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RESEARCH ARTICLE

Impact of place on museum participation

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This paper examines the impact of place on museum participation in England. For the first time in the cultural field, we use a multilevel logistic model to examine whether place matters after accounting for individual characteristics and area level compositional factors. Our findings show that the traditional social order remains intact, although other social cleavages have become important, and that significant variation exists in museum participation simultaneously at both the neighbourhood and local authority district spatial scales. We conclude by arguing that future research into cultural consumption patterns must take account of the fact that individuals reside in different places. That individuals cluster in space, interact in these places and spaces, and that environmental forces impact on museum participation. Put simply, both theoretically and empirically, studies of cultural behaviour should take account of place, because place matters.

Keywords: place; museum participation; stratification; multilevel modelling

Introduction

Scholarly work in the field of cultural consumption has focussed on social position, education and other socio-demographic characteristics to explain why people are engaged or disengaged in culture (Bennett et al, 2009). While accepting and acknowledging the importance of such drivers, this paper claims that key empirical analyses of cultural consumption have largely ignored the importance of place and macro contextual forces, the range of mechanisms and the different spatial scales in which participation takes place. Consequently, we examine whether the places in which people live out their lives acts as a further cleavage in consumption behaviour. We question how important place is and whether contextual mechanisms inhibit or facilitate cultural participation. To test this hypothesis we empirically examine participation in museums and galleries using the Taking Part Survey (TPS) 2005–2006.

The aim of this paper is threefold. Firstly, after controlling for stratification and other compositional measures, we examine whether variation in museum participation still exists at the area level. Put simply, whether variation in consumption behaviour can be accounted for by place. Secondly, we determine whether this variation differs across spatial scales and is therefore indicative of different contextual process occurring. Thirdly, we examine whether place fosters or inhibits cultural behaviour and whether living in deprived areas acts as a further barrier to cultural and social exclusion. Unlike previous cultural studies, we focus on whether place matters, specifically after accounting for established individual attributes and area level compositional factors. Our findings suggest that, whilst class and education still matters most, other drivers are now salient measures of participation. However, primarily, we stress the importance

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of place on cultural participation and emphasise the need for this to be taken into account in future cultural research.

Theoretical overview

Scholarly work in the field of cultural consumption has established a clear link between social stratification and cultural consumption. This relationship has been theorised most famously by Bourdieu (1984) and more recently by Peterson (1992). It is has become the "accepted truth" that consumption is still bound up in social hierarchies. As Bennett et al (2009: 52) state, "class remains a central factor in the structuring of contemporary cultural practice in Britain: class matters". Using a multiple correspondence analysis, Bennett et al (2009) found clear associations between cultural patterns of behaviour and the social structure and distribution of resources. Other scholars of cultural consumption have identified other individual level characteristics prevalent in cultural participation (DiMaggio, 1996; Wright, 2006; Warde, 2006) with some evidence that the cultural field is almost as strongly polarised by other socio-demographic variables as by social class (Gayo-Cal, 2006). While Bennett et al (2009) acknowledge that class now plays a less powerful role relative to other factors (gender, age etc) in accounting for varying patterns of cultural consumption, their recent comprehensive study of cultural practice in Britain suggests that such drivers are still less influential than social position.

However, the importance of place remains under-developed. In "Distinction – a social critique on the judgement of taste", capital, field and habitus play a central role in Bourdieu's theory of cultural consumption (1984). Given the abundance of excellent scholarly texts dissecting this theory (Bennett et al, 2009; Savage, Gayo-Cal, Warde & Tampubolon, 2005), it is not within the remit of this paper to critically assess Bourdieu and discuss in-depth the central role these factors play in accounting for participation in legitimate culture. However, it is important to provide an overview of this theory and detail how this relates to our understanding of how place may influence consumption.

Bourdieu's theory revolves around cultural capital, field and habitus to explain the relationship between cultural activity and social inequalities. Yet, the very nature of Bourdieu's theory of cultural capital, field and the central role that habitus plays as a mediating concept relating structure and agency alludes to how place is perhaps influential (Agnew, 1987). Bourdieu positions himself between agent and structure. Indeed, the habitus mediates between objective life-chances on the one hand, and the strategies used in interactions in the other (Jones, Johnston & Pattie, 1992; Agnew, 1987). Empirical evidence of participation behaviour using a cultural capital framework has failed to consider this mediating concept of structure and agency, with regards to place. Furthermore, Savage et al (2005) claims that cultural capital is bound up with territorial claims, and notes that Bourdieu reveals relatively little about this dimension in his homology thesis.

Bourdieu's theory is clearly not a theory of geography, but using the latter may help our understanding of cultural consumption, beyond capital, field and habitus. Bourdieu himself alludes to how his theory of cultural and social reproduction may be influenced by place. In *Distinction*, Bourdieu (1984) alludes to a sub-national geography influencing consumption when he identifies that the dispositions and cultural maturity of the petite bourgeoisie are only fully developed in Paris. According to Bourdieu (1984: 363), this is due to the advantages associated with proximity to the centre of cultural values, the intense supply of goods, the sense of belonging and the incentives given by contact with other groups that are also culturally favoured. Bourdieu's theory of social life is therefore best understood as the interaction between structures (fields), dispositions to action, and action themselves, which clearly must take place in a geographical setting: the household, neighbourhood, district, region, and the nation (Ernste, 2004). Therefore, geography may make an important contribution to the knowledge of cultural sociology. All the social characteristics of inhabitants of the different residential areas are linked with perception models of those areas from other people. Furthermore, although Bourdieu did not refer to social space as a geospatial space, Ernste (2006) argues that physical space is like a mirror of the social space and is structured according to the different presence of different types of capital and of their amount. Therefore areas are potentially divided by the level of cultural capital held by those that reside within (Ernste, 2006). Given this, we now detail how geography has been incorporated into scholarly studies of cultural participation and stress the theoretical importance of place and context.

