environmental concern and pro-environmental behavior. Johnson et al. (2021) did not consider visitor motivations as a direct predictor of pro-environmental behavior, but they proved that the influence of motivation on behavior occurs through normative beliefs.

Regarding cultural motivations, Wang and Zang (2020) argue that they influence pro-environmental behaviors through the mediation of personal norms (Cf. Ullah et al., 2024). They suggest that strong cultural values, such as found in Confucianism, can foster greater environmental awareness among tourists, implying that respect for cultural traditions encourages sustainable practices (Cf. Kala and Chaubey, 2024; Liu et al., 2025).

Kil et al. (2014) also focused on cultural motivation, specifically knowledge-seeking, and demonstrated its influence on PEB within the context of a broader set of recreation motivations. Escape motivation, which drives tourists to seek escape from daily routines and immerse themselves in regenerative environments, can also promote pro-environmental behaviors by strengthening the emotional connection with the visited place. As suggested by Choi and Kim (2023), the regenerative quality of natural environments induces an affection for the place, which in turn promotes specific pro-environmental behaviors.

Along the same lines, Van Riper et al. (2020) argue that escape motivation can reduce the value-action gap and promote pro-environmental behaviors. In nature-based recreational contexts, this motivation helps explain involvement in low-impact activities.

Johnson et al. (2021) analyze the context of river rafting and demonstrate that escape motivations and personal involvement influence pro-environmental behaviors. More involved participants tend to develop environmental stewardship practices, especially if they receive communication strategies based on the degree of involvement, improving recreational experiences in nature-based outdoor activities.

In sum, much remains to be understood about the impact of visitors' motivations on pro-environmental behavior. Furthermore, in addition to the specific motivations, it would be interesting to explore the impact that different combinations of them can have on behavior.

This is particularly interesting in the context of religious tourism, with reference to which motivations of various nature often emerge. Thus, a second research question is formulated:
RQ2. Which types of visitors to religious places, defined on the basis of their motivations, behave in a more pro-environmental manner?

3. Methodology

3.1 Study context

The study was conducted in Assisi, an Umbrian city and a UNESCO World Heritage Site renowned for its historical, cultural, and spiritual significance. The choice of Assisi as the study context was driven by several key considerations beyond its status as a major global religious destination. It constitutes an ideal context for exploring the motivations underlying visits to religious sites, which may not be exclusively of a spiritual/religious nature. Assisi boasts significant historical and artistic value, attracting visitors with cultural interests. It also hosts a University campus, as well as being an important municipality in Umbria, and this further broadens the possible reasons for visiting it. Furthermore, Assisi's peaceful atmosphere and its location in a natural setting, away from urban centers, make it an appealing destination for those seeking relaxation and escape from their daily routines. The figure of St. Francis, whose philosophy emphasized the importance of coexisting harmoniously with nature, plays a central role in Assisi. His teachings advocate for the interconnectedness of all living beings and the human responsibility to protect the environment. Therefore, Franciscan principles which could inspire visitors to Assisi can be connected to eco-friendly practices. All this makes Assisi an ideal context to investigate motivations to visit religious sites, defining profiles of visitors on the basis of their combination and prevalence, and to verify if and to what extent these profiles behave responsibly towards the environment during their visit.

3.2 Measures

The questionnaire was aimed at detecting, among the others, the motives of the visit, the pro-environmental behavior adopted during the stay in Assisi, and socio-demographic characteristics of respondents. Based on the literature, a set of items were used with reference to visitor motivations (Albayrak et al., 2018; Kolar and Zabkar, 2010; Li and Cai, 2012; Rivetti and Lucadamo, 2023; Schofield and Thompson, 2007; Tsai, 2021; Yoon and Uysal, 2005) and pro-environmental behavior (Alonso-Vazquez et al., 2019; Lee et al., 2013; Lee et al., 2015; Kiatkawsin and Han, 2017). To measure all items, a seven-point Likert scale (1 = strongly disagree; 7 = strongly agree) was used.

The questionnaire was pre-tested on 22 visitors to Assisi. In this way, it was ensured that the questions and the items, in both the Italian and English versions, were understandable and unambiguous. Following the pre-test, some questions were re-formulated.

3.3 Sample and data collection

Data collection took place on-site in the second half of 2022, through the administration of a structured questionnaire.

To recruit visitors, convenience sampling was employed. Overall, 620 individuals participated in the survey, but 28 responses were not considered due to too many missing answers. Thus, the final sample consisted of 592 visitors.

The socio-demographic characteristics of respondents are shown in table 1. The sample is mainly constituted by individuals who had already visited the destination (80.74%) rather than first time visitors (19.26%). Instead, it is distributed in a more balanced way between tourists (54.90%) and excursionists (45.10%).

Table 1 goes here

3.4 Data analysis

Data were analyzed in various stages. A Principal Component Analysis (PCA), followed by a cluster analysis, allowed to intercept factors based on the motivations behind the visit and, based on these, to build groups of visitors. Second, we performed a Confirmatory Factor Analysis (CFA), to develop the pro-environmental behavior construct. Third, we applied a Simple Linear Regression (SLR) model, to understand if the clusters of visitors adopt a significantly different pro-environmental behavior. All the steps described above were carried out using the software "R" (R Core Team, 2021).

4. Results

As discussed in the preceding section, to answer the first research question, which aims to categorize visitors according to their motivations (RQ1), we initially performed a principal component analysis (PCA) on the items pertaining to visitor motivations.The first four components were selected, on the basis of the cumulative variance criterion, since they explain more than 80% of the total variance (Table 2).

Table 2 goes here

Table 3 shows the absolute contribution of the variables, on the basis of which it is possible to interpret the factors. The variables characterizing the first component concern spiritual/religious motives ("To gain a sense of accomplishment", "To feel inner harmony/peace", "To seek spiritual comfort", "To experience a sense of closeness to God", "To experience a holy atmosphere"). Instead, the second component is characterized by variables pertaining to knowledge motivation ("To increase my knowledge", "To visit historical places", "Interest in the culture and traditions of Assisi"). The variables that mainly contribute to the third component concern escape motives ("To be away from daily routine", "To release my work pressure", "To rest and relax"). Finally, a sub-set of variables falling within the knowledge motives characterize the fourth component ("To increase my knowledge", "Interest in the culture and traditions of Assisi").

