A comparative study of social capital and neighbourhood composition in the U.S. and England

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Introduction

Recent increases in the scale and diversity of immigration into western democratic industrial nations has lead to a renewed interest in citizen's responses to ethnic and racial diversity. At the same time, whilst mindful of the economic and cultural contribution of immigrants, governments have been increasingly concerned with the social integration of immigrants and the effects of diversity on social cohesion. There is well established evidence of ethnic or racial disadvantage in both the U.K. and the U.S. in labour market performance, social mobility, educational achievement and political participation. Furthermore, a number of scholars including Costa and Kahn (2003), Alesina and Ferrera (2000) and Putnam (2007) have noted a negative relationship between diversity and social capital amongst the population more generally[1]. In particular diversity has been linked with lower levels of civic engagement, participation in group activities and social trust. However, many of these studies have looked either at the effect of neighbourhood diversity within a single country, very often the U.S.A. or they have looked at national level diversity across a sample of countries. In this paper we provide a comparative analysis of the relationship between neighbourhood diversity and social capital in England and the U.S.A. Furthermore, this paper makes two major contributions to this debate. First, unlike other studies we make the important distinction between the effects of diversity and co-ethnic concentration. Second we disaggregate the effects of diversity and co-ethnic density on whites and ethnic minorities. By making these distinctions we are able to get a more nuanced picture of the relationship between diversity and social capital. We find that, whilst diversity does have a negative effect on social norms of those from the white majority in both countries, but the patterns for ethnic minorities and for community participation is less clear cut.

Social capital and diversity

Social capital refers to social networks and their value. Perhaps the most parsimonious definition is "the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance or recognition" (Bourdieu 1986, p. 248). Similarly, Putnam's 'lean and mean' definition of social capital extends this to include both "social networks and the associated norms of reciprocity and trustworthiness" (Putnam, 2007). This captures the two key components identified in most previous research on the subject: the structural component (social networks; associations and participation) and the cognitive or altitudinal component (shared norms and habits of trust and of reciprocity). Much of the interest in social capital is undoubtedly due to the large body of evidence linking social capital to favourable outcomes across a wide spectrum of areas of public and private life including health, the economic performance, political participation, crime and government effectiveness (see Putnam, 2000; Halpern 2005).

[1] This arguments and evidence extends to economic and social diversity as well as ethnic or racial diversity.

However social capital poses two major challenges for policy makers. First the general consensus is that social capital is in decline. In 'Bowling Alone' Putnam extensively documents the decline of social capital in the U.S over the last fifty years. The decline is attributed to a range of factors including the passing of the 'civic generation', the rise of electronic entertainment especially television, suburbanisation and changing working patterns. Whether a similar decline is occurring in Britain is less clear. Peter Hall has argued that, whilst there has been a decline in social trust, there is no equivalent decline civic association in Britain (Hall, 1999). In contrast others have stressed both increasing inequalities in social capital and also a change in the quality and depth of associational life (e.g. Grenier and Wright). Second, there is the apparent link between social capital and diversity that we introduced above. It is that we are concerned with in this paper.

There is a growing body of research on social capital (and generalised trust in particular) suggesting that that social capital and trust tend to decline as racial or ethnic diversity increases (for example Alesina and La Ferrara, 2000; Costa and Kahn, 2003, though see Marshall and Stolle, 2004 for counter evidence). This is attributed to the idea of economic or cultural 'threat'. Whereas the 'contact hypothesis' (Allport, 1954) posits that experience of diverse populations makes us more tolerant, 'conflict theory' predicts that, due to a variety of factors including conflict over limited resources, members of the majority group feel threatened by 'outsiders' leading to distrust and intolerance of those outsiders and solidarity with one's own group (Blalock, 1967; Giles and Evans, 1985). The latter is consistent with a body of social psychology literature which has remarked on the propensity for people to feel more secure amongst others of a similar ethnic or racial background. However group-conflict theory also implies that greater neighbourhood diversity should have a mobilising effect as politically more is at stake (Blalock, 1967; Oliver 2001)

Probably the most comprehensive analysis of the relationship between social capital and diversity in the U.S. is Putnam's Johan Skytte Prize lecture and article 'E Pluribus Unum', in which he reports a detailed analysis of the relationship between social capital and diversity in America (Putnam 2007). The analysis, which takes account of a comprehensive range of other potential factors, shows that various aspects of social capital including social trust, community co-operation, and informal socialising are detrimentally affected by neighbourhood diversity. Furthermore, contrary to the simple conflict hypothesis, it is not only trust of people of other ethnic groups which is affected but trust of one's own group. Putnam describes this as 'hunkering down' whereby residents of diverse communities do not become hostile to outsiders, but rather withdraw from collective life more generally. In other words "diversity, at least in the short run, seems to bring out the turtle in all of us" (Putnam, 2007, p.151).

There have been a number of challenges to the validity and implications of this argument. First there are those which argue that social capital formation is contingent on racial homogeneity (e.g. Hero, 2007; Stolle and Hooghe, 2005). Such critics argue that research on social capital tends to ignore inequality and conflict in society. According to some social capital both derives from and causes social and ethnic inequalities. In other words, it is membership of privileged groups and networks which gives access to resources that we call social capital, and, like other forms of capital, this has material value, leading to a perpetuation of advantage or disadvantage

(Bourdieu 1986; Portes, 1998). Hero (2007) argues that the supposed benefits of social capital are an artefact of the more crucial role of racial diversity and inequality in America. Once the diversity of states is taken into account, the beneficial effects of social capital all but disappear. Moreover Hero argues that not only are high levels of social capital accrued primarily in racially homogenous areas (that is ethnic homogeneity is a pre-condition for high social capital), but that that the benefits of this social capital are enjoyed primarily by the white majority population, and not by racial minorities.

Critics have also argued that much of the work on social capital has focussed on the generalised trust and this is much more likely to be negatively related to diversity than other forms of social capital. According to psychological literature, trust is more prevalent amongst people who resemble each other and is therefore more widespread in more homogeneous communities. Moreover it is also well known that dominant groups in societies tend to be more trusting that minorities. Both these factors mean that increasing diversity will inevitably be linked to declining trust. However, other forms of social capital – for example social networks or norms of reciprocity – may be less sensitive to diversity. Hooghe (2007) argued that diverse societies may simply build different forms of social capital than homogeneous ones. Whilst this argument rightly warns of too much reliance on a single indicator of social capital, others have shown that other forms of social capital (such as interaction and reciprocity) also tend to be inversely related to diversity. For example using experimental methods, Glaeser and colleagues shows lower levels of honesty and reciprocity in inter-racial exchanges (Glaeser et al, 2000), and Putnam (2007) demonstrates that a wide selection of indicators show the same basic relationship. In this paper we will use a range of indicators to avoid this pitfall.

Comparative evidence

Much of the evidence concerning the relationship between diversity and social capital emanates from the U.S. But can the findings of Putnam and others be generalized to other settings? Many critics have challenged both the universality and the inevitability of this relationship. We might expect to find differences for a number of reasons. The U.S has a very different history of immigration and diversity than Britain or other European countries and, there are also important and significant differences in the sheer size of ethnic minority populations. Furthermore, general and relative inequalities are more exaggerated in the U.S. than in Britain or Europe, and this might exacerbate the effects of diversity. Welfare and civil rights regimes are different, with Britain having a more extensive welfare state, whilst the U.S has more civil rights protections. Finally the U.S. assimilationist model of integration is rather different to the British model of multiculturalism. John Helliwell, for example, has argued that the apparent negative relationship between social capital and diversity is a reflection of government policies and may not be generalised to countries beyond the U.S. (see also Kessler and Bloemraad, forthcoming). There is no reason to expect, therefore, to find the same relationship between diversity and social capital in Britain and the U.S..

