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ABSTRACT

This study investigates differences in tourists' conservation commitment at developed and developing heritage sites. It examines relationships between conservation commitment and related concepts: cultural motivation, place attachment, and participation. Data was collected from two troglodyte heritage sites: Kandovan, Iran (*developing*) and Cappadocia, Turkey (*developed*). 518 survey responses were collected at Kandovan and 627 at Cappadocia. Partial least squares structural equation modelling was employed to perform analysis. Multi-group analysis findings indicate that direct relationships among conservation commitment, cultural motivation, place attachment, and participation were significantly higher in the developing context; encouraging industry managers to use participative feedback to stimulate conservation commitment.

INTRODUCTION

The management of cultural heritage is plagued by the contradiction between the preservation of heritage assets and the large-scale tourism required to sustain sites on a long-term basis (Ducros, 2017). Yet, the damage wrought by this increased footfall, infrastructure projects, and the dilution of local culture can constrain sites hoping to mature into established tourism destinations (Landorf, 2009). Thus, while the economic benefits of tourism to culturally-endowed destinations are clear, it may instead contravene their core responsibility – the conservation of heritage assets (Mackenzie & Gannon, 2019). Accordingly, Dragouni et al. (2018, p.759-760) highlight the importance of visitor participation in developing sustainable heritage sites underpinned by tourism, emphasizing "the involvement of the public in decision-making as a means of accommodating community-relevant values and interests, protecting cultural diversity, and promoting viable solutions that balance conservation and competing pressures from socio-economic activity".

Further, while the World Heritage Convention provides the foundation from which to safeguard the sustainability of World Heritage Sites (WHS) across the globe, not all culturally-important sites hold WHS status, particularly in marginalized economies and developing markets (Adie, 2017). This has catalyzed a marked disconnect between the *haves* and *have-nots* with regards to economic success (Ryan & Silvanto, 2010). Yet, despite its financial dividend, WHS status is not necessarily a golden goose, with some suggesting that it can negatively affect heritage conservation due to increased tourist awareness, attention and, subsequently, footfall (Starr, 2013). It is also important to recognize that not all paths to sustainability are controlled by governing bodies. While alternative notions of sustainable tourism development are often characterized as emerging at the behest of the local community (Tan, Kok & Choon, 2018), this also extends to tourists visiting cultural heritage sites for leisure purposes. Therefore, it is crucial to consider the antecedent factors stimulating tourists' commitment to the conservation of the cultural heritage sites they visit.

Sustainable cultural heritage tourism has been explored in isolation at both well-known (Taheri et al., 2017) and emerging sites (Teo et al., 2014). Thus, while extant literature often focuses on issues inherent to established sites in developed markets (Ducros, 2017); the developing world is not entirely overlooked. Research recognizes that many great heritage sites, such as Machu Picchu (Peru) and Ha Long Bay (Vietnam), exist in emerging

economies. Yet little emphasis is placed on understanding tourist behavior at lesser-known sites: typically, those without WHS designation. Resultantly, few studies focus on tourists' commitment to the conservation of such sites. However, there may be differences in expectations, behaviors, and evaluations of tourism services experienced at developed and developing sites (Starr, 2013). Throughout this paper, the terms 'developed sites' and 'developing sites' refer to the status of the development status of the heritage site, irrespective of the development of the country where these sites are located. Developed sites are typically well-established, commercially attuned, underpinned by robust infrastructure, adaptive management and monitoring systems, international recognition, and extensive tangential service offerings (e.g., souvenir shops, cafes, and restaurants), supporting the protection of the natural and cultural environment. In contrast, developing sites may not apply adaptive management and monitoring processes, and follow less clear supporting strategies for the protection of the natural and cultural environment and the well-being of local communities (Tan et al., 2018).

Few previous studies compare the different standing given to antecedent factors leading to tourists' conservation commitment and sustainable behavior across developed and developing contexts (Dragouni et al., 2018). Yet, Hwang, Stewart and Ko (2012) argue that it is important to encourage both tourists and locals to proactively participate in sustainability matters, even if in a minor way. Some suggest that participation can empower local people to engage with heritage conservation and the sustainable decision-making process (Dragouni et al., 2018). While it is generally established that sites aiming for sustainability can stimulate place attachment and participation to encourage tourists' commitment to site conservation (Supanti & Butcher, 2019), discourse overlooks how this differs between developing and developed contexts (Tan et al., 2018). There is, however, agreement that tourism underpinned by heritage assets is stimulated by tourists' cultural motivations (Kolar & Zabkar, 2010), where tangible and intangible characteristics and opportunities for socialization catalyze travel, consumption, and subsequent conservation commitment. Nevertheless, whether this differs in a developing and developed context remains underexplored. Hence, this study is underpinned by the following questions:

(1) What effect do cultural motivation, place attachment, and participation have on tourists' conservation commitment in a cultural heritage context?

(2) Does the relationship between cultural motivation, place attachment, participation and conservation commitment differ for those visiting developing and developed cultural heritage sites?

LITERATURE REVIEW

Cultural heritage tourism and related concepts

Within tourism discourse, 'heritage' assets are used to attract visitors in the present, while being maintained in the hope that they will continue to be enjoyed by future generations (Lochrie, 2016). This mission emphasizes preservation and conservation, with heritage sites laden with concerns surrounding sustainability and longevity. Many draw upon man-made and/or natural assets, focused on preserving, maintaining, and providing access to archeology, wildlife, culture, military, and religious heritage. Accordingly, heritage is typically categorized based on its tangibility. Tangible heritage includes architecture, museums, monuments, artefacts, and natural phenomena. Intangible heritage represents culture and traditions: mythology, religion, cuisine, literature, and dance (Lochrie, 2016).

Yet, tangible and intangible heritage are symbiotic. This interdependence encapsulates *cultural heritage* (Landorf, 2009).

