making business sense

Main technical report: Attending heritage sites

A quantitative analysis of data from the Taking Part survey

A report for English heritage

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Introduction and background

Introduction

This is a technical report from the centre for economics and business research ltd (cebr) describing our findings of our analysis of data from *Taking Part: the National Survey of Culture, Leisure and Sport.*

English Heritage would like a model which explains attendance and non-attendance at heritage sites by reference to the range of social, economic and geographical data that has been collected with each individual response. This report is the technical report that details our findings. A non-technical summary report is also provided for those without a statistical background.

We first analyse the main economic drivers of attendance, taking attending at heritage sites as a binary variable – either attend or do not attend. Using Probit modelling we determine the relative importance of each factor. We explain what we have found to be the main factors and the variables we find do not affect heritage attendance.

To further understand the interaction between the variables and the different groups of people who attend and do not attend heritage sites we undertake sub-analysis.

After analysis of the economic drivers we determine the relevant qualitative drivers. As these are more subjective we analyse them with cluster analysis first. This is particularly useful when analysing a large number of behavioural and attitudinal responses. The spread of data determines the number and the contents of the groups according to responses of the given subject. We can also calculate the groups attendance at heritage sites and the characteristics of the people within each group.

During the cluster analysis we also analyse reasons why people do not attend heritage sites. Following this we use our Probit modelling techniques on factors highlighted. This allows us to determine, with a degree of statistical confidence, whether the socioeconomic characteristics highlighted are statistically significant.

In section 7, we bring together our qualitative and quantitative work to determine which factors are more influential in predicting heritage attendance.

Finally, we analyse the frequency of attendance. In particular, we attempt to determine statistically whether there is a distinct group(s) in the population that are fundamentally disinterested in heritage. We use the Heckman two stage models to determine whether attendance and frequency of attendance are determined the same way. Again, we examine relevant importance of social and economic drivers.

Background

The Department of Culture, Media and Sport (DCMS) aims to provide everyone with the chance to get involved with a variety of sports, arts and cultural activities. Increasing participation in these activities will improve individuals quality of life through health benefits, developing new personal and professional skills, as well as stimulating economic growth and promoting community cohesion.

To increase participation the DCMS must first find what factors, and to what extent these factors, affect individual's decisions on whether or not to participate in specific activities. It is also vital to assess the link between such factors and their relative importance. Once these have been estimated the DCMS can set strategies to increase participation and forecast potential changes to rates.

For reliable and robust estimates it is necessary to have a large enough dataset containing preferences and factors that affect such decisions. *Taking Part: the National Survey of culture, Leisure and Sport* was commissioned to create a detailed database of such information. The *Taking Part* survey contains a considerable amount of information – 1,800 variables and 28,000 observations – including the characteristics and personal situation of the people responding to the survey. This includes:

- Social-economic variables; such as income, class, employment status
- Demographics; such as age, gender, size and nature of household, ethnicity,
- Opinions and personal information; including attitudes to heritage, whether visited site as a child
- Geography; region and whether place of residence is urban or rural

Published outputs from the survey include quarterly updates on performance against PSA targets, a report on why people attend and do not attend, and a report providing information derived from data collected in the first year of the survey.

The published reports concentrate on providing univariate and bivariate information. We supplement this by providing further analysis specific to attendance of heritage sites. Our additional analysis also creates a model that allows greater insight into relative importance of different factors that influence attendance at heritage sites .

Our study:

- provides a **statistical evaluation** of the drivers of attendance
- identifies the **social and economic factors** that affect attendance and non-attendance of activities and how they may interact
- includes an in-depth evaluation of the groups of people who do and do not attend heritage sites

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The main economic drivers

Methodology

People may attend heritage sites for several reasons, for personal enjoyment, relaxation, accompanying children or for learning. However, there are barriers to the amount a person may attend a heritage site. These may be financial (low income), due to lack of time, lack of interest, bad health or another factor.

In this study we attempt to explain heritage attendance and non-attendance using social, economic and various other personal and geographic factors. The study covers adults resident in England, but can refer to heritage sites anywhere. The dependent variable, unless otherwise specified, is one or more visits to a heritage site during the twelve months prior to interview.

We first analyse factors that economic theory may point to having an influence on heritage and non-attendance. We use probit modelling to determine the strength of the relationship between the factors and our dependent variable.

The main problem with the analysis of attendance at heritage sites using socio-economic data is the strong correlation between many of the variables analysed. This makes it difficult to pin-point the precise affect of a single variable. For instance, we may find a strong association between socio-economic groups and attendance. However, without taking into account income, which has a strong relationship with socio-economic group, we cannot conclude whether association is due to income or a social driver.

Model specification and economic theory are therefore essential. To help with model development we first analyse the dataset and the relationship of the drivers to heritage attendance and attendance. In particular, we calculate the correlation and the statistical significance of the correlations. The results of this are in the appendix, Table A1 to A5.

We use a general to specific approach to remove variables that are found to not be significant[1]. We also use economic theory, further testing and the correlation tables (A1 to A5) to check results. We also use the general to specific approach starting from a different model specification and compare these models. We decide on the final model using a mix of the above statistical and analytical methodologies.

We use Probit rather then Logit modelling because it is consistent with the Heckman and Tobit techniques that are used to examine the frequency of attendance. Also, it is also more likely that the distributions of the variables examined follow a normal distribution rather than a logistic distribution. The logit model was often preferred in analysis because coefficients are easier to interpret. However, this is no longer the case because we can use statistical packages to assist in interpretation.

We also analyse more behavioural attitudes and reasons for attendance and non attendance. For this a slightly different approach was used, namely cluster analysis. This approach was preferred because it allows descriptive analysis of data in more than one or two dimensions.

[1]Either using 90 per cent confidence intervals or 95 per cent confidence intervals

The main drivers

Overall, 69.9 per cent of individuals attend a heritage site, 30.1 per cent do not attend. We now discuss what we have found to be our main economic model that explains these figures given personal and geographical information.

We have found the factor that is has the strongest relationship with whether or not a person attends a heritage site is whether a person within the household owns a **vehicle**. Owning a vehicle affects the accessibility of heritage sites.

Out of the people who have access to a vehicle 74.8 per cent attend heritage sites. In households were a person does not own a vehicle 48.5 per cent attend heritage sites, as can be seen in Table 2. However, access to a vehicle is highly correlated with many other factors such as a person's health and their income. The model takes into account these factors to calculate its individual affect.

If a person has access to a vehicle the model calculates the predicted probability of attending a heritage site to be 68.0 per cent. This means, holding all other drivers at their margin so a person is on the balance of attending or not, if a person owns a vehicle the probability of them attending a heritage site is 68.0 per cent. On the other hand, the probability of a person attending a heritage site who does not have access to a vehicle is 32.0 per cent. However, this may overestimate the effect of vehicle access because the final model does not include the socio-economic variable, which is highly correlated with the 'vehicle access' variable.

Table 1: Results of Probit modelling of heritage attendance

	Coefficient	Predicted probability
Gender (male=1)	-0.15**	44.0%
Number of adults in household	-0.03**	49.0%
Age (written in short)	0.02**	50.9%
General health (1=very bad, 5=very good)	0.16**	56.3%
Ethnicity (white=0)	-0.22**	41.4%
Income	0.03**	51.3%
Vehicle access (access=1)	0.48**	68.3%
Area type (urban=1)	-0.15**	44.2%
Highest qualification gained	0.17**	56.8%
Number of children in household	-0.06**	47.6%
Constant	-0.44	33.1%

Table 2: Percentage of people attending heritage sites who have access to a vehicle

	No vehicle access	Vehicle access
Do not attend	51.5%	25.2%
Attend	48.5%	74.8%
Total	100%	100%

** significant to 95 per cent
* significant to 90 per cent

A person's **socio-economic group** has a strong relationship with heritage attendance, with the lower socio-economic groups far less likely to attend. 78.9 per cent of people from a higher socio-economic group attends versus 56.1per cent from lower socio-economic groups. However, we have not included this in the final model as it has a high correlation with other variables such as income, number of adults in a household, area type and a persons health. This can cause results for other variables to be misleading . We tested the model with and without the socio-economic variable. Although more of the fluctuations in attendance could be explained including socio-economic group, including it affects other factors quite substantially.

If the socio-economic variable is removed from the model the second most important factor is whether or not a person **smokes**. We find, the predicted probability of a smoker attending a heritage site is 40.7 per cent. If we keep, age, gender, ethnicity, number of children, constant, smoking will always reduce the probability of attending a heritage site. The attendance and non-attendance rates of smokers and non-smokers is given in Table 3. However, the theoretical link between smoking and heritage attendance is weak. We assume the significance is due to correlations with socio-economic groups and do not include it as a variable in the final model.

Table 3: Percentage of people attending heritage sites who smoke

	Do not smoke	Smoke
Do not attend	27.2%	39.3%
Attend	39.3%	60.7%
Total	100%	100%

A person's **health** is a main factor related to attendance at heritage centres and is found to be highly significant in our final analysis. Table 4, on the left, details the probability of attending given responses of the general health question. As a person's health improves, so does attendance.

The **ethnicity** of a person also has a strong relationship with attending heritage centres and is found to be significant in our final model. People of a white background are far more likely to attend a heritage centre than those who are not – even after controlling for all other factors. Looking at White against black and minority ethnics, 71.9 per cent of people from a white background attend, 28.1 per cent of people from an non-white background attend. Table 5 details the attendance of people in each ethnic group. This information is taken into account along with all other information belonging to the individual to determine the likelihood of attending given a person's characteristics.

We find the predicted probability using the PSA target measure for ethnicity is 68.0 per cent. Implying if you are white you are 68.0 per cent likely to attend a heritage site, all other things constant. The figure for a non-white person is 32.0 per cent. In the main model we use the ethnic group variable as this takes into account different groups and is found to be statistically better. However, the interpretation for the coefficient is not so well defined as it is not *a binary variable*.

Table 4: Percentage of people attending heritage sites and how they classify their health

	Very bad	Bad	Fair	Good	Very good
Do not attend	68.2%	52.0%	38.8%	27.9%	23.1%
Attend	31.8%	48.0%	61.2%	72.1%	76.9%
Total	100%	100%	100%	100%	100%

Table 5: Percentage of people attending heritage sites by ethnicity

	White	Non-white	Mixed	Asian	Black	Refused/ other
Attend	71.9%	50.6%	55.4%	51.1%	41.5%	67.0%
Do not attend	28.1%	49.4%	44.6%	48.9%	58.5%	31.6%
Total	100%	100%	100%	100%	100%	100%

We found that 'whether respondent has **longstanding illness, disability or infirmity**' (PSA consistent) is not a significant barrier to attendance if the general health variable is included. The model is better defined with the general health variable than the disability variable. A person's disability is already taken into account with the general health variable and this implies a person's 'feeling' about their health is more significant than the actual disability.

Education, or 'highest qualification gained', also has a strong effect on attendance. People with a higher level of education are more likely to attend heritage sites. This factor has a high correlation with income and socio-economic group. When education is not included in the model **income** has a stronger relationship with heritage attendance. This implies qualification has more explanatory power than income when predicting heritage attendance. Although it has a low effect, income is still found to be significant in our model.

If highest qualification gained is included in the model the **region** a person lives in becomes an insignificant driver of attendance. Regional models are discussed in the next section.

Gender also has a significant correlation with attendance according to our main model. With everything else constant females are more likely to attend heritage sites. However, the strength of its association with attendance changes quite considerably across models. This factor is also looked at in more detail in the next section.

Similarly, **area type** – whether the place a person lives is either urban or rural area – has a significant relationship in the main model but its influence varies across models tested. If a person lives in a rural area they are far more likely to attend a heritage site, all other factors held constant. Attendance of people living in a rural area is 77.4 per cent against 68.0 per cent in a urban area. This may be due to closer proximity of heritage sites, and therefore accessibility, or preferences of people who live in these areas.

The number of **children** in a household has a limited impact on heritage attendance. More children lowers the probability of attending a heritage site. Whether a household has children can affect financial resources and time available for leisure pursuits.

A larger number of **adults** in a household, should theoretically support finances and time available. However, according to our main model increasing the number of adults in a household decreases the probability of attending a heritage site. Despite this, the effect is minimal and this variable is found to be insignificant in many of the models examined. It is likely the correlation between the number of adults in a household, a person's health, age and ethnicity have meant this is statistically significant even though its relationship with heritage attendance is low.

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Sub analysis

We conduct sub-analysis to understand the behaviour of individuals belonging to a certain groups. We use our main model and look at specific groups within it, comparing and contrasting the preferences of those in separate groups. For example we run the model for only males and again for only females to determine their underlying differences. If coefficients are constant across groups analysed we can conclude any differences in attendance numbers in the two groups are due to their drivers. A hypothetical example could be if income has the same affect (same coefficient) on males and females, but women have a lower average income and therefore lower attendance.

Alternatively, the coefficients may be statistically different, i.e. their 95 per cent levels do not cross. This implies the groups of people examined are inherently different and the difference in numbers are due to preferences rather than drivers.

In this section we examine the following subsections using this analysis:

- Gender
- Socio-economic group
- Health classifications
- Disability
- Region of residence
- Different age groups
- The number of children in a household
- Ethnicity
- Whether or not a person is a smoker

Gender

We find, overall, being female increases the likelihood of attending a heritage centre. Given a person is female the likelihood of them attending a heritage site is 66.0 per cent, the same figure for a man is 44.0 per cent, taking all other factors into consideration. This is despite the proportion of males and females attending heritage sites being very similar. Overall, 69.7 per cent of females have been to a heritage site in the last twelve months, the figure for males is 70.0 per cent. This can be seen in Table 7.

We have split males and females to determine whether the probability of them attending is due to inherent differences or differences in their drivers. We compared the models for males and females in Table 8 to determine if any coefficients were statistically different. If the coefficients are statistically similar we find this to be consistent with different drivers – more women have a smaller income and this decreases attendance. If coefficients are statistically different we take this to mean that the two groups are inherently different – having children may have more of an impact on male attendance than female attendance because of their preferences.

We find that within a 95 per cent confidence level, for males and females, **age, income, number of children, ethnicity**, whether or not a person in the household owns a **vehicle**, and **highest qualification** gained all have the same impact. On the next page we discuss which factors are different.

Table 7: Percentage of people attending heritage sites and their gender

	Female	Male
Do not attend	30.3%	30.0%
Attend	69.7%	70.0%
Total	100%	100%

Table 8: Results of Probit modelling of heritage attendance for males and females

	Male	Female
Number of adults in household	-0.00	-0.05**
Age (written in short)	-0.00	0.04**
General health (1=very bad, 5=very good	0.12**	0.19**
Ethnicity (white=0)	-0.21**	-0.22**
Income	0.04**	0.02**
Vehicle access (access=1)	0.46**	0.49**
Area type (urban=1)	-0.17**	-0.12**
Highest qualification gained	0.16**	0.18**
Number of children in household	-0.06**	-0.07**
Constant	-0.43**	-0.56**

** significant to 95 per cent
* significant to 90 per cent

The number of **adults** in the household is a statistically significant factor when female, however its impact is very low. Increasing the number of adults in a household decreases the probability of attending a heritage site. For males, the figure is not significant but the two figures are not statistically different – the 95 per cent confidence intervals overlap. This adds to evidence that the number of adults in a household does not affect heritage attendance and the relationship observed is due to correlation with other factors.

Possibly a more interesting finding is that a person's general **health** has more of an impact if a person is female. If healthy, a female is more likely to attend than a male of the same health level.

We examined male and female health levels in more detail and found that males were not more likely to report themselves as healthier or less healthier. The spread of 'healthiness' is consistent across the two genders. This can be seen in Table 9.

Table 10 shows the percentage of males and females that attend and do not attend heritage sites, given their healthiness. It appears men are more likely to attend if healthy but the difference is minimal. This would mean the coefficient would need to be higher if for females to have the same attendance, given their health level.

Table 9: Percentage of males and females and how they classify their health

	Male	Female	Total
Very good	33.6%	33.1%	33.3%
Good	41.5%	40.2%	40.8%
Fair	18.9%	20.2%	19.6%
Bad	5.0%	5.4%	5.2%
Very bad	1.0%	1.1%	1.0%
Refused/don't know	0.1%	0.0%	0.1%
Total	100%	100%	100%

Table 10: Attendance of males and females and how they classify their health

	Male		Female	
	Do not attend	Attend	Do not attend	Attend
Very good	27.3%	36.3%	24.0%	36.0%
Good	38.8%	42.6%	36.8%	41.6%
Fair	23.2%	17.0%	27.0%	17.3%
Bad	8.4%	3.5%	9.5%	3.6%
Very bad	2.1%	0.5%	2.6%	0.5%
Refused/don't know	0.2%	0.0%	0.1%	0.0%
Total	100%	100%	100%	100%

Socio-economic groups

Lower socio-economic groups have much lower attendance rates, 56.1 per cent, than higher socio-economic groups, 78.9 per cent, as seen in Table 11. This is found to be a significant factor when included in the model but is removed due to high correlations with other factors. To further investigate why socio-economic groups appear to act differently even after income and other factors are taken into account we ran our model for low socio-economic groups (NS-SEC 5-9) and for high socio-economic groups (NS-SEC 1-4). The results are given in Table 12.

There were no significant differences in the coefficients for the majority of factors put in the model. This implies the difference in attendance of the two groups is a result of the drivers rather than the preferences of the two groups. This also suggests socio-economic status should not be included in the main model as its influence can be explained by other factors. However, ethnicity had more of an impact in the model for lower socio-economic groups (NS-SEC 5-9), than in the model for higher socio-economic group, with coefficients of -0.26 and -0.18 respectively.

A person's age is not significant for the higher socio-economic groups but is for the lower socio-economic groups. In lower socio-economic groups an older person is less likely to attend a heritage site than a younger person, all else equal. However, the relationship is minimal and the difference between the two coefficients is not statistically different.

Table 11: Percentage of people attending heritage sites who and their socio-economic group

	NS-SEC 1-4	NS-SEC 5-9
Do not attend	22.1%	43.9%
Attend	78.9%	56.1%
Total	100%	100%

Table 12: Results of Probit modelling of heritage attendance for higher and lower socio-economic groups

	NS-SEC 1-4	NS-SEC 5-9
Gender (male=1)	-0.12**	-0.17**
Number of adults in household	-0.02*	-0.02
Age (written in short)	0.00	0.03**
General health (1=very bad, 5=very good)	0.16**	0.14**
Ethnicity (white=0)	-0.18**	-0.26**
Income	0.03**	0.03**
Vehicle access (access=1)	0.43**	0.46**
Area type (urban=1)	-0.17**	-0.11**
Highest qualification gained	0.15**	0.16**
Number of children in household	-0.08**	-0.03**
Constant	-0.44**	-0.22**

** significant to 95 per cent
* significant to 90 per cent

The health of an individual

Health has a strong correlation with attendance rates, even after age and disability are taken into account. Looking more closely into health, we examine the drivers for each group who classify themselves in each of the health categories. Again, we compare coefficients to determine whether there are inherent differences within the health levels. Results are given in Table 13.