To date, research from around the globe, including from Britain suggests rather mixed results, but generally supports Putnam's findings. For example, in Australia, Leigh (2006) found that linguistic heterogeneity reduced localised trust for both natives and immigrants and reduces generalised trust only for immigrants. In Canada research found that once individual characteristics were taken into account, there was no

significant relationship between diversity and a range of social capital indicators (Aizlewood and Pendakur, 2005). In a study of 44 countries world wide Anderson & Paskeviciute (2006) found that indicators of population heterogeneity do not have uniformly positive or negative effects on individual-level measures of civil society. However, they did find that ethnic and linguistic diversity decrease levels of interpersonal trust. In Europe, Marc Hooghe found no significant relationship between country level immigration and diversity and generalised trust in Europe, though this may simply be a reflection of problems of using the country as the unit of analysis. Kesler and Bloemraad (forthcoming) argue that there is no general link between diversity and collective mindedness, and using country level international data, show how the relationship is contingent upon particular institutional arrangements. In perhaps the closest replication of Putnam's work to date is Lancee and Dronkers (forthcoming) study of ethnic diversity and neighbourhoods in the Netherlands. Following Putnam, and like this study, they combine individual and neighbourhood data to test the impact of diversity net of individual and characteristics. The findings confirm a negative relationship between diversity and trust, but show no negative effect on the level of *inter-ethnic* trust.

In the UK, the evidence is also mixed. A Home Office report examined the issues of 'diversity, trust and community participation in England' and found that generalised trust was lower in areas of greater ethnic diversity (Pennant, 2005). Letki (2007) by contrast suggests that socio-economic factors exert a greater bearing on 'community' and interpersonal trust than racial heterogeneity. Letki concludes that "when the association between racial diversity and economic deprivation is accounted for, there is no evidence for the eroding effect of racial diversity on interactions within local communities. There is no deficiency of social capital networks in diverse communities, but there is a shortage of them in disadvantaged ones" (p.21). This conclusion is shared by Laurence and Heath (2008) who report that "once other factors are accounted for ethnic diversity is, in most cases, positively associated with community cohesion" and that "deprived, diverse areas have higher average cohesion scores than deprived, homogeneous White areas. It is thus deprivation that undermines cohesion, not diversity". However, this analysis examines only one indicator of social cohesion and controls for the potentially confounding effect of trust, which itself is likely to be related to diversity. On the issue of deprivation and diversity, it is notable that Putnam's analysis does also allow for the effect of deprivation. Furthermore he points out that the effect of deprivation (or poverty) is in fact larger than the effect of diversity, thus sharing more in common than Laurence and Heath's or Letki's analysis than it would at first appear.

Finally, like most work on the topic to date, the British research described above looks at the effect of diversity across the population as a whole. There is reason to think that diversity will impact on minorities and majority groups differently. For example studies of voting and registration in Britain have shown diversity has positive effects for the participation of minorities but zero or even negative effects for Whites (e.g. see Fieldhouse and Cutts, 2008a and b). Similarly in the U.S. Oliver (2001) shows opposite effects of the percent white on blacks and whites on voting and organisational involvement, but the same (negative) effects for more instrumental forms of participation (e.g. contacting officials).

Hypotheses

In order to test the strength to competing theories in a British context, we test a number of alternative hypotheses. As described above the conflict hypothesis and Putnam's constrict hypothesis both anticipate similar outcomes with respect to both diversity and co-ethnic density, whist the opposite relationships are anticipated by contact theory. A further possibility is that the impact of diversity on social capital will be different for majority and minority groups. This has seldom been explored and, as far as we are aware, never in British context. One study which does consider this possibility in a single country (the U.S) is by Marshall and Stolle, (2004) which shows that trust amongst blacks (of people in general) is higher in more diverse area and where inter-ethnic interactions are more commonplace, but there is no such effect for whites. In the U.K where the ethnic minority population is much smaller and segregation levels are relatively low, the differential effects may be accentuated. More diverse environments may display higher levels of tolerance and opportunities for building bridging social capital, than predominantly white areas, giving rise to higher levels of social capital amongst minorities.

Moreover there may be a positive effect on social capital amongst ethnic minorities living amongst others who share their ethnic origins. In other words, areas with higher co-ethnic densities may have greater levels of bonding social capital amongst minorities, and, as the ethnic community model suggests, may be associated with greater efficacy and interest for those minorities (Shingles, 1981; Guterbock and London, 1983; Bledsoe et al, 1995). By controlling for ethnic density and diversity we are able to separate the effect of places being more or less white, from being more or less diverse. Whilst closely related these two measures are conceptually distinct. In Britain where the ethnic minority population is quite small (around 8%) compared to the U.S.A. (34%), diversity and density are usually highly correlated. This is particularly true of the white population: areas with a smaller white population are usually more diverse (because they are rarely homogenously black for example). However at the neighbourhood level, even in the U.K, there are many areas where minorities make up more than half the population and as the size of the minority groups increases, the level of diversity may sometimes go down. For example, an area may have a large Indian population with the remainder made up of whites. This will produce a relatively low level of diversity. In our data the correlation between diversity and co-ethnic density for whites (i.e. percentage white) is -0.96 in England and -0.86 in the U.S, whilst for non-whites the equivalent correlation +0.43 in England and -0.10 in the U.S. The analyses below look at the separate and combined effects of diversity and concentration on ethnic minorities, but only the separate effects for whites (due to this collinearity).

Thus, the asymmetric expectations concerning diversity and co-ethnic concentration are the basis of the multicultural neighbourhoods hypotheses. We therefore have a number of alternative hypotheses that we can test.

Conflict hypothesis;

H1 - Effect of diversity is negative

Contact hypothesis

H2 - Effect of diversity is positive

Multi-cultural neighbourhoods thesis

H3 - Effect of diversity is negative for whites

H4 - Effect of diversity is positive for minorities
H5 - Effect of co-ethnic density is positive.
H6 - The effect of diversity for minorities is moderated in more diverse areas by co-ethnic concentration.

Methods and data

In the his study of diversity and social capital in the U.S., Putnam (2007) employs individual data using the Social Capital Community Benchmark Survey in combination with census tract data to explore the relationship between neighbourhood diversity and individual level indicators of social capital. In this study we use the same U.S. data including the census tract information. For the U.K. we use data from the 2005 citizenship Survey in combination with census data at the neighbourhood level.

The Citizen Benchmark Survey was carried out in 2000, with a total sample size of approximately 30,000. Embedded within the nationwide sample is a representative national sample of 3,000, as well as smaller samples representative of 41 different communities across the United States. These range from large metropolitan areas like Los Angeles and Chicago, to small towns and rural areas such as rural South Dakota. Further details of the sample design are provided in Putnam 2007. Because all respondents addresses were geo-coded, we know the demographic characteristics of the census tract within which they live).This allows us to look at relationships between individual characteristics such as ethnicity, age and social trust, and neighbourhood characteristics such as crime rates, poverty and crucially racial diversity. For this research we use a fivefold categorization of race and ethnicity similar to that used in the Census. However, to allow comparison between whites and non-whites we combine 'other' racial/ethnic groups with Native American and retain as a separate (fifth) category. The categories arte thus: Hispanic, non-Hispanic white, non-Hispanic black, Asian, and Native American/other.

In the U.K., since 2001, the Citizenship Survey has been commissioned every two years. Approximately 10,000 adults in England and Wales, plus an additional boost sample of 5,000 adults from minority ethnic groups, are asked questions covering a wide range of issues feelings about their community, volunteering and participation. In 2005 the Citizenship Survey included some (but not all) of these questions relating to community-based social norms and values that we need to measure social capital. As for the Benchmark Survey, by special arrangement it was possible to match neighbourhood characteristics of the respondents from the 2001 Census of Population, allowing us to explore the impact of neighbourhood diversity and other contextual influences on social capital. Neighbourhood level variables are all measured at the middle layer super output area (MSOA) which are the most suitable geographic unit to represent the neighbourhood as they are designed to be relatively socially homogeneous and roughly equal in size. They have an average population size of approximately 7,000 and there is a wide range of census and administrative data available for that level of geography. For the U.K we also use a simplified fivefold classification of ethnicity based on the main census categories. These are white, black, Asian, mixed ethnicity and other ethnic groups. Whilst missing some of the subtleties of a more detailed classification available in the survey, this has the advantages of

providing reasonable sample sizes for each group, allows direct matching with census area level variables, and is comparable in level of specificity to that available for the U.S.