However, while initially focused on conservation, tourism organizations have evolved toward managing the commercialization of heritage; protecting it from an enthusiastic international community intent on steadfastly consuming history and culture (Lochrie, 2016). Due to its utility in motivating travel, the value of cultural heritage tourism has also developed (Adie, 2017), and international classifications, such as the UNESCO World Heritage Convention, have propelled destinations into public consciousness (Lochrie, 2016). Nonetheless, while rising interest thrusts some sites toward financially viability, over-tourism is in some instances denigrating the conservational purpose of cultural heritage management (Ryan & Silvanto, 2010). Research therefore often focuses on the complexities of cultural heritage management; identifying challenges surrounding preservation and conservation, stakeholder collaboration, visitor management, and economic impact.

Balancing these challenges with site sustainability is therefore an ongoing concern; often amplified in developing tourism markets where safeguarding heritage assets and improving the required infrastructure is deprioritized in favor of rapid, consequence-agnostic commercialization (Taheri et al., 2018). Accordingly, McKercher, Ho, and Du Cros (2005, p.546) suggest, "Sustainable cultural tourism is only possible if formal relationships exist between stakeholders". Central to this is gaining an understanding of tourists' motivations, and how to balance their desire to experience cultural heritage with the need to maintain sites in line with the objectives of heritage management. Therefore, understanding *why* tourists engage with cultural heritage is crucial to engendering effective visitor management strategies and may enhance their overall experience, while simultaneously encouraging visitors to contribute to site conservation (Landorf, 2009).

Conservation Commitment and Cultural Motivation

Conservation commitment embodies a willingness to conserve the environment (Lee, 2011). In tourism literature, research into conservation commitment typically focuses on environmental tourism (i.e., where participants actively take part in sustainability practices, wildlife conservation within a natural setting) (Ballantyne et al., 2009), or local community preservation of heritage sites. Conservation commitment can help to sustain traditions and tangible destination elements that may otherwise become threatened. Lee (2011) shows also that place attachment positively influences tourists' commitment to conserving the destinations they visit. Buonincontri et al. (2017) proposed a framework which integrated the tourist experience, place attachment and sustainable heritage behavior, extending conservation commitment into heritage tourism. Recently, tourists' conservation commitment is highlighted by the growth in crowd-funding initiatives aimed at conserving heritage sites.

Given cultural heritage tourism's growing significance, research into what stimulates such travel remains core to destination marketing and management strategies (Lochrie, 2016). Yet, the importance of conservation commitment therein remains overlooked. Beyond experiencing tangible heritage, relaxation, entertainment, education, enjoyment, and knowledge gained from the experience also stimulate culturally-motivated travel. Culturally-motivated tourists can be categorized into three groups, those: pursuing cultural immersion; seeking historical education; and visiting sites for enjoyment, irrespective of provenance (Poria, et al., 2006). Common to each is the importance of prior knowledge (Poria et al., 2006). Such tourists are often engaged and immersed in the offerings available in the destinations they visit, seeking sustained contact with locals (Wall & Mathieson, 2006). However, cultural motivation is not homogenous and is comprised of a wide "cluster of

interrelated and intellectually based interests in culture and heritage" (Kolar & Žabkar, 2010, p.655); encompassing typical travel motivations, albeit realized in a cultural setting.

Thus, cultural heritage tourism is not wholly 'serious' (Curran et al., 2018) as it involves more casual, social pursuits. For example, visiting sites with family and friends, or exploring destinations with important genealogical links, complements the educational components of culturally-motivated tourism (Taheri et al., 2018). Research demonstrates how expectations regarding social considerations, such as travel companions, the affability of locals, and the behavior of peers stimulate cultural tourism (Kolar & Zabkar, 2010). Others stress the importance of nostalgia (Poria et al., 2006), and the allure of the 'unusual' in providing the push-or-pull factors culturally-motivated tourists crave (Zhou et al., 2013). Such tourists pursue memorable experiences to satisfy their curiosity or to a feel sense of excitement and escapism (Teo et al., 2014); the extent of which is often contingent on how *attached* they feel to a destination.

Place attachment

Place attachment represents the emotional connection between places and individuals (Woosnam et al., 2018). A psychological component of the tourism experience; it can stimulate a "sense of physically being and feeling 'in place' or 'at home'" (Yuksel et al., 2010, p.275). While not restricted to visitors, it can emerge when tourists are emotionally invested in a destination and feel content within that setting. Those experiencing heightened levels of place attachment are more loyal (Prayag & Ryan, 2012), and often recommend destinations to others through word-of-mouth (Gannon et al., 2017). Stimulating place attachment can positively impact upon destination popularity (Hammitt, et al., 2006), and can encourage conservation behaviors. For example, exploring wetlands in Taiwan, Lee (2011) discovered that place attachment positively influences tourists' commitment to conserve these unique sites by encouraging environmental responsibility.

Place attachment is a multidimensional construct characterized by: place identity (emotional), and place dependence (functional) (Woosnam et al., 2018). Proshansky, Fabian, and Kaminoff (1983, p.61) define place identity as a "strong emotional attachment to particular places or settings". It encompasses symbolic attachment to a destination, and can be born from genealogical or emotional associations. Thus, place identity can arouse feelings of belonging and emotional connection to a destination (Poira et al., 2004). Functional 'place dependence' infers the extent to which places satisfy tourists' needs: "how well a setting serves goal achievement given an existing range of alternatives" (Jorgensen & Stedman, 2001, p.234). Emphasis is placed on both the tangible and experiential characteristics of destinations, and whether these meet tourists' expectations. Places that meet the needs of tourists increase their attachment and dependence in comparison with those that fall short (Hammitt et al., 2006). Destinations engendering high levels of place attachment are often suitably distinct; a characteristic inherent to most cultural heritage sites. Thus, while identity and dependence remain important, others suggest that a sense of *involvement* can stimulate place attachment (Prayag & Ryan, 2012). Research also highlights the importance of socialization encouraged by destinations, with place attachment heightened through interactions and experiences shared therein (Kyle et al., 2004).