Incorporating geography

While geography has, both empirically and theoretically, limited exposure in the cultural field it would be unfair to state that it is has been overlooked completely. Some cultural scholars have, theoretically, stressed the need to incorporate geography and location in a cultural framework (Prior, 2005; Savage, 2006). Earlier pioneers include Judith Blau (1989) who stressed the importance of urban residence on cultural participation rates. While Blau (1986) did attempt to address, in an aggregate form, whether participation in cultural activities resulted from the observation of local conditions (exposure to cultural venues), other contextual influences and processes were not accounted for. Despite the usefulness of her work, any assessment of whether different contextual processes may be occurring in a number of hierarchical settings (locales) was also ignored because of the focus on specified areas fixed in space. Some cultural scholars have noted that cultural consumption is influenced by geography, both through social interactions, specifically social networks, and also through contextual effects of an area in which individuals live (Walker, Scott-Melnyk & Sherwood, 2002). However, the failure to acknowledge or empirically address the fact that different contextual processes may occur simultaneously in a variety of locales remains a limitation of the cultural literature more generally and is something that we examine here.

Recently, scholars have used geographical locations ("distressed neighbourhoods") to assess Bourdieu's argument that lower classes exhibit a "taste of necessity" (Blasius & Friedrichs, 2008). While the use is innovative, the focus is primarily how groups belonging to the lower classes are located in a "social space" (Blasius & Friedrichs, 2008) rather than examining the relative importance of place and determining whether contextual processes affect cultural behaviour patterns. Apart from the effective use of other contexts to examine the effects of the family and school setting using cross sectional data, and then longitudinally, from adolescence to adulthood, on cultural participation (Nagel & Ganzeboom, 2002), other scholarly work has tended to include region or geographical location as a fixed effect (Tampubolon, 2008; Chan & Goldthorpe, 2007; Kirchberg, 1996). In most cases, geographical location has often been a significant contributor. Despite this, the role place and context play in explaining variations in cultural consumption remains largely on the periphery of the cultural literature. Whilst scholars may note that participation habits are formed through social interactions, few, if any, examine whether such interactions are grounded geographically and seek to identify this at different spatial settings simultaneously.

The importance of place and context

Scholarly models of cultural behaviour are based on a compositional approach, whereby cultural consumption patterns are assumed to be predominantly influenced by an individual's position within society or their personal evaluation of the contemporary cultural field. In other words, an association between socio-demographic indicators and cultural consumption may not necessarily imply an effect of place of residence on participation; it may equally be caused by individual level differences in the characteristics of residents (Buck, 2001; Duncan, Jones & Moon, 1993). From a compositional stance, the variation in cultural participation by place may be due to the

variation in the numbers of disadvantaged individuals in that area, therefore individuals with similar lifestyles and characteristics portray similar cultural consumption behaviours wherever they live (Macintyre, 2007). Yet, in terms of explaining cultural behaviour, this traditional approach regards geography as epiphenomenal (Agnew, 1987).

The contrary argument stresses the importance of contextual effects in explaining cultural behaviour, not only through social interaction, macro-level forces, but also through a culture of participation promoted through a sense of belonging or place. In order to explain human behaviour it is necessary to take account of the micro-episodes of everyday life and their embeddedness in the concrete milieux or contexts (Agnew, 1987). If people's attitudes, beliefs and expectations are socially constructed they will inevitably be tied up with others who occupy the same social world (Galster, 2002). Therefore, any form of participation will undoubtedly be influenced by place, not only through interaction with people they reside with (Buck, 2001), but also through location, as this interaction must take place somewhere (Agnew, 1987). Put simply, who we talk too is as important as who we are, and who we talk too is very much influenced by where we live (Thrift, 1983).

In this paper, we argue that the social context should be taken into account when examining cultural behaviour, as it is an important connecting tie between individual stratification and cultural participation (Huckfeldt, 1979). Within the cultural field, the notion of spatial patterning and diffusion of physical risk factor, works on the premise that greater exposure, will bring about spatial patterning of a social phenomena. Those residing close to a cultural venue will be more exposed to the offering and its physical presence, thus they are more likely to attend (Curtis & Rees-Jones, 1998). The decision to participate in cultural activities may result from the observation of local conditions (exposure to cultural venues), through interpersonal interaction such as contact with neighbours. friends, family or other people in local social networks, or even from information flows from the local media and various cultural bodies. Yet the importance of context is not presented here as an alternative to compositional factors, indeed, we regard them as complementary. Those from the higher echelons of society may be more likely to participate in different aspects or many forms of culture, yet there may be a stronger tendency for them to participate in some areas than others. This may reflect the local social environment whereby individuals are stimulated to participate both by being around other people who attend cultural activities and through the adoption of prevalent group norms which encourage participation. It is also probable that those from the higher echelons of society are more likely to participate than lower status individuals, yet living in a local context surrounded by higher status individuals may also encourage participation. Put simply, "many participation acts are socially learned and stimulated" (Huckfeldt, 1979).

However, places are not individual entities. The place where an individual resides is encapsulated within other places, which in turn also impacts on the individual, but at differing spatial scales (Jones et al, 1992). Therefore, different contextual processes may be occurring in a variety of hierarchical settings (locales) which is facilitating or inhibiting cultural participation (Giddens, 1991). Socialisation (especially childhood) may take place in the home, although the importance of this key interaction context on preference formation is often overlooked (Cutts & Fieldhouse, 2009). Equally the intermediate context such as the surrounding neighbourhood in which formal institutions (schools etc) and informal social networks (friends and family) can provide communication vehicles for sources of invitations and stimuli, act as learning milieu (Johnston & Pattie, 2006). At these smaller spatial scales, providing individuals are not constrained to live in a certain type of neighbourhood by social and political processes, such individuals will choose to reside in close proximity to individuals that have similar values, beliefs, lifestyles, and cultural participation habits, to their own. These homogeneous (advantaged and disadvantaged) groups, which cluster in space, will share their daily interaction with like minded people (Thrift, 1983). Consequently, the context in which these interactions happen will influence or inhibit cultural consumption and preference formation.