Only one per cent of those questioned said their health was '*very bad*', of these only 31.8 per cent attend heritage sites. As this is a small sample the variance is large and the only variables significant to 95 per cent were whether or not a person owns a vehicle and the age of a person.

Looking at people who said they had '*bad*', '*fair*', '*good*' and '*very good*' health there are no significant differences except for age. This implies there are no underlying factors determining why a person may or may not attend given their health.

There is a clear upwards trend in the **age** variable. The coefficient for individuals with good or very good health is statistically different from those with fair health or worse. If a person has bad health, the older an individual is, the less likely they are to attend a heritage site. The opposite is true for people with good health. Given their good health level, people are more likely to attend a heritage site if older. This implies older people do want to attend sites but it is their health preventing their attendance.

Table 13: Results of Probit modelling of heritage attendance for different health levels

	Very bad	Bad	Fair	Good	Very good
Gender (male=1)	0.11	-0.15	-0.11**	-0.16**	-0.18**
Number of adults in household	-0.04	0.03	-0.06**	-0.02	-0.00
Age (written in short)	-0.14*	-0.11**	-0.06**	0.07**	0.09**
Ethnicity (white=0)	-0.12	-0.25**	-0.18**	-0.23**	-0.22**
Income	0.01	0.03**	0.03**	0.04**	0.03**
Vehicle access (access =1)	0.59**	0.39**	0.52**	0.46**	0.38**
Area type (urban=1)	-0.22	-0.13	-0.14**	-0.11**	-0.20**
Highest qualification gained	0.24**	0.22**	0.17**	0.17**	0.16**
Number of children in household	-0.03	-0.04	-0.09**	-0.07**	-0.03*
Constant	-0.15	0.21	0.33**	0.11**	0.23**
Sample size	375	1,706	5,918	11,219	8,858

** significant to 95 per cent
* significant to 90 per cent

The coefficients for highest **qualification** gained have a clear downwards trend, although they are not significantly different. This suggests if a person is in bad health a higher qualification is more likely to persuade an individual to attend a heritage site. If a person is in good health, they are also more likely to attend a heritage site with higher levels of education but the influence of education is not as high.

Having access to a **vehicle** is strongly related to attendance at heritage sites. The effect is statistically consistent across health categories. However, it appears if a person has bad health, having access to a vehicle can have more of an influence on attendance rates.

The **type of area** a person lives in and the **ethnicity** of a person has a significant impact on attendance of heritage sites and is consistent across health categories.

The **number of adults** in a household is not a significant driver of attendance for any health category except for those with fair health. More adults in the household decreases the probability of a person attending a heritage site but the impact is low.

Similarly the **number of children** in a household has more of an impact if a person has fair health. However, there is no apparent trend and the impact of the number of children on attendance given health levels is low.

A person's **gender** has more of an impact if a person has good health. This relationship is discussed in the gender sub-analysis on page 15.

Whether or not a person smokes

If a smoking variable is included in the model there is no significant difference in the coefficients but there is a clear upward trend, with smoking making more of an impact as the health level increases.

This implies being a smoker will deter you more from attending a heritage site if you claim you are in very good health compared to if you were in very bad health. This could be a result of more people claiming to be healthy given that they are smoking, rather than being healthy relative to non-smokers.

Looking at smokers and their health we find smokers are more likely to have bad health, as seen in Table 14 on the next page. This does not take into account the other drivers, therefore we also examined the propensity to attend a heritage site given the individual is a smoker or non-smoker. These results are on the next page and Table 15.

We find that given that comparing smokers and non-smokers, we find their **age**, **region** and **income** does not affect the likelihood of attending a heritage centre to a different extent. Neither does someone's **gender**, however the standard error for a smoker is quite high because of the lower sample size of non-smokers.

The coefficients for **health** are statistically different for smokers and non-smokers. The 95 per cent confidence intervals are 0.05 and 0.12 against 0.15 and 0.19. Therefore, if you are a smoker you put less weight on your health when deciding whether or not to visit a heritage centre.

The coefficient for **ethnicity** is also substantially different. There is half as much weight on ethnicity when a smoker than when a non-smoker. Looking into this further we find that the ethnicity variable is not highly related to smoking or health. However, it is related to socioeconomic group (which has a strong correlation with health), the number of adults and number of children that are in a household (which are also highly related to health).

Table 14: Percentage of people attending heritage sites who smoke

	Non smoker	Smoker
Very bad	1.3%	1.6%
Bad	5.4%	8.1%
Fair	19.7%	25.3%
Good	39.6%	40.9%
Very good	33.9%	23.9%
Total	100%	100%

Table 15: Probit modelling of heritage attendance for different smokers and non-smokers

	Non-smoker	Smoker
Gender (male=1)	-0.17**	-0.08**
No. adults	-0.04**	-0.01
General health	0.17**	0.09**
Age (written in short)	0.01	-0.01
Ethnicity (white=0)	-0.25**	-0.12**
Income	0.03**	0.04**
Vehicle access (access=1)	0.49**	0.39**
Area type (urban=1)	-0.13**	-0.17**
Highest qualification gained	0.16**	0.18**
No. children	-0.07**	-0.04**
Constant	-0.32**	-0.37**

** significant to 95 per cent
* significant to 90 per cent

Longstanding illness, disability or infirmity

We found whether or not someone has a longstanding illness, disability or infirmity is a significant factor if we exclude the general health variable. However, if the health variable is included it becomes insignificant in comparison. The model with the health variable rather than the disability variable had a better fit and was therefore used as the main model. This implies the broader health variable has a closer statistical correlation with heritage participation.

We wanted to analyse the '*longstanding illness, disability or infirmity*' further. We used the same method as previously of defining two models. Results are given in Table 17. We found the two models were not as consistent as other models examined.

The health variable has more of an impact if a person is disabled. This may be expected as the two have very strong links. Having access to a vehicle also has more of an impact if disabled. This is because this group of people may have a greater need for a car in order to attend a heritage site than a person who is not disabled.

Although the coefficient for number of children looks significantly different it isn't. Not many people with longstanding illness, disability or infirmity have children and therefore the standard errors are relatively large and the estimate is not very accurate.

Table 16: Percentage of people attending heritage sites with a limiting disability/ illness and without

	Not disability/ illness	Disabled/ illness
Do not attend	58.0%	42.0%
Attend	72.0%	58.0%
Total	100%	100%

Table 17: Probit modelling of heritage attendance for disability/ illness

	Not disabled	Disabled
Gender (male=1)	-0.13**	-0.21**
Number of adults in household	-0.01	-0.05**
Age (written in short)	0.08**	-0.10**
General health (5=very good)	0.12**	0.20**
Ethnicity (white=0)	-0.22**	-0.19**
Income	0.03**	0.04**
Vehicle access (access=1)	0.43**	0.53**
Area type (urban=1)	-0.14**	-0.17**
Highest qualification gained	0.17**	0.18**
Number of children in household	-0.05**	-0.10**
Constant	-0.41	-0.14

** significant to 95 per cent
* significant to 90 per cent

Regional analysis

The region in which a person lives appears to make no significant impact on attendance of heritage centres in the majority of models tested. Whether we use a nine regional split or five regional split makes limited difference to results. However, as regions can not be ordered in easily and interpretation can be difficult. We therefore built separate models for the different regions and compared them separately. Table 19, on page 24, summarises these results.

Whether or not a person has access to a **vehicle** has the strongest correlation in all regions and throughout it has a similar effect. However, in London the relationship with vehicle access is not as large. This is due to the transportation in London – with better public transport links and higher personal transportation costs such as congestion charging and traffic. The coefficient is not statistically different from any other region.

The **income** of a person has more of an impact in the North East and less of an impact in the East Midlands and South West. These are significantly different at the 95 per cent level. However, if we look at **highest qualification received**, which is highly correlated with income, we find the South West and East Midlands have the highest coefficients. The relationship between income and qualification has clouded results. Removing the qualification variable we find London and the South have lower income coefficients (but not statistically different). This is due to differences in income and cost of living across the regions.

We fail to find **ethnicity** significant in the South West, although the coefficient is still negative. This is likely to be due to the mix and circumstances of ethnic minorities in the South West appear to be different, with 97.8 per cent of the South West's sample being white. However, because of a smaller sample size of ethnic minorities we cannot be sure this is the case.

The **health** of a person is significant and consistent across all regions, the 95 per cent confidence intervals are always within the range of 0.13 to 0.19. The average predicted probability is 56.4 per cent but the *interpretation is not clear because the variable is not binary.*

In East Anglia and the South West **gender** is not significant at the 95 per cent level. In all models being female increases the likelihood of attending a heritage site. The predicted probability is between 39.7 and 46.4 per cent. The coefficients are not statistically different to the other regions.

We found a person's **age** was not significant at the 95 per cent level for most regions in England. The exceptions were the North East and East Midlands. In the North East older people are more likely to attend heritage sites, all else being equal. In the East Midlands we find the opposite – older people are less likely to attend heritage sites, all else being equal. However, the fact the impact is very small implies age is only significant because of its correlation with other variables.

The number of **adults** in a household is not significant for the majority of the nine regions. The exceptions are the West Midlands and the South West, where a higher number of adults reduces the likelihood of attending a heritage site. However, the impact is small and is likely to be due to correlations with significant variables, such as health.

The **number of children** in a household has a low impact on heritage attendance in all regions. It is significant in most but not in the North East and East Anglia.

The **area type** has mixed results. For instance, in London the predicted probability is 75.8 per cent. However, this is not significant at the 95 per cent confidence level, which is between 44.8 per cent and 95.6 per cent. This large range is due to the small sample size. As can be seen in Table 18, out of the people surveyed only 0.2 per cent of those who live in London are from a rural area. Area type may be related to accessibility but no firm conclusions can be made.

Table 18: Percentage of people living in urban and rural areas by region

	Urban	Rural
North East	85.9%	14.1 %
North West	83.8 %	16.2 %
Yorkshire and Humberside	82.4 %	17.6 %
East Midlands	69.3 %	30.7 %
West Midlands	80.9 %	19.1 %
East of England	67.6 %	32.4 %
London	99.8 %	0.2 %
South East	78.7 %	21.3 %
South West	65.7 %	34.3 %
Total	80.1 %	19.9 %

Table 19: Probit modelling of heritage attendance for the nine regions of England

	North East	North West	Yorkshire and Humber	East Midlands	West Midlands	East Anglia	London	South East	South West
Gender (male=1)	-0.14 **	-0.26**	-0.19**	-0.18**	-0.13**	-0.09	-0.10**	-0.13**	-0.13
Number of adults in household	0.02	0.00	-0.00	-0.02	-0.07**	-0.03	-0.02	-0.01	-0.07**
General health (1=very bad, 5=very good)	0.13**	0.17**	0.19**	0.13**	0.14**	0.17**	0.15**	0.16**	0.18**
Age (written in short)	0.10**	0.05*	0.05*	-0.06**	0.04	0.03	-0.05*	0.04*	0.03
Ethnicity (white=0)	-0.14**	-0.22**	-0.22**	-0.24**	-0.23**	-0.19**	-0.21**	-0.09**	-0.03
Income	0.07**	0.04**	0.04**	0.00	0.04**	0.03**	0.04**	0.03**	0.01
Vehicle owner	0.47**	0.51**	0.44**	0.52**	0.54**	0.45**	0.33**	0.47**	0.47**
Area type (urban=1)	-0.15*	-0.01	-0.25**	-0.00	-0.34**	-0.18**	0.79*	-0.04	-0.09
Highest qualification gained	0.17**	0.17**	0.18**	0.19**	0.18**	0.16**	0.17**	0.15**	0.22**
Number of children in household	0.05	-0.07**	-0.05**	-0.09**	-0.09**	0.00	-0.08**	-0.05*	-0.07**
Constant	-0.83*	-0.71**	-0.52**	-0.03	-0.28	-0.51	-1.25**	-0.65**	-0.64**
Sample size	2553	3405	3048	2721	3249	2913	3495	3659	3061

** significant to 95 per cent
* significant to 90 per cent

Regional variations

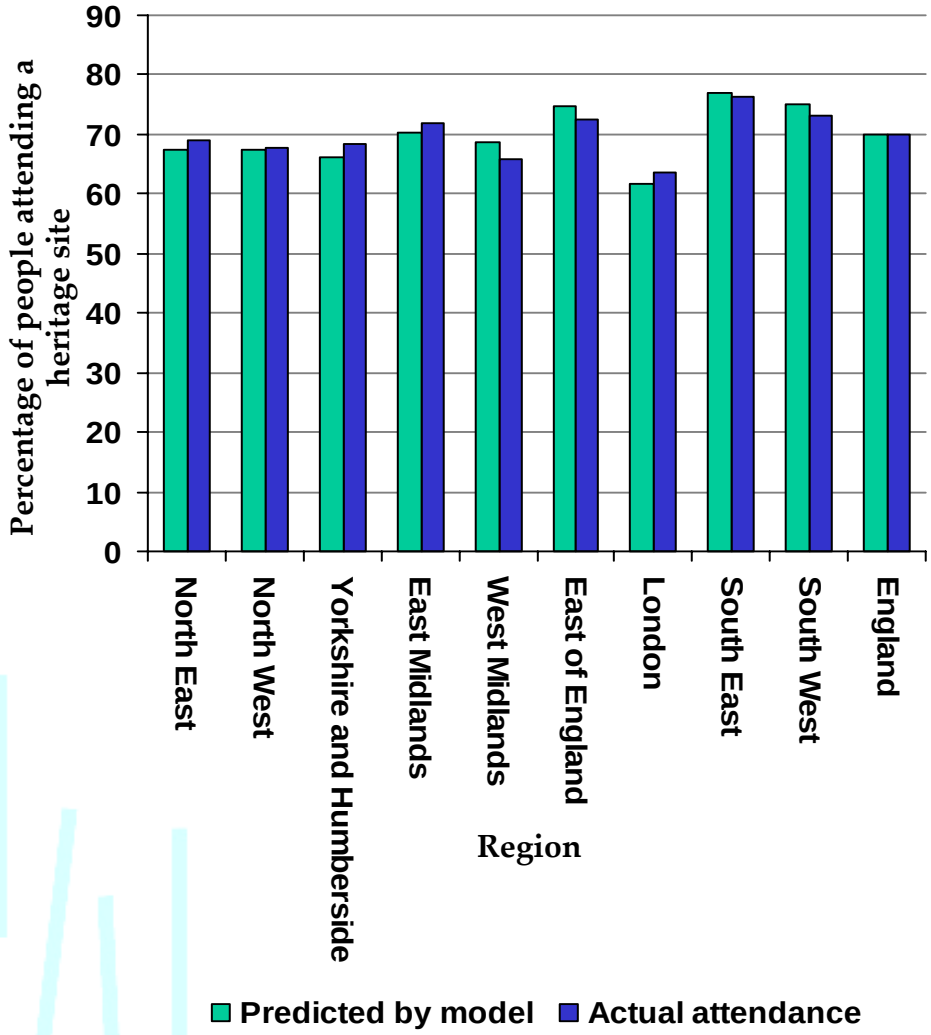
Our results imply different attendance rates between the regions were a result of a different mix of people and therefore the drivers of attendance rather than any difference between the regions. To test this we used our main model to find what it would predict to be the attendance rates for each region given the types of people who live in the region.

The model accurately predicts that attendance in London should be lower than all other regions given the mix of people living there. The factors behind this are: less people with access to a vehicle; a higher share of ethnic minorities; more males (although not as many as East Midlands and West Midlands); it is a mainly urban area; with more children in the household when there are children; a higher proportion of young people; and more households with four or more adults. This is despite London being a relatively healthy region with a high level of education.

It also accurately predicts that the South East will have the highest levels of attendance given the mix of people living in there.

Also of interest is that the model suggests attendance rates in the West Midlands should be higher given the economic and social factors of the people in the region. It also suggests attendance in Yorkshire and Humberside is high relative to the types of people in the region.

Figure 1: Actual and predicted attendance at heritage sites



Attendance for different age groups

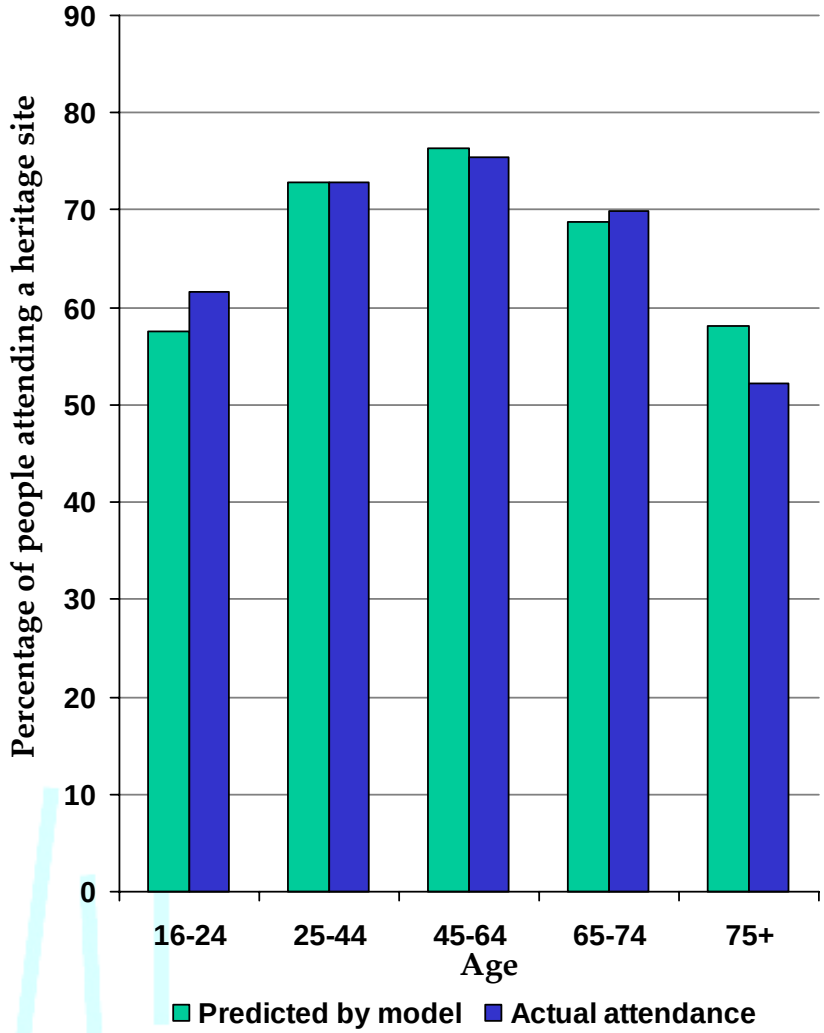
We found that a person's age had a limited correlation with attendance at heritage sites once other factors had been taken into account. Analysis implied low rates of attendance within the older generation were due to health factors and a lack of transportation. Results also suggested that low attendance by younger generations was not necessarily due to them being disinterested.