Table 3 goes here

Based on the results of the PCA, an agglomerative hierarchical cluster analysis was performed, considering the Ward's (Ward, 1963) agglomerative criterion. This allowed to develop clusters of visitors on the basis of the motives of their visit. In this way, we obtained three clusters, made up of 182 (cluster 1), 143 (cluster 2) and 267 (cluster 3) individuals. Considering the variables that are significantly associated with the three clusters, it is possible to proceed to their interpretation. The first cluster includes individuals who present lower values for all motives, compared to the whole sample (table 4). This means that they are less motivated than visitors in the other clusters, under the spiritual, cultural and escape sides. Therefore, this cluster can be named "the Poorly S-C-E-M", where S-C-E-M means Spiritual - Cultural - Escape Motivated.

Table 4 goes here

As shown in table 5, the second cluster is characterized by spiritual/religious motives, while variables concerning cultural and escape motivations do not significantly contribute to its formation. Thus, visitors in this cluster visit Assisi driven above all by reasons relating to the spiritual and religious sphere. This cluster is therefore named "the spirituals".

Table 5 goes here

As regards the third cluster, all variables concerning motivation contribute significantly to its formation (table 6). Individuals in this cluster are strongly motivated to visit Assisi not only by spiritual/religious reasons, but also because they wish to enrich their cultural baggage and to rest and escape from their work and routine. On the basis of these considerations, this cluster is named “the Strongly S-C-E-M”.

Table 6 goes here

Table 7 presents the socio-demographic composition of the three clusters, providing a descriptive overview. For comparison, the socio-demographic characteristics of the entire sample are also included. It is possible to observe that, in general, the visitors in the sample are mostly women. Moreover, looking at the clusters, with reference to the poorly motivated and the spirituals, there is a greater presence of women, compared to the transversally motivated. Considering age, distinction was made between adult visitors belonging to generations Y and Z (i.e. born between 1981 and 2004) and older visitors. Older visitors constitute the majority of the individuals in the sample. However, within the poorly motivated, younger visitors are less prevalent compared to the other clusters. Educational level was categorized as "less educated" (below a three-year degree) and "more educated" (three-year degree or higher). The most educated are the majority across all groups, and the differences between the clusters are smaller than the other socio-demographic variables considered. However, the poorly motivated cluster exhibits a slightly lower portion of highly educated individuals compared to the other two clusters.

Table 7 goes here

In order to understand if the clusters of visitors, built on the basis of their visit motivations, adopt a significantly different behavior towards the environment, we first built the construct of pro-environmental behavior by performing a CFA on the basis of items taken from the literature (Alonso-Vazquez et al., 2019; Lee et al., 2013; Lee et al., 2015; Kiatkawsin and Han, 2017) . As shown in table 8, the measures of internal consistency (Bentler, 1972; Cronbach, 1951; Fornell and Larcker, 1981) are all higher than the threshold values normally accepted by scholars (Bagozzi and Yi, 1988; Hair et al., 2014): 0.7 with reference to Cronbach Alpha; 0.6 considering Composite Reliability; 0.5 with reference to the Average Variance Extracted. Item

loadings are generally higher than 0.7, the threshold value generally accepted by scholars. The only exception is the item "During my stay in Assisi, I scrupulously practiced waste collection"; in this last case, we decided to consider the item, since all internal consistency measures are met anyway.

Table 8 goes here

With the aim of addressing the second research question, namely evaluating which types of visitors defined by their visit motivations behave in a more pro-environmental manner (RQ2), after having identified the clusters and built the construct, a simple linear regression (SLR) was performed. Pro-environmental behavior constituted the dependent variable, while the profiles of visitors the categorical explanatory variable. Table 9 shows the results of the regression model. The intercept (-0.808) indicates the extent to which visitors in the first cluster ("the poorly motivated") implement pro-environmental behavior during their visit. The estimates of the second ("the spirituals") and the third ("the transversally motivated") clusters indicate the differences, concerning pro-environmental behavior, between the second and the first cluster (0.739) and between the third and the first cluster (1.396) respectively. We can notice that all relationships in table 9 are significant (p=0.000). Individuals in the second cluster adopt pro-environmental behavior to a significantly different extent compared to the first cluster; more specifically, the spirituals behave more respectfully towards the environment than poorly motivated visitors. The transversally motivated visitors behave pro-environmentally in an even more marked way, compared to the first group; thus, the third cluster adopts the pro-environmental behavior during the visit more than all the others.

Table 9 goes here

5. Discussion and conclusion

This study contributes to a deeper understanding of the factors influencing PEB in tourism, in line with recent research by Yayla et al. (2023). Specifically, it investigates the role of travel motivations as antecedents of PEB. This study did not analyze these motivations (spiritual, cultural and escape), typically examined in the context of religious tourism, in isolation. Recognizing that visitors may possess multiple motivations with varying degrees of intensity, we focused on their combinations, hypothesizing that these profiles could have distinct impacts on PEB.

