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## Visitors' emotions, touristic or spiritual experiences in historic churches: The development of Church Experience Scale (CES)

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### Abstract

In this paper we describe the development of the Church Experience Scale (CES) that allows us to measure visitor experience in historic churches, both with and without multimedia guides and other technologies. This study was carried out with 272 respondents at three historic churches in York, UK. Respondents for this study were visitors to these churches who were asked to complete a questionnaire immediately after their visit. A full psychometric scale development procedure was used which resulted in the Church Experience Scale (CES) which has five components: Enjoyment, Intellectual Stimulation and Curiosity; Emotional and Spiritual Experience; Immersion; Information Overload; and Knowledge and Learning. The usefulness of the scale in investigating visitors' experiences in historic churches is explored. An initial comparison between inactive and an active historic church were compared using CES.

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*Keywords:* mobile guides; visitors experiences; historic church, multimedia guides

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### 1. Introduction

The recent enormous development of digital technologies, particularly mobile technologies, has had a tremendous impact on our daily activities. Such technologies have shaped our ways of managing our daily routines, our communication, or our ways of socializing with other people. This interaction and communication between people and technology, or between groups of people with technology, are not limited to workplaces or the home but also includes 'cultural spaces'. The term cultural spaces refer to public spaces of cultural and historic interest such as museums, historic churches, art galleries, historic houses and archaeological sites. Mobile technology is being used more and more frequently in museums and other cultural spaces. For example, the use of technologies in museums [1] or the use of mobile guides for navigating and experiencing a museum [2], the use of ICT for older adults, mainly the over 60s [3] and many more.

To understand the impact of technologies on the visitor experience of cultural spaces, we need not only evaluate the user experience with the technology, but also to understand the effect of the technology on the visitor experience of the cultural space. To assist in this enterprise, we have developed a Multimedia Guide Scale (MMGS) to provide a simple measure of the usability of audio and multimedia guides in cultural spaces [4, 5] and a Museum Experience

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Scale (MES) to provide a way of measuring visitor experience both with and without a multimedia guide or other technology [5]. As a result of this work, we were asked to evaluate a series of smartphone guides developed by Centre for the Study of Christianity and Culture at the University of York and to be deployed in historic churches in the UK. We wished to compare visitors' experiences of the churches with and without the smartphone guide and with different versions of the smartphone guide, particularly on different types of tour guide. However, we felt that a historic church is a sufficiently different cultural space from a museum, so that our Museum Experience Scale (MES) was not an appropriate measure. Therefore, we developed a Church Experience Scale (CES), to specifically measure the visitor experience of historic churches.

Many churches are of artistic and historic as well as spiritual interest and attract many visitors. This means that the role of the church is not only a place of worship but a place for diversion and information and learning in informal settings, as well as place for social and cultural activities. Aspects of interest in historic churches are their architecture, stained glass windows, and particular features such as altars, rood screens, choirs and pulpits. Particular churches may also have associations with particular people, both religious and secular, that are of interest to visitors. For example, one of the churches deploying a smartphone guide is Holy Trinity in Stratford upon Avon, where William Shakespeare was baptized and buried. With these new roles, the number of visitors to historic churches has greatly increased. As estimated by the Church Conservation Trust, historic churches in the UK attract nearly 2 millions visitors a year [6]. Thus churches need to seek new ways to communicate with visitors and importantly to address different types of visitors.

## 2. Visitors' Experiences in Cultural Spaces

For the past 60 years, many and varied efforts have been made by organizations responsible for cultural spaces to introduce new technologies. These changes, particularly to mobile guides, have significantly changed the way visitors interact with an exhibition, with artefacts and with the mobile guide itself [7, 8]. Tallon explained how these changes have ranged from the digitization of the objects to the use of emerging technologies [7]. Recently, technologies are now reaching more traditional cultural spaces such providing smartphone guides for historic churches.

Many historic churches have similar functions to other cultural spaces, where visitors see the church as a place of historic or cultural interest, a touristic diversion or a place for learning in an informal environment, rather than as places of worship or spiritual inspiration. As a result, there are different types of visitor to historic churches: those who come for spiritual experiences and others who come to the church for cultural and tourist experiences. And it may well be that there are some visitors who enjoy both types of experience.

