WHAT INFLUENCES VISITOR MINDFULNESS
AT WORLD HERITAGE SITES?

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Mindfulness refers to a state of mind in which a person selectively and actively processes information gathered from their surrounding environment. This concept may be helpful for enhancing visitor learning at heritage sites. However, there is a paucity of literature exploring the concept of mindfulness in tourism. This study investigates the influence of both setting and visitor factors on the state of mindfulness of visitors to selected heritage sites at the Malacca World Heritage Site (WHS), Malaysia. We demonstrate that various factors correlate with visitor mindfulness, namely variety, personal connection, and the interactivity of communication media. Conversely, other visitor characteristics do not influence mindfulness directly, namely age, gender, education, nationality, and frequency of visitation. However, these features do affect the setting factors. This study contributes to the mindfulness literature regarding the importance of setting and visitor factors in a WHS and recommends that mindfulness be considered as part of an overall approach toward more sustainable heritage tourism.

Key words: Mindfulness; Setting factor; Visitors' features; Communication; Tourism;
World Heritage Site (WHS)

Introduction

International agencies, such as the United Nations World Tourism Organization (2002), have predicted that tourism numbers will continue to rise over the coming decades, particularly in Asia. However, such growth in visitor numbers can exacerbate existing tourism problems at World Heritage Sites (WHSs), including vandalism, visitors' lack of awareness of the cultural and heritage significance of a site, congestion, and cultural commodification. Consequently, although visitors impart economic benefits on host communities, visitors can also have an adverse impact on the sites themselves. These concerns have been noted previously in the literature, with observations that visitors to heritage sites engage in various activities and behaviors that may both benefit the destination and impact the

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site negatively (Reid, Carlsen, Robertson, & Ali-Knight, 2007; Van Winkle & Backman, 2008).

Such problems described above might be ameliorated through the facilitation of mindfulness among visitors, which might also enhance visitors' learning and appreciation of the site (McIntosh, 1999; Moscardo, 1996; Tung & Ritchie, 2011). Mindfulness refers to a state of mind in which the tourist is actively engaged with the site or event and mentally processing information pertinent to the experience, which the literature suggests might contribute toward greater visitor satisfaction (Christie & Mason, 2003; Frauman & Norman, 2004; Moscardo, 1996; Tung & Ritchie, 2011; Woods & Moscardo, 2003). Actively engaged visitors tend to have attitudes that are more positive, have a greater appreciation for the sites they visit, and often develop a sense of stewardship toward heritage conservation (Moscardo, 1996). Furthermore, mindfulness can improve satisfaction, information recall, and promote sustainability (Dutt, 2011; Frauman & Norman, 2004; Moscardo, 1996, 2009).

Mindfulness among visitors and tourists to heritage sites is mediated by two sets of factors: setting factors and visitor factors (Moscardo, 1996, 2009). Visitor factors pertain to the knowledge, background, motivation, and characteristics of visitors, whereas the setting factors refer to the communication approaches, physical setting, and information content given to visitors (Moscardo, 1996). Woods and Moscardo (2003) categorized the factors influencing the mindfulness of tourists into four groups: features of the visitor, features of the interpretation or information provided to the tourist, features of the tourist experience, and features of the experience itself. A mindfulness-oriented communication approach can fulfill the needs of visitors, enhance their experiences, and influence or induce appropriate environmental behaviors to preserve the environment they work and play in (Kuo, 2002). Communication approaches that might be conducive toward the induction of mindfulness among visitor include variety, novelty, conflict and surprise, visitor control, the use of questions, making connections to personal experiences, and appeals to multiple senses (e.g., visual, auditory, tactile, etc.) (Moscardo, 1996).

In the present study, we focus on two groups of factors with respect to their influence on the mindfulness of visitors at selected heritage sites in the Malacca WHS in Malaysia: setting factors and visitor factors. The setting factors, such as variety, personal connection, and interactivity, were explored through various media, such as exhibitions, guided tours, and printed materials. We examined the correlation between these factors and mindfulness. In addition, we examined heterogeneity among the visitors to test for the effect of visitor factors on mindfulness and how they visitors evaluated the setting factors at each of the heritage sites. Malacca City, a popular WHS in Malaysia, was chosen as the setting for this study because of its strong branding among local and international tourists and its assortment of exhibitions and information provided for tourists to gain knowledge.

Malacca World Heritage Site

A site becomes a WHS when it is inscribed on the United Nations Educational, Scientific and Cultural Organization's (UNESCO) World Heritage List due to its outstanding universal value. Malacca City was declared a WHS by UNESCO under the title of "Melaka and George Town, Historic Cities of the Straits of Malacca" on July 7, 2008, owing to its rich trading history and multicultural heritage. Sites selected for World Heritage listing are inscribed based on their merit as some of the best possible examples of cultural and natural heritage.