We analyse the mix of people in each age group further to determine the main factors that behind different attendance rates. We let our main model predict attendance rates for each age group and compared it with actual attendance rates. The results are shown in Figure 2.

The model's predicted rates of attendance were similar to actual attendance rates. It suggested attendance among the 16 to 24 age group and the over 75s should be the lowest. However, a person's general health may not be accurately gauged from the survey. This may cause the average health level – and therefore their attendance rate – of people in the over 75 group to be overestimated. Similarly, the average health level of people between the age of 16 and 24 may be underestimated.

The main factors behind low attendance among people between the age of 16 and 24 are: there is a higher share of ethnic minorities; a higher proportion of males than females; more adults in the house; less likely to have access to a vehicle (although more likely than for people over 75 years of age); more likely to live in an urban area. People between the age of 16 and 24 also have the lowest average level of education. However, the relationship with education may be misleading because younger generations have had less time to complete their studies.

Figure 2: Actual and predicted attendance at heritage sites, by age



The number of children in a household

The number of children in a household is likely to affect a person's time available, disposable income and their preference of how to spend their free time. We have therefore examined seven models to determine how the number of children in a household affects the likelihood of attending heritage sites. The first model contains only households with no children, the second model contains households with one child or more. Following this there are separate models for households with 1, 2, 3, 4 and 5 children. The model for 5 children has a very low sample size and thus is not very robust. The results of the modelling are on Table 20, page 28.

The **health** of an individual has significantly more of an impact if there are no children in the household. For households with four children or more the sample size becomes too small for significant results but appears consistent. People with bad health are less likely to have children than people with good health. People with no children are also less likely to attend. It is difficult to disentangle whether low attendance with no children is therefore because there are no children or because of bad health levels of these individuals. However, our model suggests health has the greater impact. It also suggests people are more likely to attend despite their bad health if they have children.

Comparing households which have no children against those that have one child or more we find no difference in the probability to visit a heritage site. However, a person's **gender** has more of an impact if there are no children in the household. Although not significantly different a female is more likely to go to a heritage site if she is in a household with children.

The **number of adults** in a household has more of an impact if there are no children than if there are children, but the coefficients are not statistically different. The number of adults has a negative impact – more adults decreases the likelihood of attending a heritage centre, given there are no children in the household.

Living in a rural area increases the likelihood of attending a heritage site. The **type of area** a person lives has more of an impact the more children a person has.

The impact of **highest qualification** gained is not significantly different for a person with a child compared to a person without a child. However, it appears to have more of an impact as the number of children in a household increases.

The following drivers have the same impact whether a person has children or not; **ethnicity**, whether or not a person is a **smoker** or someone in the household owns a **vehicle**. **Age** and **income** have a limited impact on whether a person attends a heritage site.

Table 20: Probit modelling of heritage attendance for the people with and without children

	Number of children						
	0	More than one	1	2	3	4	5
Gender (male=1)	-0.18**	-0.09**	-0.05	-0.11**	-0.14	0.01	-0.50
Number of adults in household	-0.04**	-0.00	0.00	-0.02	0.02	0.03	-0.28
General health (1=very bad, 5=very good)	0.18**	0.09**	0.06**	0.12**	0.10*	0.11	0.26
Age (written in short)	0.02*	0.04	0.05	0.02	0.08	-0.06	-0.21
Ethnicity (white=0)	-0.21**	-0.23**	-0.20**	-0.24**	-0.25**	-0.18**	-0.07
Income	0.03**	0.03**	0.03**	0.03**	0.02	0.01	-0.02
Vehicle access (access=1)	0.47**	0.48**	0.54**	0.48**	0.42**	-0.01	0.83**
Area type (urban=1)	-0.13**	-0.18**	-0.11*	-0.19**	-0.36**	-0.47*	-0.01
Highest qualification gained	0.17**	0.18**	0.16**	0.18**	0.21**	0.28**	0.38**
Constant	-0.48**	-0.33	-0.33*	-0.29	-0.41	0.05	-0.74
Sample size	19251	8853	3892	3444	1100	300	83

** significant to 95 per cent
* significant to 90 per cent

Ethnic background

Ethnicity has strong significance in all models tested. This implies there is a reason for ethnic groups not attending heritage sites other than drivers already specified in the model. We investigated this further and determined separate models for each ethnic group. We first modelled the white group and the non-white group. Following this we modelled the separate ethnic groups within the non-white group. The results of the modelling are on Table 21.

We first comparing models for the white group against the non-white (PSA consistent) ethnic group. The non-white group was much smaller but all variables were significant except the **smoking** variable. This variable has a statistically higher impact on the white population than it does the non-white.

Health also has a statistically higher impact on the white population. Likewise, being a **vehicle** owner and **socio-economic group** have more of an impact on those who are white. The coefficients for the geographical variables (region and area type), on the other hand, were stronger for people with non-white backgrounds.

Analysing the ethnic groups separately, we find mixed raced and people classified under '*other*' did not have a large enough sample size for robust modelling. We find **age** has more significance in the model for people from an Asian background than people from a black household. **Gender** is not significant at the 95 per cent level for ethnic groups.

** significant to 95 per cent
* significant to 90 per cent

Table 21: Probit modelling of heritage attendance for the different ethnic backgrounds

	White	Non-White	Asian	Black	Mixed	Other
Gender (male=1)	-0.20**	-0.11**	-0.18*	-0.05	-0.22	-0.01
Age	-0.10**	-0.18**	-0.36**	-0.04	0.11	0.11
No. adults	-0.03	-0.06*	-0.15**	0.02	0.09	-0.01
Smoker	-0.45**	0.00	-0.01	0.04	-0.15	-0.22
Income	0.08**	0.07**	0.08**	0.08**	0.03	0.15**
Vehicle access	0.84**	0.46**	0.44**	0.42**	0.41*	0.38
Area type (urban=1)	-0.19**	-0.82**	-0.87**	-1.23**	-0.41	0.28
Socio-economic group (1=low)	-0.65**	-0.43**	-0.43**	-0.33**	-0.61	-0.29
General health (5=very good)	0.30**	0.17**	0.19**	0.12*	0.08	0.45*
Region	0.01	0.09**	0.14**	0.06	0.06	0.12
No. children	-0.11**	-0.13**	-0.19**	-0.08	0.11	-0.20
Constant	-0.06	0.24**	0.84**	0.08	-0.24	-2.22
Sample size	24031	4057	2080	1320	436	237

Contents

Behavioural analysis

Cluster analysis

When responses to questions were more of a qualitative nature, and may overlap with more quantitative responses, we began analysis using a cluster approach. Cluster analysis is the partitioning of a data set into subsets (clusters). The groupings are such that data in each subset share some common trait. This should find groups of people with similar behaviours. We can then analyse the people who display these behavioural responses.

Cluster responses of individuals gives us a smaller number of (related) groups to analyse. This is particularly useful when we are analysing a large number of responses. We allow the data to determine the number of clusters but sometimes restrict this to four.

We analyse the traits each cluster has. In particular, the group's attendance at heritage sites and their socio-economic characteristics. Although clustering has restricted statistical weight it is a useful tool for grouping and selecting interesting factors to analyse further.

Using this approach we analysed peoples free time activity, musical tastes, volunteering activities and childhood experiences. Although childhood experiences are not a behavioural activity the outputs of cluster analysis can provide a fresh way of looking at the data.

In this section we analyse:

- Musical tastes;
- Events people attend;
- Volunteering activity;
- Free time activity;
- Whether people were encouraged as a child;
- Whether people were taken to places of interest as a child;
- Reasons for attending heritage sites;
- Reasons for not attending heritage sites;
- The heritage sites people go to.

Type of music

We wanted to understand further the types of people who attend heritage sites. To do this we first clustered responses of the following question: 'Can you tell me what sort of music you have been to see?' The responses were:

- Rock/Pop music
- Soul, R&B or Hip-Hop music
- Folk or Country and Western music
- Reggae/ Calypso/ Caribbean music
- African music
- South Asian music
- Spanish or Latin American music
- Scottish / Irish music [coded data only]
- Brass Band music [coded data only]
- Gospel [coded data only]
- Dance/Trance/Techno [coded data only]

Five clusters were found for the type of music people have been to see. This consisted of 22.2 per cent of the total sample. People outside these clusters could not be grouped easily according to their music tastes, or did not attend a music event in the last twelve months. They had lower attendance at heritage sites, had limited vehicle access and had a higher share of people from ethnic minorities when compared to the people within the clusters discussed next.

A summary of the number of people in each 'musical taste' cluster, the type of music they have been to see, various social, economic and demographic aspects of the cluster and their attendance at heritage sites is in Table 22 and 23.

I shall now discuss interesting findings from the cluster analysis. The fifth cluster had the highest attendance at heritage sites, 90.3 per cent, and had been to a folk or Country and Western music event in the last twelve months. People in this group were mainly male, between the age of 30 and 59 and from a white background. This group contained 3.0 per cent of those surveyed.

People who had recently attended a soul, R&B or Hip-Hop music event had the lowest attendance at heritage sites out of the five 'musical taste' clusters. Nevertheless, attendance was relatively high at 78.1 per cent. This group had a high share of 16 to 29 year olds and the lowest level of longstanding illness, disability or infirmity. It had the most access to a vehicle and a high share of males.

Table 22: Results of clustering for types of music events attended

	Type of music	Number	% of Combined	% of Total	Heritage attendance	Male	Female	16-29	30-59	60+
1	Rock/Pop music	2782	44.6 %	9.9 %	82.0%	51.4%	48.6%	32.5%	61.9%	5.6%
2	Reggae/Calypso/Caribbean music/ African music, South Asian music, Spanish or Latin American music,	975	15.6 %	3.5 %	87.4%	50.3%	49.7%	31.0%	62.0%	7.0%
3	Scottish/Irish music, Brass Band music, Gospel, Dance/Trance/Techno, other	946	15.2 %	3.4 %	87.1%	47.3%	52.7%	18.5%	46.6%	34.9%
4	Soul,R&B or Hip-Hop music,	682	10.9 %	2.4 %	78.1%	55.4%	44.6%	46.8%	50.4%	2.8%
5	Folk or Country and Western music	850	13.6 %	3.0 %	90.3%	61.0%	39.0%	15.4%	66.3%	18.2%
Combined		6235	100 %	22.2 %	84.1%	52.4%	47.6%	29.8%	59.0%	11.3%

Table 23: Results of clustering for types of music events attended continued

	Type of music	Vehicle Access	No longstanding illness, disability or infirmity	Longstanding illness, disability or infirmity	NS-SEC 1-4	NS-SEC 5-8	White	Non white
1	Rock/Pop music	90.7%	87.6%	12.4%	58.3%	29.0%	97.5%	2.5%
2	Reggae/Calypso/Caribbean music/ African music, South Asian music, Spanish or Latin American music,	85.3%	85.1%	14.9%	60.0%	24.9%	83.2%	16.7%
3	Scottish/Irish music, Brass Band music, Gospel, Dance/Trance/Techno, other	86.3%	79.3%	20.7%	64.0%	27.8%	93.5%	6.4%
4	Soul,R&B or Hip-Hop music,	86.3%	88.2%	11.8%	53.5%	27.3%	92.0%	8.0%
5	Folk or Country and Western music	90.3%	82.7%	17.3%	63.0%	27.6%	97.9%	1.9%
Combined		88.7	85.5%	14.5%	59.4%	27.8%	94.3%	5.7%

Events

We also analysed the responses to the following questions: In the last 12 months, have you been to any of these events?

- Film at a cinema or other venue
- Exhibition or collection of art, photography or sculpture
- Craft exhibition (not crafts market)
- Event including video or electronic art
- Event connected with books or writing
- Street arts
- Carnival
- Culturally specific festival
- Play/drama
- Other theatre performances (e.g. musical/pantomime)
- Opera/operetta
- Classical music concert
- Jazz performance
- Other live music event
- Ballet
- Contemporary dance
- African peoples dance or South Asian and Chinese dance
- Other live dance event
- None of these activities

Three clusters were found. These are summarised in Table 24 and 25 on the next page. **The first cluster** responded saying '*none of these events*'. This consisted of 25.9 per cent of the total sample. They had the lowest attendance at heritage sites at 41.7 per cent. There were a higher proportion of males, people over the age of 60, people with a longstanding illness, disability or infirmity, people without access to a vehicle and people in lower socio-economic groups.

The **second cluster** were involved in watching a film or a carnival. Heritage attendance was 69.1 per cent, the majority of people were between the age of 16 and 24 and there was a high share of people from non-white and low socio-economic groups.

In the **third group** people attended all other events not elsewhere classified and had 91.8 per cent attendance at heritage sites. This was 29.3 per cent of the total sample. There were more females between the ages of 30 and 59 in this group, high levels of vehicle access and low levels of longstanding illness, disability or infirmity.

Table 24: Results of clustering for types of events attended

	Types of free time	Number of people in cluster	% of Combined	% of Total	Heritage attendance	Male	Female	16-29	30-59	60+
1	None of the activities	7270	25.9%	25.9%	41.7%	50.5%	49.5%	13.2%	42.6%	44.2%
2	Film at a cinema or other venue, Carnival	12608	44.8%	44.8%	69.1%	50.1%	49.9%	27.4%	52.5%	20.0%
3	All other events not classified*	8239	29.3%	29.3%	91.8%	44.1%	55.9%	20.6%	58.0%	21.4%
Combined		28117	100%	100%	69.9%	48.3%	51.7%	22.0%	51.9%	26.1%

Table 25: Results of clustering for types of events attended continued

	Vehicle Ownership	No longstanding illness, disability or infirmity	Longstanding illness, disability or infirmity	NS-SEC 1-4	NS-SEC 5-8	White	Non white
1	66.5%	63.2%	36.8%	34.2%	60.6%	89.5%	10.4%
	82.9%	81.7%	18.3%	47.2%	42.5%	87.9%	12.0%
2	89.7%	84.9%	15.1%	68.5%	20.0%	93.4%	6.3%
Combined	81.2%	78.4%	21.6%	50.8%	39.7%	90.0%	9.9%

*Exhibition or collection of art, photography or sculpture, Craft exhibition (not crafts market), Event including video or electronic art, Event connected with books or writing, Street arts, Culturally specific festival, Play/drama, Other theatre performances, Opera/operetta, Classical music concert, Jazz performance, Ballet, Contemporary dance, African people's dance or South Asian and Chinese dance, Other live dance event

Free time activities

We clustered peoples free time activities to determine whether there are groups of people who take part in certain activities are more likely to attend heritage sites. The activities analysed were:

- Spend time with friends/family
- Read
- Listen to music
- Watch TV
- Days out or visits to places
- Eat out at restaurants
- Go to pubs/bars/clubs
- DIY
- Gardening
- Shopping
- Sport/exercise
- Arts and crafts
- Play a musical instrument
- Go to cinema
- Visit museums/galleries
- Theatre/music concerts
- Play computer games
- Internet/emailing
- Academic study [coded data only]
- Puzzles and games [coded data only]
- Attend/member of a society/club [coded data only]
- Gambling [coded data only]

We found two clusters. These consisted of just 6.1 per cent of the total sample. They are summarised in Table 26 and 27. The **first** took part in all activities, except '*gambling*' and '*puzzles and games*'. They had 87.9 per cent attendance at heritage sites. The number of males and females in this group was evenly spread, and people were less than 40 years old. People in this category are likely to be wealthy achievers.

The **second** cluster was the opposite of this and took part in no activities except '*gambling*' and '*puzzles and games*', they had 62.9 per cent attendance. They were mainly from the lower socio-economic groups, there were slightly more females and people over the age of 50 in this group. People are likely to be comfortably off or hard-pressed. We attempted to find clusters within this second cluster but no significant groupings could be found.

Table 26: Results of clustering for types for free time activity

	Types of free time	Number of people in cluster	% of Combined	% of Total	Heritage attendance	Male	Female	Age 16-29	Age 30-59	Age 60+
1	All activities except puzzles, games and gambling	906	53.2%	3.2%	94.0%	44.9%	55.1%	20.3%	53.5%	26.2%
2	Puzzles, games and gambling	797	46.8%	2.8%	71.7%	47.5%	52.5%	21.0%	48.8%	30.2%
Combined		1703	100%	6.1%	83.6%	46.1%	53.9%	20.6%	51.3%	28.1%

Table 27: Results of clustering for types for free time activity

	Vehicle Access	No longstanding illness, disability or infirmity	Longstanding illness, disability or infirmity	NS-SEC 1-4	NS-SEC 5-8	White	Non white
1	93.0%	81.7%	18.3%	70.6%	18.1%	93.6%	6.4%
2	82.3%	76.6%	23.4%	52.6%	38.2%	87.9%	12.0%
Combined	88.0%	79.4%	20.6%	62.2%	27.4%	90.9%	9.05

Volunteering

We clustered peoples volunteering activities. In particular we examined responses to the question 'During the last 12 months, have you done any voluntary work? And what kinds of things have you done?'. The following responses analysed were:

- Raising or handling money/taking part in sponsored events
- Leading the group
- Member of a committee
- Organising or helping to run an activity or event
- Visiting people
- Befriending or mentoring people
- Coaching or tuition
- Giving advice/ information/ counselling
- Secretarial, administrative or clerical work
- Providing transport or driving
- Representing
- Campaigning
- Conservation/restoration
- Officiating - e.g. judging, umpiring or refereeing
- Other practical help
- Work in a charity shop [coded data only]

We found six clusters. These consisted of 18.2 per cent of the total sample. We summarise these clusters and the types of people within them on Table 28 and 29.

The sixth cluster contained people who were more likely to run and lead volunteer work, usually individually rather than as a team. This group had the highest level of heritage attendance at 90.2 per cent but was only 3.2 per cent of the total number of people surveyed. It had the largest share of people over 60, contained the most males, had the smallest number of people, lowest percentage of ethnic minorities and the highest proportion of people in the higher socio-economic groups.

