

Research note

# Attractiveness of cultural activities in European cities: A latent class approach

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## Abstract

Cultural tourism behaviour and destination preference was analysed for 19 European capital cities, utilising the level of participation in cultural activities (participation) and the level of enjoyment of those cultural activities (attractiveness). A latent class model with three classes described the association in the data satisfactorily. Class 1 was labeled “low participation and high attractiveness”, Class 2 was labeled “high participation and high attractiveness”, and Class 3 was labeled “high participation and low attractiveness”. The Class 2 respondents with high participation and attractiveness had the highest cultural capital, and could be considered ‘specific cultural tourists’, whereas the Class 3 respondents could be considered ‘general cultural tourists’. Class 1 respondents, with relatively infrequent participation but high enjoyment, are potentially most interesting in marketing terms.

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## 1. Introduction

In the global tourism market, the level of competition is growing as an increasing number of destinations vie to attract visitors. Cities are often at the forefront of this competitive struggle, as they attract the bulk of international visitors and often act as a gateway to a region or country. Tourism is also increasingly being used as a growth strategy for cities as manufacturing jobs are replaced by service industry employment, and as consumption replaces production as the basis of urban economies.

Culture has arguably become a major driving force of the urban tourism system. Cultural tourism is seen as being a major growth market in global tourism (WTO, 2004), and market trends such as an aging population and a growing interest in culture seem to favor the development of the cultural aspects of the urban tourism product (ETC, 2004; Richards, 2001). Cities are, therefore, competing

fiercely with each other to develop cultural attractions that will act as a ‘must see sight’ for cultural tourists.

Some recent studies of urban tourism have analyzed this competitive field from different angles, uncovering the reasons why particular cities are more popular destinations than others, and the factors that cause tourists to choose one city above another (e.g., European Travel Commission, 2004; Mazanec, 1997; Sager, 2003; Swedish Tourism Research Institute, 2004; Van der Borg, 1994). In many of these studies, tourists are asked to state their preferences for cities on the basis of different dimensions of the city tourism product. This leads to a positioning of cities in consumer markets, and also allows the cities that compete most closely with one another to be identified. This positioning can also be viewed from the perspective of the policymaker, in terms of their perception of competing cities (Grabler, 1997; Leipzig Tourist Service, 1998; Turisme de Barcelona, 2002).

In competing for cultural tourists, it is important for destinations to understand the cultural motivations of visitors and non-visitors (or potential visitors). In this paper, we propose a latent class approach to establish the

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positioning of cities for different subgroups of respondents, as well as taking into account non-visitation by some respondents. The method is applied to position 19 European cultural capitals according to the attractiveness of their cultural activities.

In many previous studies of cultural consumption, cultural motivations have been related to levels of cultural capital (or cultural competence) among consumers (e.g. Bourdieu, 1984; Caldwell & Woodside, 2003). In an exploratory study, we have therefore attempted to assess different variables related to cultural capital, such as museum visitation as a child and as an adult, self-assessed levels of cultural capital as well as elements of cultural motivation, such as wanting to learn new things and interest in local history. These ‘external variables’ may help to explain differences in levels of cultural participation among visitors.

In this paper, we propose a latent class approach to establish the positioning of cities for different subgroups of respondents, as well as taking into account non-visitation by some respondents. The method is applied to position 19 European cultural capitals according to the attractiveness of their cultural activities.

## 2. Method

### 2.1. Measuring the attractiveness of cultural activities

The ATLAS Cultural Tourism Research Project (ATLAS, 2004; Richards, 2001) seeks to measure the attractiveness of a wide range of European cities among a large sample of European visitors (8000 in 1997 and 6500 in 2000). The standard ATLAS questionnaire contains a list of up to 20 cities that visitors are asked to rank in terms of personal preference as a cultural holiday destination. The original set of cities presented to visitors was based on major cultural destinations in Europe (Van der Borg, 1994).

The attractiveness of cultural activities in a city should depend on the experience of the respondent. Even non-visitors may have a well-informed opinion (or ‘organic image’) based for example on reading newspapers or watching TV (Gunn, 1988), or they may have no opinion at all. In the former case, it is unknown how far the respondent’s opinion matches reality. In the latter case unknown processes (e.g., stereotypes, nonresponse) may determine the response.