The analysis identified three distinct clusters of visitors to religious places: the "Poorly S-C-E-M", the "spirituals", and the "Strongly S-C-E-M", each driven by a unique combination of motivations. These clusters exhibited significant variations in pro-environmental behavior during their stay, providing new insights into the dynamics of sustainable travel in religious tourism contexts. The less marked pro-environmental behavior of the "Poorly S-C-E-M" cluster implies that low general motivation translates into less involvement with sustainable practices. This suggests that targeted interventions to improve awareness and engagement may be particularly effective for this group. In contrast, "spirituals" and "Strongly S-C-E-M" visitors demonstrated a greater inclination towards sustainable behaviors. This observation is consistent with the literature that associates deep emotional or spiritual involvement with greater commitment to sustainability practices. In fact, visitors characterized by spiritual motives may feel a deeper responsibility towards environmental conservation, a feeling that reflects the sacred nature of their visit. It is important to note that while the link between spiritual motivations and pro-environmental behaviors has been explored in other contexts, its role in religious tourism has received limited attention. Our study, therefore, not only confirms trends observed in other areas of sustainable tourism but extends these understandings to the specific context of religious tourism. Beyond this, there is a further and particularly important observation to be made, concerning the different propensity of the spirituals and the Strongly S-C-E-M to implement sustainability practices. On this point, it is particularly interesting to note that the Strongly S-C-E-M visitors behave more responsibly towards the environment even than the spirituals. This is a sobering result, highlighting that spiritual motivation, although linked to sustainability practices, gives rise to a more marked PEB if it is also accompanied by other types of motivations. The effect of the combination of different motivations, incorporated into visitor profiles, on PEB is therefore stronger than that of spiritual motivation alone. This finding represents an element of novelty in the panorama of studies on the antecedents of sustainability practices, with particular reference to travel motivations. It does not contradict what scholars highlighted regarding the relationship between spirituality and PEB (Splendiani et al., 2024; Suhartanto et al., 2023), but complements the literature by finding empirically that visitors who are motivated above all on the spiritual front give rise to pro-environmental behavior to a lesser extent compared to the visitors who are motivated on multiple fronts, including the spiritual one. In essence, spirituality can act as a catalyst for pro-environmental behavior, but its impact is amplified when combined with other relevant motivations. Furthermore, these findings are supported by empirical evidence from studies outside the context of religious tourism, which demonstrate the direct influence of recreational

motivations, including learning motivation (i.e. Kil et al., 2014) and escape motivations (i.e. Van Riper et al., 2020), on pro-environmental behavior.

5.1 Theoretical and managerial implications

From a theoretical perspective, this study contributes to the ongoing debate concerning traveler behaviors and attitudes within the cultural and religious tourism. Specifically, it addresses five still open research perspectives: (1) a more nuanced understanding of the motivations underlying spiritual tourism (Ozcan et al., 2019; Tomazzoni and Tineo Beck, 2019); (2) a deeper exploration of sustainability within the context of cultural and spiritual tourism (Richards and Fernandes, 2006); (3) expanding the literature on pro-environmental behaviors of tourists in spiritual destinations (Splendiani et al., 2024); (4) a more comprehensive analysis of the relationship between travel motivations and pro-environmental behavior (Choi e Kim, 2023; Cajiao et al., 2022; Wang and Zang, 2020; Johnson et al., 2021); n(5) an improvement in empirical research about the role of pro-environmental behavior in minimizing tourists' environmental impacts (Yayla et al., 2023; Wu et al., 2019).

From a managerial perspective, this study highlights several key implications. Destinations combining culture and spirituality should strategically position themselves as models of sustainable tourism, shifting away from mass tourism objectives. In branding strategies, it is essential to integrate environmental sustainability by evoking the sacredness of the place in authentic terms, enhancing its commitment to the protection of tangible and intangible cultural heritage. This approach could attract highly motivated and responsible tourists, thereby enhancing the destination's reputation. Such communication strategies should emphasize the narratives of local spiritual figures, highlighting their connection with the environment within its historical and cultural context. Real-life stories can be highly emulative, inspiring tourists to more responsible and pro-environmental behaviors, while reinforcing the sense of authenticity and uniqueness of the destination.

Tourist operators and destination managers can benefit from developing tailored marketing and communication strategies for each identified cluster. For the 'Poorly S-C-E-M' group, information campaigns could be implemented to emphasize the personal and collective benefits of pro-environmental behavior, encouraging greater involvement through educational programs or incentives. For the 'Spirituals' and 'Strongly S-C-E-M' groups, who already exhibit a greater propensity towards sustainable practices, strategies could focus on reinforcing these inclinations through immersive experiences that integrate sustainability with spirituality, as

well as elements linked to cultural heritage, sociality, and leisure. Such immersive experiences can enhance tourists' environmental awareness (Chwialkowska et al., 2020) while fostering greater satisfaction and a stronger sense of belonging (Dini et al., 2023).

To encourage pro-environmental behavior, destinations should invest in sustainable infrastructure that supports smart and slow tourism. Essential investments include cycling routes, heritage railways, spiritual and trekking trails, eco-transport options, and incentives for electric vehicles, coupled with tourism policies that prioritize accessibility for all (Cassia et al., 2020). These strategies require the involvement of the tourism ecosystem (Barile et al., 2017), including religious communities, cultural organizations and ecological groups, to promote shared and sustainable initiatives.

5.2 Limitations and future research directions

This study has some limitations, which also present avenues for future research.

The focus on Assisi as a single case study, despite its relevance, limits the generalizability of the findings. In fact, pilgrimage sites may vary considerably in terms of environmental ethos, visitor demographics, and the interplay between religious activities and sustainability practices. To enhance the generalizability of the findings, future research should expand the study to include multiple destinations, enabling comparative analyses across different religious tourism settings.

Secondly, this study relies on self-reported data collected through a questionnaire. While self-reported data are common in tourism research, it is important to acknowledge the potential limitations associated with self-report bias.

Moreover, while this study focuses on three primary motivations, future research could incorporate additional motivational factors, allowing for a more nuanced understanding of their influence on sustainable behaviors and the identification of new visitor clusters.

Future research should furthermore integrate the analysis of specific sustainable policies and practices implemented at the destinations and assess their impact on tourists' perceptions and behaviors. This approach would enhance our understanding of how destination management can foster pro-environmental behavior and contribute to the overall sustainability of the tourism sector.

Furthermore, future research should consider the multidimensional aspects of sustainability, encompassing social, economic, and cultural dimensions alongside environmental concerns. Future studies could explore how these multiple dimensions interact and potentially conflict

with each other, thus providing a more holistic view of sustainability in religious tourism contexts. For example, future research could explore potential conflicts between economic incentives for tourism and environmental preservation efforts or investigate how cultural practices influence sustainable tourism development.