Participation

Scholarship demonstrates the growing desire for participative experiences, with focus given to consumption underpinned by co-creation, engagement, and immersion (Taheri et al., 2017). Participation is behavioral, measuring "the extent to which customers provide or share information, make suggestions, and become involved in decision making during the service

co-creation and delivery process" (Chen et al., 2010, p.49); necessitating that tourism offerings are tweaked to ensure customer needs are met.

Participation and satisfaction are reciprocal; the former positively influences the latter over time, while satisfaction can also lead to increased participation; "satisfied customers…invest time and effort to help an organization improve its service delivery and are more interested in the welfare of the organization" (Eisengerich et al., 2014, p.43). So too are those who feel strong attachment to a place or destination; this emotional connection can encourage them to provide constructive feedback in the hope of substantive improvement (Woosnam et al., 2018). Thus, participation involves the voluntary sharing of ideas, and this information can be used to improve cultural heritage sites' offerings (Eisingerich et al., 2014). This constructive participation is a form of engagement and, if similar participative feedback recurs, provides an opportunity for heritage sites to evaluate and improve the quality and extensiveness of their offering from a visitor-perspective (Supanti & Butcher, 2019).

The desire to experience heritage may encourage participation at heritage sites via cultural motivation's inherently hands-on elements: interacting with native objects; communicating with sincere local hosts; enjoying authentic offerings; experiencing history and heritage with family and friends; and the safeguarding of heritage assets (Taheri et al., 2018). This participative feedback can contribute to site longevity and popularity, where those motivated to experience and conserve cultural heritage (and who feel attached to it) may act in a way that contributes to site sustainability (Mai & Smith, 2015).

COMPARING A DEVELOPED AND A DEVELOPING CULTURAL HERITAGE SITE

Description of the sites

Extant literature often focuses on internationally-recognized examples of cultural heritage and the challenges inherent to sustaining tourism offerings in developed markets (Mai & Smith, 2015). However, little is known about tourists' attitudes toward site participation and conservation in marginal contexts. Recognizing this, we turn towards two culturally-comparable heritage sites couched within a non-Western context: Kandovan and Cappadocia. Kandovan, a troglodyte village estimated at over 850 years old, is located in northern Iran. Its distinctiveness stems from inhabited caves carved into the area by volcanic remnants from the now-dormant Mount Sahand (Taheri et al., 2018). Similarly, Cappadocia is a 4th century UNESCO World Heritage Site located in South-Central Turkey. It echoes Kandovan in being dominated by an underground complex of populated cave-dwellings (Taheri et al., 2018).

Both provide a captivating example of troglodyte heritage, supported by a burgeoning tourism industry. However, balancing this with the fragile architecture has catalyzed concerns surrounding sustainability and preservation therein, with the increased impact of tourism and the construction work required to service visitor expectations jeopardizing both sites (Taheri et al., 2018). As an established attraction, tourism has already impacted upon Cappadocia: "an outstanding example of traditional human settlement which has become vulnerable under the combined effects of natural erosion and, more recently, tourism" (UNESCO, 2017). This captures the fundamental difference between both sites; not based on heritage assets, but influenced by the fact that Cappadocia (and Turkey generally) is a better-established tourism destination than Kandovan (and Iran), with fewer concerns around safety and the availability of high-quality hotels and restaurants, supported by investment in infrastructure (Taheri et al., 2019).

Cappadocia's tourist numbers exceed 2.5million annually (Asil, 2013), whereas the Iranian tourism industry services barely double this figure (O'Toole, 2017). Despite their

similar heritage assets, only Cappadocia holds WHS designation, with repeated calls for Kandovan to receive similar recognition showing little progress. Thus, while Cappadocia represents a developed, internationally-recognized example of heritage, Kandovan's appeal is less pervasive, attracting international visitors in smaller numbers (Allan & Shavanddasht, 2019).

Theoretical framework and research hypotheses

Figure 1 demonstrates the relationships between the constructs discussed in the Literature Review (conservation commitment, cultural motivation, place attachment and participation) and the proposed moderating effect of visiting a developing or developed heritage site. Within the methodology used in our analysis these relationships are referred to as 'paths'.

[Figure1]

Based on the prior discussion on cultural motivation (Poria, et al., 2006) we argue that cultural motivation has a positive effect on place attachment (Prayag & Ryan, 2012) and participation (Mai and Smith, 2015)

H1: Cultural motivation has a positive effect on place attachment.
H2: Cultural motivation has a positive effect on participation.
H3: Place attachment has a positive effect on participation.

Within our model we also posit that culture motivation, place attachment, and participation have a positive effect on conservation commitment (Buoincontri et al., 2017)

H4: Cultural motivation has a positive effect on conservation commitment.
H5: Place attachment has a positive effect on conservation commitment.
H6: Participation has a positive effect on conservation commitment.

Mediating effects of place attachment and participation

We also predict the indirect effect of cultural motivation on conservation commitment through place attachment and participation, alongside the indirect effect of cultural motivation on participation through place attachment. Studies have examined the role of tourists' preconceived notions, and how these impact on social behaviors both directly and indirectly via attitudinal variables (Taheri et al., 2017). Literature suggests that participation and place attachment may mediate the effects of tourists' preconceived notions on their commitment and behavioral outcomes (Supanti & Butcher, 2019). Therefore:

H7: Place attachment mediates the relationship between cultural motivation and participation.
H8: Participation mediates the relationship between conservation commitment and cultural motivation.
H9: Place attachment mediates the relationship between conservation commitment and cultural motivation.

Given the differences between each site, there may be significant variances in the behavior of tourists drawn to Kandovan compared with those visiting Cappadocia. Namely, we posit that the influence of cultural motivation on place attachment, participation, and conservation

commitment between the *developing* (Kandovan) and *developed* (Cappadocia) contexts may differ. This study compares how these antecedent factors influence conservation commitment at both sites. Better-developed destinations are perhaps more capable of providing offerings that sufficiently satisfy tourists' needs, while offering the opportunities for meaningful social interaction required to stimulate place attachment. Further, conservation commitment differs depending on the nature of a place and its tourism offerings (Ballantyne et al., 2009). Therefore:

H10: Level of site development moderates the relationships among conservation commitment cultural motivation, place attachment, and participation.