Larger spatial scales such as the region or local authority district may also influence consumption patterns. The interaction between national or regional cultural bodies and local authorities has led to the modernisation of cultural facilities over the last decade. An emphasis has been placed on mass appeal, with institutions encouraged to provide user friendly information to enhance participation amongst disadvantaged groups. The funding of populist exhibitions, along with outreach programmes and the shift in emphasis to promote the educational value of cultural events and exhibitions are prominent examples of how organisations, associations and statutory bodies can influence participation within the larger context. Moreover, how local authorities spend local cultural budgets may vary from place to place, while the exchange of information through advertising etc may vary from one cultural institution to another, both within and between places.

Like most forms of behaviour, we argue that an individual's decision to partake in a cultural activity such as visiting a museum is a learned activity, and that such learning occurs in places, at various spatial scales. On occasions, location may not matter that much, for instance, a national advert about a cultural event. However, we argue that place is important, since learning involves interaction with others who live there. For the first time in the cultural literature, we seek to identify whether place is important, specifically to establish the relative importance of the immediate neighbourhood context and local authority district on museum participation. Unfortunately, data limitations restrict our attempts to examine the relative importance of other smaller spatial scales such as the household. Nonetheless, both the neighbourhood context and local authority districts are likely to play an important role in enhancing cultural participation. Although we seek to control for possible influences at the district level, the lack of supply side indicators mean that the unique contribution of this paper is *not* to substantiate the processes that are occurring at these spatial scales, but to establish their relative importance on museum participation in England.

Hypotheses

The purpose of this paper is threefold. Initially, the aim is to examine whether variation in museum participation is accounted for by geography (place), irrespective of class, education and other socio-demographic variables. Here we use a nested multilevel design, which enables a hierarchical logistic regression model to be fitted, to determine the relative importance of small spatial scales on museum participation. We will then attempt to explain the variation at the area levels through adding contextual measures to the model. Using this approach, a number of unresolved questions can be addressed; specifically, at what level – immediate neighbourhood context and local authority district – do such variations in museum participation occur and what is the relative importance of these spatial scales on participation in the United Kingdom.

Here the expectation is, given recent scholarly evidence, that the traditional social order remains a significant stratification measure of cultural activity. However, a hierarchical approach allows us to incorporate geography into the cultural literature. The neighbourhood setting is likely to be an important locale where interaction affects whether one participates or not takes place. Local authority districts also play an important role in providing information and are responsible for local cultural budgets. For these reasons, some evidence of neighbourhood and district clustering is expected even after conditioning for individual and area level characteristics.

The hypotheses are:

- H1 There will be variations in museum participation simultaneously at all the spatial scales modelled.
- H2 The smaller the spatial scale gets the more clustering one would expect to find increasingly more variation will be observed at smaller spatial scales.

- H3 The opportunity structures that exist in less deprived areas are far less conducive for enhancing museum participation than those found in more affluent areas.
- H4 There will be spatial variations in museum participation at all the scales modelled, even after accounting for individual and area level characteristics.

Data and methods

A dearth of quality assured data on cultural participation in the UK has long been noted. The 2005–2006 Taking Part Survey (TPS) from the Department of Culture Media and Sport is the first comprehensive cultural survey carried out in England and subsequently seeks to address these data limitations (for details of the TPS see http://www.culture.gov.uk). The TPS has a robust methodology, critically engaging with the notion of participation and non-participation in cultural activities, across the breath of the cultural space. The TPS collated cultural data from 28,117 adults via face-to-face interviews. Households were drawn from the postcode address file, with interviews conducted randomly from a selected member of the household aged 16 or over. The fundamental aim of the TPS is to collect data on the cultural consumption behaviours of the population. The TPS is therefore a representative sample of adults aged over 16 who are resident in England. The survey does not include data for Wales, Scotland or Northern Ireland and is not therefore representative of cultural behaviour in Great Britain.

In order to address whether and which context really mattered for individuals we ascribe a number of identifiers to each individual in the sample. For example, all persons listed under the same postcode were allocated the same postcode identifier. The same was applied to Local Authority district. This produces a hierarchical dataset that permits us to examine individual levels of museum consumption at various separate spatial scales. These include:

- 1. The Postcode or immediate neighbourhood
- 2. Local Authority district

Subsequently the separate scales nested into each other as follows -28,117 individuals in 1,591 postcodes which in turn are nested in 345 local authority districts. This, as far as we are aware, is novel in the analysis of cultural consumption, largely because the availability of individual cultural data within the same postcode or local authority is rarely available. The clustered nature of the sample has considerable advantages when attempting to understand within and between area variations.