The historic city of Malacca developed over 500 years of trade and cultural exchange between the East and West in the Straits of Malacca. Asian and European influences have endowed Malacca City with a rich multicultural heritage that is both tangible and intangible. With its government buildings, churches, squares, and fortifications Malacca's history spanning the 15th century Malay Sultanate, and the Portuguese and Dutch periods beginning in the early 16th century, are readily apparent.

Malacca is the only town in Malaysia to have been ruled by three Western colonial powers. Already an established and prosperous port city and an important center of trade by the early 16th century under the Malay Sultanate, Malacca's strategic location attracted Westerners who came to the East to establish trading posts. In 1511, a fleet led by Alphonso d'Alburquere, the Portuguese Viceroy of India, conquered Malacca and established a long

period of colonial rule beginning with the Portuguese. This was followed by the Dutch and later the British, with Malacca being under colonial rule for almost 450 years. The most tangible legacy of this colonial period can be seen in the number of buildings exhibiting the architectural styles of the colonists themselves.

Mindfulness

The model of mindfulness described herein is that developed by Ellen Langer and describes the focused and thoughtful response of the individual to social and environmental cues (Moscardo, 2009). Langer (1993) describes mindfulness as the process of "drawing novel distinctions, examining information from new perspectives and being sensitive to context" (p. 44). Through mindfulness, individuals develop a greater sensitivity to the environment, are more open to new information, are more perceptive, and have a greater sense of awareness (McIntosh, 1999; Moscardo, 1996; Tung & Ritchie, 2011).

Marlatt and Kristeller (1999) describe mindfulness as "bringing one's complete attention to the present experience on a moment-to-moment basis" (p. 68). In this definition, mindfulness is the state of mind of actively processing new information within the surrounding atmosphere (Langer, 1989; Langer & Moldoveanu, 2000). Furthermore, Langer, Blank, and Chanowitz (1978) posits that mindfulness is no more difficult than passive acceptance and that mindfulness might lead individuals toward being more receptive to learning opportunities. The first application of mindfulness to tourism can be traced back to the work of Moscardo and Pearce (1986), in which they explain the process of effective interpretation among visitors to cultural and heritage sites (Moscardo, 2009). Mindfulness allows visitors to exercise control over the information that they obtain from a site or exhibit, and increases their awareness from multiple perspectives (Law & Ting, 2011; Moscardo, 1996).

However, according to the literature mindfulness might be induced when information is channeled to the visitor through a variety of media that relies on novel, unexpected, and surprising content, and allows the visitor the opportunity to control the information that they receive (Law & Ting, 2011; McIntosh, 1999; Moscardo, 1996; Tung & Ritchie,

2011). Such an induced state of mindfulness is associated with greater learning, improved satisfaction, and thinking about new ways to behave at heritage sites and recreation-based settings (Frauman & Norman, 2004). Therefore, inducing mindfulness may be useful because visitors who have positive attitudes toward the exhibits and the heritage site itself invariably help to conserve the site, thereby promoting more sustainable tourism practices (Frauman & Norman, 2004).

The conservation of a WHS is important, not only because it serves as an important economic resource for attracting tourists, but also for the preservation of past heritage and culture. The heritage and cultural significance of each site is unique and irreplaceable. Heritage sites communicate extensive information about the history and culture of a place and its people; therefore, it is important that visitors not only leave a site satisfied, but with a better understanding of the site. Consequently, it is important to inculcate a greater sense of appreciation among visitors to heritage sites in order to ensure the sustainability of these invaluable assets (Frauman & Norman, 2004; Io, 2013; McIntosh, 1999; Moscardo, 1996).

Factors Influencing Visitor Mindfulness

Woods and Moscardo (2003) identified four sets of factors influencing the mindfulness of visitors: features of the visitor, features of the interpretation or information provided to the tourist, features of the tourist experience, and features of the experience itself. Based on these factors, Moscardo (2009) developed a framework of visitor mindfulness that is inclusive of tourist factors, place factors, management factors, and communication system factors. Moreover, Moscardo (1996) had developed an earlier model describing both setting factors and visitor factors that contribute to creating mindfulness among visitors. The setting factors described by Moscardo (1996) are similar to the second groups of factors described later by Woods and Moscardo (2003) as being the features of the interpretation or information provided to tourists, and to the communication system factors described by Moscardo (2009). These factors refer to applied media, such as exhibits, signs, guidebooks, brochures, and guided tours (Moscardo, 1998) used to

communicate between the site or its management as the sender of information and the visitor as the receiver of the information. These factors have the potential to enhance visitor mindfulness and to facilitate the visitor's effective interpretation of the site. However, these communication factors are only effective where there is a diversity of media employed, where the media is novel, multisensory, unexpected, or surprising, where there exist opportunities for the visitor to control the information they receive and are encouraged to participate in activities (Law & Ting, 2011; Moscardo, 1996, 2009). Conversely, repetitive and traditional signs, maps, and tour designs will oftentimes result in mindlessness (Law & Ting, 2011), meaning that the visitor does not mentally attend to the site or benefit from the information given to them.