In one of her examples, Casey explained the importance of designing exhibits that are able to engage visitors emotionally than intellectually.

*"Holocaust Museum ... Engaging viewer through dramaturgical sequences of short narratives ... active exhibits ... passive exhibits ... These staging techniques ... emphasizing the emotional rather than intellectual tenor of the place"* ([9], p.84).

There are four different modes of behaviour among visitors in museums, especially when they select and engage with the museum exhibits: 'browsers', 'followers', 'searchers' and 'researchers' [10]. These four different types of visitor need different types of technology in museums, as well as different kinds of information presentation. Browsers, for example, do not require as much information as researchers because they only browse and select exhibits that most appeal to them. On the other hand, researchers require more explanation about each artefact in the exhibition and may require extra information related to the exhibits. Followers, on the other hand, only follow what has been provided to them and usually will be happy with the use of the mobile guide provided by the museums. A searcher is quite different from the other groups because he likes to search the exhibit/artefact based on keyword(s) rather than the thematic presentation.

For decades, cultural spaces historic churches in particular, have been making changes to their exhibitions to accommodate the needs of various people. The changes come from different sources, such as technological advancements, different information provided on displays, whether digital display or printed materials, the quantity of information on display, the number of artefacts, exhibition design, and so on. A study about visitors' behaviour in

the museum in several museums in Europe under Situating Hybrid Assemblies in Public Environments (SHAPE) project found out that the observation and interaction with the exhibits directly (visitors are allowed to open the cabinet and touch the artefacts) enabled them to collaboratively understand about the object, mesmerize about the features and developed emotion responses both for children and adults [11]. In addition, several studies have investigated the impact of various technologies in churches, for example the use of technology by the minister in a church service (*see* for example [12, 13]). These studies have focused on the use of technologies for religious practices particularly to improve pastoral care, the church service, or the means of communication. No studies could be found that have focused on the use of technology in the context of visitors to churches for cultural or tourist experiences. On the other hand, there are several studies that have explored the emotional connection and spiritual experience of visitors to cultural spaces. For example, a GPS-based walking route called *Rituals* which connected religious monuments and was developed mainly to give personal spiritual and emotional experiences to the users [14]. A study by Struken focused on Vietnam Veterans Memorial in Washington DC and its history, objects, images and other features have a profound impact on visitors, as well as the actual design of the memorial. Previous classification of visitors' experiences by Zahava Doering include spiritual experiences components [15].

### 3. Method

#### 3.1. Scale Development

The development of the Church Experience Scale (CES) followed standard psychometric scale development procedures [16, 17]. Initially a pool of 65 possible statements was gathered and then a process of eliminating similar statements to arrive at a manageable number to ask people to rate in the initial phase of development was applied [the same process as used in 4, 5]. We used many statements gathered in the work in which we developed the Museum Experience Scale [4, 5], adapting them to the church situation and adding statements appropriate to the church situation, based on discussions with the Centre for the Study of Christianity and Culture and a number of churches in York that participated in the research. The statements referred to the "church and its features" and the instructions to the questionnaire explained that by "features" we meant all aspects of the church such as its architecture, stained glass windows, particular features such as altars, rood screens, choirs and pulpits, thus all aspects of the church experienced in a visit. The final set of statements consisted of 45 items available from the authors. The statements were presented to participants as Likert items with rating scales from 1 meaning "strongly disagree" to 5 meaning "strongly agree".

It is important to note that, participants were not asked about their religious/faith. As a result, there is no question on the scale about the religious/faith. This is due to the fact that visitors who visited the historic churches could be Christian, Jewish, Muslim, Buddhist or from other religions or belief. Although this could be a biased in the research because of the difference of religious belief can affect the outcome of the study but we cannot limit the participants of this study to visitors of Christianity background. This is the limitation of conducting study in real settings.

#### 3.2. Procedure

Three historic churches in York very generously agreed to participate in this research: Holy Trinity Church Goodramgate, Holy Trinity Church Micklegate and All Saints Church North Street. Visitors to the churches were approached when they had completed their visit and asked whether they would answer a short set of questions about their visit to the church. As well as the 45 statements for the CES, respondents were asked a short set of open-ended questions that were of interest to each church. To encourage participation, a prize draw for Amazon gift vouchers was offered to all respondents. This study was carried out over two weeks.