Model specification

The complex hierarchical sample design together with the desire to estimate the spatial source of variation in museum participation suggests a hierarchical or multilevel modelling is necessary. Hierarchical or multilevel modelling is a methodology which provides a framework for exploring how relationships vary across hierarchical structures, whether these be natural, or introduced an the sample design. The approach is used to gauge the variability associated with each level of the hierarchy. For the analysis of museum participation, variance components models are fitted in order to generate estimates of variance at the different spatial levels. The primary purpose of these models is not to identify the causes of museum consumption but rather to identify the sources of variance. To achieve this goal the modelling strategy proceeds through the following three stages:

 Model 1: models the variation in museum consumption among individuals within postcodes or immediate neighbourhood

- Model 2: models the variation in museum consumption among individuals within postcodes or immediate neighbourhood, within local authority districts
- Model 3: models the variation in museum consumption among individuals within postcodes or immediate neighbourhood, within local authority districts after accounting for individual level and area level characteristics

It is possible to illustrate the basic hierarchical model structure by using Model 1 as a simple example. Here individuals at level 1 are nested within postcodes at level 2. This hierarchical binary logistic model, with no predictor variables can be expressed as follows (Goldstein, 2003):

$$E(Y_{ij}) = \Pi_{ij} = \exp\left(\beta_0 + \mu_{0j}\right) \left[\left(1 + \exp((\beta_0 + \mu_{0j})\right)^{-1}\right]^{-1}$$

In simple terms, the expectation of the binary outcome Y_{ij} for individual i in postcode or immediate neighbourhood j is the propensity to go to a museum Π_{ij} , which is determined by the overall average term or fixed part of the model β_0 , and the random part or postcode term μ_{0j} , which is allowed to vary. The binary outcome at level 1 follows a Bernoulli distribution, while the postcode terms is from a Gaussian distribution, which is conventionally summarised by the between postcode variance term $\sigma^2_{\mu 0}$ (Goldstein, 2003). The hierarchical logistic models are fitted using MLwiN 3.2 with the estimates for the model derived using a penalised (predictive) quasi-likelihood (PQL) estimation procedure. It is common to estimate hierarchical models using estimation methods based on marginal quasi-likelihood (MQL) procedures. However, when compared to the MQL method, the PQL estimation is less biased for the fixed effects (Goldstein & Rasbash, 1996). Therefore we decided to run random intercepts models whereby the only variation between districts is in their intercepts using this estimation procedure.

Dependent and explanatory variables

Dependent variable

The TPS collated consumption behaviours of a wide range of cultural indicators ranging from sport to literature, and arts to music. The focus of this paper is museum participation. Unfortunately, despite the undoubted benefits of using the TPS, the survey only has a crude measure of museum attendance, that being "In the last 12 months have you visited a museum?" This measure is a binary response variable with two categories (yes = 1, No = 0). Therefore, we are unable to classify between a museum enthusiast and an occasional reluctant visitor. Moreover, we cannot make any distinctions between attendance at different kinds of museum (art, natural history, history, science etc). This is unfortunate and clear data limitation of the TPS given that scholarly work has shown that art museum attendance is socially more restricted than participation in other kinds of museums (Di Maggio, 1996; Kirchberg, 1996). However, the robust methodology of the TPS and the large sample size make it the only suitable UK cultural dataset to assess the importance of place. And given that place is the main focus of the paper, we reluctantly have to accept the restrictive museum categorisation. However, it is important to note, that if we find that place matters with this crude measure of museum participation, we would expect that a more refined measure would present even stronger place effects, given that participation is more socially restrictive in certain kinds of museums than others.

Explanatory variables

For a measurement of social class, we will use the NS-SEC occupational class measurement. Indeed, prominent cultural scholars have used this NS-SEC variable to account for individual occupational class and capture differences in employment relations, essentially measuring relations in labour markets and production units (Chan & Goldthorpe, 2005, 2007; Tampubolon, 2008; Savage, 2006; Warde, 2006). Previous evidence suggests that class is the dominant influence of economic life chances, given that it determines degrees of economic security thereby shaping political orientations and consumption behaviours (Chan & Goldthorpe, 2005). Education in the TPS is coded into the six official National Vocational Qualifications levels, ranging from degree level to no qualifications. These two variables will act as the main stratification variables in the study. It is possible that educational attainment may identify independent effects, once class is taken into account.

Other important socio-demographic information from the TPS includes age¹, gender, ethnicity², and family composition³. Two interaction terms are also included both with ethnicity. Empirical evidence in the US suggests that ethnic minority groups have lower cultural participation rates than whites (DiMaggio & Ostrower 1990; Upright 2004). While in the UK, a qualitative study of BME communities in Liverpool found that many BMEs believed that there were little or no exhibitions that demonstrated their culture, and if they did exist, they would be presented to attract a white middle class clientele (Smith, 2006). In other words, BMEs stated they were systematically excluded from participating, identifying reasons such as feelings of uneasiness and uncomfortable surroundings, the lack of information provided in the neighbourhood, and a perception that such groups would have little or no interest in attending. While this may be valid, given the shift towards museums being more accessible through outreach programmes and more populist attractions (Prior, 2005; Mclean, 1997), it may be the case that such barriers have started to diminish particularly for those BMEs who are highly educated and young. As a further caveat to the paper we test whether this is the case, we include these two interaction terms in the model. These will all serve as control variables to remove the possibility of any hidden confounding effects with those of class and education.

Given the multilevel dimension in the modelling framework, it is possible to account for contextual influences at different spatial scales. An individual's postcode is included in the model as a random effect. Unfortunately, data limitations mean that we cannot account for possible influences at the postcode or immediate neighbourhood level of geography such as network relationships between friends and neighbours. Here it is only possible to determine whether this context has a significant impact on museum participation, relative to local authority district and after accounting for individual characteristics and area level covariates at the higher spatial scale. However, from the census and other sources, it was possible to include explanatory variables at the local authority district level to act as a proxy for both compositional and contextual effects. These covariates include; Population Density (people per hector); Multiple Index of Deprivation 2004 (MID); Percentage of the Black ethnic group in the district; and Percentage of Indian, Pakistani, and Bangladeshi.

