

Conceptualising and measuring social capital: a new approach

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1: Introduction

The concept of social capital is seductive, but infuriating. In the hands of leading social scientists such as James Coleman (1988) and especially Robert Putnam (2000) the promise is held out that it can explain a remarkable range of social phenomena, from educational performance, children's welfare, economic prosperity, democracy to even 'health and happiness'.¹ Yet the mechanisms by which social capital is supposed to produce such a range of laudable outcomes are over-general and under-specified. Putnam's (2000: 19) important book offers a loose definition of social capital as 'connections among individuals – social networks and the norms of reciprocity and trustworthiness that arise from them'. But in what sense, one can then legitimately ask, is social capital different from 'the social' itself? What kinds of connections and networks are important, and how exactly is trust related to them? In responding to these issues, Putnam falls back on metaphors and aphorisms, such as the idea that 'bonding' social capital is a form of superglue, and bridging social capital a form of WD40, that there is a 'dark side' of social capital, and so on. In the absence of serious attention to the precise mechanisms by which social capital operates, critics of the concept are right to point out that its popularity rests on dubious foundations, notably in offering a bridgehead between neo-classical economics and other social sciences. Social capital, it can be suggested, allows rational choice theorists to smuggle 'the social' back in to their accounts, but in an unspecific, ad hoc, way. For instance Lin's (2001) view that social capital refers to 'investment in social relations with expected returns in the marketplace' only supports the claims of Fine (2001) that the popularity of social capital indicates the increasing hegemony of economics.

Given these problems, can the concept of social capital be put on a more rigorous footing? The aim of this paper is to show that it is possible to break down different dimensions of social capital, which vary in their impact on social trust and which are unevenly distributed across social groups. Rather than work with a generic concept of social capital, we show that the concept can be broken down into more specific categories and that, in this process, we can develop a more nuanced and subtle recognition of the significance of social capital. To be more specific, we differentiate social capital according to whether it taps formal or informal networks, and whether it is related to local or non-local processes of social attachment. Analysing social capital in these terms allows us to relate our analysis to a long standing awareness of the social specificity of particular kinds of networks, and demonstrates the extent to which social capital itself cannot be seen as an independent social force, but as one embedded in the social relations of class, gender and other attributes.

A key feature of our paper is that we show that it is possible to use social survey data to construct factor scores from categorical component variables to measure different dimensions of social capital such as involvement in civic associations, social networks, and neighbourhood attachment. We demonstrate that social capital in each of these dimensions can be measured independently, that the relationship between them can be assessed, that the social determinants of the dimensions can be explored, and their relative impact on social trust can be differentiated. Our analysis is, to the best of our knowledge, the first attempt to seriously seek to examine both the criterion and construct validity of the concept of social capital using British survey data.

¹ These are all the subjects of chapters in Putnam (2000).

The next part of the paper develops our theoretical approach, and shows how the concept of social capital is ultimately based on a theory of social networks that needs to distinguish formal and informal processes of networks. This theoretical elaboration leads on to the third part where we show how it is possible to differentiate social capital into different dimensions. The fourth part presents our findings on the social determinants of social capital dimensions and the impact of the dimensions on social trust.² Section 5 summarises our findings and shows how social capital can be related back to broader concerns in the sociology of stratification.

2: Conceptualising social capital

In the past decade social capital research has become ‘flavour of the month’ across many social science disciplines such as sociology, politics, economics, development studies and management. Over 2,000 papers have been published in leading international journals and the number is growing very rapidly. The concept excites both academics and those concerned with policy, who see social capital as a potentially important resource which can be nurtured through appropriate policy interventions. There are, however, fundamental conceptual and methodological deficiencies in the existing research, notably in specifying the precise mechanisms by which social capital operates in ways that do not simply conflate it with the social more generally.

Insofar as there is any agreement about what social capital is, the idea that it is related to social networks is key. Admittedly one of the originators of the concept, James Coleman (1988: 302), prefers a more generic formulation of the concept, in which ‘social capital is defined by its function’, and that it consists ‘of some aspect of the social structure’ and facilitates ‘certain actions of individuals’. As Lin points out, this account is tautological (in that social capital is defined by its outcomes), and indicates how the concept can be used simply as a means of reinstating the significance of social processes within theoretical frameworks such as that of rational choice theory which depend on methodological individualist presuppositions (see Fine 2001). Those social scientists who wish to define it more exactly use some kind of network measure. Thus Putnam (2000: 21) defines social capital as ‘social networks and the associated norms of reciprocity’. Lin (2001: 56) argues that social capital is ‘resources embedded in one’s network or associations’. Bourdieu’s (1997: 51) account sees it as ‘the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalised relationships of mutual acquaintance and recognition’.

However, seeing social capital as a feature of social networks does not itself clarify its status. After all, within much social network analysis, social networks are seen as a

² It is also of importance to investigate the impacts of social capital dimensions on other key aspects of people’s lives such as in the areas of health conditions and subjective perception of well-being, satisfaction with work and with life overall. As some different mechanisms are involved in the relationship between socio-cultural attributes, social capital dimensions and the aspects concerned, we intend to submit the analysis in a separate publication.

definition of social relationships *tout court*, especially if one adopts the argument by White (1973) and Burt (1992) that networks are defined not only by connections but also by non-connections between agents or parties. This then leads to the same problem faced by Coleman that social capital simply becomes another way of defining the social and loses any explanatory specificity.