This study collected data from 272 visitors in three different historic churches in York, both active churches and inactive churches. The term 'inactive church' in this study refers to churches which only ran three services a year and were open to visitors everyday, whilst 'active' churches had services several times a week and were closed to visitors during these services. The inactive churches become active churches if they run services more than three times a year. It is important to differentiate between these two types of church because they have a different environment and thus give a different impact to visitors. The inactive church in this study was Holy Trinity Church

in Goodramgate, whilst the active churches were Holy Trinity in Micklegate and All Saints in North Street. Visitors are aware of these two types of churches.

### 3.3. Respondent

There were 272 respondents. The respondents' ages ranged from 20s to 80s. These respondents come from diverse demographics backgrounds (e.g., various places or countries, education and work background, gender). 39 respondents are from active church whilst 233 respondents are from non-active church.

## 4. Results

### 4.1. Reliability Analysis

A reliability analysis was performed on the 45 items in the questionnaire and the results show that the items are highly related to each other with Cronbach's alpha values of .924. With the values of .924, the items were good for further analysis. In addition, results of Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) value was relatively high at 0.92, compared with the minimum or acceptable value of 0.6 for the data to be reliable. Furthermore the Bartlett's Test of Sphericity also showed a significant value  $p < 0.001$ , Chi-Square= 5612.161, thus allowing us to carry out a PCA.

### 4.2. Principal Component Analysis (PCA)

A Principal Component Analysis (PCA) was performed to the 45 statements about experiences in a church. As a result, five components emerged from the analysis:

- *Emotional and Spiritual Experience* with the church and its features
- *Knowledge and Learning* gained from learning information about the church, its features, its history and historical connections
- *Enjoyment, Intellectual Stimulation and Curiosity* from the interaction with the church and its features
- *Immersion* in the church as an environment and the experience of actually being in the church
- *Information overload* with the amount of information provided about the church and its features

*Factor loadings* from the PCA for each component are shown in the Table 1, below. A *factor loading* is a measure of how strongly each statement relates to the overall components (1.0 = perfect relationship to 0.0 = no relationship at all, only statements with factor loading over 0.6 are listed).

Table 1. The five components on the Church Experience Scale and their factor loadings

<b>Emotional and Spiritual Experience</b>	
I felt spiritually involved with the church and its features	0.76
I felt connected with the church and its features	0.73
I felt emotionally involved with the church and its features	0.69
I felt moved in the church	0.69
The church had a spiritual atmosphere	0.63
My sense of being in the church was stronger than my sense of being in the rest of the world	0.61
<b>Immersion</b>	
I still felt in touch with the real world while visiting the church (reversed relationship)	0.74
I felt detached from the outside world while visiting the church	0.63
During my visit everyday thoughts and concerns were still very much on my mind (reversed relationship)	0.62
<b>Enjoyment, Intellectual Stimulation and Curiosity</b>	
The church and its features held my attention	0.77
I felt engaged with the church and its features	0.75
I felt focused on the church and its features	0.69
My visit to the church aroused my curiosity and interest	0.69
I enjoyed my experience at the church	0.68
I enjoyed visiting the church	0.65
<b>Information overload</b>	
I was overwhelmed by the amount of information provided about the church and its features (reversed relationship)	0.65
<b>Knowledge and Learning</b>	
I have developed an increased interest in something I knew little about before my visit	0.73
I felt that I learnt new information from my visit to the church	0.63
I have developed a new interest as a result of my visit	0.63
I have gained knowledge as a result of my visit	0.60

As an initial use of the CES to provide a validation, we compared the experience of respondents who had made a church visit to an active church (39 respondents) and a non-active church (233 respondents). There was a significant difference in mean scores across all five components between these two groups ( $F_{1,270} = 4.52, p < .05$ ). There was also a significant difference between the five factors ( $F = 220.5, df = 4, 1080, p < 0.001$ ). There was no interaction between the group and factor variables.