The MID is a district level variable that ranks local authority districts by the most deprived to least deprived. The actual measure is made up of number of indicators, chosen to cover a range of economic, social and housing issues, into a single deprivation score for each small area in England. If the MID measure is significant even when accounting for other compositional variables, it will be possible to assume that deprivation has a genuine independent effect and that it is not simply an artefact of population composition. Given the focus of this paper, we would expect that an individual's cultural behaviour is a function of the nature of the society in which one resides. The more affluent will reside in districts with higher status people which, in turn, encourage activity. If multiple deprivation is an inhibitor to consumption, then living in deprived areas will impact on cultural behaviour not simply because of the presence of more nonconsumers but also due to living in unpleasant, undesirable, unsafe environments, in which there are fewer opportunities for making cultural lifestyles (Jones et al, 1992). Furthermore, there may be evidence of "deprivation amplification", where the range of resources and facilities in an area, which might promote cultural engagement, may be less common in poorer areas (Macintyre, 2007). Therefore, whatever one's personal characteristics, the opportunity structures in the poorer areas are less conducive to consumption activities than more affluent areas.

The argument that proximity and access to a variety of cultural attractions could affect geographical variation in cultural lifestyle formation is clearly valid. The number and variety of cultural attractions are more likely to be located in areas of high population density. To account for this, it is possible to use population density as a proxy measure of urban areas, which are more likely to house cultural attractions. Given this, we would expect that the greater the level of population density, the more likely they are to facilitate cultural consumption.

The percentage of Black ethnic groups and Indian, Pakistani, and Bangladeshi ethnic group in a local authority district is derived from the 2001 Census of Population and attached to the TPS. After controlling for composition at the individual level, if these two area level ethnic group variables remain significant, then it is possible to infer that greater diversity in a local authority district has a genuinely independent effect, and that it is not simply an artefact of ethnic and other sociodemographic population characteristics. Furthermore, if this measure is significant and negative, it will be evident that these ethnic groups have substantial social and environmental barriers to becoming culturally active.

Museum participation

In the TPS, 40.4 per cent of respondents reported visiting a museum. To gauge the relationship between museum attendance and differences by geography, we first map engagement by district (see Figure 1 below).

Figure 1 identifies areas with low (0-35 per cent) museum attendance, moderate (36-44 per cent), and high levels (45-100 per cent) of engagement. It provides clear evidence that different levels of engagement are clustered in space. Generally, moderate and high participation is concentrated in the south of the country especially in London, the Home Counties and the South Coast. Interestingly, the local authorities in the north with high participation rates such as York, Harrogate, East Riding of Yorkshire, Craven and South Lakeland are the more affluent rural districts. These contrast with the more urban centres in the north, namely Merseyside, West Yorkshire, Greater Manchester, South Yorkshire and the West Midlands which are predominately characterised by low engagement in museums. The descriptive evidence provided here suggests clear disparities in museum participation at the local authority level that may be a function of district deprivation. In other words, it seems that deprived districts are likely to be characterised by low engagement in museums.

There is also a clear north/south divide in museum participation with striking similarities to Dorling's North South Divide maps, which include a variety of measures such as house prices, education, and life expectancy (Dorling, 2010). This suggests that there is a clear spatial patterning in museum engagement indicative of the presence of macro and micro level forces at the local authority district level that both inhibit and facilitate participation. These descriptive findings warrant further investigation to determine the level of variation in museum participation that is accounted for by the district level and whether variation is still prominent at this and lower spatial scales after accounting for established socio-economic drivers of participation. In order to answer these key questions, it is necessary to apply multilevel modelling



Museum engagement across districts

Figure 1. Museum engagement across districts.

techniques to identify if any significant variation in museum participation at the various spatial scales exists.

The impact of place

After initially modelling variations among individuals, the next two stages introduce separate spatial scales within which individuals are nested, thus enabling the relative importance of each separate spatial level to be determined. Table 1 shows the estimated coefficients for each

Model	Level	Estimate	SE
12	Postcode Postcode	0.209 0.101	(0.016) (0.013)
	Local Authority District	0.083	(0.013)

Table 1. Variance components analysis for each stage of the multi-level model of museum participation in England.

Note: Coefficients shown in bold are significant at the 0.05 level

of the separate levels in the two random effects models, together with their standard errors. In all the models shown, each spatial level is statistically significant indicating differences in the propensity of individuals to go to museums in England by postcode and by local authority district.

The variation between postcodes remains statistically significant throughout, although the size of the coefficient in model 2 reduces relative to the previous model following the introduction of local authority district as a higher spatial unit. Nonetheless, this is the first multilevel analysis of museum consumption, which includes postcode as a spatial unit. Using the latent variable approach (Goldstein & Rasbash, 1996), the intra-class postcode correlation in model 1 is estimated to be $0.209/(0.209 + 3.29)^4$, which suggests that 6 per cent of the variation is at the postcode level. This reduces to 3 per cent when the higher spatial unit is added to the model, while the intra-class local authority district correlation is 2.5 per cent. As noted previously, the postcode is the most authentic locale in which "neighbourhood effects" occur. The statistical importance of the postcode level relative to local authority district gives some credence to the "neighbourhood effect hypothesis" outlined above, although such inferences are only speculative given that such processes are not directly tested here. The evidence stresses the relative significance of both the postcode and local authority district, with the former larger than the latter. At the postcode level, this might be due to social homogeneity or neighbourhood effects, or more likely a combination of both, although determining whether this is the case is beyond the scope of this paper due to data limitations.