For respondents who have participated in cultural activities it is more likely that their responses will be based on actual experience. Therefore, we have chosen to base the positioning of cities with respect to cultural activities only on those respondents that had actually participated.

We have modified the standard ATLAS questionnaire to allow for non-participation. For 19 European cultural capitals (see Table 1), respondents were first asked whether or not they had participated in cultural activities and if so, whether they found them attractive. Throughout, we refer to these questions as the *participation question* and the

Table 1

Positioning of 19 European cultural capitals with respect to frequency of participation and attractiveness

Frequency of participation			Attractiveness		
Range <sup>a</sup>	City	%	Range	City	%
1	Amsterdam	94.1	1–3	Dublin	100.0
2	Paris	73.9	1–3	Edinburgh	100.0
3–4	Brussels	54.4	1–7	Athens	97.0
3–4	London	53.1	3–7	Rome	95.0
5	Barcelona	39.7	4–10	Paris	91.0
6–8	Venice	27.5	4–11	Prague	90.9
6–8	Rome	26.9	4–11	London	90.5
6–8	Prague	26.4	4–12	Florence	89.7
9–10	Berlin	18.4	5–12	Venice	89.3
9–10	Florence	18.1	5–12	Barcelona	87.9
11–14	Munich	13.1	4–14	Lisbon	85.2
11–14	Budapest	11.7	6–14	Budapest	81.8
11–15	Copenhagen	10.4	4–16	Madrid	81.8
12–16	Vienna	9.9	13–17	Amsterdam	69.1
13–17	Athens	8.8	13–18	Copenhagen	66.7
14–17	Lisbon	7.2	13–17	Berlin	65.2
16–18	Madrid	5.9	13–18	Vienna	64.9
17–19	Edinburgh	3.5	17–19	Brussels	53.4
18–19	Dublin	2.1	18–19	Munich	42.9

<sup>a</sup>Range = range of rank number.

*attractiveness question*, respectively. Cultural activities were defined as visits to cultural heritage attractions (museums, historic buildings, architecture) or art attractions (such as the performing arts).

### 2.2. Sample

The sample consisted of 375 first-year students in the Social Sciences at Tilburg University, 104 male and 271 female, enrolled on an Introductory Statistics course. All respondents completed the questionnaire and there were no missing data. Post-administration interviews gave no indications that respondents might have misinterpreted the questionnaire. The use of a convenience sample can be theoretically justified on the basis of the relatively frequent participation in foreign travel by young people and the important role of culture in their travel motivations (Richards & Wilson, 2004).

### 2.3. Statistical analysis of the data

The statistical analysis of the data contained three steps. First, we determined the positioning of the cities in terms of *frequency of participation* in cultural activities (percentage of respondents that answered positively to the participation question) and in terms of *attractiveness* of the cultural activities (percentage of participating respondents that answered positively to the attractiveness question). In addition, a naive bootstrap (e.g., Efron & Tibshirani, 1993) was used to assess the reliability of the rank ordering. We computed the rank ordering of the cities for 1000 bootstrap samples yielding 1000 rank numbers for each city; the *range*

of rank numbers—the interval that includes the rank number 950 of the 1000 times—is reported.

Second, we investigated whether the sample was homogeneous with respect to participating and enjoying cultural activities using latent class analysis (see, e.g., McCutcheon, 1987; for an introductory text; and Hagenaaers & McCutcheon, 2002, for recent developments). Latent class analysis is a statistical method for finding subtypes of related cases (latent classes) from multivariate categorical data (Uebersax, 2003). These classes are called latent classes because membership cannot be observed directly. In our study, latent class analysis is used to find distinct types of cultural tourists. Latent classes are defined by the criterion of *conditional independence*. This means that within each class each variable is independent of every other variable. Let  $X_j$  ( $j = 1 \dots J$ ) denote the scores on the manifest variables with realizations  $x_j$ , and let  $\theta_k$  ( $k = 1 \dots K$ ) denote the latent classes, then conditional independence means that

$$P(X_1 = x_1, \dots, X_J = x_J | \theta_k) = P(X_1 = x_1 | \theta_k) \times \dots \times P(X_J = x_J | \theta_k).$$