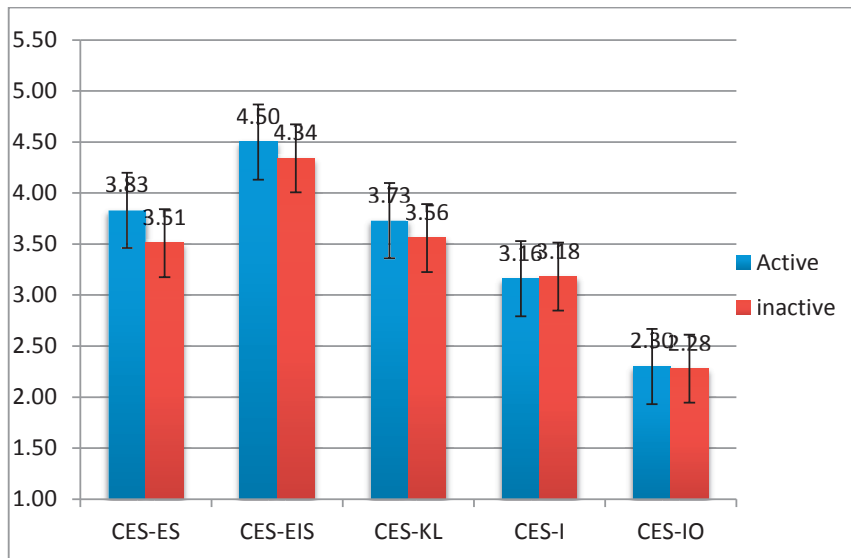


Fig. 1. Mean scores on the five components of the CES for participants who had visited active or inactive churches

Fig 1 shows the mean scores on the five components for the active and inactive churches. This shows that scores on four components were higher (more positive) with the active churches, whilst one component shows a slightly higher significant score with the inactive church. The only component that shows a slightly higher significant value for the inactive church was immersion. Although this difference between active and inactive churches is relatively small, it does give an impact to this study. Arguably, the church settings and environments can make a difference in the sense of immersion felt by visitors and give them a feeling of being easily detached from the real world. On the other hand, there were three components which showed a significant difference between these churches, as was expected – as well as the fourth component which only shows a relatively small difference.

## 5. Discussion

Technology is now being used in many locations, even spiritual locations such as churches. Historic churches are keen to provide information to their visitors using the latest technologies, including smartphone guides. To understand the effect of these kinds of technologies on the visitor experience in churches, we have developed the Church Experience Scale (CES), using information from visitors to three historic churches in York just after they had completed their visit.

The components that emerged from the Church Experience Scales (CES) show that visitors have a multi-dimensional experience in historic churches, with emotional and spiritual experience, as well as gaining knowledge and learning beside enjoying oneself, having intellectual stimulation and one's curiosity raised

### 5.1. Emotional and Spiritual Experience (CES-ES)

Emotional and spiritual experience is one of the components that showed a significant difference between visitors to active and inactive churches. These results do show that the emotional and spiritual experience had more of an impact in active churches where these churches have a designated area and time for worship, whilst inactive churches have merely preserved their features to be marvelled at and experienced. Previous study showed that a well-designed exhibition has a significant impact on visitors' emotions thus enhancing their experience during their visit [18].

### 5.2. Knowledge and Learning (CES-KL)

The results from the CES showed that active churches produced significantly higher scores on the knowledge and learning component, this may well be because one active church in this study had an ongoing exhibition in addition to various other features similar to the inactive church. Unlike other public spaces, such as museums that have a similar predilection for providing information by means of an exhibition (temporary or permanent collections either technology oriented or not) to their visitors, the churches have different ways of attracting their visitors. Some churches might have a special feature, artefacts or exhibitions that draw significant numbers of visitors but might lack information. During this study, it was found that Holy Trinity Goodramgate (an inactive church) attracted a significantly higher number of visitors compared with the other two churches (active churches). Zancanaro, Stock and Alfaro addressed the importance of designing good contents and presenting them in a meaningful way, and suggested that the automatic guide tour using mobile guide "can reduce the interference with the enjoyment and the learning experience of an exhibit" [19].