However, it is possible to distinguish between formal and informal networks of social capital. Putnam's (1993, 1995, 2000) account stresses the role of the formal networks in generating trust, for instance in his account of social capital as 'connections among individuals – social networks and the norms of reciprocity and trustworthiness that arise from them' (2000: 19). Here his account is different from that of most other writers on social capital, notably Lin (2001) and Bourdieu (1997), who see networks as important means of mobilising resources and who are more concerned with informal personal networks. Putnam's account of social capital can be seen as neo-Tocquevillian. In his early work on Italian politics he sees generalised trust arising from involvement in civic associations. In his later work Putnam extends his approach and argues that civic involvement is not the only form of social capital, and is concerned to recognise the significance of informal social networks. 'We are inclined to think of community associations and public life as the higher form of social involvement, but in everyday life, friendship and other informal types of sociability provide crucial social support' (Putnam 2000: 95). Using both measures he argues that there is a long-term process of social capital decline in the US. In his well-known book *Bowling alone*, he says that 'despite rapid increases in education that have given more of us than ever before the skills, the resources and the interests that once fostered civic engagement ... Americans have been dropping out in droves, not merely from political life, but from organized community life more generally' (Putnam 2000: 64). He attributes this decline to the generational change, the role of television, pressures of time and money, and the rise of commuting; and he ascribes to this decline various forms of social 'bads' prevalent in American society such as the lack of trust, rising crime rates and political apathy. Nonetheless, although Putnam extends his focus in his more recent work to consider informal social networks, his account still rests on a model drawing on the significance of formal social networks. In formal networks based on associational involvement generalised trust arises through learning to meet and relate to strangers. Informal networks are likely to be more closed to insiders and trust restricted to those who are part of the network.

By contrast, resource based approaches to social capital, for instance those of Lin and Bourdieu do not attach particular significance to networks linked to formal associations, because they do not see social capital as depending on the kind of generalised trust that might flow from such kinds of involvement. Rather they see the mobilisation of social networks as involving, at best, trust amongst network members alone, with the result that the social capital of some groups can be used to exclude others. Although Putnam recognizes the power of social capital to be 'directed towards malevolent, anti-social purposes' (Putnam 2000: 22), he sees this not as due to the nature of social capital itself but to the possibility that it can be deployed badly ('just like any other form of capital'). Bourdieu's emphasis, however, is on the way that social capital is necessarily exclusive, because the networks it generates between people also involve non-ties with outsiders who are excluded from social capital. For these writers informal networks play a key role in generating resources, with the

implication that it becomes important to compare the relative significance of informal and formal networks in generating social capital.

However, it is also necessary to differentiate informal networks. It is well known within studies of social networks and friendship that there are key differences between the resources mobilised through weak ties and strong ties. Weak ties of acquaintances such as neighbours can generate resources at some remove, whilst strong ties of intimate relationships such as friendship may be valuable in generating intense emotional support when needed. The importance of weak ties lies not only in helping people get a job (Granovetter 1973), but also in engendering environments conducive to one's socio-psychological well-being, especially in the case of having strong 'weak ties'. A particularly important feature of modern friendship ties is that they are seen as distinct from instrumental calculations of reciprocity (Silver 1990; Pahl 2000). This distinction overlaps with that between situational and personal networks. Situational networks arise when people form networks around particular settings which are relatively open and over which they may have no direct control, for instance amongst neighbours. On the other hand, friendship networks are more likely to be exclusive in that people have the ability to define their own friends.

The kinds of network resources placed by Putnam under the generic heading of social capital can thus be broken down into three main conceptual types: (formal) civic participation, (informal) personal networks and (informal) situational networks. By distinguishing these types of networks we are able to explore a number of key issues. Are they related together in the way implied by Putnam, or are they mutually exclusive? Do different social groups tend to rely on different kinds of networks, and if so, how do the different types of social capital affect the generalised social trust of the different social groups? These questions allow us to go beyond generic accounts of social capital and enable us to unpack precisely how it may become a significant social force.

3: Measuring social capital

We seek to measure the different dimensions of social capital using one of the most authoritative British survey data sources, namely, the British Household Panel Survey (BHPS). The survey began in 1991 as the premier British panel study, and samples around 5,000 households and 10,000 individuals each year. Although some of the original sample members (OSMs) moved out, new members are added each year, including those OSMs who reach 16 years of age by the time of interview and all adult members of the OSMs' new household should they leave their original household to form new families. Thus, each year, the sample is appropriately representative of the population as a whole. We have carefully selected questions that most closely match the three dimensions (see Appendix). As some of the component questions are found in Wave 7 and others in Wave 8, we pooled the two waves together (1997-1998) so that the questions jointly form the basis of the dimensions that can be specified as follows.³

³ The BHPS is publicly available. To encourage debate, we list all the component variables, their variable names and question wording for interested readers.