Future research could also investigate how socio-demographic characteristics, destination familiarity, and visitor loyalty influence motivations and behaviors. Furthermore, future studies employing a qualitative approach could delve deeper into the link between motivations and pro-environmental behavior within each visitor cluster.

These expanded research directions can provide deeper insights into the complex dynamics of religious tourism and sustainability, offering robust frameworks to guide policymakers and destination managers in fostering comprehensive sustainable development within religious tourism destinations.

Acknowledgements

We are grateful to the Municipality of Assisi, and especially the Tourism Office, for their assistance in distributing questionnaires to participants in this study.

References

Abbate, C. S. and Di Nuovo, S. (2013), "Motivation and personality traits for choosing religious tourism. A research on the case of Medjugorje", *Current Issues in Tourism*, Vol. 16 No. 5, pp. 501-506.

Ajayi, O. O. and Tichaawa, T. M. (2023), "Environmental Attitude, Motivation, and Place Attachment in a Wildlife Park", *Tourism: An International Interdisciplinary Journal*, Vol. 71 No. 1, pp. 145-161.

Albayrak, T., Herstein, R., Caber, M., Drori, N., Bideci, M. and Berger, R. (2018), "Exploring religious tourist experiences in Jerusalem: The intersection of Abrahamic religions", *Tourism Management*, Vol. 69, pp. 285-296.

Almuhrzi, H. M. and Alsawafi, A. M. (2017), "Muslim perspectives on spiritual and religious travel beyond Hajj: Toward understanding motivations for Umrah travel in Oman", *Tourism Management Perspectives*, Vol. 24, pp. 235-242.

Alonso-Vazquez, M., Packer, J., Fairley, S. and Hughes, K. (2019), "The role of place attachment and festival attachment in influencing attendees' environmentally responsible behaviours at music festivals", *Tourism Recreation Research*, Vol. 44, No. 1, pp. 91-102.

Alotaibi, A. and Abbas, A. (2023), "Islamic religiosity and green purchase intention: a perspective of food selection in millennials", *Journal of Islamic Marketing*, Vol. 14, No. 9, pp. 2323-2342.

Amaro, S., Antunes, A. and Henriques, C. (2018), "A closer look at Santiago de Compostela's pilgrims through the lens of motivations", *Tourism Management*, Vol. 64, pp. 271-280.

Ashton, A. S. (2018), "Spiritual retreat tourism development in the Asia Pacific region: Investigating the impact of tourist satisfaction and intention to revisit: A Chiang Mai, Thailand case study", *Asia Pacific Journal of Tourism Research*, Vol. 23, No. 11, pp. 1098-1114.

Bagozzi, R. P. and Yi, Y. (1988), "On the evaluation of structural equation models", *Journal of the Academy of Marketing Science*, Vol. 16, pp. 74–94.

Barile, S., Ciasullo, M. V., Troisi, O., & Sarno, D. (2017). The role of technology and institutions in tourism service ecosystems: Findings from a case study. *The TQM Journal*, *29*(6), 811-833.

Bentler, P. M. (1972), "A lower-bound method for the dimension-free measurement of internal consistency", *Social Science Research*, Vol. 1, No. 4, pp. 343–357.

Bideci, M. and Albayrak, T. (2016), "Motivations of the Russian and German tourists visiting pilgrimage site of Saint Nicholas Church", *Tourism Management Perspectives*, Vol. 18, pp. 10–13.

Bilim, Y. and Düzgüner, S. (2015), "Religious Tourism for Religious Tolerance", in Raj R. e Griffin K. (Eds.), Religious Tourism and Pilgrimage Management An International Perspective, CABI.

Bond, N. (2015), "Exploring Pilgrimage and Religious Heritage Tourism Experiences", in Raj R. e Griffin K. (Eds.), Religious Tourism and Pilgrimage Management An International Perspective, CABI.

Brécard, D., Hlaimi, B., Lucas, S., Perraudeau, Y. and Salladarré, F. (2009), "Determinants of demand for green products: An application to eco-label demand for fish in Europe", *Ecological Economics*, Vol. 69, pp. 115–125.

Bülbül, H. (2024), "Understanding the influence of religion on pro-environmental behaviors: an investigation in Muslim families using the theory of planned behavior customized with a religiosity-based subjective norm", *Journal of Environmental Planning and Management*, 1-23.

Cajiao, D., Leung, Y. F., Larson, L. R., Tejedo, P. and Benayas, J. (2022), "Tourists' motivations, learning, and trip satisfaction facilitate pro-environmental outcomes of the Antarctic tourist experience", *Journal of Outdoor Recreation and Tourism*, Vol. 37, 100454.

Canoves, G. and Prat Forga, J. (2016), "The Determinants of Tourist Satisfaction in Religious Destinations: the case of Montserrat (Spain)", *International Journal of Religious Tourism and Pilgrimage*, Vol. 4, No. 5, 5.

Carneiro, M.J., Eusébio, C., Rodrigues, V., Margarita, R., Mara, M., Gama, C. and Monteiro, A. (2021), "Pro-Environmental Behaviours at home and during a tourism trip: a general perspective" in Abreu, A., Liberato, D. Ojeda, J.C. G., (Eds.). Advances in Tourism, Technology and Systems . Selected Papers from ICOTTS 2021 Vol. 1.

Carvache-Franco, M., Regalado-Pezúa, O., Carvache-Franco, O. and Carvache-Franco, W. (2024), "Segmentation by motivations in religious tourism: A study of the Christ of Miracles Pilgrimage, Peru", *Plos one,* Vol. 19, No. 5, e0303762.

Cassia, F., Castellani, P., Rossato, C., & Baccarani, C. (2020). Finding a way towards high-quality, accessible tourism: the role of digital ecosystems. *The TQM Journal*, *33*(1), 205-221.

Choi, S., & Kim, I. (2024). Role of restorative natural environments in predicting hikers' pro-environmental behavior in a nature trail context. *Journal of Travel & Tourism Marketing*, *41*(4), 596-613.