In our study  $J = 19$  and  $x_j$  could take the values 0 = “did not participate”, 1 = “did not enjoy the cultural activities”, or 2 = “enjoyed the cultural activities”. Conditional independence implies that if the effect of class membership is removed all that remains in the data is randomness (Uebersax, 2003), hence class membership explains the association among the observed variables. The differences among classes in response probabilities are used to label the latent classes which facilitates the interpretation of the data. For example,  $P(X_{11} = 2 | \theta_1)$  (the probability that a respondent who belongs to the first latent class indicates that he/she enjoys the cultural activities in Munich) equals .38, whereas  $P(X_{11} = 2 | \theta_2) = .27$ , and  $P(X_{11} = 2 | \theta_3) = .00$ . We used the free software program LEM (Vermunt, 1997) to estimate the latent class model (the input file can be obtained from the first author). From the output the frequency of participation for each class  $P(X_j \geq 1 | \theta_k)$  and the attractiveness  $P(X_j = 2 | X_j = 1; \theta_k)$  were computed. These probabilities and the *class size*,  $P(\theta_k)$ , are reported.

Third, we investigated whether the responses to external variables related to cultural capital differed among the latent classes using one-way ANOVA to test the hypothesis that all classes have the same mean response and, in a post hoc analysis, the Tukey–Kramer test (e.g., Hsu, 1996) to test differences among the classes.

### 3. Results

#### 3.1. Overall results

Table 1 shows the frequency of participation and attractiveness of the 19 cultural capitals for the entire sample, and also the ranges of rank numbers.

Table 1 shows that cities relatively close to Tilburg (southern Netherlands), have the highest frequency of participation. These cities are Amsterdam, Brussels, Paris, and London. More distant cities such as Athens, Madrid, Lisbon, Edinburgh, and Dublin have the lowest frequency of participation. The range of rank numbers indicates that the ordering is reliable for most cities. Table 1 also shows that the attractiveness of most cities is high. As a result it is difficult to order many cities in a reliable way which is also indicated by the ranges of rank numbers. Cities with a German speaking population (Berlin, Munich, and Vienna) and Brussels have the lowest attractiveness. It should be noted that the 100% attractiveness of Dublin and Edinburgh is based on 17 respondents only. The results on attractiveness correspond to earlier findings that tourists find London, Paris, and Rome the most attractive European cities, followed by cities with an ancient history (Athens, Florence, Venice), and cities that are perceived as being less ‘cultural’ are considered least attractive (Richards, 2001).

#### 3.2. Results from latent class analysis

When estimating a latent class model the number of latent classes should be determined first. We expected three latent classes: respondents who tend not to participate, respondents who tend to participate and dislike cultural activities, and respondents who participate and tend to like cultural activities. Therefore, we used the latent class model with three latent classes as a starting point.

In analysing the data, we took care to avoid pitfalls in latent class analysis. The investigated models were estimated 20 times using different starting values to avoid local optima. The best solution out of 20 was considered the global optimum. We ensured that the unidentifiability of some of the parameter estimates did not affect the values of the latent class probabilities in the model. We investigated the goodness of fit using information criteria AIC (see, e.g., Bozdogan, 1987) and BIC (Schwartz, 1978) for latent class models with one, two, three, and four latent classes. In our study, the lowest value of BIC was found for the latent class model with two latent classes and the lowest value of AIC was found for the latent class model with three latent classes. We chose the model with three latent classes based on theoretical arguments mentioned above. Inspection of bivariate residuals (Vermunt & Magidson, 2000) also indicated that the latent class model with three latent classes captured most of the association among the variables.