The second cluster was made up of people who liked to help, usually as part of a team. The types of volunteering were '*Member of a committee*' and '*Organising or helping to run an activity or event*'. There is a large number of people over the age of 60, but not as many as in the cluster described above. There are more females than males in this group and high levels of access to a vehicle.

Table 28: Results of clustering for types for volunteering

	Types of volunteering	N	% of Combined	% of Total	Heritage attendance	Male	Female	16-29	30-59	60+
1	Conservation/restoration, Work in a charity shop	968	18.9%	3.4%	81.7%	47.9%	52.1%	24.0%	48.2%	27.8%
2	Member of a committee, Organising or helping to run an activity or event	900	17.5%	3.2%	87.1%	40.5%	59.5%	11.5%	54.1%	34.4%
3	Raising or handling money / taking part in sponsored events,	687	13.4%	2.4%	82.3%	42.8%	57.2%	21.7%	55.7%	22.6%
4	'Other practical help'	761	14.8%	2.7%	77.9%	34.8%	65.2%	22.6%	48.6%	28.8%
5	Visiting people, Befriending or mentoring people, Coaching or tuition, Providing transport or driving	1247	24.3%	4.4%	84.2%	51.8%	48.2%	26.3%	49.1%	24.6%
6	Leading the group, Giving advice/ information/ counselling Secretarial, administrative or clerical work Representing Campaigning Officiating - e.g. judging, umpiring or refereeing	567	11.1%	2.0%	90.2%	56.0%	44.0%	10.3%	54.4%	35.3%
Combined		5130	100%	18.2 %	83.7%	45.9%	54.1%	20.3%	51.2%	28.4%

Table 29: Results of clustering for types for volunteering

	Types of volunteering	Vehicle Access	No longstanding illness, disability or infirmity	Longstanding illness, disability or infirmity	NS-SEC 1-4	NS-SEC 5-8	White	Non white
1	Conservation/restoration, Work in a charity shop	85.5%	78.3%	21.7%	58.3%	28.8%	91.1 %	8.8 %
2	Member of a committee, Organising or helping to run an activity or event	92.1%	78.5%	21.5%	71.6%	22.6%	94.6 %	5.0 %
3	Raising or handling money / taking part in sponsored events,	89.2%	84.4%	15.6%	60.1%	29.0%	92.5 %	7.5 %
4	'Other practical help'	80.8%	79.3%	20.7%	50.7%	36.6%	91.2 %	8.5 %
5	Visiting people, Befriending or mentoring people, Coaching or tuition, Providing transport or driving	89.6%	80.7%	19.3%	60.0%	25.7%	90.8 %	8.9 %
6	Leading the group, Giving advice/ information/ counselling Secretarial, administrative or clerical work Representing Campaigning Officiating - e.g. judging, umpiring or refereeing	92.1%	77.6%	22.4%	76.6%	14.7%	95.4 %	4.6 %
Combined		88.2%	79.8%	20.2%	62.2%	26.5%	92.3 %	7.5 %

Contents

Encouragement as child

We analysed peoples responses regarding questions on whether they were encouraged by their parents as a child. The main aim of this was to highlight factors that may not be found through a purely mathematical methodology or simple descriptive statistics and to find whether there are groups of people that have similar behavioural characteristics.

In particular we examined responses to the following questions:

- 'How much did your parent(s) or other adult(s) encourage you to read books that were not required for school or religious studies?'
- 'How much did your parent(s) or other adult(s) encourage you to draw or do painting, write stories, poems, plays or music?'
- 'How much did your parent(s) or other adult(s) encourage you to take part in sport?'
- 'How much did your parent(s) or other adult(s) encourage you to play musical instrument(s), act, dance or sing?'

Overall, we found those who were not encouraged as a child were far less likely to attend a heritage centre than those who were encouraged. Three main clusters in the responses of these questions were identified:

- People in the first cluster were not encouraged in any of the areas identified above. They had very low attendance at heritage sites, 53.9 per cent.
- The second cluster was encouraged but gave a large amount of '*don't know*' answers. Overall they were encouraged '*a little*'. The people in this cluster had higher attendance rates, 70.6 per cent.
- The third group was encouraged a lot. All respondents in this cluster were encouraged to read and write '*a lot*'. They were also encouraged to take part in sport and the arts but by a lesser extent. Their attendance at heritage sites was 78.9 per cent.

A summary of the clusters is given on the next page, on Tables 30 to 34. Encouragement to read and write appeared to have more an impact on the selection of the clusters. After finding our clusters we wanted to find out about the characteristics of people within these clusters. In particular, we want to see whether these responses are correlated with socio-economic groups. This is examined on pages 42 and 43.

Table 30: Results of clustering 'encouragement'

	Number	% combined	% of total
Cluster 1	1,978	14.3%	7.0%
Cluster 2	8,152	59.0%	29.0%
Cluster 3	3,681	26.7%	13.1%
Total	13811	100	49.1%

Table 31: How much did they encourage you to read books that were not required for school or religious studies?

	Don't know	Encouraged a lot	Encouraged a little	Didn't encourage at all
Cluster 1	0%	0 %	0 %	60.3 %
Cluster 2	100 %	47.8 %	100 %	39.7 %
Cluster 3	0 %	52.2 %	0 %	0 %
Total	100 %	100 %	100 %	100 %

Table 32: How much did they encourage you to draw or do painting, write stories, poems, plays or music?

	Don't know	Encouraged a lot	Encouraged a little	Didn't encourage at all
Cluster 1	0 %	0 %	0 %	37.7 %
Cluster 2	100 %	20.9 %	100 %	62.3 %
Cluster 3	0 %	79.1 %	0 %	0 %
Total	100 %	100 %	100 %	100 %

Table 33: How much did they encourage you to take part in sport?

	Don't know	Encouraged a lot	Encouraged a little	Didn't encourage at all
Cluster 1	17.1 %	5.2 %	8.7 %	31.8 %
Cluster 2	82.9 %	57.5 %	64.3 %	56.0 %
Cluster 3	0 %	37.3 %	27.0 %	12.2 %
Total	100 %	100 %	100 %	100 %

Table 34: How much did they encourage you to play musical instrument(s), act, dance or sing?

	Don't know	Encouraged a lot	Encouraged a little	Didn't encourage at all
Cluster 1	0%	0%	0%	29.0%
Cluster 2	100%	51.1	73.5%	56.7%
Cluster 3	0%	48.9	26.5%	14.2%
Total	100	100	100	100%

The **first cluster** – which had the lowest attendance at heritage sites and were encouraged little by their parents – had marginally more males than females. It also had more people from the older generation, 65 years and more, compared to the other clusters. This cluster is also more likely to be from the North and Yorkshire and Humberside.

The **second cluster** – who were encouraged a little and had much higher attendance – had a higher proportion of those between the ages of 35 to 44. It also had more males than females and a much higher share of people with only one child. People in this cluster are more likely to be from the East of England and the South West.

The **third cluster** had significantly more females (63.4 per cent) than males (36.6 per cent). Females were much more likely to have given a response stating they were '*encouraged a lot*'. It also had a higher proportion of people between the ages of 20 to 44 compared to the other age groups. There is a larger proportion of this group from London and the South East.

In previous analysis ethnicity and health were highlighted as significant drivers. We examined whether they were more or less likely to be encouraged by their parents in the four categories already discussed.

We looked at non-white versus white and found that there was no significant difference between the numbers of each of these groups across clusters. Breaking the non-white group into separate ethnic groups gave us a clearer understanding of the different mix of people within each group. We found that in cluster one there were more Asian individuals and less people from black and mixed race groups. However the differences were not statistically significant. There was no difference on the ethnic structure are clusters two and three.

There were more people with a long-standing illness, disability or infirmity in cluster 1 and there wasn't a difference in the proportions in clusters 2 and 3. The first cluster is also more likely to smoke and less likely to own a vehicle. Only 50.0 per cent have access to the internet at home, compared to 64.8 per cent in the second cluster and 71.0 per cent in the third cluster.

Acorn* and socio-economic groups summarise much of the information regarding income, expenditure and age discuss. These are analysed next.

* ACORN is a geodemographic information system categorising the United Kingdom into various types in order to identify and understand the UK population and the demand for products and services.

Cluster 1 – containing those who were not encouraged – has a significantly higher share of people from hard pressed backgrounds. If we look further – breaking up the acorn categories into groups – we find there are also more settled suburbia, more Asian communities, more blue collar roots, more struggling families, burdened singles, high rise hardship and inner city adversity in this cluster.

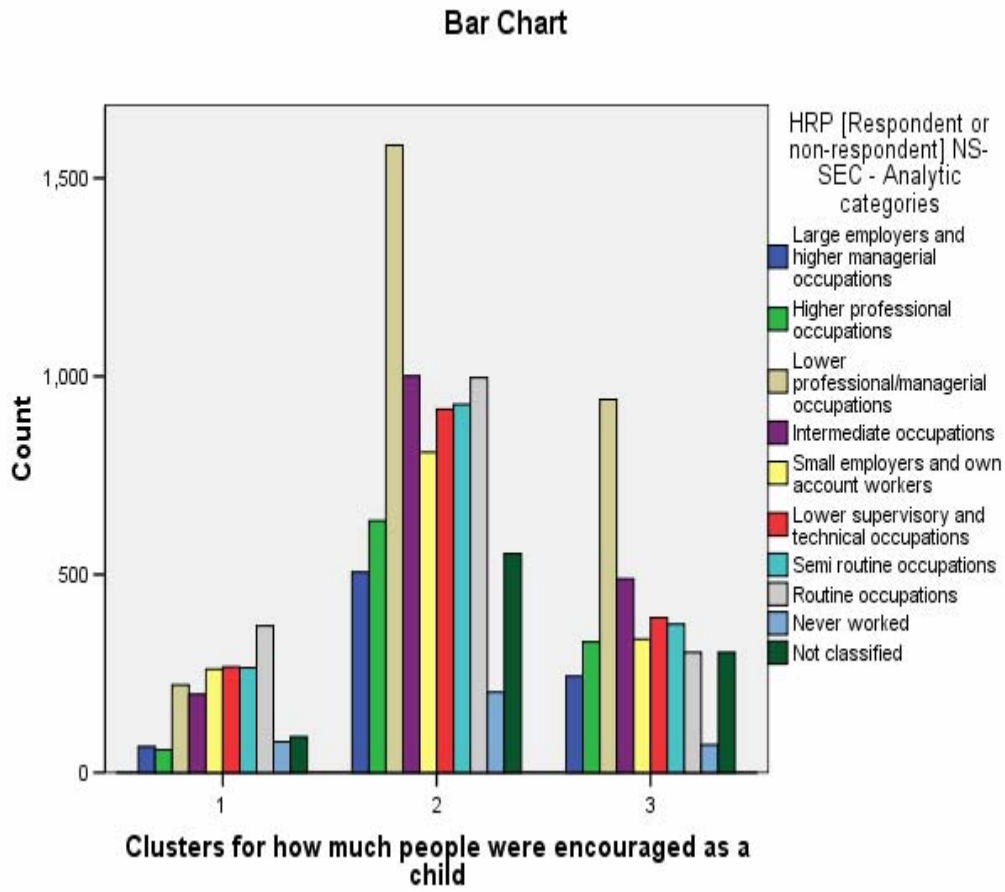
We also find less wealthy executives and affluent greys, less prosperous professionals, educated urbanites and people who are starting out.

The second cluster had marginally more comfortably-off and wealthy achievers. There were more flourishing families in this cluster.

Cluster 3 contains a larger number of people from urban prosperity. There are marginally more wealthy executives and prosperous professionals. More educated urbanites and aspiring singles.

Analysing the socio-economic backgrounds we find those in the first cluster are more likely to be from the lower socio-economic backgrounds (5 to 9) and those in the third cluster more likely to be from higher socio-economic backgrounds (1 to 4). This is related to low number with vehicle access and high levels of smokers. The results are given in Figure 3.

Figure 3: Socio-economic groups within the clusters of how much people were encouraged as a child



Taken as child

We wanted to know if being taken to a place as a child affects the likelihood of attending heritage sites. We analysed the following questions together using cluster analysis:

- 'When you were growing up, how often did your parent(s) or other adult(s) take you to museums or art galleries?'
- 'When you were growing up, how often did your parent(s) or other adult(s) take you to the theatre or to see a dance or classical music performance?'
- 'When you were growing up, how often did your parent(s) or other adult(s) take you to sites of historic interest?'
- 'When you were growing up, how often did your parent(s) or other adult(s) take you to the library?'

We identified two clusters, summarised on the next page, Tables 35 to 39. Individuals in the **first cluster**, overall, responded as '*never taken as a child*' in any of the four categories. This group had 58.3 per cent attendance at heritage sites.

People in **cluster 2** had been taken as child more often than people in the first cluster. Overall, the majority of people in this cluster attended 1 to 2 times a year as a child in the above categories. As adults, they now have 79.6 per cent attendance at heritage sites.

The **first cluster** had marginally more males, 51 per cent, than females. There was a larger share of people over the age of 45 compared to the second cluster. There are more people from Asian and black backgrounds. Slightly more smokers and people with a long-standing illness, disability or infirmity.

Acorn categories show the **first cluster** contains people from moderate means and hard pressed backgrounds. Looking into **Acorn groups**, we find wealthy executives, affluent greys and flourishing families are more likely to be in the first cluster. Struggling families are far less likely to have been taken as a child. Burdened singles, those in high rise hardship and Asian communities are also less likely to have been taken as a child. Settled suburbia, post industrial families, blue collar roots, inner City adversity are marginally more likely to be in the first cluster. There are more people in the lower socio-economic groups (4 to 9) in the first cluster.

The **second** cluster had a larger share of females (53.5 per cent) than males, a substantially larger share of individuals aged 16 to 44 and a higher proportion of people from a white background. People in this group are also more likely to have one child or more. Looking at **Acorn categories**, there are more wealthy achievers and individuals from urban prosperity. There are also more people from higher socio-economic groups, the number of people in each cluster by socio-economic group is given in Figure 2 on page 46.

Table 35: Results of clustering 'taken as a child'

	Number	% combined	% of total
Cluster 1	6233	45.1	22.2
Cluster 2	7578	54.9	27.0
Total	13811	100	49.1

Table 36: How much did they encourage you to read books that were not required for school or religious studies?

	% Don't know	%At least once a month	%Less often than once a month but at least 3/4 times a year	%1 or 2 times a year	%Less often than once a year	% Never
Cluster 1	10.3	-	-	15.3	33.0	78.2
Cluster 2	89.7	100%	100%	84.7	67.0	21.8
Total	100%	100%	100%	100%	100%	100%

Table 37: How much did they encourage you to draw or do painting, write stories, poems, plays or music?

	% Don't know	% At least once a month	%Less often than once a month but at least 3/4 times a year	% 1 or 2 times a year	% Less often than once a year	% Never
Cluster 1	7.3	-	4.5	-	8.1	80.5
Cluster 2	92.7	100.0	95.5	100.0	91.9	19.5
Total	100%	100%	100%	100%	100%	100%

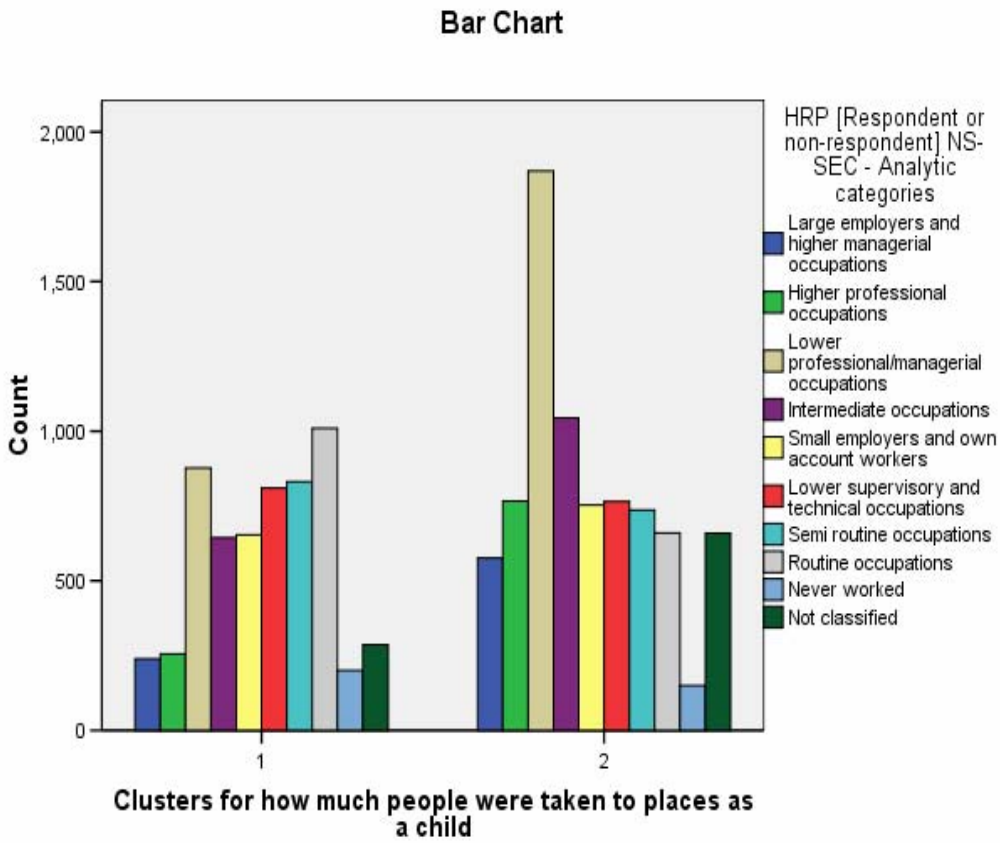
Table 38: How much did they encourage you to take part in sport?

	% Don't know	% At least once a month	% Less often than once a month but at least 3/4 times a year	% 1 or 2 times a year	% Less often than once a year	% Never
Cluster 1	19.7	3.0	7.9	26.2	42.9	79.9
Cluster 2	80.3	97.0	92.1	73.8	57.1	20.1
Total	100%	100%	100%	100%	100%	100%

Table 39: How much did they encourage you to play musical instrument(s), act, dance or sing?