Chun, B., Roh, E.Y., Spralls S.A. and Kim, Y. (2018), "Predictors of Templestay Satisfaction: A Comparison Between Korean and International Participants", *Leisure Sciences*, Vol. 40, pp. 423-441

Chwialkowska, A., Bhatti, W. A. and Glowik, M. (2020), "The influence of cultural values on pro-environmental behavior", *Journal of Cleaner Production*, Vol. 268, 122305.

Cottrell, S. P. (2003), "Influence of sociodemographics and environmental attitudes on general responsible environmental behavior among recreational boaters", Environment and behavior, Vol. 35, No. 3, pp. 347-375.

Creutzig, F., Roy, J. Lamb, W.F. Azevedo, I.M., De Bruin, W.B., Dalkmann, H., Edelenbosch, O.Y., Geels, F.W., Grubler, A. and Hepburn, C., (2018), "Towards demand-side solutions for mitigating climate change", *Nature Climate Change*, Vol. 8, pp. 260–263.

Cronbach, L. J. (1951), "Coefficient alpha and the internal structure of tests", *Psychometrika*, Vol. 16, No 3, pp. 297–334.

Damari, C. and Mansfeld, Y. (2014), "Reflections on pilgrims' identity, role and interplay with the pilgrimage environment", *Current Issues in Tourism*, Vol 19, No. 3, pp. 199–222.

Dini, M., Curina, I., Francioni, B., Hegner, S. and Cioppi, M. (2023), "Tourists' satisfaction and sense of belonging in adopting responsible behaviors: the role of on-site and social media involvement in cultural tourism", *The TQM Journal*, Vol. 35, No. 9, pp. 388-410.

Felix, R., Hinsch, C., Rauschnabel, P.A. and Schlegelmilch, B.B. (2018), "Religiousness and Environmental Concern: A multilevel and multi-country analysis of the role of life satisfaction and indulgence", *Journal of Business Research*, Vol. 91, pp. 304–312.

Fornell, C., and Larcker, D. F. (1981), "Evaluating structural equation models with unobservable variables and measurement error", *Journal of Marketing Research*, Vol. 18. No. 1, pp. 39–50.

Hair, J. F., Hult, G. T. M., Ringle, C. and Sarstedt, M. (2014), *A primer on partial least squares structural equation modeling (PLS – SEM)*, Sage, Los Angeles, CA.

Han, H. (2015), "Travelers' Pro-Environmental Behaviour in a green lodging context: Converging value-belief-norm theory and the theory of planned behaviour", *Tourism Management*, Vol. 47, pp. 164-177.

Hassan, T., Carvache-Franco, M., Carvache-Franco, W. and Carvache-Franco, O. (2024), "Motivations as pedictors of religious tourism: the Muslim pilgrimage to the city of Mecca", *Journal of Cultural Heritage Management and Sustainable Development*, Vol. 14, No. 3, pp. 419-435.

Henderson, J. C. (2011), Religious tourism and its management: The hajj in Saudi Arabia. *International Journal of Tourism Research*, Vol. 13, No. 6, pp. 541-552.

Jayasekara, K. D. D. S., Rajapaksa, D., and Gunawardena, U. P. (2024), "Impacts of Environmental Knowledge, Motives, and Behavior on Ecotourism", *Sustainability*, Vol. 16, No. 11, 4724.

Johnson, D. N., Shipley, N. J., van Riper, C. J., Kyle, G. T., Wallen, K. E., Landon, A. and Absher, J. (2021), "Place-based motivations and normative beliefs predict pro-environmental behavior across involvement profiles", *Journal of Outdoor Recreation and Tourism,* Vol. 35, 100377.

Johnson, D. N., Shipley, N. J., van Riper, C. J., Kyle, G. T., Wallen, K. E., Landon, A., & Absher, J. (2021). Place-based motivations and normative beliefs predict pro-environmental behavior across involvement profiles. *Journal of Outdoor Recreation and Tourism*, *35*, 100377.

Kainthola, S., Chowdhary, N., Kaurav, R. P. S. and Tiwari, P. (2024), "Motivations of urban millennials for spiritual travel in India", *Tourism Recreation Research*, Vol. 49, No. 2, pp. 410-425.

Kala, D., and Chaubey, D. S. (2024), "Pro-environmental behavior of religious tourists: moderating role of religious beliefs", *Cornell Hospitality Quarterly*, Vol 65(1), pp. 105-119.

Kang, W. (2022). "Residence and Education Moderate the Longitudinal Association between Environmental Concern (EC) and Proenvironmental Behaviour", *Sustainability*, Vol. 14, 14716.

Kato, K. and Progano, R.N. (2017), "Spiritual (walking) tourism as a foundation for sustainable destination development: Kumano-kodo pilgrimage, Wakayama, Japan", *Tourism Management Perspectives*, Vol. 24, pp. 243-251.

Kiatkawsin, K. and Han, H. (2017), "Young travelers' intention to behave pro-environmentally: Merging the value-belief-norm theory and the expectancy theory", *Tourism Management*, Vol. 59, pp. 76-88.

Kil, N., Holland, S. M. and Stein, T. V. (2014), "Structural relationships between environmental attitudes, recreation motivations, and environmentally responsible behaviors", *Journal of Outdoor Recreation and Tourism*, Vol. 7, pp. 16-25.

Kim, B., Kim, S. and King, B. (2020), "Religious tourism studies: evolution, progress, and future prospects", *Tourism Recreation Research*, Vol. 45, No. 2, pp. 185-203.

Klineberg, S.L., McKeever, M. and Rothenbachet, B. (1998), "Demographic Predictors of Environmental Concern: It Does Make a Difference How It's Measured", *Social Science Quarterly*, Vol. 4, pp. 734-753.

Kolar, T. and Zabkar, V. (2010), "A consumer-based model of authenticity: An oxymoron or the foundation of cultural heritage marketing?", *Tourism Management*, Vol. 31, No. 5, pp. 652-664.