Measuring social capital

As noted above, most definitions of social capital have a structural or objective component and an altitudinal or subjective component (e.g. Paxton, 1999). The structural component, made up of social networks and other aspects of social organisation such as civic participation. It is argued that denser and more extensive networks are associated with higher levels of trust and cooperation and, in turn, a wide variety of public and private benefits. Networks are therefore closely linked to the second component of social capital – the attitudinal or cognitive component. These are the shared norms and habits of trust and of reciprocity that provide the foundation for co-operation and help create more efficient and smooth running society. We attempt to capture both these aspects of social in our measurement model. In particular we focus on community (or local) based aspects of social capital since we are primarily interested in neighbourhood effects of diversity and because for the U.K. data we have very limited indicators of wider geographical domains of social capital.

In recognition of the fact that social capital is a complex phenomena that we cannot observe directly, we include the various indicators of social capital in an integrated modelling framework which recognises each indicator as an underlying or latent trait, with a measurement error. In order to explore the underlying structure of social capital possibilities we will use IRT modelling with results input into structural equation models (SEM). For comparative research this has the advantage that we do not require identical question wording, or even identical sets of questions. Because each variable is required only to be an indicator of an underlying trait, providing we have a reasonable array of indicators of the same underlying traits for both countries we are able to make valid comparisons. The SEM combines a confirmatory factor model (capturing the latent variables) and a path analysis (allowing the hypothesised causal paths – between social capital and diversity and ethnic density - to be modelled).

Indicators of the attitudinal dimension of social capital for the U.K include the sense of belonging to the neighbourhood; whether people believe it's a close knit neighbourhood; whether people in the neighbourhood can be relied on to work cooperatively to solve problems; have shared values; get on well together and the extent which they trust others in the neighbourhood. Indicators of the structural dimension capture people's civic activities and participation. For the U.S. for the sake of comparability and sample size, we adopt a slightly smaller number of indicators.[2]. These are community rating, neighbourhood belonging and trust in neighbours for the attitudinal component; and involvement in community projects, being an officer on neighbourhood committees and participating in groups for the structural component. The latent variables are measured and tested using a confirmatory factor analysis

[2] Some of the questions related to community based social capital in the Benchmark survey which were most comparable to those adopted in the U.K were asked on different versions of the questionnaire. In order to preserve sample size and representativeness we dropped some indicators not asked of all respondents.

(CFA)[3]. Table 1a and 1b provide the standardised and unstandardised regression estimates of the two latent variables (norms and participation) on the indicators for the measurement models for the U.K and the U.S. respectively. The standardised estimates (column headed StdYX) are equivalent to factor loadings from a common factor analysis. The unstandardised estimate for the first indicator is constrained to equal 1, with estimates for other indicators providing relative values. Because the indicators are regressed only on the latent variables, the r-squared values are directly proportional to (i.e. the square of) the standardised coefficients.

Table 1a. Measurement models (U.K).

Variables	Estimates (β)	SE	StdYX	R^2
Neighbourhood Norms				
Pull Together	1.00	0.00	0.66	0.44
Solve Problem	0.74	0.02	0.54	0.29
Do not Share the Same Values	-0.61	0.02	-0.38	0.14
Close-Knit Neighbourhood	1.05	0.02	0.68	0.47
Neighbourhood Trust	0.57	0.02	0.44	0.19
Belong to Neighbourhood	0.57	0.02	0.42	0.18
Willing to Help Neighbours	0.75	0.02	0.66	0.44
Participation				
Active in Groups/Clubs	1.00	0.00	0.62	0.39
Civic Activity	0.12	0.00	0.54	0.30
Consult local services/problems	0.15	0.01	0.50	0.25
Unpaid Activities	0.12	0.01	0.32	0.10

Table 1b. Measurement models (U.S.)

Variables	Estimates (β)	SE	StdYX	R^2
Neighbourhood Norms				
Neighbourhood rating	1.00	0.00	0.43	0.19
Belong to Neighbourhood	0.94	0.03	0.39	0.15
Trust	1.63	0.06	0.70	0.49
Participation				
Community projects	1.00	0.00	0.65	0.42
Officer	0.71	0.12	0.56	0.31
Active in group	6.33	0.14	0.73	0.53

[3] The two dimensional measure of social capital was derived theoretically and tested for validity using the CFA. However, we also performed exploratory factor analysis to detect other potential structures that better represent the data. The EFA also suggested a two factor solution with the same structure as that adopted here.

The tables show that most of the indicators are fairly well predicted by the latent variables – that is they all make a significant contribution to the latent variable scores. In the U.S. the first latent variable correlates most closely with trust, followed by neighbourhood rating. In the U.K., the norms latent variable most closely correlates with people's willingness to help neighbours and pull together as well as the feeling that it is a close knot neighbourhood. Thus this dimension, in both countries, captures the idea of shared norms and a sense of community cohesion. For the U.K. the latent variable is slightly less successful at predicting neighbourhood trust and for both countries the sense of belonging to the neighbourhood. This is dealt with in the models below by estimating the impact of diversity directly on these indicators as well as via the latent variable. The participation latent variable is strongly correlated with all three indicators in the U.S. For the U.K. the latent variable captures activity in groups, civic activism and involvement in community consultation particularly well, and to a lesser extent involvement in unpaid activities (helping neighbours etc). This suggests the latent variables are tapping the same underlying traits in both countries. The model fit statistics are all good by conventional definitions (cfi > 0.95) and the model appears to effectively capture both the attitudinal and structural dimensions of social capital (see Appendix).