Civic participation Existing studies on social capital generally use civic participation as formal sources of social capital (Putnam 2000; Hall 1999; Paxton 1999; Li et al 2002). Most of the studies use descriptive methods either to study membership in specific organisations or to count the number of such memberships. We measure the level of civic involvement as obtained from the underlying scores in the voluntary associations. Previous analysis (Warde et al 2003) has indicated that there is a close relationship between being a member of an association and being active within it. The level of civic participation thus obtained is a reasonable measure of people's social capital ensuing from formal involvements in voluntary associations.

Social network The second type of social capital seeks to measure the extent of people's intimate interaction with people beyond immediate family, namely, with social connections in a broader sense. This dimension aims at assessing whether people have friends whose support they can rely on for practical and emotional issues. In other words, we are here trying to assess the extent to which respondents have 'strong tie' networks. These are not based in any particular location and do not require any assumptions about geographical proximity. A high degree of social capital in this dimension may be manifested in the range and depth of social connections that may serve to integrate the actor in the social fabric of society.

Neighbourhood attachment We operationalise this dimension by considering how strongly people feel that they are attached to their neighbourhood. The strength of attachment can be taken as a key index of the extent of people's 'weak ties'. The extent of belonging to the neighbourhood, the importance attached to the friendships cultivated with one's neighbours, and the practical value ensuing from having good neighbours such as being able to obtain advice and borrow things from or to have frequent chats with neighbours are all important aspects of social capital (Tolbert, Lyson and Irwin, 1998; Paxton, 2002). This dimension is a measure of embeddedness in one's immediate community.

The data in the BHPS allow us to differentiate the dimensions we have sketched above. As shown in the Appendix, there are sixteen component questions of a dichotomous nature for civic associations, eight questions of an ordinal nature for social networks and nine questions of an ordinal nature for neighbourhood attachment. The difference in the nature of the component questions renders it inappropriate to measure the three dimensions by simply summing up the number of responses with any particular characteristics.

Given the categorical nature of the component variables, we use two-parameter item response theory (IRT) models to obtain estimates of individual levels of social capital. The sets of items (component variables for each dimension) were selected as likely indicators of potentially distinctive facets of social capital. With indicators for social networks and neighbourhood attachment, the original multi-category numerical codes were reordered to form natural ordered scales. For the set of items indicating civic participation, some items reflected similar types of organisation that were rarely endorsed and were summed together, with the sum score being treated as a single ordinal item. The original sixteen items were reduced to eight, six with two categories (binary), one with three categories, and one with six categories. No such summing was required for the remaining scales. The social network scale was derived from eight items each with three categories. The neighbourhood attachment scale was

derived from eight items each with five categories.

The eventual indicators in each area were thus sets of ordinal items. We then used two-parameter IRT models to obtain estimates of the underlying dimensions of social capital. An IRT postulates that a single continuous dimension underlies responses to all items within a set and that the categorical response values are obtained as a result of the respondent's underlying score on this dimension falling within a range of values defined by an adjacent pair of thresholds from a set of ordered thresholds. Since the underlying dimension is not directly observable it is commonly considered to be a latent variable.

However, different items within a set may have different item characteristics. Items are allowed to differ in two ways. Firstly, items may have different threshold parameters. This allows, for example, fewer people to say that they have no one to go were they depressed than no one to go to for borrowing money. Secondly, items may have different sensitivity or factor loading parameters. This allows items to be strongly or weakly related to the underlying dimension, or correspondingly to vary in the extent to which they measure the underlying dimension rather than something else. Choosing a proportional odds ordinal logistic parameterisation allows the model to be specified by

$$\ln\left(\frac{pr(Y_{ij} \leq k)}{pr(Y_{ij} > k)}\right) = \alpha_{ik} + \cdot_i \cdot j$$

where Y_{ij} is the response to item i from individual j , \cdot_j is the score of individual j on the latent dimension, \cdot_i is the factor loading for item i , α_{ik} is the threshold for a response of k or above. For an item with K categories, 1 to K , $\alpha_{iK} = 8$. Standard identification restrictions are necessary and we here estimate the variance of the latent variable but constrain the first factor loading to 1. All variables have to be measured in some units and this restriction merely implies that the latent variable is to be measured in the units of item 1. It is also usual to make some parametric assumption about the distribution of the latent variable in the population. We have assumed this to be normally distributed.

The models were estimated by maximum likelihood in Stata using gllamm (Generalized Linear Latent And Mixed Models) (Rabe-Hesketh, Pickles and Taylor 2000) and adaptive quadrature (Rabe-Hesketh, Pickles and Skrondal 2002). Respondents with partially incomplete sets of responses were included under the assumption of the missing data being missing at random (Rubin 1976). Estimates of scores on the underlying dimension for each individual were calculated using empirical Bayes' methods. This provided both estimates of individual scores but also estimates of estimation precision, the latter tending to be lower for those with incomplete data. The gllamm procedure is computationally demanding. As a consequence additional exploratory analyses were undertaken using M-plus (Muthen & Muthen 2000), a procedure capable of estimating exactly the same kinds of model, but with these data unable to deliver individual factor score estimates nor satisfactorily tackle our sporadic missingness. These preliminary analyses indicated, with exceptions noted below, that the items within each set did indeed seem to be associated with a single dominant underlying latent variable, and that the latent

variables were rather weakly correlated with each other. These conditions justified our approach of fitting IRT models to each item set separately. This approach does not assume that the latent variables are uncorrelated, but were there substantial correlation then our approach would not be quite as statistically efficient as one where all items were analysed simultaneously.