Good systems of visitor orientation include maps, signage, and an information help desk that can assist the visitor to find their own way around, whereas the absence of such orientation devices can cause the visitor to feel lost and disorientated (Law & Ting, 2011). Therefore, good orientation in an important prerequisite of visitor mindfulness and makes a significant contribution to visitor satisfaction (Law & Ting, 2011; Moscardo, 1999). Effective interpretation of the site by the visitor can be achieved through the purposeful design of the exhibits themselves, and through the thoughtful design layout and wording of text-based communicative media. According to Moscardo (1999), there are five principles that can encourage visitor mindfulness and promote effective communication: (1) helping visitors to find their way around, (2) making connections with visitors and getting them involved, (3) providing variety, (4) telling a good story that makes sense, and (5) knowing and respecting visitors. The effectiveness of these principles in promoting visitor mindfulness has been empirically tested and supported by Moscardo (1999) and Woods and Moscardo (2003).

However, these site factors alone are not sufficient to induce mindfulness among visitors to heritage sites, and some features of the visitors themselves can mitigate the effectiveness of these site factors. Visitor factors such as their familiarity with the site being visited, their knowledge concerning the heritage or significance of the site, their levels of curiosity and motivation, and the absence of boredom and tiredness can certainly help in making the induction of mindfulness much easier (Law & Ting, 2011; Moscardo, 1996). Furthermore, certain visitor demographic characteristics, such as their age, gender, level of education, and nationality, influence their preference for different site-related communication media and the effect of each medium on their mindfulness (Carr, 2004). These visitor factors also determine, to some extent, the capacity of the individual visitor to be mindful. According to Brown and Ryan (2003), while each individual has an innate capacity to attend and to be mindful, variations exist in the degree of attending and mindfulness each individual is capable of bringing to bear in any given context. Therefore, mindfulness is the product of a complex interaction between one's own innate capacity for mindfulness and a myriad of site or communicative factors that act to either draw upon these innate abilities or impede them.

Research Framework

In the present study, we aim to investigate the factors influencing mindfulness among visitors to the Malacca WHS in Malaysia. Previous studies have investigated the effects of setting factors and visitor factors on inducing mindfulness among visitors to tourism destinations (Frauman & Norman, 2004; Law & Ting, 2011; Moscardo, 1996; Woods & Moscardo, 2003). Therefore, the conceptual framework of the study as depicted in Figure 1 describes both the effects of these setting factors (i.e., variety, personal connection and interactivity/participation) contained in the three most common communication mediums used at heritage sites (i.e., exhibits, printed material, and tour guides) and visitor factors (i.e., gender, age, nationality, education, and number of visits) on mindfulness.

Based on the mindfulness model of Woods and Moscardo (2003), the setting factors investigated in this study included variety, personal connection, and interactivity/participation. Communication approaches are thought to contain variety when they appeal to a multitude of visitor senses (e.g., visual, auditory, tactile, etc.), and employ novelty, unexpectedness, and surprise (Moscardo, 1999; Woods & Moscardo, 2003). Personal connection is concerned with the extent to which a visitor believes
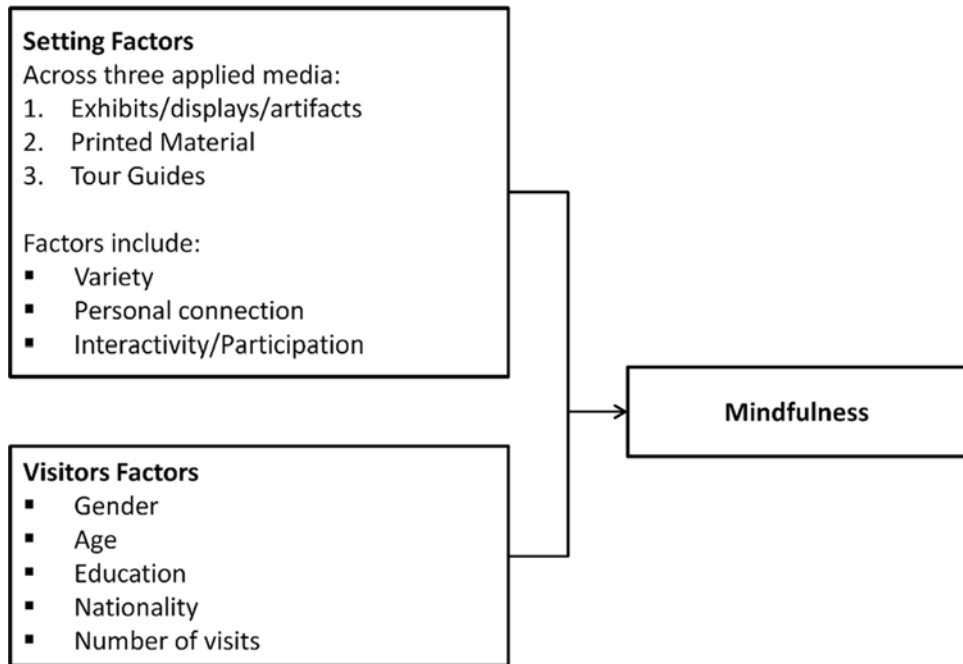
Figure 1. The conceptual framework.