Methodology

Sample and procedures

We collected data at Kandovan and Cappadocia over a four-month period in 2015. Using judgmental sampling, international tourists were approached by trained researchers at both sites using an English language questionnaire for an average of 6 hours per day. Judgmental sampling is an effective data collection approach when the main objective is theoretical understanding rather than generalization and is used commonly across tourism and hospitality studies (Wells et al., 2017). We asked these international tourists to: compare their experiences with their prior experiences elsewhere, and also their actual experience after visiting the sites. We pilot tested with 50 respondents (which there were not included in final data analysis) at each site over the first 14-days, with questions tweaked based on responses gathered at this pre-test stage. Data cleaning condensed the final sample to 518 questionnaires for Kandovan and 627 responses for Cappadocia. We also tested for non-response bias (Armstrong & Overton, 1977); an early and late version of the questionnaire was compared for systematic differences in socio-demographic variables (gender, age, nationality) (**Table 1**). The results indicate no significant differences in this regard between these groups at both sites (Armstrong & Overton, 1977). We used G*Power (Faul et al., 2009) to calculate the minimum sample size based on power analysis, with results indicating that the minimum sample size required to generate a power of 0.95 for our framework and for each group was 138. The data collected surpasses the level required.

As with all self-reported data, there is a risk of Common Method Variance (CMV) (Podsakoff et al., 2003). Thus, the evaluation followed several theoretical and statistical steps. To minimize social desirability bias (i.e., a response bias that is the propensity of participants to answer questions in a fashion that might be viewed favorably by other participants/researchers), participants were informed their answers were anonymous. Independent and dependent constructs were in different sections of the questionnaire (**Table 2**). In order to avoid biases in responses due to uncontrolled contextual conditions, tourists were asked to fill in questionnaires in different places outside of each site. Two statistical approaches were used to evaluate CMV; Harman's single-factor test was employed by entering all principal constructs into a Principal Component Analysis (PCA) (Podsakoff et al., 2003). The eigenvalue unrotated PCA solution detected eight factors, with the highest portion of variance explained by one single factor 33.123%. The unmeasured method factor approach was used to further assess CMV. Following Liang et al. (2007), a common method factor was introduced to the structural model. Indicator average variances/method factor were investigated. The average variance demonstrated by indicators for Kandovan was 57% and the average method-based variance was 1.6% (35:1). For Cappadocia, the average variance explained by indicators was 66%, while the average method-based variance was 1.7% (38:1). CMV is therefore not a concern. Finally, we controlled for several variables that could threaten the accuracy of our model estimation including age, gender, and nationality, with no concerning results.

[Table1&2]

Survey instrument

A self-administered questionnaire using reflective items from existing tourism marketing construct measures was developed (**Table2**). Respondents indicated the extent to which they agreed or disagreed with each statement using a 7-point Likert scale, anchored at 1 (strongly disagree) and 7 (strongly agree). The dependent place attachment (PA) variable was measured by five items adapted from Ram et al. (2016). The dependent participation (P) variable included 3 items adapted from Eisingerich et al. (2014). For the dependent conservation commitment (CC) variable, three items were adapted from Lee (2011). The independent cultural motivation (CM) (9-items) variable came from Taheri et al. (2017).

Analytical technique

Partial least squares structural equation modelling (PLS-SEM) is commonly employed throughout heritage tourism research (Taheri et al., 2017). It is suitable for early-stage theory building with large numbers of indicators (Wells, et al., 2016) as "PLS-SEM's statistical properties provide very robust model estimations with data that have normal as well as extremely non-normal (i.e., skewness and/or kurtosis) distributional properties" (Hair et al., 2017, p.22). PLS is also more suitable "where theoretical knowledge is not as strong as that demanded by covariance-based approaches such as linear structural relations (LISREL) and analysis of moment structures (AMOS), and can be used to suggest where relationships might or might not exist" (Ashill & Jobber, 2014, p. 277). Using IMB-SPSS 26, Skewness and Kurtosis tests were conducted. The results showed that the assumption of normality was violated for some items in some constructs (against satisfactory values between -3 and +3) (Wells et al., 2016). Thus, for the estimation and assessment of the model, this study also used Consistent Partial Least Squares (PLSc), advancing conventional PLS (Dijkstra & Henseler, 2015). Dos Santos et al. (2016, p.1093) argue that the "[PLSc] algorithm solves the consistency problem, path coefficients; construct correlations, and indicator loadings. The PLSc methodology avoids the issue of overestimation and underestimation of parameters". For assessment of the conceptual model, two step sage 1) measurement (i.e., relationship between items and constructs) and structural model (i.e., assessment of effects and prediction quality) were used with SmartPLS 3.2.8 software. All results were bootstrapped (n=5000) as suggested by Hair et al. (2017).

Measurement model assessment and invariance measurement: Full dataset and across two sites

The assessment of the measurement model involves an assessment of its reliability and validity with respect to the latent variable (LVs) constructs (Hair et al., 2017). This involves evaluating the relationships between the LVs and their related items. The measurement model was analyzed by testing construct reliability, convergent validity, and discriminant validity. Construct reliability was assessed via composite reliability (CR), Cronbach's Alpha (α), and Dijkstra-Henseler's rho (ρ_A). Per **Table2**, CR, α, and ρ_A for all constructs in the dataset and across both sites reached the suggested threshold (.70) (Hair et al., 2017). Convergent and discriminant validity were assessed in multiple ways. First, the square roots of the average variance extracted (AVE) of all constructs for both sites were larger than all other cross correlations using PLS and Consistent Partial Least Squares (PLSc) (**Table3**). Second, AVE values exceeded .5 for all constructs in the dataset and for both sites (**Table2**). Third, all

items illustrated the highest loading in their intended constructs was >.60, with significant values for both PLS and PLSc (Hair et al, 2017). Fourth, following Henseler, Ringle, and Sarstedt (2015)'s heterotrait–monotrait ratio of correlations (HTMT) approach, all construct HTMT values were below the cut-off value (.85) for the full dataset (.211-.576), for Kandovan (.233-.623) and Cappadocia (.176-.487). All constructs hold adequate discriminant and convergent validity.