The structural model: the impact of diversity

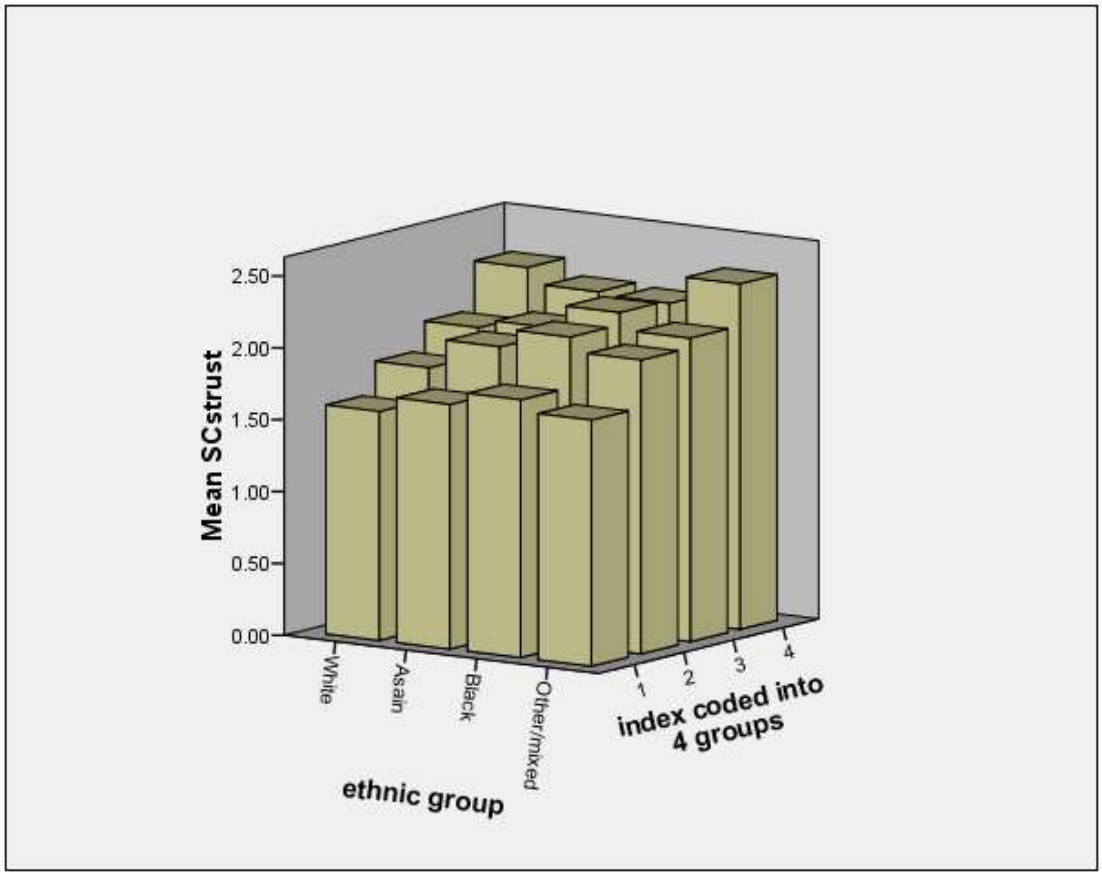
The focus of this paper is to understand the relationship between the characteristics of the neighbourhood people live in, in particular its level of ethnic diversity, and their social capital, but taking into account (or controlling for) their personal attributes. Social capital theory generally assumes that social capital has externalities (e.g. Halpern, 2006). The benefits are not only enjoyed by individuals who take part but by wider society. Furthermore there are greater opportunities for involvement where others are more involved in civic activities. One of the key findings of Putnam (2007) is that the reduction in various aspects of social capital associated with diversity is not only experienced by the new residents, but has an impact on the area as a whole. More specifically in areas with large immigrant populations, inter-personal trust is lower (for both inter- and intra- group trust); time spent with friends is reduced and people are less likely to be active citizens. In other words social capital reflects contextual as well as individual characteristics. As noted above contextual data on diversity and other neighbourhood characteristics has been added to the U.S. Benchmark survey and the U.K. Citizenship survey specifically for this purpose. The key neighbourhood variables for testing our hypotheses are:

- Diversity as measured by an index of fragmentation[4] is based on the racial /ethnic profile of the census tact/MSOA population drawn from the respective Censuses.
- Co-ethnic concentration, defined as the percentage belonging to the same racial/ethnic category as the respondent. These are based on the respective census categories described above.

[4] The standard fragmentation index formula used is: $\boldsymbol{D = 1 - \Sigma_{p=1} Pi^2}$

To test whether the additional and structural dimensions of social capital, measured by the two latent constructs described above vary according to the ethnic concentration or diversity of the neighbourhood, we start with a simple model where the latent variables are regressed on diversity and co-ethnic density separately. Before fitting this model, we examined the relationship between the separate indicators and diversity to establish the aggregation of indicators was not obscuring the relationships of interest. In general the pattern consistently showed that as diversity increases the levels of social capital (trust, group membership etc) falls, though the relationship is weaker for minority groups than it is for whites (for example see figure 1). The one exception was neighbourhood belonging in the U.K. which, for non-white, tends to increase with greater diversity.

Figure 1. Differences by ethnicity and diversity: close knit community (U.K)



The regressions of the latent variables on diversity and co-ethnic density tell us the simple form of the relationship before controlling for various individual and neighbourhood characteristics. The coefficients and standardised coefficients (in parentheses) for these models are shown in Table 2a and 2b (model1) for the U.K and U.S. respectively. This shows that the overall effect of diversity on both participation and norms is negative (more diversity means less social capital) in both countries. This suggests some provisional support for the conflict/constrict. However these models do not allow the relationship between diversity to vary between ethnic groups, and, as our multicultural neighbourhood hypothesis predicts, we might expect a

different relationship for whites and for minority groups. Thus Table 2 also provides coefficients for the simple model but with interactions between diversity and racial/ethnic group

Table 2a. U.K. Regressions of latent variables on diversity (without additional covariates): standardised coefficients.

	Without controls	
	Norms	**Participation**
Model 1		
Diversity	-0.19 *	-0.09*
Model 2		
With Interactions		
Black	-0.08*	0.06
Asian	0.01	0.05
Mixed	-0.02	0.07*
Other	-0.00	-0.04*
Diversity	-0.29*	0.01
Black * div	0.12*	-0.07
Asian * div	0.14*	-0.18*
Mixed * div	0.01	-0.06*
Other * div	0.01	-0.03

Note. * Significant at the 0.05% level.

Table 2b U.S. Regressions of latent variables on diversity (without additional covariates)

	Without controls	
	Norms	**Participation**
Model 1		
Diversity	-0.26*	-0.06*
Model 2		
With Interactions		
Black	-0.35*	0.04
Hispanic	-0.28*	-0.09
Asian	-0.05	-0.05
Other	-0.13*	0.01
Diversity	-0.19*	-0.01
Black * div	0.14*	-0.05*
Hispanic * div	0.06*	-0.05*
Asian * div	0.04	0.01
Other * div	0.04*	0.01

Note. * Significant at the 0.05% level.

Model 2 suggests that being from an ethnic minority groups has no consistent effect on social capital, though the largest ethnic effect in both countries is the negative impact of being black on neighbourhood norms. The models also tell us that, in both countries, the effect of diversity on the reference category – whites – is negative, as in the previous model (-0.39 and -0.17 respectively). However, the real interest here is in the interaction effects. The positive significant interaction effects for Blacks and Asians in the U.K. and Black, Hispanic and Other in the U.S show that the effect of diversity on social norms is reduced for the biggest ethnic minority groups in both the U.K and the U.S (the positive interaction effect offsetting the main negative effect of diversity). This finding does lend some support for the multicultural neighbourhood's hypothesis – that is, the negative effect of diversity is largely restricted to the white population.

The coefficients for participation tell a rather different story. In both countries there is no significant main effect for diversity (i.e. for whites) but for Asians and mixed Britons and Black and Hispanic Americans, diversity has a negative impact on participation. This suggests that whilst greater diversity in such areas might make minorities feel more part of the neighbourhood, it does not produce more civic activity, but quite the reverse.