	% Don't know	% At least once a month	% Less often than once a month but at least 3/4 times a year	% 1 or 2 times a year	% Less often than once a year	% Never
Cluster 1	37.8	23.4	27.9	33.0	38.1	68.5
Cluster 2	62.2	76.6	72.1	67.0	61.9	31.5
Total	100%	100%	100%	100%	100%	100%

Figure 4: Socio-economic groups within clusters of whether people were taken as child:



Contents

Reasons for attendance and non-attendance

Reasons for attending heritage sites

We wanted to analyse people's responses as to why they attend heritage sites further. This is to gain a greater understanding of the types of people who attend heritage sites and why they attend. We analysed the responses to the question 'What were your reasons for going to the historic site?'. Responses were:

- Personal enjoyment/relaxation
- Recommendation from someone
- Accompanying children
- To learn something new
- As part of group or tour
- To attend a special event, talk or lecture
- As part of my academic study
- To take part in a conservation project to protect a historical site
- Other voluntary work
- Tourist information/ tourist guidebook/ map recommendation
- To use facilities (restaurant, shop, toilet etc)
- Exercise [coded data only]
- Reference to membership [coded data only]
- On the way to somewhere else [coded data only]
- Accompanying adult friends/relatives [coded data only]
- To visit a specific place (museum, building or garden) [coded data only]
- Part of holiday / sightseeing / day out [coded data only]
- Any references to spontaneous decision (e.g. just passing by) [coded data only]
- To visit friends / family [coded data only]
- Looked interesting / general interest [coded data only]
- It was cheap/cheaper than it usually would be/free' [coded data only] –
- To look around the area [coded data only]
- Had not been before [coded data only]
- Been before and wanted to go again [coded data only]

We found four clusters within the responses, which used 65.8 per cent of the total sample size. They are summarised on pages 53 and 54. The tables describe the clusters and the people in them.

We also attempted to cluster the heritage sites people attended. We found that we could not group heritage sites using the clustering approach, suggesting choices are all interrelated to some degree. We investigated the places people attend within our clusters for 'reasons for attending'. Table 42 shows the sites people attend given their cluster. Figure 5 gives this information in a graphical format.

Cluster 1 contained people who go for '***personal enjoyment and relaxation***'. This group contained 38.9 per cent of those in the four clusters and 25.6 per cent of the whole sample. There are more males in this group.

This group is more likely to visit all historic places (with the exception of a place of worship and archaeological site). The places they are more likely to visit above those in the other clusters are a historic park or garden open to the public and/or a city or town with historic character.

Cluster 2 had the largest amount of responses and the widest range of people. There were slightly more people with a longstanding illness, disability or infirmity in this group.

The people in this group are more likely to visit a historic park or garden open to the public, compared to the other clusters. They are also more likely to visit a site connected with sports heritage and a city or town with historic character compared to clusters 3 and 4.

Cluster 3 contained people who attended heritage sites to '***accompany children***', some people in this group also mentioned it was cheaper and they had been before.

There were more women and people between the age of 30 and 59 in this cluster. There were also more people with cars, people from lower socio-economic groups and less people with a longstanding illness, disability or infirmity.

People in this cluster are very unlikely to attend a place connected with sports heritage or a historic place of worship. They are more likely to attend a historic park or garden open to the public than clusters 2 and 4, but less so than cluster 1.

People in **Cluster 4** tended to have been '***recommended***' by someone or wanted to learn something new. They may have been part of a group/ tour, recommended by the tourist information centre or not been before. There are more young people (16-29) and old people (60+) in this group. There are also more people who have access to a vehicle.

They are most likely to attend a site of archaeological interest. Also more likely to attend a historic building or a place open to the public than clusters 2 and 3 but less than cluster 1.

Table 40: Results of clustering reasons for attending

	Types of volunteering	Number of people in cluster	% of Combined	% of Total	Male	Female	Age 16-29	Age 30-59	Age 60+
1	Personal enjoyment and relaxation	7191	38.9%	25.6%	50.8%	49.2%	20.7%	53.7%	25.6%
2	Other reasons not elsewhere classified*	4967	26.8%	17.7%	49.4%	50.6%	22.0%	52.9%	25.0%
3	Accompanying children, some people in this group also mentioned it was cheaper and they had been before	2690	14.5%	9.6%	43.2%	56.8%	11.1%	77.6%	11.3%
4	Recommended by someone, wanted to learn something new. part of a group/ tour, recommended by the tourist information centre, not been before.	3661	19.8%	13.0%	47.2%	52.8%	24.5%	47.7%	27.9%
Combined		18509	100%	65.8%	48.7%	51.3%	20.5%	55.5%	24.0%

*Special event/ tour, academic study, conservation study, other voluntary work, to use facilities (restaurant, shop toilet), exercise, membership, on the way to somewhere else, accompanying friends/ relatives, visit specific place (museum, building garden), part of holiday/day out, spontaneous/ visit friends/ family, looked interesting, look around area, cheaper, not been before, been before. Other reason/ don't know

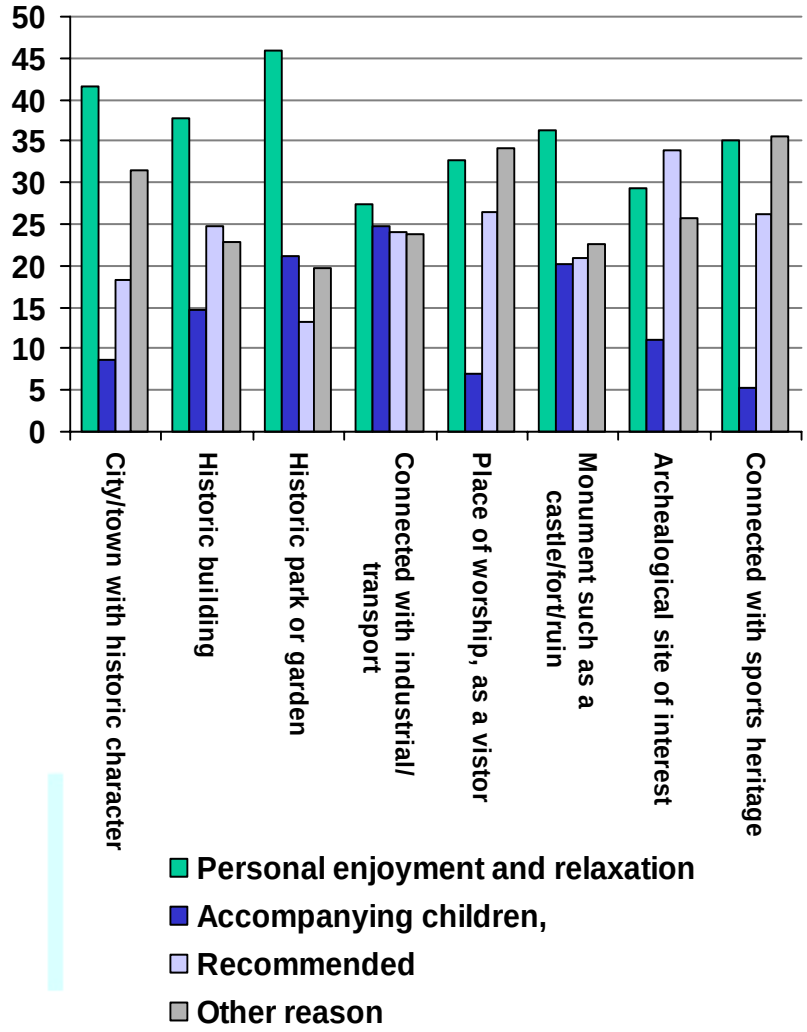
Table 41: Results of clustering reasons for attending continued

	Types of volunteering	Vehicle Access	No longstanding illness, disability or infirmity	Longstanding illness, disability or infirmity	NS-SEC 1-4	NS-SEC 5-8	White	Non white
1	Personal enjoyment and relaxation	86.0%	82.0%	18.0%	58.9%	31.9%	93.4%	6.5%
2	Other reasons not elsewhere classified*	89.0%	80.5%	19.5%	58.0%	32.4%	93.4%	6.4%
3	Accompanying children, some people in this group also mentioned it was cheaper and they had been before	90.0%	85.5%	14.5%	59.7%	35.1%	92.7%	7.1%
4	Recommended by someone, wanted to learn something new. part of a group/ tour, recommended by the tourist information centre, not been before.	85.0%	80.8%	19.2%	56.5%	30.7%	90.6%	9.1%
Combined		87.1%	81.8%	18.2%	58.3%	32.2%	92.7%	7.1%

Table 42: Reasons for attending heritage sites and places people attend

	Reason for attending				
Place attended	Personal enjoyment and relaxation	Other reason	Accompany children	Recommended	Number of people
A city of town with historic character	41.7%	31.4%	8.7%	18.2%	8070
A historic building open to the public	37.7%	22.9%	14.75%	24.7%	2285
A historic park or garden open to the public	46%	19.7%	21.1%	13.3%	2707
A place connected with industrial transport heritage	27.4%	23.7%	24.8%	24.1%	948
A historic place of worship, attended as a visitor	32.6%	34.1%	6.9%	26.4%	11441
A monument such as a castle, fort or ruin	36.2%	22.7%	20.1%	21%	2840
A site of archaeological interest	29.3%	25.7%	11.1%	34%	639
As site connected with sports heritage	35.1%	35.5%	5.3%	26.1%	188
Total number of people in cluster	7484	5181	2593	3860	19118

Figure 5: Reasons for attending heritage sites and places people attend



Non-attendance at heritage sites

Reasons for not attending heritage sites

We also wanted to find out why people did not attend heritage sites. The responses we analysed are as follows:

- It's difficult to find the time
- It costs too much
- Never occurred to me
- Places like that are not welcoming to people like me
- Not really interested
- I wouldn't enjoy it
- Lack of appropriate facilities there
- Against my religion/ beliefs
- I might feel uncomfortable or out of place
- Health isn't good enough
- Lack of transport/I can't easily get to it
- Not enough information on what is available
- I am too old
- Reference to looking after children
- No-one to go with
- Have been in past/no need to go again
- Reference to looking after family [not children]
- Other answers
- Don't know
- No reason given

We restricted the number of clusters to four so that we could find the main reasons for non-attendance. People in the **first cluster** mainly responded to say they were '*Not really interested*'.

The **second cluster** had a wide variety of responses. They were: '*it costs too much, never occurred to me, people are not welcoming to people like me, lack of appropriate facilities, might feel uncomfortable/ out of place, lack of transport, not enough information, prefer other activities, looking after children, no one to go with, have been in past, looking after family, not children, too old*'

In **cluster 3** were the people who stated their '*health wasn't good enough*'.

People the **fourth cluster** said it was '*difficult to find the time*'.

We analysed the types of people who were in these clusters and found the following:

People in **cluster 1** – who were not really interested – were mainly routine workers. There were less people from urban prosperity in this group. There were also less people from lower professional/managerial occupations. There was also a high proportion of people who are single and never married. There was also lot more people between the age of 16 and 24 and more males.

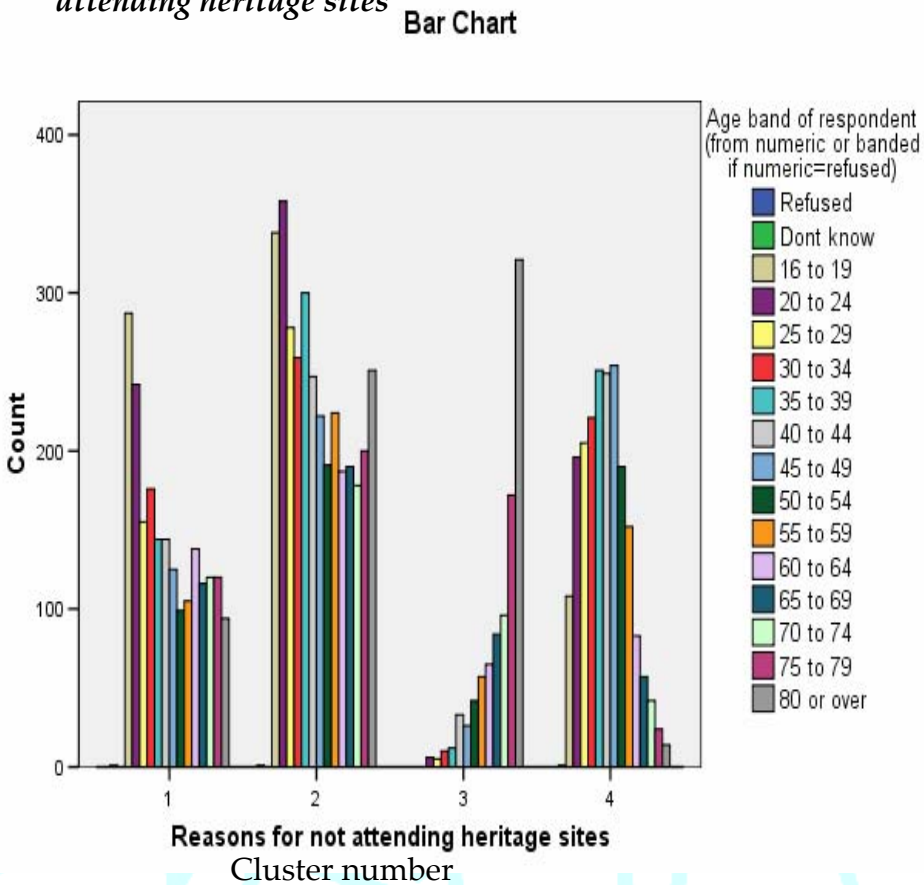
Cluster 2 had the widest number of responses. The people within this group had no distinguishing characteristics. There were less people from moderate means compared to the other three clusters.

The **third cluster** contained people who responded to say their '*health isn't good enough*' There were more people in this category that never worked. Also more people from hard-pressed backgrounds, more affluent greys and prosperous professionals. More settled suburbia, prudent pensioners, more whites and less Asians. Less people with vehicle access and more smokers. More people with a longstanding illness, disability or infirmity. A lot more people who classify their health as bad or very bad health. It is likely there will be only one adult in this household. People are likely to be widowed, with no children in the household (92.7 per cent), over 60 years of age and female.

People in the **fourth cluster** stated that they found it '*difficult to find the time*'. This group contained a large amount of large employers and higher managerial occupations, also higher professional occupations, lower professional/managerial occupations, small employers and own account workers, less semi routine. There were more wealthy achievers in this cluster compared to the other three and less people from hard pressed backgrounds. There were also more aspiring singles and secure families. People tend to be from London. There were significantly more Asian families in this group and slightly more people from black ethnic groups. There are more vehicle owners and people in this group are likely to have two adults or more. There is a high proportion of people who are married with 1 child or more, between the age of 30 and 59.

The spread of the ages within these clusters is in Figure 6, in the next page. It can be seen from this graph that people that are not interested has the highest share of 16 to 19 years olds and the number claiming they are not interested falls as the age increases. The second group has a similar distribution. The third group has a clear exponential slope – with older people much more likely to have bad health. It can also be seen in this graph that people who say it's difficult to find the time are mainly middle-aged.

Figure 6: The spread of ages in the clusters for reasons for not attending heritage sites



PSA targets

We wanted to see the reasons people in the PSA target groups had lower attendance than average attendance rates. We therefore unrestricted the number of clusters to examine the reasons for not attending in greater detail. We found seven clusters, three of which were the same as before – difficult to find the time, not interested and bad health. There were three additional groups – might feel uncomfortable/out of place, lack of transport and never occurred to me. The last group contained all other reasons. A summary of these clusters is given in Table 43.

Analysing the PSA target groups within these clusters we found that a higher share of Asians responded as '*it's difficult to find the time*' in comparison to the share of Asians in other clusters. Figure 7 and Table 44 show the percentage of the ethnic minority groups in each cluster. It can be seen that in cluster 7, where people found *it 'difficult to find the time*' there was a higher share of people from an Asian background.

A larger share of people from a black background responded '*I might feel uncomfortable or out of place*' (cluster 2) than in any other cluster. This can be seen in Figure 7 and Table 44. Overall this cluster consisted of 82.4 per cent white, 7.0 per cent black, 7.9 per cent Asian and 1.1 per cent other/refused. This group contained only 4.0 per cent of the total sample.

Table 43: Results of clustering reasons people do not attend

Cluster number	Reasons for not attending	Number	% of Combined	% of Total
1	Not really interested	2191	24.1%	7.8%
2	I might feel uncomfortable or out of place	1131	12.4%	4.0%
3	*Other reasons not elsewhere classified	942	10.3%	3.4%
4	Never occurred to me	706	7.8%	2.5%
5	Lack of transport/I can't easily get to it	888	9.8%	3.2%
6	Health isn't good enough	1145	12.6%	4.1%
7	It's difficult to find the time	2103	23.1%	7.5%
Combined		9106	100%	32.4%

Figure 7: Results of clustering reasons people do not attend by ethnicity

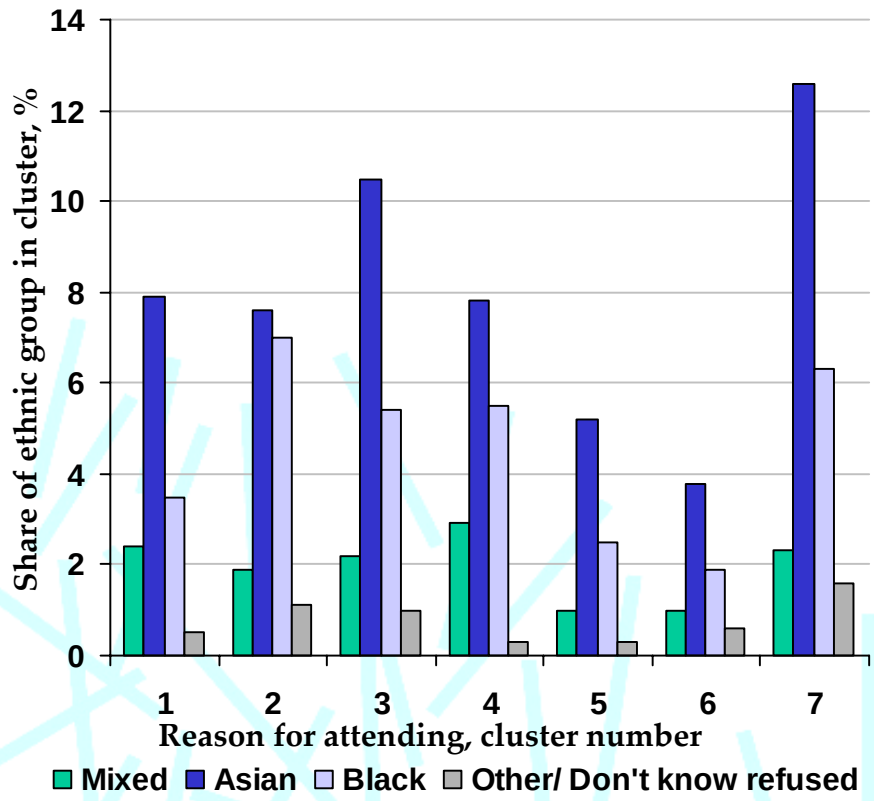
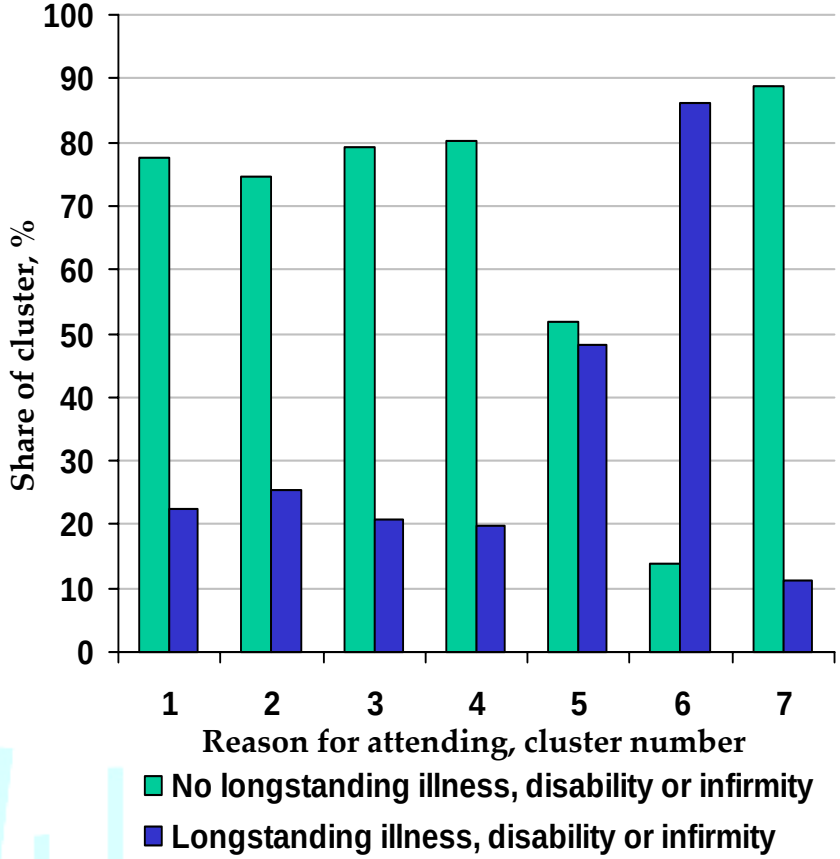


Figure 8: Results of clustering reasons people do not attend by illness/ disability



We also analysed the share of people with a longstanding illness, disability or infirmity in each cluster. This was to gain a greater insight into the reasons why people do not attend heritage sites. We summarise the findings in Figure 8 on the previous page and Table 45.