that the information content has some personal relevance to them (Frauman & Norman, 2004; Van Winkle & Backman, 2008). Interactivity/participation is concerned with the visitor's reaction to the interaction criteria of each type of media found at the heritage site with respect to the induction of mindfulness (Moscardo, 1999; Van Winkle & Backman, 2008; Woods & Moscardo, 2003).

Methodology

Our purpose in undertaking this study was to investigate the factors influencing the induction of mindfulness among heritage site visitors to Malacca City. As a quantitative study, a questionnaire was developed as the primary means of data collection. We employed purposive sampling for this study, as the respondents were transient visitors to the heritage sites. Only those heritage sites containing all three forms of applied media were selected for the distribution of the questionnaires to the respondents. The heritage sites selected for this study were the *A'Famosa* Fort, the ruins of St. Paul's Church, the *Stadhuys* (otherwise known as

"Red Square"), Malacca's Sultanate Palace, the Maritime Museum, and the *Madre De Deus* Franciscan monastery.

Questionnaire Development

The questionnaire for this study was adapted from similar questionnaires used in previous studies (Frauman & Norman, 2004; Moscardo, 1999; Van Winkle & Backman, 2008; Woods & Moscardo, 2003). The questionnaire consisted of three sections (sections A, B, and C). Section A was used to identify the respondents' demographic details and visitor features. Section B was concerned with the setting factors with respect to the three forms of applied media. Section C comprised the primary measure of mindfulness. Sections B and C included a number of statements that were assessed on a 5-point Likert scale ranging from *strongly disagree* to *strongly agree*.

The need to pretest the questionnaire was imperative in this study. According to Baxter and Babbie (2003), there is always the possibility, indeed the certainty, of error in a designed data collection

instrument, even in the case of a carefully designed one. Therefore, a pilot test of the questionnaire was conducted to ensure its reliability. Pilot testing was performed by distributing the questionnaires to several people from the same population used in this study in order to garner a representative sample. Reliability testing using Cronbach's alpha revealed that the value of all of the variables was above 0.7, indicating acceptable reliability (Nunnally & Bernstein, 1978). The pilot sample involved 50 respondents who took approximately 10–15 minutes to complete the questionnaires. No negative comments were received from the piloted respondents other than that they needed to concentrate and think before answering the questions.

Data Collection and Analysis Procedure

A total of 326 questionnaires were distributed among visitors to the selected heritage sites during the peak tourist season of June 2013. The questionnaire was written in two languages, Bahasa Malaysia and English, due to the number of international non-Bahasa Malaysia-speaking tourists visiting these sites. Data collection was conducted from morning to afternoon over a 4-day period toward the end of week. Respondents were approached towards the end of their tour of the site and asked to complete the questionnaire while a questionnaire administrator offered to assist respondents if they had any questions or needed further explanation. Most of the respondents took less than 15 minutes to complete the questionnaire and 200 questionnaires were returned as completed by the respondents.

Subsequent data analysis involved the process of drawing statistical or interpretive inferences regarding patterns in the data set. Data were analyzed using the Statistical Package for Social Sciences software (SPSS). A series of descriptive analysis, test of differences including independent-samples t test, one-way ANOVA, and Pearson correlation were used to analyze the collected data.

