End of Grant, 5000 word report

Exploring the Goodhart thesis at the local scale: neighbourhood social heterogeneity and perceptions of quality of life in the British Crime Survey

Background

There are extensive debates about the measurement and extent of ethnic diversity and segregation, but this project is concerned with the consequences of diversity - specifically, whether or not ethnic heterogeneity (the extent to which neighbourhoods are comprised of people from a range of ethnic backgrounds) has an identifiable effect on people’s perceptions of their local neighbourhood. We developed our proposal in response to David Goodhart’s contention that immigration to the UK was detrimental to social cohesion because the indigenous population was unwilling to share resources with newcomers (Goodhart, 2004). Before we commenced work on our project, Robert Putnam had contributed to this debate with his suggestion that inhabitants of heterogeneous places are more inclined to “hunker down”; that is, retreat into a private world rather than become involved in their local community (Putnam, 2007). Goodhart's contentions prompted former Home Secretary David Blunkett to observe that “this is an important argument and it is important that we examine it” (Blunkett, 2004, p.4).

British work on the impact of heterogeneity has produced limited or contradictory findings across several different outcomes (summarised in Taylor et al., forthcoming). We sought to add to these findings by examining the relationship between individual socioeconomic characteristics, neighbourhood characteristics and individual perceptions of neighbourhood but importantly, we provide an assessment of the significance of ethnic heterogeneity. Using data captured by the British Crime Survey linked to other secondary datasets, we proposed an investigation of this complex web of associations for three specific sets of outcome measures, reflected in our primary objectives specified in the original proposal.

Objectives

Objective 1: heterogeneity and perceptions of antisocial behaviour. This objective has been fully met with publication in the Transactions of the Institute of British Geographers. Following sociologists such as Shaw and McKay (1942), we hypothesised that if heterogeneity has negative outcomes then these would be evident in heightened perceptions of antisocial behaviour in neighbourhoods. The specific objectives were to determine whether certain types of individual perceive more or less antisocial behaviour than others in similar neighbourhood environments and to determine whether local crime rates influence those perceptions. After controlling for area deprivation, population turnover, the age structure of the population, settlement size and whether the area is urban or rural, we investigate whether levels of ethnic heterogeneity influence perceptions of antisocial behaviour. To do this we explore possible mediating pathways between heterogeneity, deprivation and antisocial behaviour to determine whether it is neighbourhood diversity or neighbourhood disadvantage that drives perceptions of antisocial behaviour.

Objective 2: heterogeneity and collective efficacy. This objective has been fully met with acceptance of an article for Environment and Planning A. We hypothesised that heterogeneity would be related to levels of social cohesion and trust and to levels of...
informal social control (together known as ‘collective efficacy’). This concept refers to expectations about whether or not the residents of one's neighbourhood can either be trusted or can be relied upon to intervene in response to minor neighbourhood problems and, in this sense, collective efficacy (which is said to help communities achieve beneficial outcomes of a range of dimensions of social development) can be viewed as a mechanism for controlling, and ultimately improving, perceptions of antisocial behaviour. In the British context, investigations into the relationship between heterogeneity and levels of trust and cohesion had produced equivocal results.

Objective 3: heterogeneity and use of public space. This objective has been modified and the revised objective has been met (we await confirmation of whether or not the article has been accepted for publication). We originally hypothesised that uncertainty about negotiating public space in a heterogeneous community (see the classic study by Anderson, 1990) might mean that the residents of such neighbourhoods were more or less likely to go out after dark or to go out alone. We modified this objective on advice from Joanna Taylor, the project researcher, who had previously had substantial responsibility for the BCS while working for the Home Office. The questions on the use of public space (e.g. do people feel safe after dark) have been criticised for making no reference to crime and being hypothetical for people who rarely or never go out. They have recently been dropped from the BCS. Furthermore, many of the reasons for going out infrequently or never may have nothing to do with negative perceptions by the respondent of their local area. Only 11% of respondents living in England in the 2006/7 sweep of the survey answered these questions and as there are over 4000 MSOAs (the lower level geographical units in our modeling hierarchy) in the survey each local area would be represented by just one respondent. This would confound any conclusions we could draw from multilevel analyses.