A higher share of people with a disability said '*health isn't good enough*', cluster 6, than in any other cluster. In this cluster 86.1 per cent of people were classified as disabled. There was also a large share, 48.2 per cent, within the '*Lack of transport/I can't easily get to it*' category (cluster 5). There was a relatively low proportion of disabled people in the third cluster which includes responses such as '*Lack of appropriate facilities there*'.

Analysing the clusters in respect of socio-economic group we found a high share of people in the lower socio-economic groups stated '*Lack of transport/I can't easily get to it*' (cluster 5). There were also many people who stated their '*health wasn't good enough'* (cluster 6) and they '*weren't really interested'* (cluster 1). A higher share of people in the higher socio-economic groups found it '*difficult to find the time'* compared to other reasons. We summarise the results of the analysis in Table 46 and Figure 9.

Figure 9: Results of clustering reasons people do not attend by socio-economic group

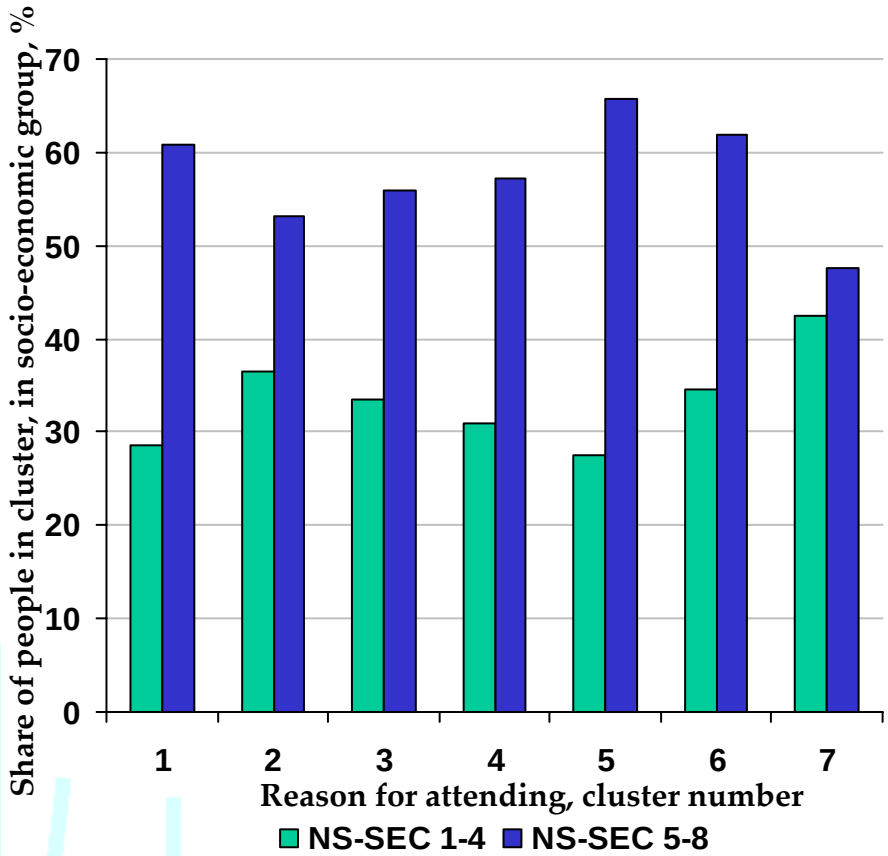


Table 44: Results of clustering reasons people do not attend by ethnic group

Cluster Number	Reason for not attending		White	Mixed	Asian	Black	Other / Don't know / refused	**Total**
1	Not really interested	Count	1767	50	164	72	11	2064
		% within Cluster	85.6%	2.4 %	7.9 %	3.5 %	0.5%	100%
2	I might feel uncomfortable or out of place	Count	856	20	79	73	11	1039
		% within Cluster	82.4%	1.9%	7.6%	7.0%	1.1%	100%
3	*Other reasons not elsewhere classified	Count	749	20	97	50	9.0	925
		% within Cluster	81.0%	2.2%	10.5%	5.4%	1.0%	100%
4	Never occurred to me,	Count	575	20	54	38	2.0	689
		% within Cluster	83.5%	2.9%	7.8%	5.5%	0.3%	100%
5	Lack of transport/I can't easily get to it	Count	706	8	40	19	2.0	775
		% within Cluster	91.1%	1.0%	5.2%	2.5%	0.3%	100%
6	Health isn't good enough	Count	858	9	35	18	6.0	926
		% within Cluster	92.7%	1.0%	3.8%	1.9%	0.6%	100%
7	It's difficult to find the time	Count	1580	48	257	128	32.0	2045
		% within Cluster	77.3%	2.3%	12.6%	6.3%	1.6%	100%
Total		Count	7091	175	726	398	73.0	8463
		% within Cluster	83.8%	2.1%	8.6%	4.7%	0.9%	100%

Table 45: Results of clustering reasons people do not attend by illness/ disability

Cluster Number	Reason for not attending		No longstanding illness, disability or infirmity	Longstanding illness, disability or infirmity	Total
1	Not really interested	Count	1592	465	2057
		% within Cluster	77.4%	22.6%	100%
2	I might feel uncomfortable or out of place	Count	769	261	1030
		% within Cluster	74.7%	25.3%	100%
3	*Other reasons not elsewhere classified	Count	731	192	923
		% within Cluster	79.2%	20.8%	100%
4	Never occurred to me,	Count	552	137	689
		% within Cluster	80.1%	19.9%	100%
5	Lack of transport/I can't easily get to it	Count	399	371	770
		% within Cluster	51.8%	48.2%	100%
6	Health isn't good enough	Count	128	795	923
		% within Cluster	13.9%	86.1%	100%
7	It's difficult to find the time	Count	1809	231	2040
		% within Cluster	88.7%	11.3%	100%
Total		Count	5980	2452	8432
		% within Cluster	70.9%	29.1%	100%

Table 46: Results of clustering reasons people do not attend by socio-economic group

Cluster Number	Reason for not attending		NS-SEC 1-4	NS-SEC 5-8	NS-SEC residuals	Total
1	Not really interested	Count	588	1258	218	2057
		% within Cluster	28.5%	60.9%	10.6%	100%
2	I might feel uncomfortable or out of place	Count	380	551	107	1030
		% within Cluster	36.6%	53.1%	10.3%	100%
3	*Other reasons not elsewhere classified	Count	309	519	98	923
		% within Cluster	33.4%	56.0%	10.6%	100%
4	Never occurred to me,	Count	213	395	82	689
		% within Cluster	30.9%	57.2%	11.9%	100%
5	Lack of transport/I can't easily get to it	Count	213	510	52	770
		% within Cluster	27.5%	65.8%	6.7%	100%
6	Health isn't good enough	Count	320	573	32	923
		% within Cluster	34.6%	61.9%	3.5%	100%
7	It's difficult to find the time	Count	868	972	205	2040
		% within Cluster	42.4%	47.5%	10.0%	100%
Total		Count	2891	4778	794	8432
		% within Cluster	34.2%	56.5%	9.4%	100%

The reasons for non-attendance and its relationship with economic and social factors

We wanted to analyse the reasons for non-attendance further and in particular find the factors that are strongly related to the reasons people give for non-attendance. We therefore used our Probit methodology on the main reasons behind non-attendance highlighted in cluster analysis, which were:

- *'not really interested'*
- *'health isn't good enough'*
- *'it's difficult to find the time'*

In particular we modelled the above reasons as dependent variables and investigated their relationship with economic and social drivers. We compared the models with each other, our main model for attendance and other factors we found relevant during our analysis.

Not really interested

We modelled the response '*not really interested*' with social and economic factors and removed factors that were not significant at the 95 per cent level . The results are given in Table 47. We found that the factor that had the strongest relation with responding '*not interested*' was a person's socio-economic group. Being a vehicle owner also makes a substantial difference to whether a person is in this group – vehicle owners are less likely to be found in this group. Gender is a highly significant driver – with males more likely to not respond as '*not interested*'. Smoking also has a strong relationship with responding '*not really interested'*. The type of area a person lives in – whether urban or rural – is also strongly related to attendance with urbanites more likely to not have an interest.

The following variables were found to be significant but their influence was not as strong as the other drivers: number of adults in household, a person's health, ethnicity, income, disability and region a person lives in. In particular, people living in urban areas are more likely to not be interested.

We found that the number of children is not a significant driver of people being in this group and we removed it from the model. All other variables were found to be significant. The factors that the model found had a small, yet significant, relationship with not being interested were the number of adults in a household, a persons age, their health, ethnicity, income, disability and the region a person lives.

Table 47: Results of Probit modelling of 'not really interested'

	Coefficient	95 per cent lower bound	95 per cent upper bound
Gender (male=1)	0.17**	0.127	0.211
No. adults	0.04**	0.019	0.068
Age	-0.02**	-0.043	-0.003
Health (very good=5)	-0.06**	-0.089	-0.036
Ethnicity (white=0)	0.06**	0.039	0.085
Smoker (smoker=1)	0.20**	0.158	0.251
Income	-0.04**	-0.046	-0.031
Vehicle access (access=1)	-0.21**	-0.260	-0.160
Area type (urban=1)	0.11**	0.054	0.167
Socio-economic group (low=1)	0.35**	0.307	0.396
Disability (disabled=1)	-0.09**	-0.146	-0.029
Region (north=1)	-0.05**	-0.061	-0.034
Constant	-1.12**	-1.289	-0.947
Sample size	28104	-	-

** significant to 95 per cent
* significant to 90 per cent

Health isn't good enough.

We modelled '*health isn't good enough*' as a dependent variable against socio-economic and personal characteristics. The results are in Table 48. The variable which had the strongest link to a person responding as '*health isn't good enough*' is whether or not a person has a disability. If a person has a longstanding illness or disability they are highly likely to give their reason for not attending as bad health.

The second most significant variable is a persons age. Older people are more likely to declare '*health isn't good enough*' compared to younger people are. Health has a similarly strong correlation.

Having access to a vehicle also has a strong relationship, with a predicted probability of 35.6 per cent. Having no access to a vehicle increases the probability of being in this group. A person's socio-economic group is also a strong factor, with lower socio-economic groups likely to be found in this category. People living in an urban area are more likely to declare '*health isn't good enough*'.

The variables which are significant but have a limited impact association with this group are ethnicity, income and the number of children in a household.

There were a few drivers that were found to be insignificant. These were the region a person lives in, gender, the number of adults in household. Whether a person is a smoker is insignificant at the 95 per cent level but not the 90 per cent level.

Table 48: Results of Probit modelling of 'health isn't good enough'

	Coefficient	95 per cent lower bound	95 per cent upper bound
Age	0.47**	0.429	0.503
Health (very good=5)	-0.46**	-0.495	-0.417
Ethnicity (white=0)	0.06**	0.019	0.109
Smoker (smoker=1)	0.07*	-0.014	0.152
Income	-0.03**	-0.048	-0.019
Vehicle access (access=1)	-0.35**	-0.419	-0.279
Area type (urban=1)	0.17**	0.083	0.263
Socio-economic group (low=1)	0.15**	0.083	0.224
Disability (disabled=1)	0.74**	0.653	0.819
No. children	0.06**	0.003	0.109
Constant	-2.13**	-2.391	-1.871
Sample size	28104		

** significant to 95 per cent
* significant to 90 per cent

Difficult to find the time.

We modelled '*difficult to find the time*' as a dependent variable against socio-economic and personal characteristics. The results are in Table 49. We found many of the usual factors that are related to heritage attendance did not have a significant relationship with whether a person responds as '*it's difficult to find the time*'. In particular, we find the following to be insignificant: a person's health, whether the person has access to a vehicle, the number of adults in a household, the region they live in, their income and gender. The type of area a person lives in is significant at the 90 per cent level but not the 95 per cent level and has a limited relationship.

The most significant factor in this group is whether or not a person has a longstanding illness or infirmity. A person with such a disability is much less likely to respond as '*difficult to find the time*' than a person without such a disability.

Ethnicity is also a main driver of being in this group, with non-whites more likely to declare '*difficult to find the time*', even after allowing for age and the presence of children in the house. Socio-economic group and whether or not a person smokes are also main drivers of being in this group. Smokers and lower socio-economic groups are more likely to not find the time compared to non-smoker and higher socio-economic groups.

Younger people and people with children are more likely to find themselves within this category than people older people or people without children.

Table 49: Results of Probit modelling of 'difficult to find the time'

	Coefficient	95 per cent lower bound	95 per cent upper bound
Age	-0.10**	-0.118	-0.073
Ethnicity (white=0)	0.19**	0.174	0.215
Smoker (smoker=1)	0.16**	0.115	0.208
Area type (urban=1)	0.05*	-0.003	0.108
Socio-economic group (low=1)	0.16**	0.120	0.203
Disability (disabled=1)	-0.24**	-0.299	-0.186
Children	0.11**	0.088	0.128
Constant	-1.49**	-1.578	-1.398
Sample size	28104		

** significant to 95 per cent
* significant to 90 per cent

We wanted to understand the links between having children, a persons ethnicity, their socio-economic group and stating '*not having the time*' further. We therefore run the model for '*not having the time*' separately for people with children, people without children and people with 1, 2, 3 and 4 children. The results of the models are in Table 50. The factors we found of interest are the following:

We found that if there are no children in the household the factor that has the strongest correlation with someone not having enough time is whether or not they are **disabled**.

For a person with children the variable that has the strongest relationship with '*difficult to find the time*' is their **socio-economic group**. Lower socio-economic groups are less likely to not find the time.

Ethnicity also has a strong relationship with the response '*difficult to find the time*' and has more of an impact when a person has children.

A person's **age** is also significant, when a household has children the older a person is the more likely they will not have the time. However, if there are no children in the household the opposite is true – the younger someone is the more likely the will not have the time.

Whether a person **smokes**, **disability** and **income** are not statistically different if there are children in the household or not. The type of **area** a person lives is also not statistically different as it has very large confidence intervals.

Table 50: Results of Probit modelling of 'difficult to find the time' for people with and without children

	Number of children in household					
	0	More than one	1	2	3	4
Age	-0.13**	0.10**	0.10**	0.10*	0.09	0.12
Ethnicity (white=0)	0.17**	0.21**	0.19**	0.22**	0.19**	0.19**
Smoker (smoker=1)	0.17**	0.15**	0.11**	0.17**	0.16*	0.06
Income	-0.01**	-0.02**	-0.02**	-0.02**	-0.03*	0.02
Area type (urban=1)	-0.00	0.13**	0.13*	0.08	0.29**	0.09
Socio-economic group (low=1)	0.10**	0.24**	0.11*	0.27**	0.41**	0.48**
Disability (disabled=1)	-0.25**	-0.20**	-0.27**	-0.05	-0.32*	-0.55**
Constant	-1.24**	-1.63**	-1.61**	-1.63	-1.39**	-1.58**
Sample size	19,249	8,855	3,894	3,443	1,101	300

** significant to 95 per cent
* significant to 90 per cent

We repeated the exercise – of using our model and splitting it according to group – for the different ethnic groups. The results are in Table 51. We found that although significant, age has limited impact on people not having enough time if they are not from a white background. Although it appears that a person's age has an impact if from a black ethnic group this is not significant at the 95 per cent level, although it is at the 90 per cent level.

The relationship between number of children and *'not having the time'* is not statistically different between the white and non-white groups. Income has a limited impact on both groups.

The smoking variable, disability and type of area a person lives are statistically different. Implying ethnic minorities groups have different preferences relating to these factors. It also reflects indirect correlations between variables.

There is a low sample size for people from mixed backgrounds so confidence intervals and standard errors are large. Therefore, although socio-economic group appears much larger in this group it is not statistically different from other ethnic groups.