Table 2 shows that in Class 1 the frequency of participation was lower than in the total sample, for all cities. Hence, Class 1 (58% of the sample) was characterized by respondents who participated in cultural events less than average and labelled the *Low Participation Class*. Class 2 (25% of the sample) and Class 3 (17% of the sample) were both *High Participation Classes*. It may be noted that the labels low and high participation classes

Table 2  
Frequency of participation for three latent classes and for the entire sample

	Classes			Total
	1	2	3	
Amsterdam	91	96	100	94
Paris	60	88	97	74
Brussels	37	76	80	54
London	39	85	65	53
Barcelona	33	40	55	40
Rome	20	48	30	27
Venice	18	55	31	27
Prague	20	44	30	26
Florence	9	32	29	18
Berlin	8	35	31	18
Munich	0	38	27	13
Budapest	6	30	13	12
Vienna	3	20	19	10
Copenhagen	4	10	25	10
Athens	4	20	13	9
Lisbon	1	20	12	7
Madrid	1	20	8	6
Edinburgh	0	17	2	3
Dublin	2	3	2	2
Class size	58	17	25	100

Class 1: low participation/high attractiveness class.

Class 2: high participation/high attractiveness class.

Class 3: high participation/low attractiveness class.

The entries are percentages of respondents that participated in cultural activities. In the last row the class sizes are shown.

should be interpreted relatively. The rank order of the cities in terms of frequency of participation was similar among the latent classes.

Table 3 shows the attractiveness for the three classes and for the entire sample size. The attractiveness in Class 3 was always less than in the entire sample and, therefore, Class 3 was labelled the *Low Attractiveness Class*. Class 1 and 2 were *High Attractiveness* classes. In general, the attractiveness was highest in Class 2, except for Florence, Copenhagen, and Budapest. The rank order of cities in terms of attractiveness differed among latent classes. A clear example is Vienna, which was ranked first by respondents from Class 1 and 2 and 17th by respondents from Class 3.

### 3.3. Class responses to external variables

We investigated whether the responses to external variables related to cultural capital differed among the latent classes using one-way ANOVA to test the hypothesis that all classes have the same mean response and, in a post hoc analysis, the Tukey honestly significant difference comparison to test differences among the classes (Table 4).

Table 4 shows that the null hypothesis of equal mean responses among the three classes was rejected for Frequency of Visits to a Museum as a Child, Number of Visits to a Museum Last Year, Amount of Euros Spent on Cultural Activities per Month, Self-Rating of Cultural

Table 3  
Attractiveness of cultural activities in 19 cultural capitals for three latent classes and the entire sample

	Class			Total
	1	2	3	
Dublin	100	100	100	100
Edinburgh	100	100	100	100
Athens	87	100	100	97
Rome	96	100	88	95
Paris	92	99	85	91
Prague	86	100	89	91
Florence	100	96	77	90
London	92	100	80	90
Venice	94	97	73	89
Barcelona	92	100	76	88
Lisbon	100	100	65	85
Budapest	97	93	47	82
Madrid	100	100	49	82
Amsterdam	70	100	48	69
Copenhagen	78	70	62	67
Berlin	84	89	35	65
Vienna	100	100	27	65
Brussels	69	86	16	53
Munich	—	88	0	43
Class size	58	17	25	100

Class 1: low participation/high attractiveness class.

Class 2: high participation/high attractiveness class.

Class 3: high participation/low attractiveness class.

The entries are percentages of participating respondents that found the cultural activities attractive. In the last row the class sizes are shown. No respondent in class 1 participated in cultural activities in Munich and, therefore, the attractiveness could not be computed.

Table 4  
Mean responses of the three latent classes and the mean responses of the total sample to external variables

Variable	Class			Total
	1	2	3	
<i>Measures of cultural capital</i>				
<b>Museum visits as a child</b> [1,2] [1,3]	2.45	3.10	2.87	2.66
<b>Museum visits currently</b>	4.00	7.46	6.41	5.13
Frequency of travel abroad	4.48	5.21	3.64	4.41
<b>Cultural expenditure</b> [1,2] [2,3]	10.93	26.46	12.83	13.97
<b>Self-assessed cultural capital</b> [all]	55.11	67.13	60.93	58.45
<i>Travel motivations (1–5 scale)</i>				
<b>Learning new things</b> [1,2]	3.30	3.65	3.42	3.38
Travel with others	3.45	3.48	3.40	3.45
Entertainment	3.96	3.83	3.84	3.91
Relaxation	4.46	4.46	4.52	4.47
<b>Learn about history</b> [1,2] [2,3]	2.95	3.70	3.14	3.12
<b>Learn about local culture</b> [1,2] [2,3]	3.43	4.05	3.47	3.54
Atmosphere	4.60	4.66	4.65	4.62
Females (%)	73	68	74	73

Class 1: low participation/high attractiveness class.