Kruger, M. and Saayman, M. (2016), "Understanding the Zion Christian Church (ZCC) Pilgrims", *International Journal of Tourism Research*, Vol. 18, No. 1, pp. 27-38.

Lange, F. and Dewitte, S. (2019), "Measuring pro-environmental behavior: Review and recommendations", *Journal of Environmental Psychology*, Vol. 63, pp. 92-100.

Larson, L.R., Stedman, R.C., Cooper, C.B. and Decker, D.J. (2015), "Understanding the multi-dimensional structure of Pro-Environmental Behaviour", *Journal of Environmental Psychology*, Vol. 43, pp. 112-124

Lee, T. H., Jan, F. H. and Huang, G. W. (2015), "The influence of recreation experiences on environmentally responsible behaviour: The case of Liuqiu Island, Taiwan", *Journal of Sustainable Tourism*, Vol. 23 No. 6, pp. 947-967.

Lee, T. H., Jan, F. H. and Yang, C. C. (2013), "Conceptualizing and measuring environmentally responsible behaviours from the perspective of community-based tourists", *Tourism Management*, Vol. 36, pp. 454-468.

Lee, W. and Jeong, C. (2018), "Effects of pro-environmental destination image and leisure sports mania on motivation and pro-environmental behavior of visitors to Korea's national parks", *Journal of Destination Marketing & Management*, Vol. 10, pp. 25-35.

Li, M. and Cai, L. A. (2012), "The effects of personal values on travel motivation and behavioural intention", *Journal of Travel Research*, Vol. 51, No. 4, pp. 473-487.

Lin, M. T., Zhu, D., Liu, C. and Kim, P. B. (2022), "A systematic review of empirical studies of pro-environmental behavior in hospitality and tourism contexts", *International Journal of Contemporary Hospitality Management*, Vol. 34 No 11, pp. 3982-4006.

Liro, J. (2021), "Visitors' motivations and behaviours at pilgrimage centres: push and pull perspectives", *Journal of Heritage Tourism*, Vol. 16, No. 1, pp. 79-99.

Liu, C., Hou, Y., Gu, R., and Cai, Y. (2025), "*EXPRESS: A Dynamic Theoretical Model Based on Compensatory Ethics: How Religious Belief Shapes Tourists' Pro-environmental Behavior*", *Journal of Hospitality & Tourism Research*, 10963480251313491.

Martìnez, F., Novello, S. and Murias, P. (2009), "Analysis of the loyalty of tourists who visit the city of Santiago de Com postela", *Galician Economics Magazine*, Vol. 18, No. 2, pp. 1–15.

Norman, A. (2011), *Spiritual Tourism. Travel and religious practices in Western society*, Bloomsbury.

Ozcan, C.C., Biskin, F. and Simsek, C. (2019), "Regional Economic Bffects and Marketing of Religious Tourism: The Case of Konya", in Álvarez-García J., dela Cruz del Río Rama M. e Gómez-Ullate M. (Eds.), *Handbook of Research on Socio-Economic Impacts of Religious Tourism and Pilgrimage*, IGI Global.

Poria, Y., Butler, R.W. and Airey, D. (2003), "Tourism, religion and religiosity: A holy mess", *Current Issues in Tourism*, Vol. 6 No 4, pp. 340-363.

Puciato, D., Szromek, A. R. and Bugdol, M. (2023). "Willingness to pay for sustainable hotel services as a perspective of Pro-Environmental Behaviours of hotel guests", *Economics and Sociology*, Vol. 16, pp. 106-122

R Core Team (2021), "R: A language and environment for statistical computing. R Foundation for Statistical Computing", Vienna, Austria. URL https://www.R-project.org/.

Raj, R., Griffin, K. and Blackwell, R. (2015), "Motivations for Religious Tourism, Pilgrimage, Festivals and Events", in Raj R. e Griffin K. (Eds.), *Religious Tourism and Pilgrimage Management An International Perspective*, CABI.

Ramkissoon, H. and Mavondo, F.T., (2017), "Proenvironmental behaviour: critical link between satisfaction and place attachment in Australia and Canada", *Tourism Analysis*, Vol. 22, pp. 59-73.

Richards, G. and Fernandes, C. (2006), *Religious tourism in northern Portugal*. In Richards, G. (Ed..), *Cultural Tourism: Global and local perspectives*, Haworth Press, Binghampton (pp. 215-238).

Rinschede, G. (1992), "Forms of religious tourism", *Annals of Tourism Research*, Vol. 19, No. 1, pp. 519-34.

Rivetti, F. and Lucadamo A. (2023), "Cultural festival attendees: a path from motivation to loyalty", *Current Issues in Tourism*, Vol. 26, No. 21, pp. 3499-3515.

Rotherham, D. (2015), "Sacred Sites and the Tourist: Sustaining Tourism Infrastructures for Religious Tourists and Pilgrims a UK Perspective", in Raj R. e Griffin K. (Eds.), *Religious Tourism and Pilgrimage Management An International Perspective*, CABI.

Sanagustín-Fons, M.V., Gregory, R.B. and Martiner-Quintana, V. (2019), "Holy Grail Route: A Sociological Analysis of a Spiritual and Religious Tourist Route", in Álvarez-García J., dela Cruz del Río Rama M. e Gómez-Ullate M., *Handbook of Research on Socio-Economic Impacts of Religious Tourism and Pilgrimage*, IGI Global.

Sangkhaduang, T., Sawain, A. and Kumgunsilp, N. (2023), "Exploring Factors Influencing Tourists' Environmentally Responsible Behaviour for Snorkeling Tourism, Thailand", *International Journal of Sustainable Development Planning*, Vol. 7, pp. 2183-2190

Scaffidi Abbate, C. and Di Nuovo, S. (2013), "Motivation and personality traits for choosing religious tourism. A research on the case of Medjugorje", *Current Issues in Tourism*, Vol. 16, pp. 501-506.