As an alternative, we explored whether perceptions of crime trends, and specifically the "perception gap" were associated with neighbourhood heterogeneity. The term perception gap refers to divergences, reported for several countries, between public perceptions of crime trends and the reality of reported crime (Roberts and Hough, 2005; Brown and Bolling, 2007, US Bureau of Justice Statistics, 2008, Thorpe and Hall, 2009, Quigley and Freil, 2008). Crime has fallen or remained stable since the mid-1990s (Walker et al., 2009); nevertheless, most respondents consistently perceive crime to be increasing (e.g. Hough and Roberts, 1998, Jansson et al., 2007). The BCS also inquires about respondents perceptions of crime in their local area; unfailingly, results have been more positive in relation to people’s local area than their country as a whole. Previous research on perceptions of crime trends identified seven key drivers of public opinion – principally demographic factors, political views, the media, perceptions of antisocial behaviour and general levels of trust in government information (Duffy et al., 2008 p. 28).

The majority of papers on the perception gap have relied on bivariate analysis alone to unpick the first of these key drivers, namely which types of people and places are most pessimistic about crime trends, although Moley (2008) employed logistic regression modelling. We analysed the double perception gap in crime trends in a multivariate multilevel model so that we can determine whether the same demographic and area factors influence both local and national perceptions or whether, as Casey (2008) contends, they have varying degrees of influence and whether perceptions of these questions vary in the same way geographically.
Two further objectives were implicit in our approach. One involved the use of multilevel techniques (Goldstein, 2003) which allow analysts to take into account individual and area characteristics simultaneously in a methodologically appropriate fashion. In the investigations summarised here, we employ multilevel techniques to assess more accurately the relative influence of neighbourhood characteristics on neighbourhood perceptions, after taking into account the socio-demographic characteristics of the people in those small areas.

A second additional objective was to test the utility of a special license version of the BCS to which small-area census data had been attached. Ours was one of the first academic projects to utilise the Home Office’s trial of attaching UK 2001 Census area codes to data from the BCS. This allowed us to link individual data from the survey with small-area measures of ethnic diversity derived from Census data and other socioeconomic characteristics from additional external datasets. This offered a unique academic opportunity to conduct a much more fine-grained analysis of perceptions of neighbourhood than previously possible. Therefore our final research objective was to reveal the specific challenges encountered when linking BCS data to other sources, thus adding value to this rich resource on crime and victimisation.

**Methods**

Our principal data source is the 2006/07 sweep of the BCS, a victimisation survey in which adults (aged 16 or above) living in private households are asked about their experiences of and views on crime and criminal justice issues (Bolling et al., 2007). For reasons outlined in Taylor et al (2010), our analysis centres on results for England only. Our other main sources of data are the 2001 UK Census (ONS, 2004a), the 2007 Indices of Deprivation (Department for Communities and Local Government, 2007) and the cross-government rural and urban area classification indicator (The Countryside Agency et al., 2004). These external datasets were linked to the BCS via lower- and middle-layer super output area Census area codes.

We employed multilevel modelling because of its superiority over traditional modelling approaches, especially when dealing with clustered data (Goldstein, 2003). Our ASB models, for example, involve individuals (n = 43,115), nested within MSOAs (n = 4,002), which in turn are nested within Police Force Areas (n=38). A noteworthy advantage is the extension of the multilevel framework to the *multivariate multilevel* model as discussed above (see Snijders and Bosker, 1999). This enables us to look at the two dimensions of (say) collective efficacy simultaneously, facilitating analysis of the relative influence of any one independent variable for each dimension of the outcome variable, and allowing us to test whether the influence is significantly different across each dimension. Finally, and perhaps most importantly, the joint covariance term illustrates the extent and manner in which the two dimensions of the dependent variable covary across geographies.