The scores obtained for the three dimensions of social capital were then standardised with a mean of zero and standard deviation of one. This procedure ensures that we can directly compare the differences from one dimension to another when we assess both the social determinants of social capital dimensions and the impacts of each of the dimensions on generalised social trust. The factors on social determinants are indexed via class, education, gender, marital status and local (ward-level) social deprivation (Buck 2000). The inclusion of the contextual factors is to help ameliorate the 'atomistic fallacies' sometimes attributed to the use of individual level data (Kawachi *et al.* 1997; Schwarts 1994). The variables on individual and contextual level socio-cultural attributes are taken from Wave 7.⁴ As the impacts of social capital on social trust can be better assessed by having a time lag between the explanatory and the outcome variables, we take the social trust variable from Wave 10.

We use a four-way Goldthorpe (1987) class schema that is widely used in sociological research. The schema distinguishes the service class (professionals, administrators and managers); the petty bourgeoisie (small proprietors with or without employees, and farmers); the routine-non-manual workers (routine office workers in administration and commerce, sales personnel and other rank-and-file service workers, manual supervisors and lower-grade technicians); and the working class (skilled, semi-skilled and unskilled manual workers including agricultural labourers). For educational qualifications, we differentiate between first-degree or above, professional qualifications below degree, A/O Levels, and vocational or no formal qualifications. We use Stata 7 for the analysis. Appropriate weights from the BHPS files are used in the descriptive analysis and in the modelling procedures. With regard to models, these were estimated using pseudo-likelihood, with standard errors, confidence intervals and p-values all based on robust estimator of the parameter covariance matrices as described in the complex survey literature (Binder 1983), econometrics (White 1982) and theoretical statistics (Huber 1967).

(Figure 1 about here)

The analytical framework is shown in Figure 1. We aim to address the following questions. (1) What are the patterns of association between socio-economic conditions and social capital? (2) What are the direct impacts of social capital on social trust, taking into account socio-cultural conditions? (3) Can social capital dimensions moderate the effects of socio-cultural conditions, and if so, to what extent? The moderator effects are identifiable as interaction terms in the prediction equations for the outcomes.

4: Analysis

⁴ We are grateful to Professor Nick Buck at ISER (Institute for Social Economic Research, Essex University) for providing us with the data on the Carstairs index.

4.1 Patterns of social capital dimensions and their socio-cultural determinants

Table 1 gives parameter estimates for the three dimensions. Since only the factor loading parameters are commonly of interest, we do not report estimated thresholds. Our principal interests lie in the strength of evidence for an underlying dimension (given by the z-statistic associated with the estimated variance of the latent variable) and in the variation in the factor loadings across items. Factor loadings greater than 1 indicate that the corresponding item is more strongly associated with the latent variable than is the reference item, namely item 1. A factor loading close to zero (say less than 0.3) indicates that the corresponding item does not measure this particular latent variable.

(Table 1 about here)

In all cases there was strong evidence of association among the items within a set explainable by an underlying latent dimension of individual variation. However, the z-statistics showed considerable variation between sets of items. Those for neighbourhood attachment and social networks were substantially larger (26.4 and 19.4) than that for civic participation (7.4). The neighbourhood attachment items appeared to form a largely homogeneous block, though items 4 (borrowing) and item 5 (working to improve neighbourhood) appeared to be somewhat distinct.

The social network items seemed to fall into two groups. The first five items all made substantial contributions to the measurement of the underlying dimension. The last three items possessed relatively smaller factor loadings, a result of the reverse category coding given to these three items that appeared in a different question of the interview schedule and the wording also specifically referred to people outside the respondent's household. The three items were rather weakly related to the underlying dimension of this item set.

Closer inspection of the factor loadings for the civic participation items clearly shows that although items 1, 2, 4, 5 and 8 were clearly informative as to the value of the underlying dimension, membership of a trade union, social group or sports club do not measure this same dimension very well. The factor scores derived from this model are an effective summary of the level of participation in the other organisations, but items relating to trade unions, working-men's groups and sports clubs may be expected to have additional but distinctive impact. This provides empirical support for a division of items made on theoretical grounds (Li, Savage and Pickles 2003; Savage and Li 2003) that argued that memberships in trade unions and working-men's groups in particular would have distinctly different social class profiles, ideological orientations and political preferences.

As previously noted, the scores of the three dimensions are standardised so that we can directly compare the differences from one dimension to another. Table 2 shows the mean, standard deviation and range of the scores as well as their correlations. We can see that, as a result of standardisation, the mean score for each dimension is very close to zero and standard deviation to unity. The range of the scores, however, varies from 4.52 in social networks to 6.25 in neighbourhood attachment. The correlation of the dimensions is highly significant in each pair, but the coefficients are rather low as we have expected.