Schofield, P. and Thompson, K. (2007), "Visitor motivation, satisfaction and behavioural intention: the 2005 Naadam Festival, Ulaanbaatar", *International Journal of Tourism Research*, Vol. 9, No. 5, pp. 329-344.

Skalski, S. B., Loichen, T., Toussaint, L. L., Uram, P., Kwiatkowska, A. and Surzykiewicz, J. (2022), "Relationships between Spirituality, Religious Fundamentalism and Environmentalism: The Mediating Role of Right-Wing Authoritarianism", *International journal of environmental research and public health*, Vol. 19, No 20, 13242.

Splendiani, S., Rivetti, F. and Dini, M. (2024), "Environmental concern and pro-environmental behaviour of religious site visitors: the mediating role of spiritual motivation", *Current Issues in Tourism*, pp. 1-6.

Suhartanto, D., Suki, N.M., Najib, M., Suhaeni, T. and Kania, R. (2023), "Young Muslim consumers' attitude towards green plastic products: the role of Environmental Concern, knowledge of the environment and religiosity", *Journal of Islamic Marketing*, Vol. 14, No. 12, pp. 3168-3185.

Terzidou, M., Scarles, C., and Saunders, M.N. (2018), "The complexities of religious tourism motivations: Sacred places, vows and visions", *Annals of Tourism Research*, Vol. 70, pp. 54–65.

Težak Damijanic, A., Piculjan, M. and Goreta Ban, S. (2023), "The Role of Pro-Environmental Behaviour, Environmental Knowledge, and Eco-Labeling Perception in Relation to Travel Intention in the Hotel Industry", *Sustainability*, Vol. 15, 10103.

Timothy, D. e Olsen, D. (Eds.) (2006), *Tourism, religion and spiritual journeys*, Routledge.

Tomazzoni, E.L. and Tineo Beck, D. (2019), "The Socioeconomic Potentials of the religious tourism of the state of Sao Paulo (Brazil): a research project and observatory proposal", in Álvarez-García J., de la Cruz del Río Rama M. e Gómez-Ullate M. (Eds.), *Handbook of Research on Socio-Economic Impacts of Religious Tourism and Pilgrimage*, IGI Global.

Torgler, B. and García-Valiña, M.A. (2007), "The determinants of individuals' attitudes towards preventing environmental damage", *Ecological Economics*, Vol. 63, pp. 536-552.

Tsai, H. M. (2021), "Exploring the motivation-based typology of religious tourists: A study of Welcome Royal Lord Festival", *Journal of Destination Marketing & Management*, Vol. 21, 100623.

Ullah, S., Lyu, B., Ahmad, T., Sami, A., and Kukreti, M. (2024), "A mediated moderation model of eco-guilt, personal and social norms and religiosity triggering pro-environmental behavior in tourists", *Current Psychology*, 43(8), 6830-6839.

Van Riper, C. J., Lum, C., Kyle, G. T., Wallen, K. E., Absher, J. and Landon, A. C. (2020), "Values, motivations, and intentions to engage in proenvironmental behavior", *Environment and Behavior*, Vol. 52, No. 4, pp. 437-462.

Wang, W., Chen, J. S. and Huang, K. (2016), "Religious tourist motivation in Buddhist Mountain: The case from China", *Asia Pacific Journal of Tourism Research*, Vol. 21, No. 1, pp. 57-72.

Wang, X., & Zhang, C. (2020). Contingent effects of social norms on tourists' pro-environmental behaviours: The role of Chinese traditionality. *Journal of Sustainable Tourism*, *28*(10), 1646-1664.

Ward, Jr J. H. (1963), "Hierarchical grouping to optimize an objective function", *Journal of the American Statistical Association*, Vol. 58, No. 301, pp. 236-244.

Wu, Z., Chen, Y., Geng, L., Zhou, L. and Zhou, K. (2019), "Greening in nostalgia? How nostalgic traveling enhances tourists' proenvironmental behaviour", *Sustainable Development*, Vol. 28, pp. 634-645.

Yayla, İ., Baydeniz, E. and Çilginoğlu, H. (2023), "Exploring the determinants of Pro-Environmental Behaviour in eco-tourism: a case study of visitors to the Ayazini Ruins", *Economics of Agriculture*, Vol. 2, pp. 357-375.

Yoon, Y. and Uysal, M. (2005), "An examination of the effects of motivation and satisfaction on destination loyalty: a structural model", *Tourism Management*, Vol. 26, No. 1, pp. 45-56.

Zhang, Y., Jia, W., Chan, J. H., and Sciacca, A. (2024), "The awe-habitual model: exploring tourists' pro-environmental behaviors in religious settings", *Journal of Sustainable Tourism*, 1-20.

Zouni, G and Digkas, D. (2019), "Marketing suggestions for multi-religious tourism development: The case of Thessaloniki", *Journal of Tourism, Heritage & Services Marketing*, Vol. 5, No. 2, pp. 36-42.

Tables

Table 1. The socio-demographic characteristics of the respondents

Variables	**Percentage**
Gender	
Male	35.14
Female	64.86
Age	
≤25	9.63
26-41	18.75
42-57	38.68
58-76	31.42
>76	1.52
Education	
Elementary school license	0.00
Middle school license	4.40
High school diploma	33.11
Bachelor degree	20.10
Master degree	27.87
Postgraduate master	8.45
Ph.D.	5.10
Employment condition	
Self employed	16.05
Employee	47.97
Occasional worker	3.21
Student	8.28
Religious	1.69
Retired	19.76
Unemployed	2.36
Looking for a first job	0.68
Marital status	
Unmarried	29.90
Married	54.90

Separated	2.03
Divorced	5.74
Widower/Widow	1.86
Cohabitant	5.57
Nationality	
Italian	79.39
Non-Italian	20.61
Type of attendee	
First time	19.26
Repeated	80.74
Tourists/excursionists	
Tourists	54.90
Excursionists	45.10