One of the limitations of the simple two level and three level random effects models is the absence of any individual information such as socio-economic or demographic characteristics. In the first instance, it is virtually impossible to rule out selection effects as the explanation for the clustering of museum participants within postcodes or the immediate neighbourhood. That is because individuals who live in close proximity to each other may self-select others from similar socio-economic backgrounds. Moreover, the absence of individual and local authority district information prevents us from addressing the other key hypotheses of this paper. To address these questions, we extend the simple three level random effects model to control for a range of individual socio-economic variables (social class, education, marital status, gender, age, etc) that, as noted previously, have been shown to be important influences on museum or cultural participation. Explanatory variables at the local authority district level which act as a proxy for both compositional and contextual effects are also included in this model. Apart from determining whether the traditional social order remains a significant stratification measure of museum participation and if age, gender, and ethnicity are now cross-cutting the link between museum participation and the social order, the inclusion of such variables will also take account of self-selection. Therefore, any residual postcode variance is not likely to be due to shared social characteristics. Even after controlling for area levels of deprivation, ethnicity and proximity and access to a variety of cultural attractions, any residual local authority variance may reflect differences in cultural budgets or levels of advertising which aren't taken account for here, or simply, they may reflect long established patterns in museum participation that have become part of the local culture of the area.

Stratification and place on museum participation

The unstandardised coefficients from the hierarchical regression model, including individual and local authority district covariates, are reported in Table 2 below. In this model, the intercept term is much larger than its standard error. Using the anti-logit function of X β (with the explanatory variables set to zero as the predictors are centred), the estimated median proportion of people who went to a museum is 0.233^5 . From the TPS dataset, the estimated probability of an individual with average characteristics of visiting a museum was 23.3 per cent. Turning to individual socio-economic characteristics, the results suggest that museum participation in England maps onto the social hierarchy in much the same way Bourdieu portrayed in the creation of the

Table 2. Multi-level logistic model of museum	consumption in England (model 3).
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Predictor Variables	Estimate	SE
Constant Level 1 Fixed Effects Gender (Base = Male)	- 1.19	(0.07)
Female	0.17	(0.03)
Age (Base = Middle Age: 35-64)		
Young	- 0.24	(0.06)
	0.06	(0.04)
Class (Base = Middle Class - NSEC 3-6)	0.28	(0.05)
NSEC 7 and 8 (Working Class)	- 0.34	(0.03)
No Work	- 0.43	(0.08)
Full Time Student	0.29	(0.05)
Education (Base = No Educational Qualifications)		
Degree	1.59	(0.04)
A-Levels and HND's	0.98	(0.05)
Secondary Education	0.63	(0.04)
Primary Education	0.36	(0.06)
Other Qualifications	0.49	(0.07)
Family Composition (Base = Single)		
Lone Parent	0.00	(0.05)
Married with children	0.09	(0.05)
Married with no children	0.11	(0.05)
Separated/Divorced/Widowed	- 0.17	(0.05)
Ethnic Group (Base = White)		
BME group	- 0.54	(0.07)
Interactions		
BME*Young	0.34	(0.08)
BME*Degree	- 0.23	(0.08)
Level 3 Fixed Effects		
Population Density	0.01	(0.00)
Multiple Index of Deprivation	- 0.01	(0.00)
Percentage Indian/Pakistani/Bangladeshi	-0.01	(0.01)
Percentage Black	-0.00	(0.01)
Random parts		
Between-Postcode Variance	0.050	(0.013)
Between- Local Authority District Variance	0.043	(0.009)

Note. Bold denotes statistical significance at p = .05.

homology theory. Those from the highest occupation classes are significantly more likely to visit museums than those individuals with middle class occupations. Lower classes and those individuals with no work remain significantly less likely to engage in legitimised culture such as museum participation. The importance of educational attainment also suggests that the traditional social order remains a significant stratification measure of museum participation. When compared against the base category of no qualifications, it is clear that individuals with any level of educational attainment were more likely to visit museums. However, the educational attainment coefficients display a linear pattern, with higher educated individuals (level 4/5 or degree) significantly more likely to go to a museum than those with lower levels of education.

There is also clear evidence that a multiple-stratification axis now exists which cross-cuts the link between museum participation and the social order. Other social factors are statistically significant and follow the direction one might expect. For instance, age, gender, ethnicity and family composition matter. Females are more likely to go to museums than men, while young people, relative to the base category middle age, are also more likely to participate. Those individuals who are married but don't have the burden of children are also more likely to go to museums when compared against single people, while individuals who are separated, divorced or widowed are less likely to visit museums. Previous scholarly evidence claimed that BME groups faced barriers to legitimised forms of culture (Smith, 2006). On the face of it, this is confirmed by our results. BME groups are significantly less likely to visit museums than whites. However, the interaction terms reveal that this relationship is far more complex. Young BMEs are significantly more likely to go to museums than BMEs from other age groups. This may reflect the fact that museums have themselves attempted to become far more accessible to different ethnic groups and the younger population through more populist attractions (Prior, 2005; McLean, 1997). BME individuals with a degree are significantly less likely to visit museums than those BMEs with lower educational levels of attainment, perhaps because of the perceived wisdom that there are very little or no exhibitions that demonstrate their culture, while the more populist elements of museums may also not appeal.

Data limitations meant that there were no available predictors that could account for particular mechanisms or processes that might occur at the postcode or immediate neighbourhood level. However, at the local authority district level, it was possible to control for particular influences. Both the percentage of Black, Indian, Pakistani, and Bangladeshi ethnic group in a local authority district were negative but insignificant, which suggests that areas with a more diverse population did not have an independent effect on museum participation, nor do such groups in an area have significant barriers to becoming culturally active.