[Table3]

Structural model assessment and multi-group analysis (MGA)

Fit indices (standardized root mean square residual (SRMR) and Normed Fit Index (NFI)) were first calculated. Using the blindfolding procedure within SmartPLS, Stone–Geisser's Q^2 value was employed to test predictive relevance. Per **Table4**, SRMR (acceptable <.08), NFI (acceptable >.90) and Q^2 (acceptable >0) were acceptable. All R^2 values surpassed the suggested value (.10) (Hair et al., 2010) (**Table4**). The results support the reliability, convergent validity, and discriminant validity of the structural model for the full dataset.

[Table4]

Table5 illustrates standardized path coefficients and *t*-values for the conceptual model. **H1** proposes a positive relationship between cultural motivation and place attachment. The path coefficient (β=.367) is significant (p<.01), supporting **H1**. Cultural motivation positively influences participation (β=.423; p<.01) and conservation commitment (β=.289; p <.01), supporting **H2** and **H6**. Results also confirm the hypotheses (**H3;H5**) linking place attachment to conservation commitment (β=.405; p<.01) and participation (β=.523; p<.01)**.** Further, conservation commitment is positively influenced by participation (β=.427; p<.01) and cultural motivation (β=.503; p<.01), respectively supporting **H4** and **H6**. In terms of the control variables, age, gender and nationality had no significant effect on conversation commitment. We also tested the indirect role of place attachment and participation in three hypothesized relationships in the PLS path model. We used Taheri et al.'s (2017) recommendation to calculate indirect effects using bootstrapping (n=5000) and 95% confidence intervals (CI). The direct relationship between cultural motivation, conservation commitment and participation were significant and hence meet the condition for mediating effects. The findings show that cultural motivation [**H7**: indirect effect=.311; *t*=7.298, CI=[.267; .343]) indirectly influences participation through place attachment. Cultural motivation [**H8**: indirect effect=.267; *t*=6.399, CI=[.203; .327]) also indirectly influences conservation commitment through participation. Finally, cultural motivation [**H9**: indirect effect=.335; *t*= 8.239, CI=[.303; .398]) indirectly influences participation through place attachment.

[Table5]

To test the moderating role of visiting developing versus developed cultural heritage sites (**H10**), we employed multi-group analysis (MGA). Prior to conducting MGA to compare path coefficients between the sites, measurement invariance was tested (Hair et al, 2017). Henseler et al.'s (2016) Measurement Invariance of Composite Models (MICOM) three-step procedure (Configural, Compositional, and Scalar invariance) was applied. The test of differences in loadings between groups for all items under their respective constructs showed that the differences between all factorial loads in both site groups were non-significant

(Welch-Statterthwaite and permutation tests p-value>.05). **Table6** demonstrates compositional and scalar invariance, guaranteeing 'full measurement invariance'.

[Table6]

Two nonparametric approaches were used to test for multi-group differences. Following Henseler, Ringle, and Sinkovics' (2009) PLS-SEM MGA, the *p*-value of path coefficient estimates must be <.05 between identified path coefficients across two groups. Further, Chin and Dibbern's (2010) permutation approach was used. This technique employs *p*-values to test differences between two groups if the *p*-value is <.05. The findings demonstrate significant differences between both sites (**Table7**), alongside positive relationships for both.

[Table7]

Findings and discussion

The results support all nine hypotheses, grounded by extant literature in relation to RQ1: "What effect do cultural motivation, place attachment, and participation have on conservation commitment in cultural heritage sites?" For RQ2: "Does the relationship between cultural motivation, place attachment, participation and conservation commitment differ for those visiting developing and developed cultural heritage sites?" the MGA results demonstrate significant differences between nine paths (**Table7**) across developing (Kandovan) and developed (Cappadocia) contexts. The relationships between all constructs were positive for both and all effects were significantly higher for Kandovan compared to Cappadocia. Thus, the findings support the majority of the proposed paths included in our model (rejecting CM→PA→P).

PLS and MGA results (**Table 6&7**) reveal that the influence of cultural motivation on place attachment is greater for Kandovan than Cappadocia. This demonstrates the benefits of the site's developing 'under-explored' nature, where tourists motivated by the pursuit of hitherto unspoiled heritage feel greater attachment to destinations that provide this, as opposed to developed, commercialized alternatives (Ram et al, 2016). Further, cultural motivation has a significantly larger positive influence on participation in the developing context. Again, this suggests that international tourists who travel to less-developed destinations may provide feedback in a participative manner. This reflects extant research which suggests that those motivated to visit developing cultural heritage sites are less interested in highly-curated experiences laden with commoditized service offerings, instead preferring to participate in more genuine, authentic experiences (Taheri et al., 2018).

While Iran is growing as a tourist destination it is by no means internationally popular. Therefore, inbound tourists may hold greater interest in providing participative feedback to improve service offerings in line with developed counterparts; here there is a significant difference in the effect of place attachment on participation between the developed and developing context. This is significantly more positive for Kandovan than for Cappadocia; suggesting that tourists who enjoyed their experience, believed it represented themselves accurately, and who felt attached to the experiential elements of cultural heritage consumption were more inclined to offer constructive feedback on how the site could better meet their needs. This significant difference may be due to the underdeveloped nature of Kandovan, where tourists are eager to help the site achieve its potential.