**Dependent variables**

The BCS asks a series of questions about perceptions of several different types of anti-social behaviour (ASB) such as ‘noisy neighbours or loud parties’; ‘teenagers hanging around on the streets’; or ‘people being drunk or rowdy in public places’ (see Taylor et al., 2010 for a complete list). The respondent is asked whether they perceive an issue as a “very big problem,” a “fairly big problem”, “not a very big problem” or “not a problem at all”. Following previous studies (Kershaw and Tseloni, 2005; Upson, 2006), a
composite score of ASB, which ranged from zero to 21, was produced and dichotomised: those scoring 11 or above, which represents those scoring more than one standard deviation above the mean, were classed as perceiving ‘high’ levels of ASB. This is consistent with the approach taken by the Home Office (Nicholas et al., 2007). For this reason a binary logistic multilevel model was used to predict the log-odds of perceiving high levels of antisocial behaviour.

For collective efficacy, we followed Sampson et al.’s (1997 p. 918) approach, by using two Likert scales measuring ‘informal social control’ and ‘social cohesion and trust’. We were able to construct similar scales using BCS data. For our measure of ‘informal social control’, respondents were asked for their views on the probability that people in their neighbourhood would do something about issues such as ‘local children who were playing truant from school and hanging around on a street corner’; or ‘children who were spray-painting graffiti on a local building’ etc. Individuals could choose between the responses of ‘very likely’ (scoring zero), ‘likely’ (scoring one), ‘unlikely’ (scoring two) or ‘very unlikely’ (scoring three). Our Likert scale for ‘social cohesion and trust’ consisted of five questions scoring from zero for the most positive response through to three for the most negative response. BCS respondents were asked how much they agreed or disagreed with statements such as ‘people are willing to help their neighbours’ or ‘theirs is a close knit community’. Both scales – social cohesion and trust (SC&T) and informal social control (ISC) – ranged from zero to 15 with the higher the score the lower the levels of SC&T and ISC. These were treated as continuous outcomes in the models (for further details see Twigg et al. (forthcoming)).

For the crime trend analysis, the BCS asks “how much do you think that the level of crime in the country as a whole has changed over the past two years” and “how much would you say the crime rate in this area [defined as within 15 minutes walk] here has changed since two years ago?” For both questions respondents could answer “a lot more crime”, “a little more crime”, “about the same”, “a little less crime” or “a lot less crime”. The multivariate multilevel models presented here predict the log-odds of perceiving ‘a lot more crime’ and are therefore binary logistic.

Independent variables

As well as measures of heterogeneity and other area level variables, we included a broad range of individual and household level characteristics which had been found in previous research to be correlated with perceptions of neighbourhood. These were: gender, age, ethnicity, marital status, educational attainment, health status, socio-economic classification, household income, accommodation type, tenure and length of time at current address (see Taylor et al., 2010). The BCS also collects information on the respondent’s experiences of crime in the last 12 months or so.

We were provided with a special version of the BCS which facilitated linkage to 2001 Census and other data. Although geographical identifiers were available for Lower Layer Super Output Areas (LSOA), we decided to define neighbourhoods at the larger geography of Middle Layer Super Output Areas (MSOA). LSOAs and MSOAs relate to UK Census geography. MSOAs have a minimum population of 5,000 and mean of 7,200 and are built from groups of LSOAs (ONS, 2008). The reasons for choosing MSOAs are threefold. First, at least in urban areas, they are similar in size to the definition of ‘local area’ used in the wording of the ASB questions. Second, the choice is consistent with similar research on the BCS fear of crime questions (Brunton-Smith, 2007), and
finally, there is insufficient clustering at the LSOA level to employ multilevel modelling techniques (see Maas and Hox, 2005).