Table 2. The extracted components

Component number	Eigenvalue	% of var.	Cumulative % of var.
1	5.356	48.690	48.690
2	1.864	16.945	65.635
3	1.464	13.308	78.943
4	0.493	4.480	83.423
5	0.420	3.814	87.238
6	0.303	2.754	89.992
7	0.295	2.680	92.672
8	0.280	2.546	95.218
9	0.231	2.099	97.317
10	0.181	1.646	98.964
11	0.114	1.036	100.000

Table 3. Absolute contribution of variables

Variable	Dim1	Dim2	Dim3	Dim4
To increase my knowledge	4.511	19.448	5.211	54.124

To visit historical places	3.313	28.475	8.032	1.263
Interest in the culture and traditions of Assisi	5.533	19.081	5.923	32.957
To be away from daily routine	8.659	0.684	21.894	3.790
To release my work pressure	8.900	0.931	22.633	0.152
To rest and relax	8.644	2.863	20.151	0.396
To gain a sense of accomplishment	12.839	1.353	0.101	4.227
To feel inner harmony/peace	13.113	5.327	2.071	0.804
To seek spiritual comfort	13.261	7.228	2.549	0.131
To experience a sense of closeness to God	10.771	9.984	4.995	0.517
To experience a holy atmosphere	10.455	4.626	6.441	1.639

Table 4. Variables significantly associated to the first cluster

Variable	v.test	Mean in the cat.	Overall mean	Sd in the category	Overall sd	p.value
To visit historical places	-4.495	5.451	5.875	1.753	1.529	0.000
To increase my knowledge	-7.016	4.462	5.235	1.827	1.785	0.000
Interest in the culture and traditions of Assisi	-7.694	4.846	5.611	1.851	1.611	0.000
To rest and relax	-9.266	3.429	4.635	1.979	2.109	0.000
To be away from daily routine	-9.862	3.440	4.708	1.962	2.083	0.000
To release my work pressure	-10.235	2.742	4.150	1.882	2.229	0.000
To gain a sense of accomplishment	-16.919	2.038	4.316	1.211	2.180	0.000
To experience a holy atmosphere	-17.328	2.874	5.115	1.795	2.095	0.000

To experience a sense of closeness to God	-18.844	2.214	4.850	1.396	2.265	0.000
To feel inner harmony/peace	-20.041	2.676	5.204	1.445	2.044	0.000
To seek spiritual comfort	-20.741	2.209	4.978	1.249	2.163	0.000

Table 5. Variables significantly associated to the second cluster

Variable	v.test	Mean in the cat.	Overall mean	Sd in the category	Overall sd	p.value
To experience a sense of closeness to God	6.840	5.979	4.850	1.287	2.265	0.000
To feel inner harmony/peace	6.233	6.133	5.204	1.053	2.044	0.000
To seek spiritual comfort	5.995	5.923	4.978	1.104	2.163	0.000
To experience a holy atmosphere	5.522	5.958	5.115	1.284	2.095	0.000
Interest in the culture and traditions of Assisi	-4.135	5.126	5.611	1.655	1.611	0.000
To increase my knowledge	-4.976	4.587	5.235	1.882	1.785	0.000
To visit historical places	-5.716	5.238	5.875	1.758	1.529	0.000
To be away from daily routine	-7.195	3.615	4.708	1.972	2.083	0.000
To release my work pressure	-8.242	2.811	4.150	1.701	2.229	0.000
To rest and relax	-9.181	3.224	4.635	1.752	2.109	0.000

Table 6. Variables significantly associated to the third cluster

Variable	v.test	Mean in the cat.	Overall mean	Sd in the category	Overall sd	p.value
To release my work pressure	16.581	5.828	4.150	1.388	2.229	0.000
To rest and relax	16.490	6.213	4.635	1.000	2.109	0.000
To be away from daily routine	15.334	6.157	4.708	1.037	2.083	0.000
To gain a sense of accomplishment	14.863	5.787	4.316	1.367	2.180	0.000
To seek spiritual comfort	14.076	6.360	4.978	1.019	2.163	0.000
To feel inner harmony/peace	13.223	6.431	5.204	0.959	2.044	0.000
To experience a sense of closeness to God	11.591	6.041	4.850	1.525	2.265	0.000
To experience a holy atmosphere	11.319	6.191	5.115	1.300	2.095	0.000
To increase my knowledge	10.786	6.109	5.235	1.224	1.785	0.000
Interest in the culture and traditions of Assisi	10.692	6.393	5.611	0.903	1.611	0.000
To visit historical places	9.086	6.506	5.875	0.836	1.529	0.000

Table 7. Description of clusters on the basis of demographic variables

Variable	Modality	Frequency and percentage							
		Whole sample		Group 1		Group 2		Group 3	
Gender		n	%	n	%	n	%	n	%
	Male	208	35.14	60	32.97	46	32.17	102	38.20
	Female	384	64.86	122	67.03	97	67.83	165	61.80
Age									

	Younger	168	28.38	68	37.36	33	23.08	67	25.09
	Older	424	71.62	114	62.64	110	76.92	200	74.91
Education									
	Less educated	227	38.34	74	40.66	52	36.36	101	37.83
	More educated	365	61.66	108	59.34	91	63.64	166	62.17

Table 8. Definition of the construct "pro-environmental behavior"

Items	Mean	St. deviation	Stand. loadings	Cronbach α	CR	AVE
During my stay in Assisi I bought environmentally friendly products/services	4.221	1.997	0.878	0.874	0.883	0.614
During my stay in Assisi I paid more to buy environmentally friendly products/services	4.596	1.936	0.810			
During my stay in Assisi I purchased products with minimal packaging	4.404	2.022	0.844			
During my stay in Assisi I implemented behaviors aimed at limiting the consumption of water and energy resources	4.981	1.988	0.738			

During my stay in Assisi, I scrupulously practiced waste collection	5.914	1.612	0.515			

Table 9. Results of the regression model

Coefficients	Estimate	St. error	t.value	p.value
Intercept	-0.808	0.115	-7.005	0.000
Group2	0.739	0.174	4.247	0.000
Group3	1.396	0.150	9.332	0.000