Place attachment has a significantly stronger influence on conservation commitment for Kandovan compared to Cappadocia. This suggests that while tourists are committed to the conservation of both sites, they feel greater duty to actively engage in behaviors

demonstrating their commitment to cultural heritage conservation having visited a less-developed site (Mai & Smith, 2015). Additionally, participation has greater influence on conservation commitment at Kandovan than Cappadocia. This suggests that tourists recognize that developing sites require greater participative feedback to improve their offerings, and that this is manifest more effectively through active engagement in conservation commitment behaviors (Ballantyne et al., 2009). Further, the findings demonstrate the positive influence of cultural motivation on conservation commitment (Starr, 2013). However, this relationship is significantly stronger with regards to Kandovan. This may be because those motivated by the pursuit of cultural consumption, and who travel to under-developed heritage sites, recognize that more must be done to help such sites become sustainable destinations and preserve heritage assets therein.

The results demonstrated significant positive differences for the indirect effect of cultural motivation on conservation commitment mediated by place attachment between Kandovan and Cappadocia. This suggests that enjoyment derived from feeling connected to a destination can strengthen the link between tourists' cultural motivation and their commitment to the conservation of cultural heritage sites, reflecting extant literature (Lee, 2011). The results confirmed significant positive differences in the indirect effects of cultural motivation on conservation commitment mediated by tourists' participation between Kandovan and Cappadocia. This suggests that by actively seeking opportunities to provide constructive feedback, culturally-motivated tourists may engage in conservation commitment behaviors more regularly. Interestingly, the findings did not reveal a significant difference between Kandovan and Cappadocia for the indirect effect of cultural motivation on participation through place attachment (**Table 7**). However, the direct effect for both relationships was significant. Thus, cultural motivation can influence tourist participation directly, and place attachment does not mediate this irrespective of 'development'.

CONCLUSIONS

This study investigated the interplay between antecedent constructs and tourists' conservation commitment at cultural heritage sites, highlighting differences between these relationships in a developed and developing context. We investigated the relationships between multiple antecedent factors and conservation commitment for international tourists visiting Kandovan, Iran (developing) and Cappadocia, Turkey (developed), confirming extant literature in finding significant positive relationships between cultural motivation and place attachment (Kyle et al., 2004); cultural motivation and participation (Mai and Smith, 2015); cultural motivation and conservation commitment (Mai & Smith, 2015); place attachment and conservation commitment (Taheri et al., 2018); and participation and conservation commitment (Tan et al., 2018) at both sites.

While the approach adopted is purely quantitative, with implications driven by researcher interpretation of how, where, and in what way the findings converge with extant literature, this study nonetheless extends prior research in several ways. As explained prior, a higher positive relationship for the *developing* context was identified for each direct relationship. These differences suggest that, irrespective of similarities in heritage assets, tourists' conservation commitment (and its antecedent factors) across heritage sites are not homogenous. Therefore, researchers must consider how different contextual elements contribute to tourists' enjoyment, attachment, behavior, and evaluation in order to further develop sustainable management practice in line with WHC objectives. This study also reinforces the importance of place attachment and participation as mediating factors between cultural motivation and conservation commitment for both developed and developing sites. Thus, many extant constructs that drive sustainable cultural heritage may differ between such sites. Therefore, the comparison between participation, place attachment, cultural motivation,

and conservation commitment in a developed and developing context provides unique insights into these constructs, complementing existing cultural tourism studies.

Further, this study offers practical implications. First, for both Kandovan and Cappadocia, tourists were eager to provide participative feedback on how to improve the tourism offering. However, underdeveloped cultural heritage sites may be less-adept at collecting, evaluating, and operationalizing this feedback. Therefore, for developing sites, where tourists' propensity to provide participative feedback is significantly higher, it is important for tourism managers to introduce robust process for collecting and analyzing this data by providing clear opportunities for tourists to offer constructive service design and delivery feedback in a participative manner. Presently, developing cultural heritage sites are characterized by a lack of adaptive management and monitoring systems. Thus, to continue to support the protection of the natural and cultural environment, tourism managers should introduce tracking and monitoring processes to ensure site development is undertaken in a sustainable manner (Tan et al., 2018), in line with tourist expectations, and in a way that continues to stimulate place attachment, participation, and conservation commitment.

Second, while tourists are eager to participate in the site improvement process by offering feedback and showcasing conservation commitment behaviors, for developing sites their attachment to these spaces may be significantly influenced by their *developing nature*. Therefore, participative feedback and conservation commitment may be lower in sites that change their tourism offerings too quickly. Managers must balance sustainable development and service improvement to ensure that their offerings develop in a manner reflecting tourist feedback while stimulating conservation commitment. Thus, we encourage those managing *developing* cultural heritage sites to engage with managers of similarly endowed and established *developed* sites, in-person or via the World Heritage Site Managers Forum (WHC, 2018), to gain insight into service provision, improvement, and development in a manner which does not negatively impact tourists' desire to participate or engage in conservation commitment. To this end, we encourage developing cultural heritage site managers to engage with the portfolio of sustainable management and development workshops provided by UNESCO.

While this study provides nascent insight into multi-group differences between international tourists at two different (*developing* and *developed*) heritage sites, some limitations must be acknowledged. First, while we endeavored to investigate the heterogeneity of two different cultural sites, there are other contextual factors/constructs influencing our conceptual model (e.g., customer engagement, familiarity, natural characteristics, accessibility from major tourism origin countries, the role played by multinational tourist operators) which could be considered in future studies. For example, we recognize that further studies should investigate the link between conservation commitment, nostalgia and self-identity across the different cultural sites. Future studies should also look at different types of tourists (e.g., adventure, backpacker), different variables (e.g., travel experiences), and different types of heritage sites (e.g., museums).

Second, we adopted a soft-modeling approach towards prediction, rather than causality. Future studies should use qualitative comparative analysis (e.g., fsQCA) to explain causal conditions predicting behavioral outcomes. This would help scholars to identify the combinations of causal conditions underpinning consumers' conservation commitment (Gannon et al., 2019). Third, we collected data from participants fluent in English; future studies could administer the questionnaire in other languages in order to overcome this. In addition, future studies could also take into account of political and institutional factors associated with the countries where the heritage sites are located. Further, differences in sociodemographic characteristics overlooked by this study (e.g., nationality, income, profession) should be examined. Finally, the sampling technique used in this study is limited

(i.e., judgmental sampling can help theoretical expansion, but not generalization), and future research should attempt to use a stratified sampling technique.