With respect to our measure of neighbourhood ethnic heterogeneity we are interested in the degree to which different ethnic groups are mixed, in residential terms, with other groups. For this purpose, we chose the Theil entropy score (Massey and Denton, 1988) which is computed according to the following formula:

$$E_i = \sum_{r=1}^{r} (\pi_{ri}) \ln \left( \frac{1}{\pi_{ri}} \right)$$

where $i$ stands for a neighbourhood area and $r$ stands for the following ethnic groups (i) white, (ii) mixed, (iii) Asian or Asian British, (iv) Black or Black British, and (v) Chinese or Other. Term $\pi_{ri}$ represents the proportion of group $r$ in area $i$ as measured by the 2001 Census (ONS, 2004a). The higher the Theil score, the more diversity in an area. Although the Theil entropy score tells us about the ethnic diversity of areas, it does not tell us about their ethnic make-up. For example, an area with an almost exclusively White population would have the same score as an area with almost entirely Asian residents. To be able to model for these differences, a typology based on the ethnic mix of a MSOA was created using cluster analysis which aims to allocate individuals, or in this case MSOAs, to a set of mutually exclusive, exhaustive groups such that individuals in the same group or cluster are similar. Complete linkage (an agglomerative hierarchical technique) suggested a seven cluster solution (Figure 1).

![Figure 1 Seven cluster solution for MSOAs](image-url)
These two measures of ethnic mixing (Theil and the cluster analysis) are describing different dimensions of heterogeneity but are highly collinear and for this reason are used separately (Spearman’s $r = 0.506$, $p < 0.000$). A natural logarithmic transformation was applied to the Theil score to improve skewness and kurtosis.

Data from the 2007 Indices of Deprivation (IMD 2007) were also attached (Department for Communities and Local Government, 2007). These data are only available at the LSOA level, therefore weighted population averages were calculated to aggregate the data up to MSOAs. The overall IMD combines seven domains, but we isolated the crime domain which represents the rate of recorded crime for four major volume crime types (burglary, theft, criminal damage and violence). This isolated crime domain is used as a proxy for actual neighbourhood disorder in the ASB models. In terms of crime trends, people’s perceptions have in the past been labelled as ‘incorrect’, based on the national crime trend only. It is plausible that those with the most pessimistic perceptions are not necessarily wrong as they may in fact live in areas which suffer the highest levels of crime. We therefore include the crime domain in these models to control for local crime variations. In the collective efficacy models the crime domain was excluded completely. This is because collective efficacy is often seen as a mediator to crime and disorder (for a review, see Kubrin and Weitzer, 2003). Accordingly we did not want to include crime as a potential explanatory variable in our model. The IMD was then re-calculated based on the other six domains only.

Two further area level variables were extracted from the 2001 Census and included in the models of ASB and collective efficacy. These were population turnover (Livingston et al., 2008; ONS, 2004b) and percentage of young people, both of which have been identified as important in the literature. A natural logarithmic transformation was applied to the Census measure of turnover and the continuous area variables were also standardised (with mean=0 and standard deviation=1). All three models of neighbourhood perceptions included the cross-government rural and urban area classification which divides the MSOAs into three types of settlement size; ‘urban’ (settlements with a population greater than 10,000), ‘small town and fringe’ and ‘village, hamlet and isolated dwellings’ (The Countryside Agency et al., 2004). Above and beyond the level of urbanisation, BCS research has also found that adults living in London were statistically significantly more likely to perceive that crime, and in particular local levels of crime, had increased compared to the rest of England and Wales (Jansson et al., 2007). Therefore, the crime perceptions models included a dummy variable for the London Government Office Region in addition to the urban/rural typology described above. The technical details concerning model estimation and the use of MCMC methods are provided in Taylor et al. (2010) and Twigg et al.(forthcoming)