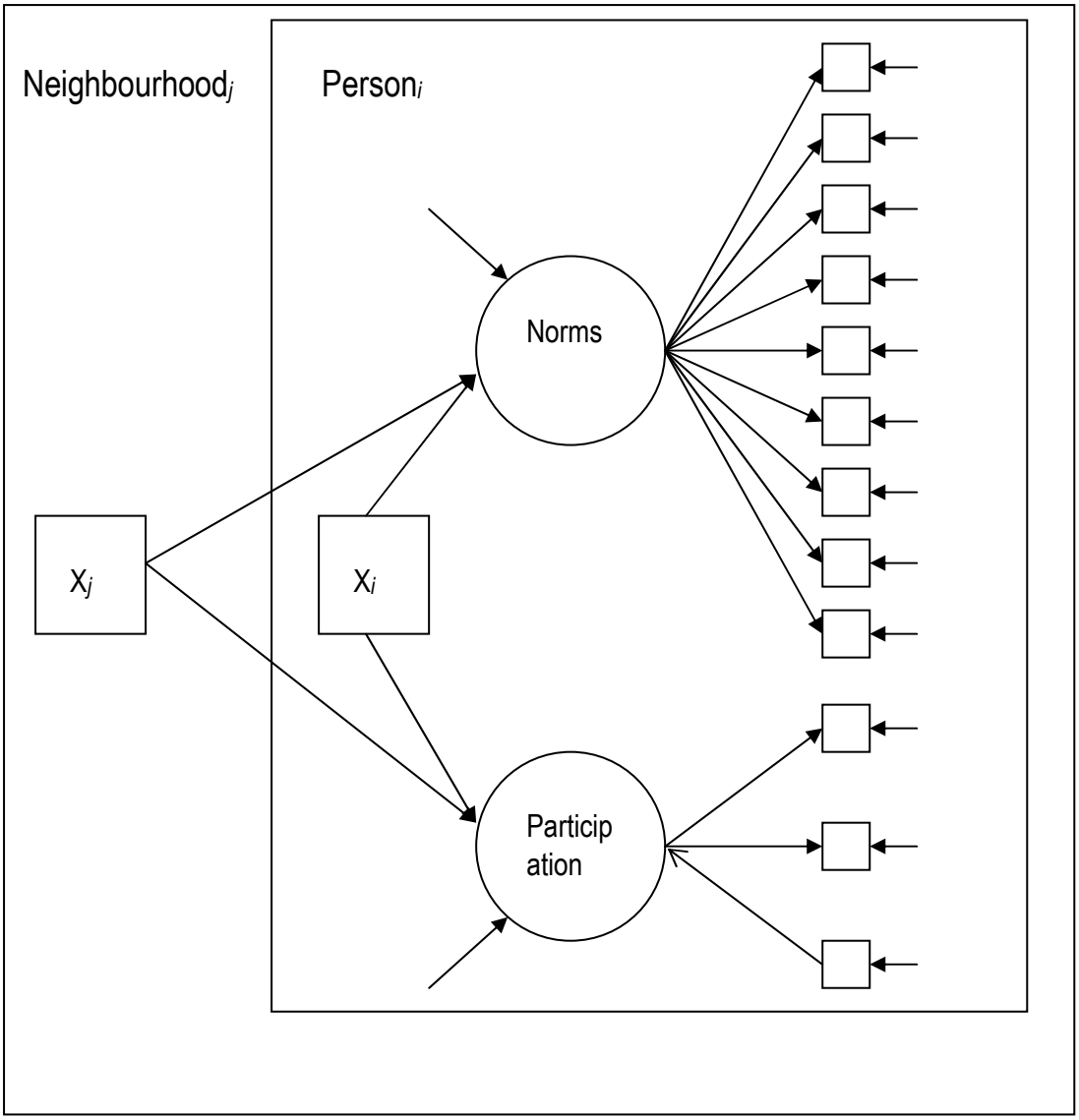
These relationships might, of course, reflect other characteristics of more diverse areas. So far we have only examined the gross effect of diversity on social capital. However we know that a lot of other factors might come into play – either to do with the characteristics of the individual or characteristics of the area. For example, richer or more educated people may live in less diverse areas, whereas more diverse areas may have higher crime level. In order to explore this, the relationships are conditioned by a series of covariates – such as age, sex, income, education, housing tenure, years lived in the neighbourhood etc in the structural equation model. These individual level control variables are consistent with those used by Putnam (2007), and include all the variables commonly associated with variations in social capital. We also control for neighbourhood level, contextual variables which have also have been selected to approximately replicate those used by Putnam (2007). Neighbourhood level variables, all centred on their mean, are as follows:

- Diversity (fragmentation index)
- Co-ethnic density (selected models only)
- Poverty/Income deprivation
- Inequality[5]
- Immigration
- Crime (non violent)
- Population turnover
- Percentage of population 60+
- Percent living at same address > 5 years.

[5] Gini coefficient for income in U.S and social class fragmentation index in England

Both the latent variables (norms and participation) are regressed on these sets of individual and neighbourhood covariates in a structural equation model. The full model is illustrated in Figure 2. The model was run for three different populations in each country: first, for the entire sample, second for whites only, and third for ethnic minorities only. In addition (not shown in Figure 2) separate paths were modelled for the effect of diversity on indicator variables which is not mediated by the latent variable. This is important for those indicators not particularly well predicted by the latent variable (trust, and belief in a close knit community in the U.K and neighbourhood belonging in both countries). The separate paths between diversity were significant in most models are generally negative for trust and positive for the other two variables. This suggests that the negative relationship for trust found in other research is not fully accounted for by a more general model of social capital. In other words there is a stronger negative effect for trust than for other indicators of social capital (the reverse being true for neighbourhood belonging).

Figure 2 here – diagrammatic representation of model



Overall models (all persons)

The standardised regression estimates derived from the full model are provided in table 3a and 3b (full covariate coefficients are available on request). Reporting standardised coefficients allows us to see the relative importance of the different covariates. In keeping with previous research on social capital we find that both norms and participation are affected by a range of individual level control variables, including education, income, age, housing tenure and employment status. It was notable however, that for social norms, these individual level social factors appeared to play a greater part in the U.S. than in the U.K. Participation is also closely related to individual level characteristics, particularly education, but equally so in both countries. None of these findings are particularly surprising and require no further comment here.

At the neighbourhood level, even after allowing for individual characteristics, many variables were statistically significant. In both countries we find that neighbourhoods with greater population turnover, higher crime, more income poverty and greater inequality or class fragmentation tend to have lower levels of attitudinal social capital. In both countries neighbourhood covariates have less effect on participation. In the U.S income distribution and immigration do make a difference, whilst in England the proportion who have lived in the neighbourhood for more than five years and population turnover are the only significant factors. It would seem that attitudinal social capital is affected more by neighbourhood context whilst behavioural social capital (participation) is more affected by individual characteristics.

The coefficients of interest, however, are those relating to diversity and their interaction with ethnic group. For neighbourhood norms the main effect for diversity is still significant and negative in the U.K when we control for other individual and neighbourhood characteristics, but insignificant in the U.S. This suggests the overall relationship between diversity and social norms can be attributed to individual and neighbourhood characteristics in the U.S but not in the U.K. Even in the U.K the size of the standardised coefficient dropped considerably compared to the null model. When we include interactions (to allow a different effect for different groups) the main effect for diversity becomes significant in the U.S and larger (more negative) than in England. This represents the effect for the reference category (white) as opposed to the overall population. However in both countries, the effect is smaller than the equivalent model without controls (table 2) indicating part of the relationship for whites is accounted for by other factors. In the U.S. there is a direct effect of being from a minority group: Blacks, Hispanics and other groups have significantly lower scores than whites on attitudinal social capital. This is not the case in England. Notably, in both countries there are still significant effects for the interaction between ethnic minority indicators and diversity when the controls are introduced (Black and other in the U.S and Black and Asian in England). In other words community cohesion amongst the some of the largest ethnic minority groups in both countries is similar or stronger in more diverse areas, once other factors are taken into account. This is lends support to the multicultural neighbourhood hypothesis.

For the participation model diversity is insignificant in both the U.S. and the U.K once other factors are taken into account. Even when the interactions are added the main effect of diversity (for whites) is insignificant in both countries. Most of the

interactions are also insignificant, suggesting there is no differential effect for minority groups on participation in either the U.S. or England. The exception is British Asians who have lower levels of community participation in more diverse areas.

Table 3a. U.K. Overall model (with controls)

	With controls	
	Norms	**Participation**
Model 3		
Diversity	-0.05*	-0.01
Model 4		
With Interactions		
Black	-0.03	0.05
Asian	0.03	0.01
Mixed	0.01	0.03
Other	0.00	-0.06*
Diversity	-0.11*	0.03
Black * div	0.10*	-0.04
Asian * div	0.11*	-0.09*
Mixed * div	0.01	-0.02
Other * div	0.01	-0.01

* = Significant at the 0.05 level.

Table 3b. U.S. Overall model (with controls)

	With controls	
	Norms	**Participation**
Model 3		
Diversity	-0.02	0.01
Model 4		
With Interactions		
Black	-0.19*	0.09*
Hispanic	-0.14*	0.02
Asian	-0.02	-0.06*
Other	-0.10*	0.03
Diversity	-0.05*	0.02
Black * div	0.07*	-0.01
Hispanic * div	0.05	-0.04
Asian * div	0.03	0.02
Other * div	0.04*	0.01

Note. * Significant at the 0.05% level.