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Table 1.Demographic information

Characteristics	Percentage	
	Kandovan	Cappadocia
Gender		
Male	59.1%	38%
Female	40.9%	62%
Nationality		
European	34.6%	48%
Asian	35.3%	31.2%
Middle-Eastern	25.1%	28.8%
Age		
46+	28%	32%
26-45	52.8%	41.8%
18-25	19.2%	26.2%

Table 2. Reflective Constructs: Reliability, convergent, and discriminant validity

Constructs	Loadings PLS(PLSc)			CR			α			AVE			ρ_A		
	Full	K	C	Full	K	C	Full	K	C	Full	K	C	Full	K	C
Cultural motivation				.888	.903	.844	.835	.849	.725	.555	.523	.511	.890	.823	.801
CM1:I visit<site>to relax mentally	.828(.798)	.839(.832)	.808(.781)												
CM2:I visit<site>to discover new places and things	.822(.833)	.860(.811)	.854(.871)												
CM3:I visit<site>to be in a calm atmosphere	.801(.867)	.790(.787)	.833(.867)												
CM4:I visit<site>to increase my knowledge	.770(.777)	.723(.777)	.790(.790)												
CM5:I visit<site>to have a good time with friends or alone	.780(.787)	.779(.782)	.772(.787)												
CM6:I visit<site>because I am interested cultural attractions	.778(.782)	.801(.812)	.778(.797)												
CM7:I visit<site>because I am interested historical attractions	.711(.723)	.733(.711)	.752(.782)												
CM8:I visit<site>because I am interested in history	.722(.736)	.805(.801)	.756(.724)												
CM9:I visit<site>for heritage motivations	.709(.717)	.739(.721)	.766(.747)												
Place attachment				.820	.876	.823	.789	.812	.801	.602	.623	.621	.829	.842	.797
PA1:I enjoy visiting<site>more than any other attraction in<place>	.811(.789)	.823(.808)	.809(.789)												
PA2:For what I like to do during my trip to<place>,I could not imagine anything better than the experience provided by<site>	.722(.731)	.721(.780)	.719(.761)												
PA3:The<site>contributed to my sense of belonging to<place>	.740(.760)	.726(.747)	.744(.762)												
PA4:Visiting<site>says a lot about who I am	.766(.770)	.875(.811)	.778(.776)												
PA5:For attractions in<place>that I enjoy most, the<site>provides the best experience	.822(.836)	.780(.733)	.801(.801)												

PA6:After visiting<site>I feel that<place>means a lot to me	.811(.823)	.772(.722)	.871(.866)												
PA7: Visiting<place>says a lot about who I am	.729(.731)	.762(.761)	.718(.731)												
Participation				.798	.821	.827	.823	.877	.867	.667	.623	.601	.852	.877	.870
P1:If I have a useful idea on how to improve service, I give it to someone at<site>	.730(.732)	.730(.744)	.732(.752)												
P2:I make constructive suggestions to<site>on how to improve their service offerings	.777(.767)	.745(.752)	.749(.767)												
P3:I let<site>know of ways that it can better serve my needs	.788(.793)	.812(.834)	.789(.793)												
Conservation commitment				.798	.821	.807	.801	.827	.790	.520	.577	.581	.822	.881	.827
CC1:I am willing to donate money to environmental organizations	.811(.743)	.780(.778)	.825(.741)												
CC2:I am willing do volunteer work for groups that help the environment	.762(.723)	.739(.721)	.769(.723)												
CC3:I am willing to actively search for information about environmental conservation	.817(.768)	.758(.723)	.811(.729)												

Note: All item loadings>3.29(p<0.001).Kandovan=K;Cappadocia=C;Full:Full dataset.

Table 3. Correlation matrix

Site	Construct	CM	PA	P	CC	Mean	SD
Kandovan	CM	**.723**				5.25	1.301
	PA	.411(.502)	**.789**			5.72	1.493
	P	.413(.410)	.507(.508)	**.789**		5.87	1.272
	CC	.210(.307)	.447(.466)	.490(.503)	**.759**	5.15	1.342
Cappadocia	CM	**.714**				5.03	1.080
	PA	.453(.511)	**.788**			5.23	1.340
	P	.436(.498)	.407(.489)	**.775**		5.19	1.161
	CC	.257(.301)	.423(.416)	.411(.445)	**.762**	4.88	1.145
Full dataset	CM	**.744**				5.41	1.271
	PA	.401(.387)	**.775**			4.79	1.091
	P	.423(.418)	.523(.498)	**.816**		5.07	1.490
	CC	.202(.265)	.457(.472)	.440(.457)	**.721**	5.29	1.271

Note: Bolded values on diagonal are square root of AVEs:PLS(PLSc)

Table 4. Fit indices, predictive relevance and explanatory power

Site	PLS-SRMR	PLSc-SRMR	NFI	R^2	Q^2
Kandovan	.058	.061	.92	R^2_{PA}=.378	Q^2_{CM}=.534
				R^2_{CP}=.473	Q^2_{PA}=.145
				R^2_{CC}=.587	Q^2_{TP}=.133
					Q^2_{CC}=.256
Cappadocia	.057	.063	.90	R^2_{PA}=.301	Q^2_{CM}=.237
				R^2_{CP}=.491	Q^2_{PA}=.223
				R^2_{CC}=.620	Q^2_{TP}=.147
					Q^2_{CC}=.211
Full dataset	.051	.060	.91	R^2_{PA}=.456	Q^2_{CM}=.233
				R^2_{CP}=.567	Q^2_{PA}=.201
				R^2_{CC}=.703	Q^2_{TP}=.189
					Q^2_{CC}=.238

Table 5. Direct paths

Hypotheses	*β*	*t*-value	f^2	Supported?
H1:Cultural motivation→Place attachment	.367	7.459	.122	Yes
H2:Cultural motivation→Participation	.423	12.579	.173	Yes
H3:Place attachment→Conservation commitment	.405	26.679	.182	Yes
H4:Participation→Conservation commitment	.427	18.287	.175	Yes
H5:Place attachment→Participation	.523	13.287	.174	Yes
H6:Cultural motivation→Conservation commitment	.503	15.296	.213	Yes

Note:*** 3.29(p<.001); **2.58(p <.01); *1.96(p<.05).