Results

For reasons of brevity and because our focus centres on assessing the impact of neighbourhood heterogeneity on perceptions of ASB, collective efficacy and crime trends we do not include the results for individual and household level variables in the tables of results in Annexe A (Tables 1a and 1b) (see also the submitted outputs and Mohan et al., 2010). Note that the area level results shown in the table have been adjusted for these socio-demographic characteristics of the respondents within the neighbourhood. The submitted outputs also provide more detail on residual area-level variance and performance of the models.
Beginning with the proportion of young people in the areas, there appears to be relatively strong association with perceptions of ASB, whereby higher levels of 10-19 year-olds increase the odds of perceiving high levels of ASB. Proportion of teens also had a detrimental, albeit much weaker, effect on SC&T. The results suggest that population turnover does not appear to have an independent association with perceptions of ASB but it does seem to have a small negative association with the SC&T element of collective efficacy. This finding highlights the advantage of treating the two dimensions of collective efficacy separately. Sampson et al. (1997), for example, found a statistically significant relationship between residential stability and collective efficacy but here we show more specifically that the association, in this instance, is due to the one dimension.

In terms of settlement size, living in a less built up area is strongly associated with higher levels of collective efficacy but the effect of living in a rural area was significantly stronger statistically in relation to informal social control (ISC) than for social cohesion and trust (SC&T). Residence in villages, hamlets or isolated dwellings (i.e. rural locations) also significantly reduces the odds of having high levels of perceived antisocial behaviour (ASB) compared with those living in urban settlements. However, unlike collective efficacy, there appears to be no significant effect for those living in ‘town and fringe’ areas. The positive impact of rural locations is also evident in the results for perceptions of crime. Residence in rural locations significantly reduces the odds of perceiving worsening local crime levels compared with those living in urban settlements (with a population greater than 10,000). There appears to be no significant effect for those living in ‘town and fringe’ areas. Living in London is strongly associated with reporting negative perceptions of local crime trends. In contrast, there is no settlement size or London effect for national crime trends.

As expected (see also Sampson and Raudenbush, 2004), observed crime levels increase an individual’s propensity to perceive high levels of ASB (regardless of whether they themselves have been a recent victim of crime – results not shown). Observed crime levels are also associated with local crime perceptions. Those with the most negative opinions of local crime trends do in fact live in the areas with the highest levels of police recorded crime. Further, and in concordance with Murphy and Flatley (2009), we found no statistically significant relationship between perceptions of changes in national crime levels and the level of crime in the area of residence.

We find that deprivation was strongly negatively associated with both dimensions of collective efficacy, a finding which is consistent with all other research in this field. Area deprivation also increases the odds of perceiving high levels of ASB, thus supporting the results of Wood (2004) and Ipsos MORI (2007). Although the results show that area deprivation significantly increases the odds of reporting worsening local crime trends, it is no longer significant once recorded crime is added to the model.

Most pertinent to the research presented here is the contested relationship between ethnic heterogeneity and its potential adverse social consequences. Do our models support an argument that high levels of ethnic heterogeneity lead to negative perceptions of one’s local area after taking into account other important neighbourhood characteristics? With respect to perceptions of levels of anti-social behaviour we do not find significant results. The level of ethnic heterogeneity, as measured by the Theil entropy score, was not important in explaining high levels of perceived ASB. When Theil was substituted in the models with the ethnic cluster typology, none of the clusters were found to be significant (results not given here). In other words which ethnic group is dominant in a neighbourhood does not affect perceptions of the local area on the part of
its residents. It is important to note that our research was not about the effects of the distribution of particular groups but rather about ethnic heterogeneity; nevertheless it is helpful to have this confirmation. We tested both measures of heterogeneity (the Theil entropy score and the cluster typology) and the results show that ethnic heterogeneity (as measured by the Theil score) is associated with reduced levels of both dimensions of collective efficacy. However there is a difference between statistical significance and substantive importance; the standardised regression coefficients are substantially smaller than those for deprivation. When the Theil index is added to the crime perception model alongside pertinent individual, household and area level factors we found no negative effects. Indeed those living in the most ethnically diverse areas were less pessimistic about the national crime trend.