To confirm these results were not an artefact of the measurement model (i.e. the aggregation) we ran the equivalent regression models with each indicator variable as the outcome rather than the latent variables. In England, these analyses confirm the findings reported here with diversity having a negative or insignificant effect for all the attitudinal indicators, with positive interactions for black and Asian for most indicators. For participation the main effect for diversity is consistently insignificant and the interaction with Asian is significant for two out of four indicators. Similar patterns exist in the U.S. Diversity has a negative effect for all attitudinal indicators, with positive interactions for Hispanic and Black. For participation, diversity is insignificant for two of the three indicators, although it is positive for being active in groups/clubs, although this is only just significant at the 5% level. Only the interaction with Blacks is significant and negative for groups/clubs, while all the others are insignificant. These analyses provide re-assurance that the aggregation is not obscuring the relationship which potentially could have been running in opposite effects for different indicators.

Disaggregated models

In order to explore the possibility that different relationships exist for ethnic minorities and whites, separate models are fitted for (a) whites and (b) ethnic minorities. In particular it allows us to simultaneously examine the impact of both co-ethnic density and diversity without the need for large numbers of interaction terms. These models show that the same measurement models are valid for both samples – the factor loadings vary a little but the underlying structure is effectively equivalent. As for the overall sample, the measurement models (and the full models) for the four sub-samples all have good model fits.

Turning first to the white models, for reasons of collinearity discussed above, we separately model diversity and co-ethnicity (in this case % non-white). In other words, we run both the null models (without controls) and the full models, first with diversity, and then with percent-white, as neighbourhood covariates. The standardised coefficients of interest are shown in Table 4.

Table 4. White Models: standardised coefficients for diversity and co-ethnicity (% white)

Without controls	**U.K Norms**	**Participation**	**U.S. Norms**	**Participation**
Model 1a				
Diversity	-0.16*	0.01	-0.20*	-0.00
Model 1b				
Co-ethnicity	0.16*	-0.00	0.26*	0.01
With controls				
Model 2a				
Diversity	-0.04*	-0.01	-0.07*	0.01

Model 2b				
Co-ethnicity	0.04*	0.00	0.14*	-0.03

* = Significant at the 0.05% level

Table 4 clearly underlines some basic similarities between the impact of neighbourhood diversity in the U.S and England for the white population. In both countries before any other factors are taken into account, the effect of both diversity on social norms is negative and co-ethnicity (i.e. percent white) is positive. That is in both countries white residents feel a greater sense of community cohesion in less diverse, predominantly white areas. However the effect is reduced, but still significant, in both countries when other factors are allowed for. That is, the effect of diversity is largely, but not completely an artefact of neighbourhood poverty, inequality and population characteristics. Around three quarters of the relationship between diversity and attitudinal social capital is a reflection of the characteristics of the population of diverse areas rather than diversity itself. Notably, both the initial effect and the partial effects are greater in the U.S than in England suggesting a closer relationship in the U.S. When we replace diversity with co-ethnicity the results are remarkably similar, though in the U.S the residual co-ethnicity effect is substantially larger than that of diversity or that of co-ethnicity in the U.K. To put this another way white people (in both countries) feel a lesser sense of social cohesion when they live amongst higher proportions of non-whites. Given the high correlation between percent white and the diversity index this is hardly surprising. In contrast in both countries there is no significant effect for diversity or co-ethnicity on community participation: as we saw above, and shall be confirmed below, the overall negative effect is driven by the relationship for minority groups.

As for the overall model in order to confirm the relationship between social capital and diversity and co-ethnicity for the white population we regressed each of the individual indicator variables on the same set of covariates. In England, the results are consistent with those for the latent variable analysis: diversity has a significant negative effect on 5 out of 7 indicators of attitudinal social capital but on none of the participation indicators (Tables A17 and A18). Similarly, percent white (co-ethnic) has a positive impact on 3 out of the 7 attitudinal indicators and none of the structural indicators. In the US, diversity has a significant negative effect on 2 out of the 3 indicators of attitudinal social capital but on none of the three participation indicators. A similar pattern exists for percent white (co-ethnic): none of the structural indicators are significant, while all three of the attitudinal indicators are positive and significant.

When fitting the models for ethnic minorities, we are now able to include co-ethnicity and diversity in the same model as the correlation between the two is much lower for minority groups. Thus, in Table 5 we present both the simple and fully controlled models, first with diversity, then with co-ethnic density and finally with both diversity and co-ethnicity. This allows us to estimate the magnitude of the diversity effect, but after holding constant the proportion of residents in the neighbourhood who have the same ethnic original as the respondent. This is important since minority groups may feel a greater since of community solidarity where they live in a strong co-ethnic community, yet may be subject to a negative reaction to diversity. Unlike for whites,

for minorities we have neighbourhoods which are both relatively high in co-ethnic density and diverse (and vice versa) and so are able to identify these effects separately.

The diversity model confirms the main model with interactions reported above. First, Model 1a reports the impact of diversity alone, before controlling for covariates or co-ethnic percent. Here we see a significant negative effect on attitudinal social capital in the U.S. and in England, though the effect is substantially larger in the latter. In other words, just as for whites, if we do not account for population differences, diversity has a negative impact on attitudinal social capital. However, Model 1b shows important differences between the U.S and England. In the U.S. co-ethnic density (which also means a smaller white population) is associated with lower levels of attitudinal social capital for minorities. In England by contrast, co-ethnic density, has a small but significant positive effect on minority attitudinal social capital (the effect is weaker than the equivalent effect for whites). When both variables are added simultaneously, the negative effect of diversity and the positive effect of co-ethnic density are both enhanced in England suggesting these factors tend to confound each other (as noted the two variables are geographically correlated and therefore negative effect of diversity is concealed by the positive effect of co-ethic density). In the U.S. however, simultaneously controlling for both variables has little effect on either coefficient.

Controlling for the same range of covariates as before (model 2), we find that diversity no longer has a significant effect in ethnic minority attitudinal social capital in either the U.S. or England. In other words any negative association between diversity and attitudinal social capital is accounted for by other characteristics of the population and the neighbourhood (most notably poverty). In both England and the U.S., the most important of these are housing tenure and neighbourhood poverty. The effect of co-ethnicity in the U.S. is also insignificant when other factors are taken into account, but in England the positive effect of co-ethnic density survives. This would suggest that in England, but not in the U.S., other things being equal ethnic minorities perceive advantages of living amongst their own ethnic groups. When we added co-ethnic group and diversity to the model simultaneously, we still found no significant effects of diversity on norms in the U.S. but in England there is a fairly strong negative effect of diversity which, again, is counter-balanced by a positive effect of co-ethnicity. However, in both countries co-ethnicity has a significant positive effect on norms. In keeping with the conflict hypothesis it appears that being amongst ones' own ethnic group has a positive influence on social capital.

The results for participation also indicate some similarities and contrasts between the two countries. As suggested by the negative interactions in the overall model, there are negative effects of diversity on ethnic minority participation in both countries. However, in the U.S. (but not England) these are rendered insignificant once other individual and neighbourhood characteristics are taken into account (model 2a). In contrast to the effect of co-ethnic density on attitudinal social capital, the effect on participation in England is negative, but insignificant in the U.S. Thus in England there is a complete contrast between attitudinal and structural social capital: the more ethnic minorities live amongst others from the same ethnic group, the lower their participation in formal community activities. In the U.S. it is attitudinal social capital that is weaker in areas of high co-ethnic concentration. However, as model 2 shows

in England the negative effect of co-ethnicity on participation is accounted for by other factors and in the U.S the relationship is positive when these factors are taken into account. When co-ethnic group and diversity are included simultaneously these findings remain unchanged.