Table 6. Results of compositional invariance and scalar invariance.

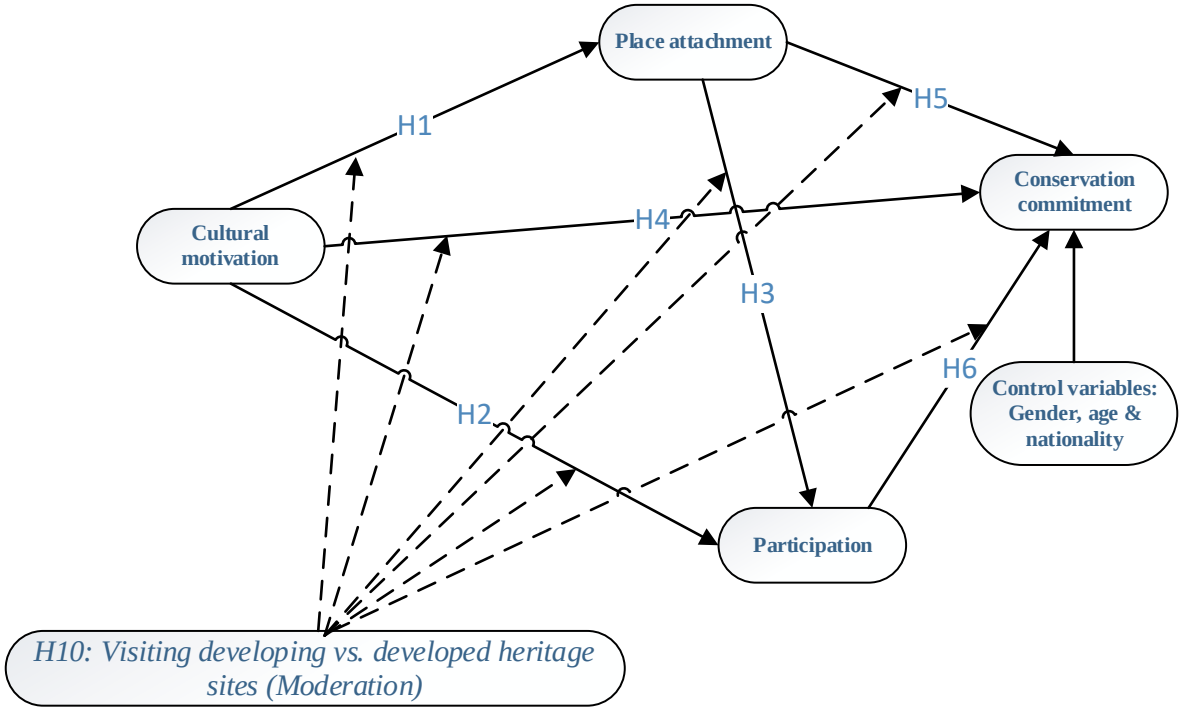
Composite	c-Value-(0=1)	95%-CI	Permutation-p-value	Compositional-invariance?
CM	.996	[.989;1.0]	.432	Yes
PA	.975	[.965,1.0]	.432	Yes
P	.999	[.998,1.0]	.139	Yes
CC	.999	[.977,1.0]	.456	Yes
Composite	Variance-difference	95%-CI	Permutation-p-value	Equal-variance?
CM	-.017	[-.122,.121]	.178	Yes
PA	-.090	[-.170,.171]	.262	Yes
P	-.418	[-.140,.136]	.432	Yes
CC	-.033	[-.051,0.175]	.611	Yes
Composite	Mean-difference	95%-CI	Permutation-p-value	Equal-mean-value?
CM	-.002	[-.044,.041]	.822	Yes
PA	-.003	[-.041,.041]	.762	Yes
P	-.003	[-.045,.037]	.239	Yes
CC	-.045	[-.225,.225]	.345	Yes

Note:CI=Confidence Interval.

Table 7.MGA findings

Paths	*β*-Kandovan	*β*-Cappadocia	*β*-differences	Kandovan-CIs	Cappadocia-CIs	Henseler's MGA *p*-value test	Permutation *p*-value test	Result
CM→PA	.511	.377	.134	[.432,.567]	[.321, .433]	.001***	.005***	K>C
CM→P	.621	.451	.170	[.589,.643]	[.389, .493]	.002**	.000***	K>C
PA→P	.367	.287	.80	[.311,.437]	[.221, .343]	.085*	.078*	K>C
CM→CC	.421	.351	.70	[.376,.469]	[.311, .403]	.001***	.005***	K>C
PA→CC	.344	.270	.74	[.288,.416]	[.228, .365]	.005***	.002***	K>C
TP→CC	.621	.511	.110	[.578,.664]	[.457, .570]	.050*	.072*	K>C
CM→PA→P	.252	.176	.76	[.187,.292]	[.121, .267]	.030**	.021**	K>C
CM→P→CC	.388	.207	.181	[.301,.464]	[.178, .286]	.025**	.022**	K>C
CM→PA→CC	.289	.270	.19	[.215,.352]	[.233, .343]	.378	.267	K=C

Note:***3.29(*p*<.001);**2.58(*p* <.01);*1.96(*p*<.05);Confidence Interval(CI).



Indirect effects:

H7: Cultural motivation → Place attachment → Participation

H8: Cultural motivation → Participation → Conservation commitment

H9: Cultural motivation → Conservation commitment → Place attachment

Figure 1: Proposed Model