Although looking for causal pathways with a cross-sectional survey is inherently problematic, we employ a further modelling strategy (following Raudenbush and Sampson, 1999) to try and unpick whether it is diversity or deprivation that drives negative perceptions of one’s neighbourhood. The strategy investigates any possible mediating effect of ethnic heterogeneity and involves looking at the total effect of deprivation in a model excluding measures of heterogeneity. When the measure of heterogeneity is introduced, the resultant coefficients represent the direct effects, and the indirect effects can be derived by subtracting the direct effects away from the total effects. In the models of ASB and collective efficacy, the coefficients for deprivation remain unchanged, suggesting that ethnic heterogeneity does not mediate the relationship between our perceptions of neighbourhood and neighbourhood deprivation (results not shown). In other words, ethnic heterogeneity does not influence the observed significant associations between deprivation and negative perceptions of the local area.

Although the Theil score is found to have a statistically significant negative effect on both dimensions of collective efficacy, this does not necessarily imply that it is a substantively important one (Cohen, 1994). Having controlled for pertinent individual and area level variables, the Theil entropy score only explains 1% of the MSOA level variation for SC&T and does not explain any of the MSOA level variation in the case of informal social control. This is not an impressive effect when compared with the influence of the level of deprivation in the local area which explains substantially more variation – 19% in the case of SC&T and 7% for ISC. Further, the creation of an interaction term between diversity and deprivation suggests that the effect of ethnic diversity on levels of social cohesion and trust is dependent on the level of deprivation in an area. The coefficient (of the interaction term between deprivation and ethnic diversity) is significant ($\beta = -0.09$, standard error = 0.03) but in the opposite direction to our a priori expectation – as deprivation increases, the negative relationship between diversity and SC&T diminishes. This is unexpected if we adhere to a conflict theory, since we would expect perceptions of negative effects to be greatest in deprived areas where there was greatest competition for resources. However, the result is consistent with Sturgis et al. (forthcoming) who found the same relationship to hold when researching trust, and Laurence and Heath (2008, p. 41) who found that areas with both high levels of disadvantage and high ethnic diversity record higher average cohesion scores than highly disadvantaged White areas, leading them to conclude it is “deprivation that undermines cohesion, not diversity”.

There are two possible limitations of the work presented here which we cannot resolve with existing data sources. The first relates to causality: segregation may represent a
response to social tensions rather than perceptions of social tensions being a response to segregation. This is inevitable with cross-sectional data. The second is that we do not have objective measures of local levels of antisocial behaviour, collective efficacy and reliable small area counts of crime. However, with these caveats, the broad conclusions of our work can be simply stated: in essence, we find very little evidence for a substantively important effect of ethnic heterogeneity on people’s perceptions of neighbourhood. As such, this work provides a strong challenge to Putnam’s views about the negative impacts of heterogeneity and the contention that it causes groups to “bunker down”. Although our measures of ethnic diversity cannot capture effects of recent immigration from the EU (the focus of the so-called ‘Goodhart hypothesis’), our findings do not suggest (as Goodhart implies) that we intrinsically distrust those who are different from ourselves. Instead the clear implication is that the concerns flagged by Goodhart and Putnam are not evident in this analysis. There is not a consistent negative effect across the dependent variables and where there is a negative effect it is small and generally outweighed by deprivation.

One response to these findings might be that they are inconsistent with the pattern of disturbances in various ethnically heterogeneous communities in northern England. However investigations into the causes of such disturbances highlight a complex range of local circumstances over and above ethnic heterogeneity. On balance the results of this analysis of the BCS do not indicate a systematic association between heterogeneity and reduced social cohesion or heightened perceptions of disorder.