Proximity and access to a variety of cultural attractions has a significant positive effect on museum participation, just as Bourdieu identified with regard to the petite bourgeoisie in Paris. Given that the population density measure is used here as a proxy for urban areas, which are more likely to contain different cultural attractions, it is unsurprising that the greater the population density in a local authority district, the higher the rate of participation. The multiple index of deprivation measure is also significant, but negative. Here we can assume that the level of deprivation has a genuine independent effect and that it is not simply an artefact of population composition. Those who live in deprived areas are more likely not to visit museums than their counterparts living in less deprived areas. Living in deprived areas has a significant impact on museum participation, not only because of the presence of other non-museum participants, but also because living in such undesirable environments results in fewer opportunities to enhance cultural lifestyles. Whatever one's personal characteristics, our findings suggest that the opportunity structures that exist in the less deprived areas are far less favourable for enhancing consumption activities such as visiting museums than those that exist in more affluent areas.

60 P. Widdop and D. Cutts

The inclusion of individual characteristics and attitudes in model 3 ensures the estimation of the level 2 and 3 variance conditional on these predictors. Even after the inclusion of these fixed effects there remains some, albeit fairly small, between postcode variance (0.050). Using the latent variable approach, the intra-class correlation is 0.050 / (0.050 + 3.29), so that 1.5 per cent of the variation is at the postcode level. This is both significant and an important finding given that it suggests that evidence of a neighbourhood effect is not just a product of selection effects – that is of people with similar characteristics living in close proximity to each other. Even after the inclusion of fixed effects at the local authority district level, there is evidence of unexplained variation. In sum, the intra-class correlation is 0.043 / (0.043 + 3.29), so that 1.3 per cent is at the local authority district level. Again this is significant at the 95 per cent confidence level. While we might expect learning or interaction for example to have more of an influence at much lower spatial scales, it is clear that the district an individual resides in is important in its own right, even after accounting for individual and area level characteristics. This reinforces not only the importance of place but validates our modelling approach and the theoretical need to fully account for such influences by partitioning the variance and taking account of how mechanisms operating at different spatial scales affect cultural participation. One way of clearly illustrating the extent of local authority district level variation is to map the residuals, identify outlying districts, and to explore whether such districts cluster in space.

Mapping of the model residuals

In Ordinary Least Squares (OLS) multiple regression, it is possible to estimate the residuals by simply subtracting the individual predictions from the observed values. In multilevel models with residuals at each of several levels, a more complex procedure is needed. Here, our primary focus is the local authority district level. Consequently, we examine the residual estimates to explore the extent of district level variation and to determine whether there are any outlying districts with high or low levels of museum engagement, after accounting for individual and area level compositional factors. The lower and upper end residuals are shown in Figures 2 and 3.

Here we must reiterate that we are only seeking to identify spatial clustering and not seeking to explain the processes for why it exists in certain areas. The testing of particular mechanisms which may account for the unexplained variation is beyond the scope of this paper and suitable data is not available in the TPS survey. Nevertheless, now that we have identified the existence of unexplained significant variation in the multilevel models at the district level, the spatial clustering of residuals mapped below further illustrates the importance of place on participation patterns.

Figure 2 shows the 50 highest ranked residuals. There is clearly some evidence of clustering particularly in the north of England. For instance, in the north east, there is a clustering of high museum participation around Newcastle and in adjacent districts. There is also some evidence of spatial clustering across North Yorkshire particularly in the more affluent districts, namely, York, Craven, and Harrogate. This confirms the descriptive results outlined earlier in Figure 1. Similar patterns are found in the north west, particularly in the more urban centres of Manchester, Salford and Trafford. In the south, there is at best sporadic clustering, although high levels of museum engagement is evident in Hertfordshire and a number of adjacent local authority districts. In the south west, districts with high participation include Bristol, Carrick and Penwith, the latter two both in Cornwall.

Figure 3 shows the 50 lowest ranked residuals or districts with the lowest levels of museum participation. Once again we find some evidence of a north south divide, with a greater number of districts in the north having low residuals. Low museum engagement is particularly prevalent in many of the districts in the West Midlands, with the exception of the more affluent Solihull. Clustering is also evident in South Yorkshire and even in some districts in western parts of Lancashire



Figure 2. Highest ranked residuals for museum participation.

(Blackpool, Fylde and Wyre). In the south, clustering is again far more sporadic, although there are notable clusters of low participation in parts of Somerset and West Sussex. Unsurprisingly, a number of inner London boroughs, including Newham, Hackney, Haringey, and Barking and Dagenham, all exhibit low museum participation rates. Each of the boroughs mentioned rank high on the multiple deprivation index.

Discussion and conclusion

The key aims of this paper were to establish whether place of residence influenced museum participation, to determine a clear relationship between museum participation and deprivation, and



Figure 3. Lowest ranked residuals for museum participation.

finally, to establish the relative importance of two spatial scales on museum participation in England. The results from the hierarchical logistic model show that the traditional social order (class and education) remains a significant stratification measure of museum participation. Here we provide strong evidence that museum participation patterns are still somewhat entrenched in being structured by social processes. In effect, we confirm the findings of recent established work (Bennett et al, 2009). Yet other individual characteristics such as age, gender and ethnicity are also important significant contributors even when controlling for the stratification order, is too simplistic. There are also significant interactions between BME educational attainment and exclusion from cultural participation, and between BME groups and age. While

BME groups are less likely to go to museums, young BMEs are significantly more likely to participate, which suggests that outreach programmes and more inclusive exhibitions may be having a positive effect among young BMEs, although not for younger white people. However, the more populist elements of museums do not seem to appeal to a highly educated BME person. Despite this, museum participation is clearly structured by a multiple axis of stratification and not purely by the traditional social order as in the past.