Results and Findings

Profile of Respondents

As shown in Table 1, 51.5% of respondents were males, and 48.5% were females. The respondents were categorized across three age groups with most being 16–25 years old (67%), followed by 26–35 years old (22.5%); therefore, most of residents were quite young. The majority of the respondents had completed some form of higher education and held either a bachelor (48.5%) or postgraduate degree (10.5%). This was followed by respondents with a diploma (28.5%) or secondary/high school level of education (12.5%). Table 1 indicates that the majority of respondents were domestic Malaysian tourists (68%), while the remaining 32% of respondents were international visitors. Most of the respondents ($n = 112$; 56%) had visited Malacca previously, while for many this was their first visit to Malacca (44%).

Descriptive Analysis

Table 2 represents the results of the descriptive analysis for the variety, personal connection, and interactivity/participation features of the three media used at heritage sites in Malacca from the perspective of visitors, as well as the level of mindfulness among visitors to these sites. Prior to calculating the mean value of the variables using the summated scale method (Hair, Tatham, Anderson, & Black, 2006), a reliability test using Cronbach's alpha was performed. The results of reliability

Table 1

Profile of Respondents

Characteristics	Frequency	Percentage
Gender		
Male	103	51.5%
Female	97	48.5%
Age (years)		
16–25	134	67.0%
26–35	45	22.5%
36 and above	21	10.5%
Level of education		
Secondary/high school	25	12.5%
Diploma	57	28.5%
Degree	97	48.5%
Postgraduate	21	10.5%
Nationality		
Malaysian	136	68.0%
Other	64	32.0%
Number of visits to Malacca		
First visit	88	44.0%
More than one visit	112	56.0%

Table 2

Results of descriptive analysis

Constructs and Items	Mean Value	SD	Cronbach's Alpha
Exhibits/Displays/Artefacts (EDA)			
Variety	**3.40**	**0.64**	**0.746**
The content of the exhibit/display/artefact has multifaceted explanations.	3.57	0.75	
I found that the content of the exhibits/displays/artefacts had novel/unexpected/ surprising value for me.	3.51	0.80	
A variety of media (e.g., slides, audiovisuals, text, illustrations, computers, books, and talks) were used at this heritage site.	3.06	0.98	
The exhibits/displays/artefacts had both educational and entertainment content.	3.47	0.84	
Personal connection	**3.63**	**0.70**	**0.836**
The exhibits/displays/artefacts encouraged me to think about how the heritage of the site relates to my own cultural background.	3.74	0.80	
The exhibits/displays/artefacts generated questions regarding how the heritage of the site is linked to my heritage.	3.54	0.86	
The exhibits/displays/artefacts encouraged me to think about my own heritage.	3.58	0.87	
The exhibits/displays/artefacts have increased my interest in my own heritage.	3.64	0.89	
Interactivity/participation	**3.53**	**0.72**	**0.740**
I was able to touch and feel the exhibits/displays/artefacts.	3.62	0.94	
I was able to control the amount of information I received from the exhibits/ displays/artefacts.	3.37	0.82	
The exhibits/displays/artefacts allowed me to obtain information in various ways.	3.59	0.87	
Tour Guide Service (TG)			
Variety	**3.37**	**0.67**	**0.790**
The tour guide provided various activities for visitors to choose from according to visitor preferences.	3.24	0.91	
The tour guide encouraged me to participate in different activities during the tour.	2.28	0.78	
The tour guide presented information about the heritage site in many interesting ways.	3.47	0.86	
The tour guide used various approaches to generate my interest in the heritage of the site.	3.47	0.87	
Personal connection	**3.41**	**0.58**	**0.726**
The explanation given by the tour guide made me think about my own heritage.	3.39	0.78	
The explanation given by the tour guide encouraged me try to draw connections between the heritage of the site and myself.	3.34	0.70	
The information provided by the tour guide increased my interest in my own heritage.	3.49	0.68	
Interactivity/participation	**3.42**	**0.78**	**0.837**
The tour guide encouraged me to interact with him/her and other people at the heritage site.	3.37	0.87	
The tour guide encouraged me to explore all the exhibits/displays/artefacts.	3.47	0.90	
The tour guide encouraged me to ask questions during our visit to the heritage site.	3.41	0.97	
Printed Material (PM)			
Variety	**3.38**	**0.76**	**0.883**
There were various printed materials (e.g., brochures, maps, diagrams, guide-books, signage, flyers) providing information about the site.	3.35	0.88	
The availability of different printed materials (e.g., brochures, maps, diagrams, guidebooks, signage, flyers) facilitated my obtaining the information that I wanted.	3.35	0.94	
The printed materials (e.g., brochures, maps, diagrams, guidebooks, signage, flyers) presented information about the heritage site in various interesting ways.	3.39	0.85	
The printed materials (e.g., brochures, maps, diagrams, guidebooks, signage, flyers) provided a variety of information about the site.	3.43	0.87	