Activities

The results from this programme of work have been disseminated via several workshops and seminars to practitioner and academic audiences. We presented our findings on ASB at a Home Office seminar and to the Crime Surveys User Group meeting, organised by ESDS. We have presented the ASB and collective efficacy findings at two UPTAP annual conferences and at the annual conferences of the Institute of British Geographers and the British Society of Criminology. Methodological issues will be discussed at the forthcoming ESRC Research Methods Festival (July 2010). Here we aim to illustrate the substantive advantages of using multivariate modelling approaches and to discuss the specific data linkage challenges and solutions used to enhance the utility of the BCS. We have also presented seminars in the Geography departments at Portsmouth and Southampton Universities.

Outputs

One academic article from this research has already been published in one of the leading Geographical journals - Transactions of the Institute of British Geographers which focuses on the finding from the ASB element of the work (Taylor et al., 2010). Another prestigious journal (Environment and Planning A) has recently accepted for publication an article which summarises our analysis focussing on collective efficacy (Twigg et al., forthcoming) and a paper summarising crime perceptions will shortly be submitted to the British Journal of Criminology. Our research findings have also reached wider academic audiences via publication in a dedicated UPTAP book chapter (Taylor et al., forthcoming). To extend our impact amongst policy audiences, we will summarise key findings in a Home Office statistical bulletin on British Crime Survey antisocial behaviour research results (planned for November 2010). The project has produced an enhanced version of the BCS which includes two measures of neighbourhood ethnic heterogeneity and several
other small area indicators summarised for the MSOAs within which the respondent resides. We were provided with the BCS data and Census codes under special licence and will be depositing our enhanced dataset with the Home Office who will liaise with ESDS regarding access to this enhanced dataset.

Impacts

This work has clear relevance to policy on community cohesion, since it suggests that while initiatives to promote cohesion are valuable, priority in policy terms should be given to reducing neighbourhood disadvantage. We have recently presented a research seminar to a specialist audience at the Home Office; the audience included personnel concerned with anti-social behaviour policy (the policy target owner and anti-social behaviour researchers), crime statistics and data analysts (British Crime Survey researchers, recorded crime researchers and the Heads of Crime Surveys section). The Home Office have requested that we re-draft our Transactions of the Institute of British Geographers journal article for a wider audience with a view to publishing this within a Home Office Statistical Bulletin. Such Home Office publications are circulated to a broad range of policy makers and practitioners.

We remain in contact with the Home Office, particularly now that Joanna has registered for a PhD which will take certain aspects of the UTAP work further (see section 7 under ‘Activities and Achievements’ in the End of Grant Report Form). They are particularly interested in the idea of increasing the utility of the British Crime Survey and evaluating the synthetic estimates of ASB behaviour that the PhD will generate for local authorities.

Future Research Priorities

In the very short term, we intend to develop the technical aspect of the work by evaluating different methods of data aggregation (i.e. creating different ‘levels’ of neighbourhood influence) and we will be writing this up for an appropriate peer-reviewed journal such as Geographical Analysis. We would envisage doing this research without additional funding.

In the medium to longer term, there are several ways in which future work might be developed which would improve our understanding of negative perceptions of neighbourhood. One would be to add small area socio-economic data to previous versions of the British Crime Survey, so that we can explore whether the relationships we have identified are consistent over time. Second, MSOAs may, or may not, represent good approximations to the communities within which people live, but these are the only small-area spatial units with which we are able to work at the present time. A possibility, though resource-intensive, would be to explore whether ‘bespoke neighbourhoods’ could be created around the residential locations of survey respondents (see Johnston et al., 2004), but this would have to be done under conditions of strict confidentiality to protect anonymity of respondents. A third would be linkage of other appropriate datasets such as those relating to the distribution of voluntary and community organisations, which may have a mediating effect on relationships between socio-economic conditions and perceptions of community.
REFERENCES

ANDERSON, E. (1990) *Streetwise: Race, Class, and Change in an Urban Community*, University of Chicago, Chicago.