Table 51: Results of Probit modelling of 'difficult to find the time' for different ethnic groups

	White	Non-white	Mixed	Asian	Black	Refused/ other
Age	-0.10**	-0.00*	-0.00	-0.01	-0.10*	-0.00
Children	0.09**	0.12**	0.04	0.13**	0.11**	0.18**
Smoker (smoker=1)	0.20**	0.01	0.19	0.01	-0.02	0.04
Income	-0.01**	-0.02**	-0.03	-0.02	-0.02	-0.06**
Area type (urban=1)	0.01	0.39	0.77	0.42*	0.48	-0.13
Socio-economic group (low=1)	0.16**	0.03	0.29*	-0.02	0.04	0.02
Disability (disabled=1)	-0.21**	-0.41**	-0.91**	-0.38**	-0.30**	-0.61*
Constant	-1.19**	-1.04 **	-1.66	-1.13**	-0.95**	-0.60
Sample size	20429	4077	436	2079	1322	238

** significant to 95 per cent
* significant to 90 per cent

The final way we looked at '*it's difficult to find the time*' was by holding peoples socio-economic group constant and comparing the models for the high and low socio-economic groups. The results are in Table 52.

Smoking had the strongest relationship with *'not enough time'* for people with lower socio-economic groups. It had a lower, limited, although significant, impact on the higher socioeconomic groups. This highlights the strong correlation between the two factors.

Whether or not someone had a limiting illness, infirmity or disability had the strongest relationship with '*not enough time*' for people in the higher socio-economic groups. This is also a statistically greater impact than for the lower socio-economic groups. It suggests being in a lower socio-economic group has more of an impact than disability, but given someone is in a higher socio-economic group disability has a strong influence.

We find that income has a limited impact for both groups. The number of children in a household has a significantly higher impact in the higher socio-economic groups. Ethnicity plays a larger role in determining whether someone attends a heritage site in the lower socio-economic groups.

Although area type appears to have a significantly higher effect on higher socioeconomic groups this is not different to 95 per cent.

Table 52: Results of Probit modelling of 'difficult to find the time' for different socio-economic groups

	Lower socio-economic groups	Higher socio-economic groups	Statistically different
Age	-0.12**	-0.09**	No
Children	0.05**	0.14**	Yes
Smoker (smoker=1)	0.24**	0.09**	Yes
Income	-0.03**	0.01*	No
Area type (urban=1)	-0.03	0.12**	No
Disability (disabled=1)	-0.14**	-0.31**	Yes
Ethnicity (white=0)	0.23**	0.16**	Yes
Constant	-1.24**	-1.35**	-
Sample size	14123	13981	-

** significant to 95 per cent
* significant to 90 per cent

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We analysed both qualitative and quantitative factors together to determine their relevance, results are in Table 53. There are high correlations between variables and this can affect the reliability of some figures. Nevertheless, the large number of observations supports the robustness of the model and are greater amount of variability in attendance rates can be explained. Although it could be argued that either of the two models are 'best' the model without the qualitative factors has less endogeneity (correlation) and therefore more statistical weight.

In our model with qualitative factors we found that, overall, a person being **taken to a heritage site as a child** had the strongest relationship with heritage attendance as an adult. Being a **volunteer** also has a strong connection with heritage attendance.

The next most influential factor is whether or not a person has access to a **vehicle**. The predicted probability fell to 64.0 per cent, just under the 68.0 per cent found in the model without the qualitative factors.

Having **internet access** at home also increases the probability of attending a heritage site. People from an **ethnic background** are less likely to attend a heritage site holding all other factors constant. Whether or not a person is a **smoker** is also influential. **Socio-economic group**, **highest qualification gained**, **health** and **gender** have similar, relatively strong, relationships with attendance rates.

The number of **children** in a household, number of **adults** in a household, **area type**, **age** and **income** all have significant but low effects on heritage attendance. We found **disability** and **region** were not significant drivers to attendance at heritage sites and removed them from the model.

Table 53: Results of Probit modelling of heritage attendance

	Predicted probability	Coefficient
Taken to a site of historic interest as a child	67.0%	0.44**
Volunteer	64.8%	0.38**
Vehicle access (access=1)	64.1%	0.36**
Internet access (access=1)	58.7%	0.22**
Ethnicity (white=0)	42.5%	-0.19**
Smoker (smoker=1)	43.6%	-0.16**
Socio-economic group (1=low)	44.4%	-0.14**
Health (5=very good)	54.8%	0.12**
Highest qualification gained	54.8%	0.12**
Gender (male=1)	45.6%	-0.11**
Area type (urban=1)	47.2%	-0.07**
Number of children	47.2%	-0.07**
Number of adults in household	48.0%	-0.05**
Age (in short)	48.8%	0.03**
Income	48.8%	0.03**
Constant	31.2%	-0.49**
Sample size		13,704

** significant to 95 per cent
* significant to 90 per cent

Contents

Frequency of attendance

Aim and method

We used Tobit and the Heckman two stage models to determine whether separate models are needed to assess attendance and frequency of attendance. If there is no significant difference between the two models, we can infer that a single model can be used to explain the frequency of visits to heritage attractions, etc. for both visitors and non-visitors alike. If there is a difference, we will need one model to explain the behaviours of those who don't visit versus those who do and another to understand the frequency of the visits of those who do.

As with previous models, we 'explain' heritage behaviour in terms of the varied social, demographic and economic characteristics of the population.

A Heckman's two stage method works by splitting the dependent variable in question into two. It first analyses – using a Probit procedure – whether or not a person attends a heritage site. Following this it estimates how much a person attends.

The Heckman's two stage method can be useful for two main reasons. It can suggest whether or not the two equations are necessary – whether or not we can explain attendance using the model as frequency of attendance. This can suggest whether it is just the drivers that stop someone from attending a heritage site or if there are additional factors affecting attendance. The model also estimates the relative importance of each factor.

Restrictions to the model

We found extremely strong evidence to suggest self-selection bias. However, the 'frequency' variables are not well defined and can only be categorised using the following:

- At least once a week
- Less often than once a week but at least once a month
- Less often than once a month but at least 3-4 times a year
- 1-2 times a year

A continuous variable rather than four categories is likely to result in more robust results. Nevertheless, a large sample size adds credibility to results and a model was created.

We find the coefficients for attendance and frequency of attendance are consistent across groups. There was no significant difference in the factors that determine whether or not a person attends and how often a person attends. This suggests by addressing the factors of attendance, frequency of attendance will also be addressed. However, part of this is likely to be because the frequency variable is not as well defined.

Results of modelling

The results of our modelling for frequency of attendance, using the Heckman model is given in Table 54.

We find that **disability** is the least significant variable and remove it from our model. Although there is limited evidence it affects whether a person attends, we find it has no impact on the amount a person attends a site.

All factors, except **ethnicity** and number of **children** in a household, had a stronger relationship on attendance rates than frequency of attendance.

Being **taken as a child** is still the strongest driver to heritage attendance and frequency of attendance. Following this, being a **volunteer** has the strongest relationship with heritage attendance. Having access to a **vehicle** also remains one of the strongest factors relating to heritage attendance.

Gender has a much lower affect on heritage attendance in the Heckman model than in the Probit model analysed before. **Smoking and socio-economic group** have very similar relationships with heritage attendance and also have less of an effect in the Heckman model than the Probit. The number of adults in a household, a persons age, income and the type of area they live in have limited relationships on heritage attendance.

Table 54: Results of Heckman and Probit modelling of heritage attendance

	Probit	Heckman's model	
	Attend a site	Attend a site	Frequency of attendance
Gender (male=1)	-0.11**	-0.05**	-0.04**
Number of adults in household	-0.05**	-0.05**	-0.04**
Age (in short)	0.03**	0.03**	0.02**
Health (5=very good)	0.12**	0.11**	0.10**
Ethnicity (white=0)	-0.19**	-0.16**	-0.17**
Smoker (smoker=1)	-0.16**	-0.10**	-0.09**
Income	0.03**	0.02**	0.01**
Vehicle access (access=1)	0.36**	0.28**	0.27**
Area type (urban=1)	-0.07**	-0.06**	-0.07**
Socio-economic group (low=1)	-0.14**	-0.10**	-0.10**
Number of children	-0.07**	-0.06**	-0.07**
Taken to a site of historic interest as a child	0.44**	0.35**	0.32**
Volunteer	0.38**	0.32**	0.29**
Highest qualification gained	0.12**	0.10**	0.09**
Internet access (access=1)	0.22**	0.16**	0.15**
Constant	-0.49**	-0.39**	0.53**
Sample size	13,704	13,740	9408

** significant to 95 per cent
* significant to 90 per cent

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Conclusion

The main drivers of attendance

We find attendance to heritage sites is driven by various social and economic drivers. In particular, whether or not a person has access to a **vehicle** (owned by the household) has a strong relationship with heritage attendance.

The high relevance of vehicle access is despite low numbers of people expressing that '*lack of transport*' as a main factor behind them not attending. In the group that expressed their reason for not attending as '*lack of transport/I can't easily there*' there was a higher share of people in **low socio-economic groups** and with a **limiting illness or disability**.

A main barrier to attendance is a person's general **health**. We find that a person's general health has more of an impact on attendance rates than disability. People who are classified as having a limiting disability or illness are more likely to give their reason for not attending '*health isn't good enough*' rather than '*lack of facilities*' or '*would not feel welcome*'.

People from black and minority **ethnic** groups are less likely to attend a heritage site than people from a white background. This relationship is strong even after accounting for many social and economic factors.

A high proportions of Asians claim they cannot find the time. This cannot be explained by more children or other factors examined, nevertheless a more in-depth look into the types of activities specific ethnic groups partake in could explain the lower rates of attendance.

Taking into account more wide ranging social factors, we find that being **taken to a heritage site as a child** has a much larger affect on attendance as an adult than any other factor studied. Following this, if a person is involved in **volunteering** activities, this also has a strong relationship with heritage attendance. We also found that people with **internet access** at home are more likely to attend a heritage site even after accounting for income and socio-economic differences

A person's **age**, **income** and **region** have limited impacts on heritage sites. However, if we look at behavioural characteristics these factors show that males, females., younger people and older people have different behavioural patterns that can be strongly linked to heritage attendance.

We found that the biggest driver of responding as '***not interested***' is a person's socio-economic group. Being a vehicle owner also makes a substantial difference to whether a person is in this group. Males and smokers are more likely to not be interested. The type of area a person lives has also a string relationship, with urbanites less likely to be interested.

We found people who go for '***personal enjoyment/ relaxation***' are more likely to visit a historic park or garden open to the public and/or a city or town with historic character. People who attended heritage sites to '***accompany children***' are unlikely to attend a place connected with sports heritage or a historic place of worship.

We find the coefficients for attendance and **frequency** of attendance are consistent across groups. There was no significant difference in the factors that determine whether or not a person attends and how often a person attends.

Conclusion

Table 55: Conclusions on economic and social factors

Variable	Effect on attendance at heritage sites	Comment
Vehicle owner in household	Strongest economic driver	Highly correlated with socio-economic group and health.
General health	Very strong driver	People with better health much more likely to attend heritage sites.
Socio-economic group	Very strong	High correlation with many variables, including vehicle ownership and health.
Ethnic group	Strong	None of the factors examined could explain low attendance by ethnic groups. Reason for not going tended to be lack of time.
Disability	Limited	A person's health is more of a barrier than their disability.
Gender	Limited	All else equal, a female is more likely to attend a heritage site but significance is low.
Age	Limited	Bad health limits the older generation's attendance, while younger people are less likely to be interested in heritage.
Income	Limited	Socio-economic group and highest qualification achieved are much bigger influences than income.
Number of children in household	Very low	Good health and being female has more of an influence when a person has children but low significance. Insignificant in some models.
Number of adults in household	Very low	More adults decreases the probability of attending but there is low significance and insignificant in some models. High correlation with ethnicity.
Highest qualification gained	Strong	Less of an impact than socio-economic group, which it is highly correlated with.
Region	Limited	The region a person lives makes no significant difference. Vehicle ownership less of an impact for Londoners, but this is not significantly different.
Area type	Volatile	People living in rural areas more likely to attend but the strength of the relationship is unclear.

Conclusion

Table 56: Conclusions on wider ranging social factors and behavioural characteristics

Variable	Effect on attendance at heritage sites	Comment
Taken to a site of historic interest as a child	Very strong	This has the strongest impact when put into the model. Strong links to age and socio-economics. People who were taken to other places of interest were also more likely to attend heritage sites.
Smoker	Strong	Highly related to socio-economics.
Volunteer	Strong	People running and leading volunteer work have highest attendance rates. They tend to be older, male, white and from socio-economic groups 1 to 4.
Internet access	Strong	Much more likely to attend if access to internet at home – also more likely to be from higher socio-economic groups.
Music	Strong	People who like folk or country and western music have higher rates of attendance. Mainly male between the age of 30 and 59, from a white background. People who like soul, R&B or Hip-Hop music have the lowest attendance out of the music lovers. It has a high share of 16 to 29 year olds, the lowest level of longstanding illness, disability or infirmity. It has the highest level of vehicle ownership.
Events	Strong	People who attended events had high attendance. There were more females between the ages of 30-59, high vehicle ownership and low levels of longstanding illness, disability or infirmity in this group. People who do not attend events had the lowest attendance at heritage sites at 41.7 percent. In this group were a higher proportion of males, people over the age of 60, people with a longstanding illness, disability or infirmity, non-vehicle owners and people in lower socio-economic groups.

Conclusion

Table 57: Other main conclusions

Variable	Comment
Frequency of attendance	We find the coefficients for attendance and frequency of attendance are consistent across groups. There was no significant difference in the factors that determine whether or not a person attends and how often a person attends. This suggests by addressing the factors of attendance, frequency of attendance will also be addressed. However, part of this is likely to be because the frequency variable is not as well defined.
Reason for attendance	People who go for personal enjoyment and relaxation are more likely to visit a historic park or garden open to the public and/or a city or town with historic character. People who attended heritage sites to accompanying children are very unlikely to attend a place connected with sports heritage or a historic place of worship. People recommended by someone, want to learn something new, have been as a part of a group/ tour, recommended by the tourist information centre or not been before are most likely to attend a site of archaeological interest.
Reason for not attending	We found that the biggest driver of responding as 'not interested' is a person's socio-economic group. Being a vehicle owner also makes a substantial difference to whether a person is in this group. Males and smokers are more likely to not be interested. The type of area a person lives is also a strong driver. People who said their 'health wasn't good enough'. We found the strongest driver of being in this group is a person's disability. If a person has a longstanding illness or disability they are highly likely to not attend because of their bad health. Older people are far more likely to declare their reason for not attending is 'health isn't good enough' than younger people are. Health is a similarly strong driver. Having no access to a vehicle and being in a lower socio-economic group also increases the probability of being in this group. We found many of the usual drivers to be insignificant in determining whether a person responds as 'it's difficult to find the time'. For example a person's health, vehicle ownership, income and gender. The most significant driver of being in this group is whether or not a person has a longstanding illness or infirmity. Non-whites are more likely to declare 'difficult to find the time'. Smokers and higher socio-economic groups are more likely to not find the time. Also younger people and people with children are more likely to find themselves within this category.

Contents

References

Whilst conducting our research the folloing sources of information was used:

Taking Part website:
http://www.culture.gov.uk/Reference_library/Research/taking_part_survey/surveyoutputs_previous.htm

Taking Part Survey reports include:

Taking Part: The National Survey of Culture, Leisure and Sport, Annual Report 2005/2006 and accompanying workbooks

Final PSA3 Baselines **from the 2005/2006 survey**

Provisional results **from the first nine months of the 2005/2006 survey**

Provisional headline findings on engagement, future engagement and non-engagement in cultural and sporting activities

Provisional results from the first six months of the 2005/2006 survey

Provisional results from the first three months of the 2005/2006 survey

Provisional PSA3 results from the first three months of the 2005/2006 survey

Statistical package and books used: Stata 10

The following articles and papers may be of interest to the reader:

Social stratification of social consumption across three domains: Music, theatre, dance and cinema and the visual arts; *Tak Wing Chang and John Goldthorpe, 2006*

Three factors predicting irregular versus regular dental attendance: A model fitting to empirical data; *Albert H. B. Schuurs, Huco J. Duivenvoorden, Sijo K. Thodenvan Velzen and Frans Verhage; 1980*

An Empirical Comparison of Probit and OLS Regression Hypothesis Tests; *Eric Noreen; Journal of Accounting Research, Vol. 26, No. 1. (Spring, 1988), pp. 119-133.*

The Sensitivity of an Empirical Model of Married Women's Hours of Work to Economic and Statistical Assumptions; *Thomas A. Mroz; Econometrica, Vol. 55, No. 4. (Jul., 1987), pp. 765-799.*

Novelty effects of new facilities on attendance at professional sporting events; *Dennis Coates, Brad R. Humphreys, 2003*

FIML Estimation of Sample Selection Models for Count Data; *William H. Greene 1997*

Social Experimentation, Truncated Distributions, and Efficient Estimation; *Jerry A. Hausman and David A. Wise, Econometrica, Vol. 45, No. 4. (May, 1977), pp. 919-938.*

Correlation of variables

The following tables detail the correlation of variables that we are using to understand attendance at heritage sites. Although they are complicated and full they are for reference rather than summary of findings. The tables are colour coded according to the significance level.

If the correlation is not significant to 95 per cent the box is highlighted light blue. This signifies the variable on the top of the table is not related to the one on the left.

If the box is dark blue, this signifies the variable is significant at the 95 per cent level but the level of correlation is low – less than +0.1 or more than -0.1. We have a large sample relative to most data sets. This increases the significance of the variables.

If the box is left pale yellow this signifies the variable is significant at 95 per cent and has a relatively high correlation – greater than 0.1or less than -0.1.

There are five tables and they are split as follows:

A1. Economic, social and socio-economic drivers

A2. More socio-economic drivers and similar

A3. How much people were encouraged as a child

A4. Which heritage sites were chosen

A5. Reasons for not attending heritage sites

There is a slide before each table saying what the table is with a brief description of each variable.

Table A1: Economic, social and socio-economic drivers

This table has the same variables on the top of the table and the left of the table. These are:

- Heritage attendance
- Sex of respondent
- Respondent age group (5 bands)
- ONS standardised Government Office Region
- Ethnic group (grouped)
- Vehicle Ownership
- Do you smoke cigarettes, cigars or a pipe at all nowadays?
- Number of adults in household (grouped)
- How many children under 16 live in this household?
- How is your health in general?
- Do you have any long-standing illness, disability or infirmity?
- Whether respondent has longstanding illness, disability or infirmity, for PSA measurement
- Ethnic group for PSA measurement
- Type of area
- ACORN Category

We find that whether or not a person attends a heritage centre is strongly correlated with (in order of strongest correlation first) vehicle ownership, acorn category, health, ethnic group, whether the person has a longstanding illness (PSA), whether a person smokes. Less strongly correlated, but significant to 95 per cent are type of area, age, region and number of children in a family. The variables that were not significant were a person's gender and the number of adults in the household.