Table 2 (Continued)

Constructs and Items	Mean Value	SD	Cronbach's Alpha
Personal connection	**3.46**	**0.77**	**0.871**
I could relate with this heritage site better after having read the content of the printed materials (e.g., brochures, maps, diagrams, guidebooks, signage, flyers).	3.47	0.87	
The printed materials (e.g., brochures, maps, diagrams, guidebooks, signage, flyers) provided increased my curiosity about my own heritage.	3.51	0.88	
The information contained in the printed materials (e.g., brochures, maps, diagrams, guidebooks, signage, flyers) stimulated my interest in the link between my heritage and the heritage site.	3.43	0.91	
The information contained in the printed materials (e.g., brochures, maps, diagrams, guidebooks, signage, flyers) encouraged me to draw connections between my present situation and the past.	3.41	0.94	
Interactivity/participation	**3.29**	**0.76**	**0.857**
The information contained in the printed materials (e.g., brochures, maps, diagrams, guidebooks, signage, flyers) was presented in ways that encouraged me to seek more in-depth information on my own.	3.43	0.84	
The printed materials (e.g. brochures, maps, diagrams, guidebooks, signage, flyers) included activities, such as games/puzzles/Q&A/FAQ, that encouraged me to participate actively in seeking information or answers.	3.25	0.92	
The printed materials (e.g., brochures, maps, diagrams, guidebooks, signage, flyers) were quite interactive.	3.23	0.98	
The information contained in the printed materials (e.g., brochures, maps, diagrams, guidebooks, signage, flyers) encouraged me to pursue my interests and ask questions about the heritage site.	3.39	0.90	
Mindfulness	**3.59**	**0.67**	**0.865**
I had my interest captured.	3.7	0.71	
I searched for answers to questions I may have had.	3.49	0.78	
I had my curiosity aroused.	3.64	0.76	
I inquired further about things at the heritage site.	3.48	0.78	
I explored and discovered new things.	3.72	0.78	
I was involved in what was going on around me.	3.57	0.81	
I was in control of what was going on around me.	3.52	0.84	

testing indicated that the Cronbach's alpha of all of the constructs was higher than 0.7, thereby indicating an acceptable level of reliability (Nunnally & Bernstein, 1978).

The results indicate that Exhibits/Displays/Artefacts (EDA) had the highest ranking for variety, followed by Printed Materials (PM) and Tour Guide services (TG), respectively. In addition, the respondents indicated that the EDA medium had the greatest degree of personal connection to them, followed by PM and TG mediums, respectively. The respondents reported the most satisfaction with the interactivity of the EDA, followed by the TG and PM mediums, respectively. Therefore, from the visitors' perspective, the most successful medium inclusive of variety, personal connection, and interactivity was the EDA. Moreover, the results indicate a high level of mindfulness among the respondents. The respondents were interested and curious to discover new things, and they actively looked for answers to their questions regarding the heritage sites that they visited.

Tests of Differences

We aimed to examine the heterogeneity of visitors to heritage sites in Malacca across gender, age, education, nationality, and number of visits regarding their mindfulness and their opinions about the setting factors based on various forms of applied media. The results of the independent samples *t* test across gender, nationality, and number of visits can be seen in Table 3. Testing for differences across gender indicated a significant difference between male and female respondents regarding the interactivity of the EDA media. Male respondents indicated a higher level of interactivity with the EDA than the female respondents.

Table 3

Results of *t* Test of Communication Factors of Different Mediums Across Gender, Nationality, and Number of Visits

Variables	Gender		Nationality		Number of Visits	
	Mean Def.	*t* Value	Mean Def.	*t* Value	Mean Def.	*t* Value
Variety (EDA)	0.1	1.12	0.22	2.34*	−0.10	−1.10
Personal connection (EDA)	0.16	1.65	0.31	2.96**	−0.14	−1.42
Interactivity (EDA)	0.26	2.55**	0.30	2.86**	−0.11	−1.12
Variety (TG)	0.22	1.45	0.23	1.45	−0.041	−0.267
Personal connection (TG)	0.17	1.21	0.046	0.33	−0.015	−0.108
Interactivity (TG)	0.20	1.13	0.12	0.63	0.128	0.708
Variety (PM)	0.067	0.65	0.13	1.09	−0.15	−1.34
Personal connection (PM)	0.13	1.22	0.22	1.93	−0.27	−2.49*
Interactivity (PM)	0.48	0.44	0.13	1.06	−0.19	−1.72
Mindfulness	0.04	0.51	0.095	1.08	−0.06	−0.793

*$p < 0.05$, **$p < 0.01$.