Within the cultural participation literature, it is widely assumed that composition accounts for variations in cultural lifestyles. The importance of place as a further cleavage influencing museum participation has been largely ignored. But here, for the first time in the cultural literature, we readdress this anomaly. Our findings suggest that cultural behaviour cannot simply be reduced to stratification and other compositional processes. There were variations in museum participation simultaneously at both the spatial scales (immediate neighbourhood and local authority district) modelled (H1). The mapping of residuals also highlighted the importance of place (districts) on levels of museum engagement. Clearly, there is a contextual relationship; an individual's cultural behaviour is a function of the nature of the society in which they reside. The social environment in which people live their daily lives influences cultural behaviour. Place is significant and it clearly matters. Although we found that the district was significant, it was the immediate neighbourhood that provided the greater level of variation (H2). However, it is important to note that these two spatial scales have different contextual mechanisms that may inhibit or facilitate museum participation and further work is needed to tease out these possible effects. There is also ecology of consumption behaviour, observable even when the principal theoretical individual level and area level characteristics are accounted for (H4). Both remained significant in the final model, despite the inclusion of social stratification variables. At the postcode level, this may suggest the importance of neighbourhood effects given that such variation isn't purely, from the evidence shown here, a product of selection effects. However, further analysis is needed to determine whether people who interact more with their neighbours are more likely to visit museums in the same way as their neighbours do, according to the characteristics of the neighbourhood that they share. Moreover, unexplained variation at the local authority district level may be due to the inbuilt culture of the area or the value different local authority districts place on enhancing museum participation through funding, advertising or local programmes.

One caveat is that observed variations may be no more than aggregation effects, appearing as statistically significant because different types of individuals, living in different types of neighbourhoods and subjected to different levels of funding, advertising and the promotion of cultural programmes, are concentrated in different local authority districts. It may be that the major geography to museum participation operates at a much smaller scale such as the household. In our analysis, we included different family composition variables as fixed effects, with married with no children significant and married with children just falling short of the 95 per cent confidence level of significance, while those who were divorced, separated or widowed were significantly less likely to visit museums. However, to avoid the possibility of spatially underspecified models, future research should include the household in the random part of the model. This would allow the relative importance of each level to be properly identified. Such an analysis could investigate whether living with other individuals who visit museums results in other people in the household participating. This would substantiate evidence of homogamy where there is some kinship foundation, specifically within two elector households most of which exist through marriage or cohabitation. We would not only anticipate high levels of correspondence between individuals participating in two member households, but also higher levels of cultural participation within those households, particularly in comparison with single households, members of which lack the stimuli of a partner with whom to visit a museum. At present, data limitations prevent this. However, such a study is needed to pinpoint the actual geography of cultural participation.

Any future study that identifies household clustering would also need to take account of the likelihood that individuals self-select others from similar social backgrounds and with similar cultural attitudes. It will be therefore necessary to ascertain whether such clustering still exists even after conditioning for individual characteristics and attitudes.

Spatial variation remained even when contextual mechanisms were included in the models, although it is at the neighbourhood level where the majority of this variation still lies. The remaining variance at both the neighbourhood and district level can be viewed as being contextual mechanisms that are as of yet unmeasured. While we were unable to account for the contextual mechanisms occurring at the neighbourhood level, we included several contextual mechanisms at the district level. It is evident that district level deprivation has a negative relationship with museum participation. Museum participation is discouraged in districts that are deprived. Individuals residing in areas of deprivation are more likely to suffer opportunity structures that inhibit activity. Furthermore, the index of deprivation measure operates in the same path as the individual stratification variables. Individuals with a low educational attainment and occupational class have a greater likelihood of being non-consumers, as are those residing within more deprived areas. In the more deprived areas, the cultural behavioural characteristics of the lower educated and those of lower occupational class are reinforced and dominate those of others. However, this may also be general rather than a socially specific effect (Duncan, Jones & Moon, 1999), and what other scholars identify as contextual (Macintyre et al, 1993). In summary, living in deprived areas has an impact on cultural behaviour, not because of the presence of other culturally inactives, but due to living in undesirable, unsafe, culturally barren environments in which there are fewer opportunities for developing cultural behaviours.

Disentangling contextual effects from compositional effects is difficult, as the two examples identify. Previous evidence suggests that opportunity structures in the poorer areas are less conducive to consumption activities than more affluent areas (Macintyre, 2007). Our findings concur with this thesis. Deprivation is an inhibitor to consumption; living in deprived areas will impact on cultural behaviour not simply because of the presence of more non-consumers, but because of the environment in which an individual finds themselves (H3). Furthermore, living in urban areas exposes individuals to the museum product, its marketing and media communications, and other supply side forces. It increases the opportunities of individuals in urban areas as opposed to rural areas in visiting museums.

To ignore the fact that individuals reside in different places, that they cluster in space, that they interact in these places and space, and that environmental forces impact on behaviour, is to ignore the role the neighbourhood and district level plays on the individual museum participation. While it remains apparent that the traditional social order is still intact, and other social cleavages have become important, it is also clear that where an individual resides inhibits or facilitates museum participation. Place clearly matters. Yet whilst one of the limitations of this analysis is the inability to take account of other micro-spatial scales, particularly the importance of the household and the processes underpinning household behaviour on museum participation, these findings, for the first time in cultural field, stress that geography is empirically vital to deliver a meaningful analysis of cultural behaviour. Its importance and influence both theoretically and empirically should therefore not be ignored.

Notes

- 1. Age has three categories: young (16-35), middle (36-59) and older (60+).
- 2. Ethnicity has been grouped as "white" and "non-white" because the different BME sample groups are very small, making it unfeasible to analyse separately.
- Family composition categories: "married/co-habiting with children"; "married/co-habiting with no children"; "lone parent"; "single"; "separated, divorced, or widowed".

- 4. The standard variance for a logistic distribution is 3.29.
- 5. The anti-logit formula is as follows: $p = [1 + exp(-X\beta)]^{-1} = 1 + exp(1.19)^{-1} = 0.233$. The link function is non-linear so this is not exactly the overall mean (Goldstein, 2003).

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