[Table 2 about here]

Are the scores of the different social capital dimensions equally distributed among different social groups? The data in Table 3 show unequivocally that they are not. In order to bring into sharper relief the differences among the different social groups, namely between people in different positions of class, education, gender, marital status and social deprivation (as measured by the Carstairs index, see Carstairs and Morris 1989), we also show the significance levels between each category and the reference group (shown in italics). Thus, for example, people in the service class (professionals and managers) are shown to have a standardised score of -0.092 in the neighbourhood attachment dimension, as compared with the 0.057 for the working class. The differences between the two classes ($0.057 - -0.092 = 0.149$) are significant at the 0.1% level. The petty bourgeois and the routine non-manual workers are, as shown in the Table, not significantly different from the working class in this dimension.

Table 3 reveals some important differences in the way that social groups draw on the different dimensions of social capital. The service class tends to have weaker neighbourhood attachment, but stronger social networks than the other social classes. This finding is in line with studies of class and sociability (Allan 1983) that claim that the middle classes tend to differentiate friends from acquaintances, whilst the working class tends to have stronger ‘situational’ networks in the areas of neighbouring (see also Allan and Crow 1993, Bulmer and Abrams 1984). The service class is especially likely to have formal networks in voluntary associations. It is now well established that there is a strong class gradient in associational membership (Parry et al 1992; Hall 1999; Li et al 2002). Indeed, Li et al show that with the decline of members in trade unions and working-men’s clubs, this disproportion has risen significantly since the 1970s when there was no tendency for the service class to be over-represented in associations.

Turning to the effects of education, which can serve as an indicator of people’s cultural capital,⁵ we see two notable features. First, the direction of the association between education and social capital dimensions is the same as that between class and social capital. Thus, highly educated people tend to have significantly lower scores than those with only vocational or no formal educational qualifications in terms of neighbourhood attachment, but higher scores in the other two dimensions. Given the well-known association between educational qualifications and class positions, the patterns are not surprising at all. Secondly, for each of the dimensions, the magnitude of the differences in the mean scores is considerably greater than in the class comparisons. This suggests that people’s social capital depends not only on their occupational status, but also, at least on the face of it, on the kind of cultural capital they possess.

⁵ There is insufficient information in BHPS to conduct theoretically informed and methodologically rigorous measures of cultural capital in the way we have constructed measures of social capital. However, a new ESRC project has been launched to investigate this (Bennet *et al* 2002) and we shall report findings on cultural taste, cultural identity and cultural practices in due course.

[Table 3 about here]

The other patterns that emerge from the table are also as expected. Thus, compared with women, men are less likely to be attached to their neighbourhood, to have strong social support mechanisms and to participate in civic organisations. The findings here are not surprising since women's capacity for close friendships is widely attested to (see Jamieson 1998). It is, however, striking that women have stronger networks in neighbourhoods and in formal associations. In this respect, it seems that women have more social capital than men in all key dimensions. In terms of marital status, married people have higher scores in neighbourhood attachment and civic participation, but lower scores in social network. The findings of the last aspect are not unexpected since family life precludes much of the need for outside emotional support. Finally, levels of local (ward-level) social deprivation are also closely associated with social capital dimensions in an expected way. People resident in non-deprived areas are consistently and significantly more likely to have higher scores in each dimension than those in severely deprived areas.

In sum, the patterns suggest clear evidence of social stratification in the kinds of social capital people possess. The greatest class differences are shown between the service and the working classes, with the service-class's main channel of social capital generation being through civic engagement and social networking, and the working-class's social capital drawing mainly on neighbourhood networks. This finding is of particular importance in view of the existing research on social capital where social capital is usually assessed through memberships in civic organisations and where it has been shown that the working class, especially poorly-educated working-class women, are mostly found not to be in any kind of civic organisations. Our findings show that the working class may be deprived of formal access to social capital but they may on the other hand have a relatively high degree of social capital in informal social capital, in their neighbourhood attachment.⁶

[Table 4 about here]

Whilst looking at the associations between socio-cultural conditions and social capital dimensions separately as shown in Table 3 is important, a comparison of the relative effects would be of interest in determining which of the socio-cultural factors are more significantly related to which dimension of social capital. The data, shown in Table 4, suggest the patterns shown in Table 3 are essentially unchanged when all the variables are simultaneously controlled for. Thus, we still find significant differences between the service class and the working class in each of the dimensions even with all other factors in the model controlled for. The coefficients for the educational qualifications are again more pronounced than those of class.

⁶ It may be objected that this account of neighbourhood attachment is reminiscent of working-class communities in the 1950s and that later research has suggested that it is actually the mobile middle class who tend to know their neighbours better as the latter are like themselves in being socially and geographically mobile. These accounts, however, tend to be based on small-scale ethnographies rather than on large-scale representative surveys.

We have, in the above, shown the patterns of association between socio-cultural attributes and the underlying dimensions of social capital. The patterns are consistent. People in more advantaged social positions, be they occupational, educational or geographic (ward-level index of social deprivation), tend to have greater propensity for civic engagement and stronger networks for social support whereas those in more disadvantaged positions tend to find more social capital in the more geographically-bounded relationships where they find greater belonging, greater meaning, and more practical and yet valuable instances of help and support such as talks/chats/exchange of favours with friends or spare-time associates resident in their own neighbourhood.