Table 3 also shows that the domestic Malaysian respondents indicated higher levels of variety, personal connection, and interactivity with the EDA than foreign respondents. However, the only significant difference for the number of visits was for the degree of personal connection with the PM medium, respondents having visited the site previously indicating a greater personal connection with the PM media.

Table 4 shows the results of one-way ANOVA to test for the differences between mindfulness and setting factors (based on EDA, TG, and PM mediums) across age and education level. The results indicate nonsignificant differences across age; however, respondents of different educational attainment levels erceived the variety and personal connection of the EDA, as well as the interactivity of the PM, differently. Respondents who rated their level of educational attainment low also rated the variety and their personal connection with EDA, and the interactivity of PM, higher than those respondents with higher educational attainment levels.

Correlation Analysis

Table 5 shows the results of the Pearson's correlation analysis between the setting factors of the three different mediums and mindfulness. Correlation coefficient values of 0.1, 0.3, and 0.5 are considered low, moderate, and high, respectively

Table 4

Results of One-Way ANOVA Test of Communication Factors of Different Mediums Across Age Groups and Education Levels

Variables	*p* Value (Age)	*p* Value (Education)	Post Hoc Test (Tukey)
Variety (EDA)	0.503	0.005**	Between secondary and postgraduate; diploma and postgraduate
Personal connection (EDA)	0.340	0.000**	Between secondary, degree, and postgraduate; diploma and postgraduate; degree and postgraduate
Interactivity (EDA)	0.346	0.323	
Variety (TG)	0.483	0.332	
Personal connection (TG)	0.616	0.490	
Interactivity (TG)	0.639	0.540	
Variety (PM)	0.679	0.132	
Personal connection (PM)	0.335	0.086	
Interactivity (PM)	0.895	0.004**	Between diploma and postgraduate
Mindfulness	0.681	0.351	

**$p < 0.01$.

Table 5

Correlation of Setting Factors for Each Medium With Mindfulness

Variables	Mindfulness	
	r (p)	r²
EDA		
Variety	**0.433** (0.000)**	0.1874
Personal connection	0.397** (0.000)	0.1576
Interactivity/participation	0.423** (0.000)	0.1789
TG		
Variety	0.286* (0.012)	0.0818
Personal connection	0.231* (0.044)	0.0534
Interactivity/participation	**0.382** (0.001)**	0.1459
PM		
Variety	0.418** (0.000)	0.1747
Personal connection	0.470** (0.000)	0.2209
Interactivity/participation	**0.558** (0.000)**	0.3114

$*p < 0.05$, $**p < 0.01$.

(Pallant, 2005). For EDA, our results indicate a positive and significant relationship between variety and mindfulness ($r = 0.433$, $p = 0.000$). This relationship was moderate, with variety explaining 18.74% of the variance of mindfulness. There was a significant positive correlation between personal connection and mindfulness ($r = 0.397$, $p = 0.000$). The strength of this relationship was moderate, explaining 15.76% of the variance. Interactivity/participation was also significantly correlated with mindfulness ($r = 0.423$, $p = 0.000$). The strength of the relationship was moderate and interactivity/participation explained 17.89% of the variance for mindfulness.

All three setting factors were positively correlated with mindfulness in the case of TG. Interactivity/participation with TG resulted in the most significant relationship with mindfulness ($r = 0.382$, $p = 0.001$). This relationship was moderate and explained 14.59% of the variance of mindfulness. Variety was also significantly correlated with mindfulness ($r = 0.286$, $p = 0.012$). The strength of this relationship was low, with variety explaining 8.18% of the variance for mindfulness. In addition, the correlation between personal connection and mindfulness was significant ($r = 0.231$, $p = 0.044$); however, the strength of the relationship was low, explaining only 5.34% of the variance of mindfulness.

The use of variety in PM was significantly positively related to mindfulness ($r = 0.418$, $p = 0.000$). The strength of this relationship was moderate, with

17.47% of variance shared between the two variables. Personal connection was similarly significantly correlated with mindfulness ($r = 0.470$, $p = 0.000$), this relationship also being of moderate strength and explaining 22.09% of the variance of mindfulness. In addition, a significant and positive correlation was found between interactivity/participation and mindfulness ($r = 0.558$, $p = 0.000$), the strength of the relationship being high and explaining 31.14% of the variance of mindfulness.