We find that whether or not someone in the household owns a vehicle is strongly correlated with many of the variables. It is significant to 95 per cent for all variables and strongly significant (defined as correlation above 0.1 or less than -0.1) with the majority of variables. Sex, region, ethnic group and number of children were less strongly correlated than the other variables.

A person's age is also strongly correlated with many variables. However, it is not strongly related to geographical variables such as type of area and region.

The number of adults has a strong relationship with many variables. The strongest being a person's age, followed by vehicle ownership, health factors and ethnicity. Heritage attendance is the only variable of those studied in this table to not be significant at the 95 per cent level.

Similarly, the number of children in a household is strongly correlated with health variables, age and ethnicity. The only difference is the number of children in a household is not related to vehicle ownership.

A correlation does not necessarily mean a direct relationship between variables. For instance we see that smoking is highly correlated with heritage attendance. However, it is also highly related to ACORN categories, which is highly related to heritage attendance. This indirect relationship can lead to a correlation to be observed that is not a causal relationship. We need to be very careful here and when doing Probit analysis.

	Heritage attendance	Sex of respondent	Respondent Age group (5 bands)	ONS standardised Government Office Region	Ethnic group	Vehicle Ownership	Do you smoke cigarettes, cigars or a pipe at all nowadays?	Number of adults in household (grouped)	How many children under 16 live in this household?	How is your health in general?	Long-standing illness, disability or infirmity?	Ethnic group for PSA measurement	Type of area	ACORN Category
Heritage attendance	1													
Sex of respondent	-0.00	1												
Respondent Age group (5 bands)	-0.04	0.04	1											
ONS standardised Government Office Region	0.04	-0.00	-0.00	1										
Ethnic group (grouped)	-0.13	-0.02	-0.15	0.07	1									
Vehicle Ownership	0.22	-0.09	-0.11	0.06	-0.10	1								
Smoke cigarettes, cigars or a pipe?	0.11	0.05	0.15	0.04	0.04	0.12	1							
Number of adults in household?	-0.00	-0.08	-0.33	0.02	0.13	0.23	0.02	1						
How many children under 16 live in household?	-0.03	0.05	-0.32	0.01	0.12	0.08	-0.03	0.02	1					
How is your health in general?	-0.18	0.02	0.27	-0.05	-0.02	-0.19	-0.09	-0.12	-0.10	1				
Long-standing illness, disability or infirmity?	0.08	-0.02	-0.33	0.04	0.08	0.14	-0.00	0.14	0.14	-0.51	1			
Ethnic group for PSA measurement	-0.14	-0.02	-0.16	0.06	0.94	-0.09	0.04	0.14	0.12	-0.02	0.09	1		
Type of area	0.08	-0.00	0.08	0.04	-0.13	0.14	0.06	-0.02	-0.02	-0.03	-0.01	-0.14	1	
ACORN Category	-0.21	0.04	-0.08	-0.16	0.09	-0.26	-0.19	-0.05	0.05	0.16	-0.07	0.09	-0.27	1

Table A2: The correlation between heritage attendance, personal characteristics and social and economic variables

This table has the same variables on the top of the table as the previous table. However, the variables on the left hand side are different. They are:

- Household Reference Person (HRP) [Respondent or non-respondent] National Statistics Socio-Economic Classifications (NS-SEC) - Analytic categories
- Please look at the card and tell me which letter represents your personal earnings in the last year before tax and other deductions.
- Highest qualification achieved.
- What is your religion?
- Do you, or any members of your household, have access to the internet from home?
- During the past twelve months have you done any volunteer work?

Personal earnings are highly related to heritage attendance, gender, age, vehicle ownership, health and ACORN category. It is not related to ethnicity and is weakly related to other variables listed on page 86.

Household reference person socio-economic group is highly related to heritage attendance, ethnicity, vehicle ownership, whether a person smokes, health and acorn category.

Highest qualification is highly related to heritage attendance, vehicle ownership, health and ACORN category. It is not related to type of area.

Whether or not a person has access to the internet is highly related to heritage attendance, vehicle ownership, number of adults, number of children in household, health and acorn category. It is not related to ethnicity.

Whether or not a person has undertaken any voluntary work has a strong correlation with ethnicity (but not the ethnicity PSA variable), vehicle ownership, and the type of area a person lives, with those from rural areas more likely to undertake voluntary work.

Table A2: The correlation between heritage attendance, personal characteristics and social and economic variables

	Heritage attendance	Sex of respondent	Respondent Age group (5 bands)	ONS standardised Government Office Region	Ethnic group	Vehicle Ownership	Do you smoke cigarettes, cigars or a pipe at all nowadays?	Number of adults in household (grouped)	How many children under 16 live in this household?	How is your health in general?	Do you have any long-standing illness, disability or	Ethnic group for PSA measurement	Type of area	ACORN Category
HRP [Respondent or non-respondent] NS-SEC - Analytic categories	-0.23	0.02	-0.04	-0.09	0.11	-0.24	-0.13	0.05	0.01	0.13	-0.05	0.11	-0.08	0.28
Personal earnings in the last year before tax and other deductions	0.12	-0.15	-0.12	0.07	-0.01	0.11	0.00	0.02	0.07	-0.10	0.08	-0.01	0.02	-0.11
Highest qualification	-0.20	0.05	-0.02	-0.05	-0.02	-0.09	-0.12	0.03	0.05	0.13	-0.06	-0.03	-0.00	0.19
What is your religion?	-0.04	-0.03	-0.01	0.02	0.30	-0.01	0.03	0.08	0.07	0.02	0.00	0.32	-0.06	0.03
Do you have access to the internet from home?	-0.22	0.07	0.31	-0.09	0.00	-0.35	-0.09	-0.27	-0.16	0.24	-0.18	0.00	-0.05	0.22
During the last 12 months, have you done any voluntary work?	-0.17	-0.02	-0.01	-0.08	0.03	-0.10	-0.10	-0.02	-0.03	0.08	-0.00	0.03	-0.08	0.13

Table A3: The correlation between how much people were encouraged as a child, heritage attendance and personal characteristics and social and economic variables

This table has the same variables on the top of the table as the previous table. However, the variables on the left hand side relate to how much parents encouraged the respondent in certain activities as a child. In particular the questions examined are:

- How much your parent(s) or other adult(s) encourage you to read books that were not required for school or religious studies?
- How much your parent(s) or other adult(s) encourage you to draw or do painting, write stories, poems, plays or music?
- How much your parent(s) or other adult(s) encourage you to take part in sport?
- How much your parent(s) or other adult(s) encourage you to play musical instrument(s), act, dance or sing?

We find a strong relationship with all encouragement variables to attendance at English Heritage sites. Encouragement to take part in sport, although strong, is less correlated with heritage attendance.

It appears more females are encouraged to take part in all activities, except sport, where more males are encouraged.

Health and age also have high correlations with the 'encouragement variables'.

Encouragement to play musical instruments, act, sing or dance is the only encouragement variable strongly related to the ACORN category.

Ethnicity and type of area a person lives in are less strongly related to the encouragement variables.

Table A3: The correlation between how much people were encouraged as a child, heritage attendance and personal characteristics and social and economic variables

	Heritage attendance	Sex of respondent	Respondent Age group (5 bands)	Government Office Region	Ethnic group	Vehicle Ownership	Do you smoke cigarettes, cigars or a pipe at all nowadays?	Number of adults in household (grouped)	How many children under 16 live in this household?	How is your health in general?	Long-standing illness, disability or infirmity?	Ethnic group for PSA measurement	Type of area	ACORN Category
HRP [Respondent or non-respondent] NS-SEC - Analytic categories	-0.23	0.02	-0.04	-0.09	0.11	-0.24	-0.13	0.05	0.01	0.13	-0.05	0.11	-0.08	0.28
Personal earnings in the last year before tax and other deductions	0.12	-0.15	-0.12	0.07	-0.01	0.11	0.00	0.02	0.07	-0.10	0.08	-0.01	0.02	-0.11
Highest qualification	-0.20	0.05	-0.02	-0.05	-0.02	-0.09	-0.12	0.03	0.05	0.13	-0.06	-0.03	-0.00	0.19
What is your religion?	-0.04	-0.03	-0.01	0.02	0.30	-0.01	0.03	0.08	0.07	0.02	0.00	0.32	-0.06	0.03
Do you have access to the internet from home?	-0.22	0.07	0.31	-0.09	0.00	-0.35	-0.09	-0.27	-0.16	0.24	-0.18	0.00	-0.05	0.22
During the last 12 months, have you done any voluntary work?	-0.17	-0.02	-0.01	-0.08	0.03	-0.10	-0.10	-0.02	-0.03	0.08	-0.00	0.03	-0.08	0.13

Table A4: Correlation between which historic places people attend and social and economic variables

This aim of this table is to analyse which heritage places people attend and its relation to various social and economic drivers. In particular the questions examined are:

- 'Have you been to a city or town with historic character?'
- 'Have you been to an historic building open to the public (non religious)?'
- 'Have you been to an historic park or garden open to the public?'
- 'Have you been to a place connected with industrial history (i.e. an old factory, dockyard or mine) or historic transport system (i.e. old ship or railway)?'
- 'Have you been to a historic place of worship attended as a visitor (not to worship)?'
- 'Have you been to a monument such as a castle, fort or ruin?'
- 'Have you been to a site of archaeological interest (i.e. roman villa, ancient burial site)?'
- 'Have you been to a site connected with sports heritage (i.e. Wimbledon) (not visited for the purpose of watching sport)?'

The strong correlation with heritage attendance is as expected – those that attend a heritage site are highly likely to attend one of the places on the left. However, what is interesting here is that 'Have you been to a city or town with historic character?' has the strongest correlation to heritage attendance, whilst 'Have you been to a site connected with sports heritage' has the lowest. This has created a lower correlation in all other variables.

Vehicle ownership and acorn category have a strong relationship with all variables as does attending a heritage site in general. However, the interesting thing to look at in this table is the differences.

Here we find ethnicity has a high correlation with city's and towns, buildings open to the public and historic monuments. However, it has an insignificant relationship with attending sites connected with sports heritage.

	Heritage attendance	Sex of respondent	Respondent Age group (5 bands)	Government Office Region	Ethnic group	Vehicle Ownership	Do you smoke cigarettes, cigars or a pipe at all nowadays?	Number of adults in household (grouped)	How many children under 16 live in this household?	How is your health in general?	Long-standing illness, disability or infirmity?	Ethnic group for PSA measurement	Type of area	ACORN Category
a city or town with historic character?	0.69	-0.01	-0.01	0.00	-0.13	0.20	0.11	0.00	-0.04	-0.16	0.06	-0.14	0.09	-0.21
an historic building open to the public (non religious)?	0.50	-0.01	0.01	0.06	-0.10	0.16	0.11	-0.01	-0.03	-0.14	0.05	-0.11	0.06	-0.21
an historic park or garden open to the public?	0.52	0.00	0.03	0.07	-0.09	0.16	0.10	-0.05	-0.02	-0.12	0.03	-0.10	0.07	-0.19
a place connected with industrial history or historic transport ?	0.32	-0.05	0.01	-0.02	-0.09	0.12	0.07	-0.01	0.01	-0.08	0.01	-0.09	0.05	-0.12
a historic place of worship attended as a visitor (not to worship)?	0.40	0.00	0.07	0.04	-0.08	0.12	0.10	-0.02	-0.08	-0.11	0.01	-0.09	0.06	-0.18
a monument such as a castle, fort or ruin?	0.50	-0.03	-0.05	0.02	-0.11	0.18	0.08	0.00	0.01	-0.14	0.07	-0.12	0.06	-0.16
a site of archaeological interest (i.e. roman villa, ancient burial site)?	0.29	-0.05	-0.00	0.04	-0.08	0.12	0.06	0.00	-0.02	-0.09	0.02	-0.08	0.05	-0.14
a site connected with sports heritage (not for the purpose of watching sport)?	0.14	-0.07	-0.07	0.02	-0.01	0.04	0.03	0.05	0.00	-0.07	0.03	-0.01	-0.00	-0.05
none of these kinds of place?	-1.00	0.00	0.04	-0.04	0.13	-0.22	-0.11	0.00	0.03	0.18	-0.08	0.14	-0.08	0.21

Table A5: Correlation between reasons for not attending heritage sites and social and economic variables

This aim of this table is to analyse why people do not attend heritage places and the relation to various social and economic drivers. In particular the reasons given for non attendance examined are:

- It's difficult to find the time
- It costs too much
- Never occurred to me
- Places like that are not welcoming to people like me
- Not really interested
- I wouldn't enjoy it
- Lack of appropriate facilities there
- Against my religion/ beliefs
- I might feel uncomfortable or out of place
- Health isn't good enough
- Lack of transport/I can't easily get to it
- Not enough information on what is available
- Prefer other activities
- I am too old
- Reference to looking after children
- No-one to go with
- Have been in past/no need to go again
- Reference to looking after family [not children]

The low correlation across the table is a result of high overall attendance rates. Again the interesting thing here is not the correlations but the difference in correlations across different reasons.

There are strong relationships with 'health isn't good enough' with the health variable and health and disability variables. This is also strongly related to the variables that the health variable was strongly related to in Table 1. Namely, age, ethnicity, vehicle ownership, number of adults in household and the number of children in household.

Obvious results include age being highly related to 'I am too old'. 'Looking after children' is strongly related to number of children in household. Age is highly related to 'not really interested' – with younger people more likely to give this reason. Age is also highly correlated to looking after family (not children).

PSA targets

Interestingly a variables not correlated with limiting illness and disability and bad health is lack of appropriate facilities. However, disability is highly correlated with 'health isn't good enough'. It is also highly related to 'difficult to find the time' but please note this is a negative correlation, implying if disabled are less likely to respond as 'difficult to find the time'.

People from a white background are more likely to say their health isn't good enough than a person from a non-white background. This has led to a negative correlation. They are more likely to say that its difficult to find the time.

Socio-economic group does not have a strong relationship with any of the reasons for non-attendance. Instead, it has a low correlation with most.

Table 53: Relationship between 'health isn't good enough' and ethnicity

	Health isn't good enough	no Health isn't good enough	Total
White	16.3%	83.7%	100%
Non-white	6.2%	93.8%	100%

Table 54: Relationship between 'it's difficult to find the time' and ethnicity

	It's difficult to find the time	no It's difficult to find the time	Total
White	31.1%	68.9%	100%
Non white	47.2%	52.8%	100%

Reason for not attending heritage sites…	Sex of respondent	Respondent Age group (5 bands)	ONS standardised Government Office Region	Ethnic group (grouped)	Vehicle Ownership	Do you smoke cigarettes, cigars or a pipe at all nowadays?	Number of adults in household (grouped)	How many children under 16 live in this household?	How is your health in general?	Long-standing illness, disability or infirmity?	Ethnic group for PSA measurement	Type of area
It's difficult to find the time	- 0.00	- 0.22	0.06	0.12	0.18	0.01	0.10	0.18	- 0.22	0.23	0.12	0.02
It costs too much	0.02	- 0.08	0.04	0.02	- 0.07	- 0.05	- 0.01	0.08	0.02	0.00	0.02	- 0.04
Never occurred to me	- 0.03	- 0.08	- 0.01	- 0.00	0.00	- 0.01	0.03	- 0.01	- 0.05	0.06	0.00	- 0.02
Places like that are not welcoming to people like	- 0.00	- 0.01	0.00	0.02	- 0.02	- 0.00	- 0.03	- 0.00	- 0.04	0.01	0.02	0.01
Not really interested	- 0.06	- 0.12	- 0.07	- 0.03	0.04	- 0.05	0.07	- 0.03	- 0.08	0.08	- 0.02	- 0.01
I wouldn't enjoy it	- 0.01	- 0.06	0.03	- 0.00	0.03	- 0.01	0.04	0.00	- 0.02	0.04	- 0.01	- 0.01
Lack of appropriate facilities there	0.04	- 0.00	- 0.01	0.00	- 0.02	0.02	- 0.01	0.02	0.00	0.00	0.00	0.00
Against my religion/ beliefs	0.03	0.02	0.01	0.05	0.01	0.01	0.03	0.03	0.02	- 0.01	0.06	- 0.00
I might feel uncomfortable or out of place	0.01	0.03	0.00	0.03	- 0.02	0.01	- 0.01	- 0.01	0.03	- 0.02	0.03	- 0.00
Health isn't good enough	0.07	0.46	- 0.03	- 0.10	- 0.19	0.08	- 0.19	- 0.18	0.48	- 0.44	- 0.10	0.01
Lack of transport/I can't easily get to it	0.07	0.08	- 0.01	- 0.05	- 0.16	0.00	- 0.06	- 0.03	0.07	- 0.08	- 0.05	0.03
Not enough information on what is	0.03	- 0.08	0.01	0.09	- 0.01	- 0.02	0.02	0.03	- 0.02	0.04	0.08	- 0.03

Table A5 Correlation between reasons for not attending heritage sites and social and economic variables continued

Reason for not attending heritage sites…	Sex of respondent	Respondent Age group (5 bands)	ONS standardised Government Office Region	Ethnic group (grouped)	Vehicle Ownership	Do you smoke cigarettes, cigars or a pipe at all nowadays?	Number of adults in household (grouped)	How many children under 16 live in this household?	How is your health in general?	Long-standing illness, disability or infirmity?	Ethnic group for PSA measurement	Type of area
Prefer other activities	-0.04	0.00	0.01	-0.02	0.03	0.01	0.02	-0.00	-0.01	-0.01	-0.02	0.03
I am too old	-0.00	0.11	-0.01	-0.02	-0.05	0.03	-0.05	-0.04	0.03	-0.04	-0.02	0.01
Reference to looking after children	0.02	-0.04	0.03	0.03	0.03	0.00	-0.02	0.09	-0.03	0.02	0.03	0.00
No-one to go with	0.04	0.03	0.03	0.02	-0.04	-0.01	-0.04	-0.04	0.01	-0.02	0.02	-0.01
Have been in past/no need to go again	0.01	0.03	0.03	-0.02	0.04	0.00	-0.01	-0.03	-0.02	-0.00	-0.02	0.03
Reference to looking after family [not children]	0.00	0.09	0.00	-0.03	0.01	0.01	0.01	-0.03	-0.00	-0.02	-0.03	0.01
Other answers	0.01	-0.00	0.03	-0.02	0.03	0.01	0.00	-0.00	-0.02	-0.01	-0.02	0.02