These findings alert us to the way that social capital is embedded in various kinds of social relations associated with class, education and gender. Given this, can we see social capital as just a by-product of prior social relationships, or does it help to explain social trust in addition to them?

4.2 Socio-cultural conditions, social capital and social trust

Having established the social determinants of the social capital dimensions, we now turn to test their construct validity. If social capital is a ‘social good’, it might be manifested in the crucial aspects of people’s lives. For instance, active participation in civic activities may make the participants better informed of the civic or political issues, increase mutual understanding and enhance their quality of judgement, which may, as a corollary, make them feel that they have a good understanding of the workings of society and have a considerable degree of social trust. Strong networks of social support and a strong sense of neighbourhood belonging may also contribute to a favourable attitude in the respondents towards the social ‘others’. However, given the different patterns of association between socio-cultural positions and social capital dimensions discussed earlier, we would not expect all dimensions to be similarly related to their generalised social trust.

In the following, we present data on socio-cultural conditions, social capital dimensions and social trust.⁷ Table 5 shows the association between social capital dimensions and socio-cultural factors with social trust. To see the social capital effects more clearly, we have put the standardised scores of the three dimensions into quartile groups. For both dimensions and socio-cultural groups, we have also presented results of significance tests, again using the last category in each variable as the reference category.

⁷ This refers to Question V13 in Wave 10. The question is worded:
Generally speaking, would you say that most people can be trusted, or that you can't be too careful in dealing with people?

Most people can be trusted	1
Can't be too careful	2
Other, depends (IF VOLUNTEERED) WRITE IN	3
Don't know	8

As only 1.6% of the respondents replied ‘Other/depends’, we have, following Hall (1999: 432), dropped this and the ‘Don’t know’ categories in our analysis.

[Table 5 about here]

The data in Table 5 show that the degree of trust one places in others is socially rather than psychologically determined, whether we look at the social capital dimensions or the socio-cultural groups. Thus, for example, 43.6 per cent of the respondents in the top quartile of the neighbourhood attachment dimension say that most people can be trusted, as compared with 28.9 per cent in the bottom quartile, with a difference of 14.7 percentage points, which is highly significant at the 0.1% level. Similarly, people in the top quartile of social networks and of civic participation were 13.2 and 17.7 percentage points more likely than those in the bottom quartiles in the two dimensions to say that they tend to trust people in general, again both highly significant.

The data on socio-cultural attributes also show marked differences. Thus 52 per cent of the service class as against 27 per cent of the working class say that they tend to trust people; 62 per cent of those with degrees or above as compared with only 29 per cent of those with only vocational or no formal qualifications would trust others. The differences in ward-level social deprivation are also pronounced. Gender and marital differences, whilst statistically significant, are much smaller in extent.

The overall patterns of social trust by different socio-cultural groups match closely those reported by Hall (1999, Table 5) although we would hold that our class and educational categories, and the findings associated with these categories, are more sociologically meaningful.⁸ One feature worth our particular note here is the findings relating to neighbourhood attachment. Given existing research on social trust (Hall 1999; Paxton 1999; Newton 1997), we would expect people in advantaged social positions to be more likely to say that they tend to trust people, probably because people in these conditions tend to work in big organisations with ‘white-collar’ colleagues, to associate with people in similar situations to themselves whether in or outside the realm of work, and to live in less deprived neighbourhoods. We found, as shown earlier, that the more disadvantaged social groups who tend to live in more deprived areas⁹ were more likely to have a sense of social belonging in their neighbourhood. Here we find that those who have higher scores in this dimension were also more likely to say that they tend to trust people. What, then, are the relative importance between socio-cultural conditions and social capital dimensions, particularly the dimension on neighbourhood attachment, with regard to social trust?

In order to address these questions, we have conducted a series of logistic regression models on the effects of social capital dimensions and socio-cultural conditions on social trust (trusting = 1, non-trusting = 0), as shown in Table 6. First, we show the

⁸ For instance, we find a difference of 25.3 percentage points between the service- and the working- classes and that of 33.5 points between the degree holders and those with only vocational or no formal qualifications. Hall finds a difference of 20 points between the top and bottom educational categories and 19 points between the top and the bottom class categories for social trust in 1990. Hall’s categories of education (primary, secondary and post secondary) and class (upper middle, non-manual/clerical, skilled manual and lower skilled manual) are not often used in British sociological research.

⁹ The working class were only slightly over half as likely as the service class to live in affluent areas (23% versus 40%).

effects of the social capital dimensions alone (Model A); secondly, we add the effects of individual and contextual factors (Model B).