Discussion

We investigated the factors influencing mindfulness among visitors to heritage sites at Malacca City, a popular WHS in Malaysia. Descriptive analysis indicated that the setting factors of EDA, including variety, personal connection, and interactivity/participation, ranked highest among visitors compared with other mediums. Therefore, the visitors were satisfied with the EDA medium and believed that this medium could induce mindfulness more so than any other applied media used at the selected heritage sites. This finding is consistent with previous studies indicating that audiovisual displays, exhibits, and live performances are an efficient means of communication with visitors (Carr, 2004; Tivers, 2002). Furthermore, from the perspective of visitors, the personal connection feature of the PM medium, and the interactivity/participation feature of the TG medium can contribute toward greater mindfulness more so than other features. Previous studies have suggested the use of TG because of the potential for tour guides to interact with visitors more effectively (Io, 2013; Reisinger & Steiner, 2006). However, the visitors surveyed in this study indicated that the PM medium was more successful in establishing a personal connection between them and the site than TG medium and in inducing mindfulness.

We also examined the effects of visitor features, such as gender, age, education, nationality and number of previous visits, on mindfulness. Our results indicate no significant differences for mindfulness across all visitor features. Therefore, the findings allude to a nonsignificant effect of gender, age, education, nationality, and number of previous visits on mindfulness. These findings were consistent with those of Frauman and Norman (2004). However, the test of differences between setting factors across

visitor features showed a significant difference in the visitors' evaluation of the variety, personal connection. and interactivity of the setting factors. For instance, male visitors evaluated the interactivity of EDA higher than the female visitors. Furthermore, the Malaysian domestic tourists rated the variety, personal connection, and interactivity of the EDA higher than the international visitors. However, the effect of the number of previous visits was only significant for the personal connection of the PM medium.

Tourists having visited the sites previously reported a higher degree of personal connection with the PM media. Moreover, the results indicated that less educated visitors benefited more from the variety and personal connection features of EDA and the interactivity feature of PM more than highly educated visitors. Therefore, our findings demonstrate heterogeneity among visitors regarding the setting factors of the applied media at selected heritage sites.

The results of the Pearson's correlation analysis indicated a positive and significant correlation between all of the setting factors of the various applied media and mindfulness. The highest correlation was for the PM media and the lowest was for the TG. This finding was not supported by previous studies; earlier studies reporting that TG can contribute toward induced states of mindfulness better than other mediums, such as PM (Cohen, 1985; Io, 2013; Reisinger & Steiner, 2006). However, the respondents in the current study did not report a more significant effect for TG on inducing mindfulness compared with PM or EDA mediums. One possible reason for this finding may be that the TG relied on relied on repetitive and traditional methods of communication with visitors. This conclusion is based on the results of the descriptive analysis, showing that visitors rated variety and personal connection with the TG medium the lowest. TGs might be more effective in inducing mindfulness among visitors if the setting factors of variety and personal connection were given greater consideration. Another possible reason for low correlation between the TG and mindfulness might be found in the profile of the respondents. Most of respondents in this study were young, highly educated, and had visited the sites more than once previously. Consequently, the respondents may not have been interested in using the tour guides. Additionally,

the majority of the visitors to the sites in this study were domestic Malaysian tourists, and previous studies indicate that local visitors are not interested in interacting with tour guides, preferring to use other media to communicate with heritage sites (Carr, 2004).

Conclusion, Implications, and Future Research

Based on the results of this study, EDA and PM media are more suitable channels for communicating with visitors and can contribute towards the induction of mindfulness among visitors to heritage sites; however, TG proved to produce poorer outcomes in terms of building mindfulness. Therefore, it is important for tour hosts or heritage site management to pay close attention to the setting factors in order to create visitors that are more mindful in the future. Extra effort should be made to ensure the effectiveness of TG in order to contribute toward visitor mindfulness. The feedback of visitors should be taken into consideration in order to encourage repeat visits to heritage sites. Objective visitor feedback should include measurements of relevant setting factors implicated in inducing mindfulness.

We examined the effects of visitor features on mindfulness. Our results indicate a nonsignificant effect for visitor characteristics, such as gender, age, education, nationality, as well as familiarity and number of visits on mindfulness. However, we found that different groups of visitors had different perspectives of the setting factors in this study. Therefore, the visitor features influenced mindfulness indirectly through the setting factors. This finding is significant, especially in the context of a WHS; however, further research is needed to clarify the mediating role of the setting factors between the visitor features and mindfulness.

In conclusion, this study confirms the importance of certain aspects of the setting factors and visitor factors on inducing mindfulness among tourists as previously reported in the literature. Applying mindfulness theory to heritage tourism presents the opportunity to organize these features into a coherent framework for understanding their importance. Moreover, while not all of the features of the setting factors described in this study can be replicated at every heritage tourism site, some

structured attempt to improve the overall mindfulness of visitors to heritage sites should have the effect of enhancing their ability to gain a better understanding of heritage and result in a greater sense of visitor satisfaction.

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