Table 5. Non -White Model: standardised coefficients for diversity and co-ethnicity

	U.K. Norms	Participation	U.S. Norms	Participation
Without covariates				
Model 1a				
Diversity	-0.13*	-0.10*	-0.05*	-0.10*
Model 1b				
Co-ethnicity	0.04*	-0.13*	-0.20*	-0.03
Model 1c				
Diversity	-0.20*	-0.05*	-0.07*	-0.11*
Co-ethnicity	0.16*	-0.10*	-0.18*	-0.03
With Covariates				
Model 2a				
Diversity	-0.03	-0.09*	0.03	-0.03
Model 2b				
Co-ethnicity	0.07*	0.00	0.03	0.06*
Model 2c				
Diversity	-0.08*	-0.10*	0.04	-0.02
Co-ethnicity	0.12*	0.03	0.07*	0.05*

* = Significant at the 0.05% level

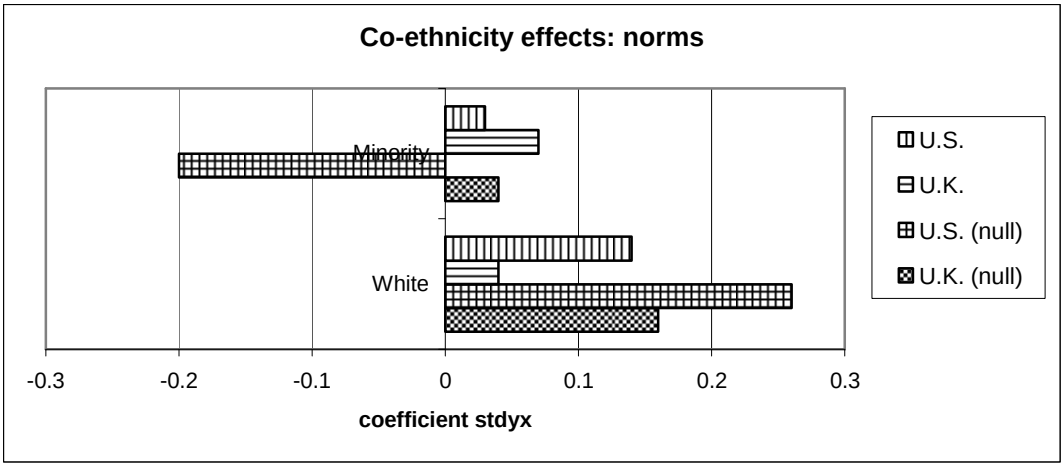
As previously the possibility that there may be confounding effects for different indicators making up the latent variable so we again regressed each of the indicators on the full set of covariates, this time for the minority only sample. We found that in England co-ethnic percent has a significant positive effect on attitudinal social capital for 7 out of 8 indicators. When co-ethnicity is taken into account, diversity only has a (negative) significant impact on 3 of the 7 indicators. For participation, however, diversity does have a negative impact on 3 out of 4 indicators whilst co-ethnicity is significant in none. These separate regressions are again entirely consistent with the latent variable analysis and lend support to the adoption of the combined approach.

Discussion.

The analyses presented here have shown that diversity is negatively associated with social capital in both England and U.S. However, the relationship is complex and multidimensional. First, most of the overall effect is accounted for by individual and neighbourhood characteristics. This is consistent with other research in the U.S (e.g.

Putnam, 2007) and in the U.K. (e.g. Heath and Laurence, 2008) which both demonstrate the important role played by other neighbourhood characteristics associated with diversity, especially poverty. This is particularly relevant in understanding the difference between the effects of diversity in the null model and in the full model for the U.S.A. Levels of racial inequality are more pronounced in the U.S. than in Britain and so are levels of racial segregation. In understanding the low levels of social capital amongst American racial minorities it is important to take into allow for the characteristics of more diverse and less-white neighbourhoods. For example, for U.S minorities are the only groups which show a negative relationship between co-ethnic density and social norms, but this is reversed when individual and neighbourhood characteristics are taken into account (Figure 3). Similarly for diversity the direction of the effect was reversed when covariates are added (Figure 4). However, neighbourhood composition and context is also very important in understanding the relationship between diversity and social capital amongst the majority (white) population. In both the U.S. and the U.K the relationship with participation disappears when individual and neighbourhood characteristics into account. Even for social norms (which are more closely correlated with diversity) whilst the effect is still statistically significant, the magnitude of the effects are reduced by three-quarters in England and two-thirds in the U.S. when other variables are added into the model (Figure 4). Indeed it should be stressed that whilst this relationship is statistically significant it is substantively very small. Even for white norms in the U.S. where the relationship is relatively marked, the average predicted score on the social norms scale for someone belonging to our model reference categories and living the least diverse, but otherwise average, neighbourhood is -0.2. The predicted value for an identical person living in the most diverse neighbourhood in the U.S sample is -0.24[6]. This is a pretty tiny difference even given the fact that we are adjusting for the impact of al the other covariates in the model. In other words, diversity makes a difference, but it is a pretty small difference.

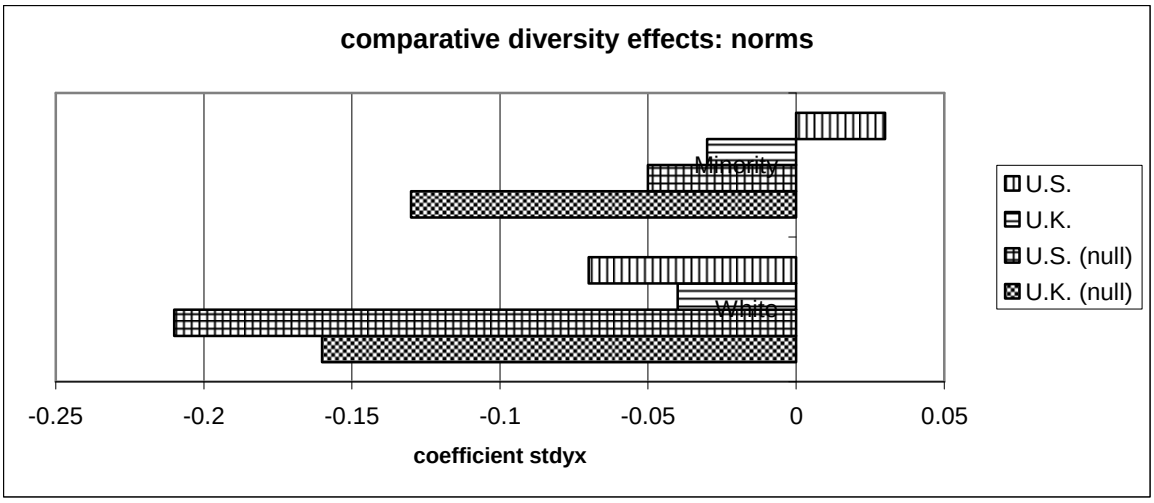
Figure 3. Summary of co-ethnicity coefficients for U.S and England with and without covariates (social norms)



[6] This is based on the unstandardised coefficient of -0.057 from the white U.S. model with all covariates included except co-ethnic group. The most diverse neighbourhood had an index score of 0.78 compared to the least of 0.01. The norms score is a standardised normal variable with a mean of zero and a standard deviation of 1.