[Table 6 about here]

Closer inspection at the patterns in Table 6 shows when the three dimensions alone were included in the model (Model A), each of them is highly significant when the other two dimensions are controlled for, and yet, civic participation, especially in the top quartile, has relatively the greatest magnitude (2.1 as compared with 1.7 and 1.5 for neighbourhood attachment and social networks respectively). Yet, when the socio-cultural factors at the individual and contextual levels are also entered (Model B), the coefficients for social networks and civic participation, whilst still highly significant, were reduced by varying degrees and the coefficients for neighbourhood attachment were increased in all three up quartiles, the top quartile in particular (from 1.7 in Model A to 2.1 in Model B). Controlling for socio-cultural factors made the effects of neighbourhood attachment more pronounced. This suggests that even though the working class and the poorly-educated were more likely to have higher scores in neighbourhood attachment, people in more advantaged socio-cultural positions were more likely to have social trust if they also had higher levels of neighbourhood belonging.¹⁰

Looking at the effects of socio-cultural factors, we find that, controlling for social capital dimensions, people in higher social positions, better educated, male, married and living in less deprived areas all tend to be more 'trusting'. Men and married were significantly more likely to say 'trusting' than their reference groups when all other factors are controlled for, but the effects were relatively small. Separate analysis, not reported in the table, shows no significant interaction effects between sex and marital status. At the bottom of the table, we also report the statistics for model improvements conducted in terms of adjusted Wald tests. The results show that Model B represent statistically significant improvement in fit over Model A.

Given that the effects of neighbourhood attachment were rendered more pronounced with the introduction of socio-cultural factors and that the effects of education, class and social deprivation were both statistically and substantively important, we conducted further tests to see whether there were any moderator effects for the social capital dimension of neighbourhood attachment. Thus, in addition to the variables in

¹⁰ Further analysis shows that each of the socio-cultural variables (class, education, sex, marital status and ward-level deprivation) had a significant impact on social trust. When the variables were analysed in three-way tables, it was the case that people in more advantaged class and educational positions were much more likely than those in disadvantaged social positions to say that they tend to trust other people even if they are in the same quartile of neighbourhood attachment. Thus, 41.2% of the service class in the bottom quartile were in the 'trusting' category as against 20.7% of the working class. 51.7% of the degree-holders in the bottom quartile say that they tend to trust people as compared with only 19% of people with only vocational or no formal qualifications who were also in the bottom quartile.

Model B, we added interaction effects between the service class, those with degree qualifications and those living in non-deprived areas. The results show that none of the interaction effects were significant, nor was the overall effect of the additional terms. We also tried numerous other interaction options, including the use of the standardised and the unstandardised scores for the three dimensions as continuous rather than as quantile covariates. The patterns were all the same and we are led to the view that the findings reported in Table 6 are robust.

5: Discussion and conclusion

We have, in this paper, made a new effort at conceptualising and measuring social capital. The starting point for this endeavour is the sense that ambition of social capital research has led to the concept being defined in generic ways that are not attentive to the socially distinct ways in which different kinds of networks can have different social determinants and different consequences. We have emphasised that the concept of social capital can be operationalised in three distinctive ways, as forms of civic participation, social networks, and neighbourhood attachment. Most social capital theorists run these together, but we argue that there are good reasons why they involve different kinds of process. Civic participation involves communication with ‘strangers’, social networks involve strong network ties with intimate relationships, and neighbourhood attachment weak ties with neighbours.

Technically, we have used latent response models to measure scores of social capital dimensions from their categorical component variables. Standardised scores of the dimensions are then used to explore their determinants in the socio-cultural structures and their construct validity in terms of social trust. Three main conclusions stand out.

First, the paper shows that it is possible to operationalise these different dimensions using the BHPS, and that there is indeed little correlation between these types of social capital. In this respect the perspective proffered by Putnam that suggests that formal and informal network processes are interlinked is not borne out. In addition, we have also seen that groups vary in the kinds of social capital they draw on. If we are to avoid an incomplete, even distorted, account of social capital, it is crucial to distinguish different forms, and when we do this, it becomes clear that people in poorer socio-cultural positions may possess forms of social capital that are invisible or intangible if only access to formal civic institutions is resorted to in the research.

Secondly, various forms of social capital do have a marked impact on social trust, and this effect is over and above the well-known effects of class, gender, and other socio-demographic variables. In this respect our analysis is in line with Putnam (2000), and Lin (2001), in demonstrating that social capital is indeed of major importance.

Finally, if one had to weigh the relative importance between formal and informal forms of social capital, the evidence suggests strongly that it is the latter rather than the former that is of greater explanatory power. We are thus led to conclude that it is indeed the kinds of informal networks emphasised by Lin and Bourdieu, rather than the civic participation emphasised by Putnam, which may be more important when understanding the significance of social capital.

We conclude that many of the issues raised in the social capital debate can best be addressed by differentiating different dimensions or forms of social capital rather than focusing on formal access to civic organisations alone. Civic participation is just one out of a range of channels of social capital generation and has been amply shown to favour the middle class who, among other things, tend to be more likely than the working class to have ‘the skills, the resources and the interests’ for civic engagement (Putnam 2000: 64). Informal social networks both with neighbours and with intimate friends beyond one’s immediate neighbourhood play an important, and hitherto neglected, role as least inasmuch as quantitative research using large-scale and complex survey data is concerned. Such informal networks affect people’s attitudes, values, preferences and key aspects of their life-chances such as health conditions and perceptions of the quality of life in their work and non-work realms. Registering this point takes us back to well-known discussions about the socially specific nature of friendship and helps substantiate the claims of social network theory towards older stratification-based accounts of life chances. In our view, this would be a welcome development.