IPSOS MORI (2007) *Anti social behaviour; people, place and perceptions*. London, Ipsos MORI.


LIVINGSTON, M., BAILEY, N. & KEARNS, A. (2008) *People’s attachment to place - the influence of neighbourhood deprivation*. Coventry, Published for the Joseph Rowntree Foundation by the Chartered Institute of Housing.


ONS (2008) Guidance notes for the 2001 Area Classification of Super Output Areas and Data Zones. Titchfield, ONS.


ANNEXE A

Table 1a: Area level results for models of perceptions of anti-social behaviour and collective efficacy

<table>
<thead>
<tr>
<th>Observed crime levels</th>
<th>Perceptions of anti-social behaviour</th>
<th></th>
<th></th>
<th>Collective efficacy</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( \beta )</td>
<td>SE(( \beta ))</td>
<td>Exp(( \beta ))</td>
<td>Perceptions of social cohesion and trust</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>( \beta )</td>
<td>SE(( \beta ))</td>
<td>( \beta )</td>
<td>SE(( \beta ))</td>
<td>( \beta )</td>
<td>SE(( \beta ))</td>
</tr>
<tr>
<td>Rural and urban area classification (base = greater than 10k)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Town and fringe</td>
<td>0.25</td>
<td>0.03</td>
<td>1.29 *</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Village, hamlet &amp; isolated dwellings</td>
<td>-0.69</td>
<td>0.09</td>
<td>0.50 *</td>
<td>-0.43</td>
<td>0.10 *</td>
<td>-0.43</td>
</tr>
<tr>
<td>Teenagers (% aged 10-19)</td>
<td>0.08</td>
<td>0.02</td>
<td>1.08 *</td>
<td>0.08</td>
<td>0.03 *</td>
<td>0.06</td>
</tr>
<tr>
<td>ln(Population turnover)</td>
<td>0.02</td>
<td>0.02</td>
<td>1.02</td>
<td>0.08</td>
<td>0.03 *</td>
<td>0.04</td>
</tr>
<tr>
<td>Level of deprivation</td>
<td>0.25</td>
<td>0.03</td>
<td>1.28 *</td>
<td>0.36</td>
<td>0.03 *</td>
<td>0.35</td>
</tr>
<tr>
<td>ln(Theil entropy score)</td>
<td>-0.02</td>
<td>0.03</td>
<td>0.98</td>
<td>0.15</td>
<td>0.04 *</td>
<td>0.22</td>
</tr>
</tbody>
</table>

* Indicates a statistically significant result at the 5% level.
** Indicates a statistically significantly different result between SC&T and ISC.
NA Indicates the independent variable was not included in the model.
All models are adjusted for individual and household characteristics.
Table 1b: Area level results from models of negative local and national crime perceptions

<table>
<thead>
<tr>
<th>Urban/rural classification (base=urban)</th>
<th>Unadjusted for Thel or Crime</th>
<th>Adjusted for Thel and Crime</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>National</td>
<td>Local</td>
</tr>
<tr>
<td></td>
<td>β</td>
<td>SE(β)</td>
</tr>
<tr>
<td>Town and fringe</td>
<td>0.05</td>
<td>0.08</td>
</tr>
<tr>
<td>Village/hamlet/isolated dwelling</td>
<td>-0.05</td>
<td>0.08</td>
</tr>
<tr>
<td>London versus elsewhere in England (base=elsewhere)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>β</td>
<td>SE(β)</td>
</tr>
<tr>
<td>London</td>
<td>0.11</td>
<td>0.09</td>
</tr>
<tr>
<td>Level of deprivation</td>
<td>0.03</td>
<td>0.03</td>
</tr>
<tr>
<td>Ln(Thel entropy score)</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Level of crime</td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>

* Indicates a statistically significant result at the 5% level.
** Indicates a statistically different result between national and local negative perceptions.
NA indicates the independent variable was not included in the model.
All models are adjusted for individual and household characteristics.