Arguably, visitors expect to learn and gain some knowledge from their church visit and this is one of their motivations for visiting such cultural places. Furthermore, visitors enjoyed visiting historic churches because it enhances their knowledge about the history and the features that particular churches offer, and at the same time they would like to know more about the church and its features after their visit.

### 5.3. Enjoyment and Intellectual Stimulation/Curiosity (CES-EIS)

Cultural spaces such as historic churches strive to find good ways to engage their visitors with intellectual stimulation/curiosity within the church walls. Obviously, this is one of main goals of visiting cultural spaces. In order to achieve this goal, cultural spaces strive to present information about a church and its features in such ways



that it is easy for visitors to understand and to need the least amount of effort to understand any underlying messages. This can be done by having an interactive exhibition with or without using technology. McDonald also discussed how exhibits have 'implicit messages' which lie in visitors' minds before their visit, and museums are able to enforce this knowledge by presenting it in a meaningful way or with the aid of technology [20].

The results from the CES showed that active churches produced significantly higher scores on the enjoyment and intellectual stimulation/curiosity component, this may well be because one active church in this study had an ongoing exhibition in addition to various other features similar to the inactive church. Overall, result showed that CES-EIS component are significantly higher than other CES components, both active and inactive churches.

#### *5.4. Information Overload (CES-IO)*

Clearly, cultural spaces such as historic churches also strive to be places that impart to their visitors more than just clearly presented information. To achieve this, cultural spaces explore the way information or exhibitions are presented as well as the amount of information provided. In addition, the visitors should not be saddled with vast amounts of information. Historic churches should be places that are able to develop visitors' curiosity and sense of wonder as well as places of worship; more than simply a place for knowledge dissemination or diversion from daily activities. Hence, churches and their information features should be carefully designed such that they are able to attract visitors' attention and, at the same time, to keep them engaged. In addition, information presentation should be moderate, not too lengthy that it might bore visitors nor too little that it fails to communicate with the visitors themselves.

The results from the CES showed that visitors in the active church are were more overwhelmed with the amount of information given to them compared to the visitors in the inactive church. In addition, CES-IO component are significantly lower than other CES components, both active and inactive churches.

#### *5.5. Immersion (CES-I)*

Cultural spaces such as historic churches should be a place for visitors to experience a sense of immersion. Historic churches should be able to detach visitors' minds from everyday thoughts and cause time to pass without them being aware. In addition, historic churches should be a place to experience a past medieval time because the churches' features are well preserved (and sometimes still used for their original purpose).

The result from immersion component (CES-I) shows that inactive church has a higher score on immersion component than active church, although the different are relatively small. Visitors in inactive church are more immersed into the church and its features than the visitors in the active churches. This could be because the inactive churches' features are well preserved and have the feeling of medieval times.

There are various ways to provide visitors' needs and expectations within cultural spaces. They should be a place that not only imparts information to visitors, but is also able to stimulate intellectual involvement. They should also offer a sense of immersion and engagement, whilst enabling visitors to have a spiritual and emotional connection with the church and its features.

## **6. Conclusion**

The development of the CES now allows us to investigate visitors' experiences in historic churches in different circumstances – with and without a multimedia guide, and with different kinds of guides, both the more "traditional" dedicated guide that visitors rent from the location or guides that visitors download to their own smartphone. Importantly, to date there is no available framework to measure visitors' experiences in historic churches, both with or without mobile guide. We can use the information gained from such studies to help historic churches to provide information to various types of visitors.

The CES scale is a contribution to the body of knowledge in museum studies and human computer interaction and should be useful to researchers and practitioners in other related fields. The five components of Emotional/Spiritual Experience; Enjoyment, Intellectual Stimulation/Curiosity; Knowledge/Learning; Immersion and Information Overload which comprise the CES can be used as a simple way of measuring to what extent a particular historic church, or exhibition or use of technology creates a meaningful experience for visitors. We have



developed a good visitors' experience scale on which we have found good scores on the Knowledge and Learning, Spiritual and Emotional Experience, Immersion as well as Enjoyment and Intellectual Stimulations/Curiosity components. Furthermore, this scale can be easily adopted for use in Mosques, Synagogues, Sikh and Buddhists temples and other spiritual places.

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