Class 2: high participation/high attractiveness class.

Class 3: high participation/low attractiveness class.

Bold face indicates that the hypothesis that all classes have the same mean responses was rejected. Square brackets denote that differences were found in post hoc analyses. For example [1,2] means that the mean response between Class 1 and 2 differed significantly.

Capital and the holiday aspects of Learning New Things, Local Culture, and History. Post hoc analysis showed that the differences were mainly due to differences between Class 1 and 2 and to a lesser extent to differences between Class 2 and 3. This tends to confirm the important role of cultural capital in predicting cultural participation and in determining cultural taste (or ‘liking’ culture). The Low Participation Class was linked to low levels of cultural capital, low incomes and less interesting in learning-related motivations. The Low Attractiveness Class, on the other hand, had reasonably high levels of cultural capital, but tended to be more orientated towards leisure-related motives than the High Participation Class.

#### 4. Discussion

The overall ranking of cities shows some interesting underlying patterns. In general, those cities visited most frequently are likely to be those closest to the Netherlands. This reflects other empirical research on city tourism flows in Europe, which indicates that a high proportion of city visitors with cultural motivations come from neighboring countries (European Travel Commission, 2004). In terms of destination attractiveness, however, the more attractive destinations tend to be those that are further away, suggesting a certain element of ‘exoticism’ in the attractiveness of these places. Few people visit the less accessible cities, but when they do they tend to find them attractive. If we disregard Edinburgh and Dublin (which both have very small numbers of visitors), then the most attractive cities are Athens and Rome, both cities with a high level of ‘real cultural capital’ developed since antiquity. There is also a tendency for cities in the south to be ranked as more attractive than those in the north. As well as the physical and cultural distance, which may make these cities seem more ‘exotic’, there may well be an effect of climate. Southern cities will tend to have more lively street culture and, therefore, be seen as having more ‘atmosphere’ than their northern counterparts. Even within the group of ‘northern’ cities there are some striking differences, however. Brussels, for example, is relatively frequently visited, but is not seen as being attractive. London is visited by almost as many respondents as Brussels, but is found to be much more attractive. This may relate to the higher levels of ‘real cultural capital’ in the broader range of cultural attractions in London (Richards, 2001) as well as its relative exoticism for Dutch speaking students.

The analyses of the latent classes by participation and attractiveness (Tables 2 and 3) indicate different patterns of cultural attraction consumption in the 19 cities. Class 2 consists of those people who travel frequently and find the cultural facilities attractive in almost all the destinations they visit. These respondents seem to regard all places as being ‘cultural’ and enjoy consuming culture wherever they go. These individuals also have a high level of cultural capital, developed both through stimulation of cultural consumption in the family (habitus) and high levels of

current cultural participation. They are also more likely to know the languages of the cities they visit than other respondents, so the ‘living culture’ of the destination is more accessible to them. They are also most likely to visit destinations further away from the Netherlands, so they make a considerable investment in consuming culture. This class seems to conform broadly to the profile of ‘specific cultural tourists’ who visit destinations for specific cultural motives (Richards, 2001).

Class 3 consists of respondents who participate in cultural city tourism, but are less likely to find those cities very attractive. These individuals may be more critical, or they may have the feeling that they consume culture as a duty (‘must see sights’) rather than as a leisure activity. These respondents have lower levels of cultural capital than Class 2. This class is more likely than other respondents to visit Amsterdam, Paris, and Brussels—cities that are relatively close at hand. This class seems to have a profile closer to the ‘general cultural tourist’ who visits sites on the basis of a general interest in culture.

Class 1 is perhaps the most interesting in marketing terms because respondents in Class 1 are people who participate infrequently, but when they do visit cities they are likely to find the cultural offer attractive. Class 1, therefore, represents a potential market for city cultural tourism. These people tend to have lower levels of cultural capital than the other two classes, and are more likely to be looking for entertainment as well as culture. This group would be of particular interest to those developing new ‘popular culture’ attractions in cities (McKercher, Ho, & Du Cros, 2004).

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