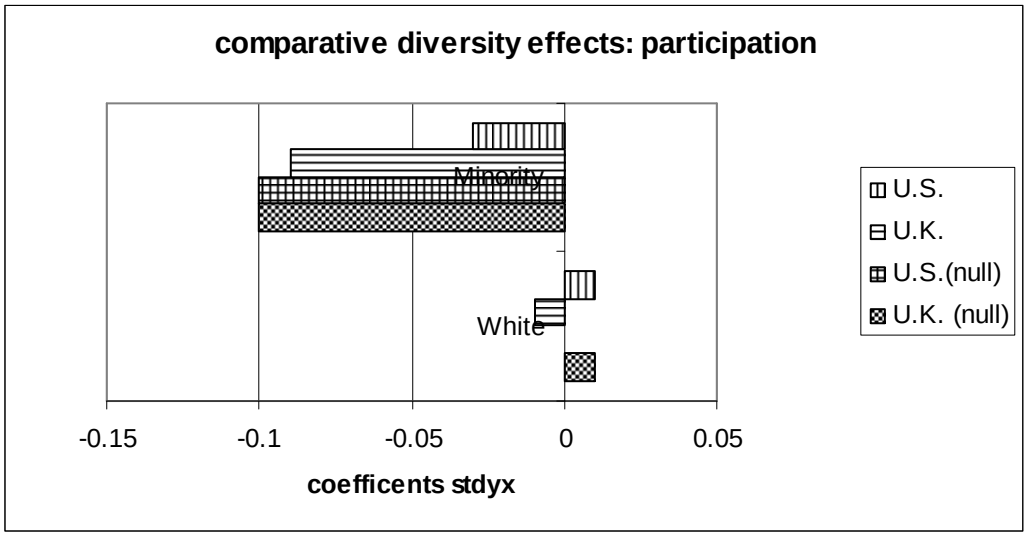
The second important lesson is that the effect of diversity is generally different for minorities and white populations. As posited under the 'multicultural neighbourhoods hypothesis' when we disaggregate by ethnic or racial groups, we find that the effect of diversity on social norms is much smaller for minorities than the majority population, both before and after taking other factors into account (see figure 3). This would suggest that ethnic minority populations are considerably more comfortable living in diverse areas even where that diversity is primarily derived from the presence of people of other ethnic groups. This was demonstrated both in respect to the significance of the interaction effects and in the separate white/non-white models.

Figure 4. Summary of diversity coefficients for U.S and England with and without covariates (social norms)



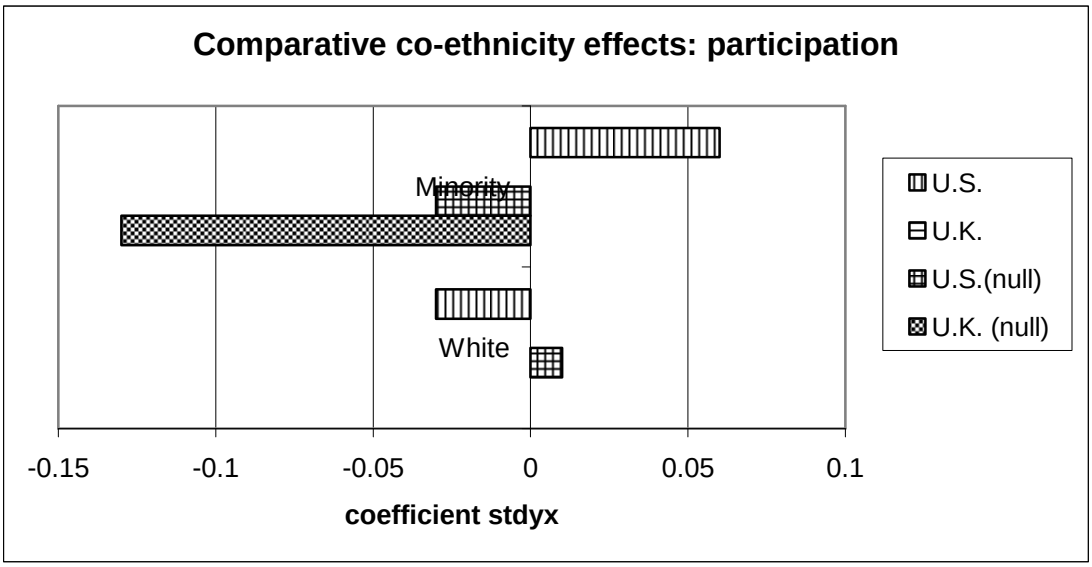
Despite the apparent greater comfort with diversity felt by minority populations, the relationship between co-ethnicity and social capital is somewhat more complex. Ethnic community theory would predict that minorities in places with higher levels of co-ethnic density should participate in greater numbers. In keeping with this, and given previous research in both the U.S. (e.g. Oliver, 2001; Schlicting et al, 1998); Fieldhouse and Cutts, 2008) it is perhaps surprising that community participation is negatively related to both diversity and co-ethnic density, though as noted above this is entirely due to neighbourhood characteristics. The exception to this is that we did find a negative relationship in England between diversity and ethnic minority community participation that was not attributable to neighbourhood composition or context (Figure 5). This is contrary to other research like Oliver (2001) who noted that 'minorities in predominantly white places…are also less likely to engage in voluntary organisations'.

Figure 5. Comparative diversity coefficients for U.S and England with and without covariates (participation)



Whilst it is perhaps surprising that, other things being equal, British ethnic minorities living in more diverse areas have *lower* levels of participation in formal community activities, we should be careful to distinguish between diversity and co-ethnic density. An ethnic community model, for example, might anticipate positive effects of high co-ethnic density whilst making no such prediction about the effect of diversity. Indeed perhaps the only reason this connection is made is because of the positive correlation between co-ethnic percent of ethnic minorities and diversity, especially in the U.K. As seen above, the conditional probabilities in both countries (controlling for covariates) participation on co-ethnic density were actually positive for both whites and minorities, but insignificant for minorities. As seen in Figure 5, higher co-ethnic density is associated with higher levels participation amongst American minorities, but no so other groups. In other words, in the U.S at least, minority groups are more likely to take part in community activities in areas where they are better represented in the population.

Figure 6. Comparative co-ethnicity coefficients for U.S and England with and without covariates (participation)



From the perspective where one differentiates between diversity and co-ethnic density, it is important to note that in Britain areas in which minority groups experience higher rates of co-ethnic density also tend to be more diverse (because they seldom make up a large majority themselves). When this is taken into account we found that the effect of diversity was more pronounced than it first appeared. That is, the negative effect of diversity effect is greater once co-ethnic density is taken into account. These two tend to be confused because of their spatial correlation. When we separate out the effects we see that, in England, diversity does have a significant negative effect on both social norms and participation, but this is offset by the positive effect of co-ethnic concentration (see Table 6). However, it should be remembered that, for norms at least, this is offset by the very strong positive effect of co-ethnic density on ethnic minority norms. In other words social capital amongst minorities is boosted where they are more numerous, a finding that is replicated in the U.S. Perhaps it is not altogether surprising that minority groups should feel a greater sense of community cohesion where they are more numerous, yet is equally unsurprising that experience of diversity should affect people of different ethnicities in similar ways. It would be wrong, therefore to assume that more diversity would necessarily mean less social capital in England: the effect on minority populations is likely to be positive since as diversity rises, so too will ethnic density, and more effective, communities may be formed. However, when levels of concentration (and segregation) reach levels similar to the U.S. it is far form clear that this relationship will still hold. In the U.S co-ethnic density has no comparable significant effect on minority attitudinal social capital, but does on participation.

Table 6. Summary of conditional diversity effects (after allowing for covariates)

	Norms		Participation	
	U.K	**U.S.**	**U.K.**	**U.S.**
Diversity				
White	↓	↓	NS	NS
Ethnic minority	NS	NS	↓	NS
Ethnic minority #	↓	NS	↓	NS
Co-ethnicity				
White	↑	NS	NS	↑
Ethnic minority*	↑↑	↑	NS	↑

Notes
↓ denotes significant standardised coefficient; ↑↑ denotes standardised coefficient > 0.10
controlling for co-ethnic density; * controlling for diversity

Overall, Tables 6 and 7 highlight both the similarities and the differences between the U.S and Britain: the association between diversity and social norms is the same for whites in the both countries, but for ethnic minorities the pattern is generally weaker and more mixed. But what are the implications of this? For one, it is important to better understand the challenges and opportunities posed by increasing levels of diversity in our society. Yet, it is also important to consider the unequal effects of diversity on different parts of the population, in particular differentiating between majorities and minorities, and when doing so it is also important to distinguish between the potential positive effects of co-ethnic density from those of diversity. More generally, a great deal of scholarly work has shown that recognition of difference is a more effective way for developing social capital than expecting diverse populations to assimilate into a dominant culture. This research supports this argument, and suggests that immigration presents some potential benefits for social capital as well as dangers, especially amongst those groups and within those neighbourhoods that need it the most.

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