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Figure 1 and Tables

Figure 1 Analytical framework for the interrelationship between socio-demographic attributes, social capital dimensions and social trust

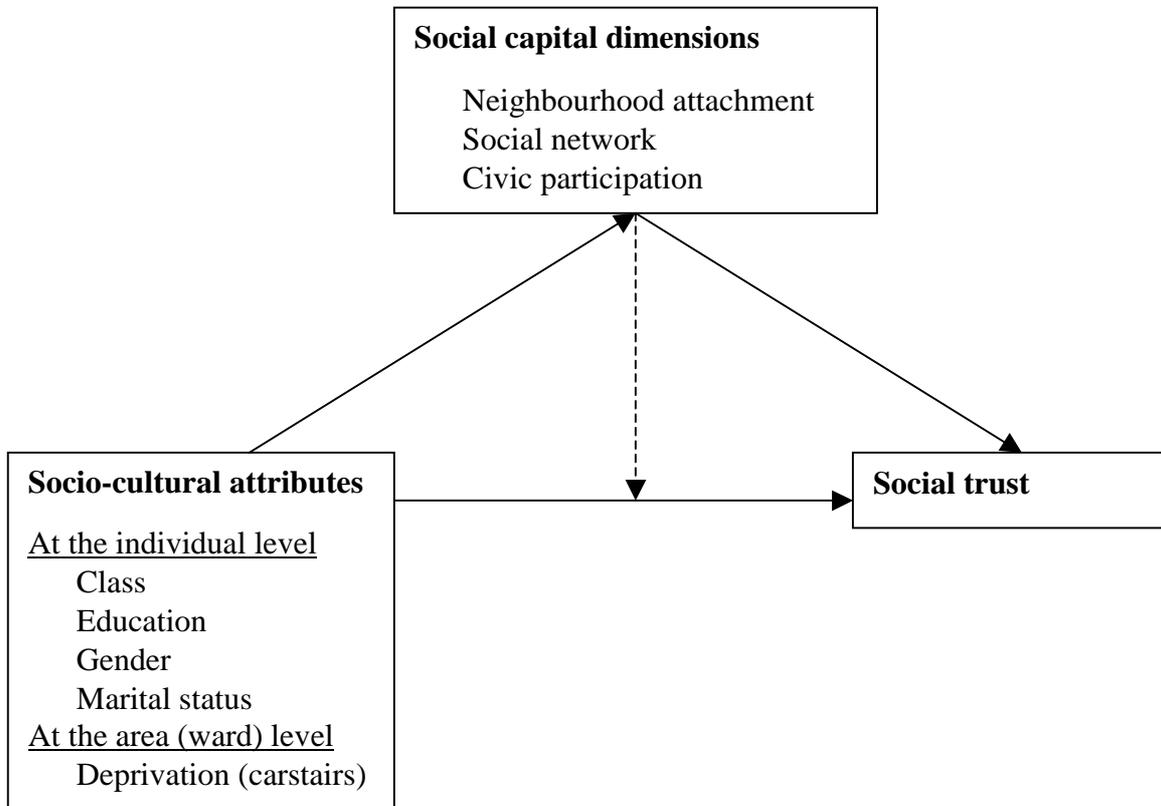


Table 1 Latent scores for items of the dimensions of social capital

	Number of categories	Loading . _j	Standard error
Neighbourhood attachment			
I belong to this neighbourhood	5	1.00	(-)
Friends in my neighbourhood mean a lot	5	1.22	(0.032)
Advice is available from my neighbourhood	5	0.93	(0.024)
I borrow & exchange favours with neighbours	5	0.48	(0.014)
Would work to improve my neighbourhood	5	0.43	(0.013)
Would remain in the neighbourhood	5	0.68	(0.017)
I am similar to others in the neighbourhood	5	0.87	(0.021)
I regularly stop and talk with neighbourhood	5	0.92	(0.023)
Latent variable variance	5.44 (.206)	z=26.42	
Social networks			
Anyone to listen to you when you need to talk?	3	1.00	(-)
Anyone to help you out in a crisis?	3	0.99	(0.033)
Anyone to be totally yourself with?	3	0.84	(0.029)
Anyone really appreciates you as a person?	3	0.87	(0.031)
Anyone to comfort you when you are very upset?	3	1.03	(0.036)
Anyone outside h/h to help you if depressed?	3	0.52	(0.019)
Anyone outside h/h to help you get job?	3	0.30	(0.012)
Anyone outside h/h to lend you money?	3	0.34	(0.013)
Latent variable variance	8.45 (.435)	z=19.43	
Civic participation			
Pooled items*	6	1.00	(-)
Political or environmental groups	3	0.93	(0.097)
Trade Unions	2	0.19	(0.029)
Tenants/resident's group	2	0.59	(0.056)
Religious group	2	0.68	(0.066)
Social group	2	-0.07	(0.034)
Sports club	2	0.17	(0.027)
Professional organisations	2	0.65	(0.056)
Latent variable variance	2.78 (.374)	z= 7.43	

Note:

1. Pooled items in the 'civic participation' dimension refer to parents association, voluntary service group, other community group, Women's Institute, women's group, other organisation, pensioner's organisation, scouts/guides group.

Source: The British Household Panel Survey (the same below).

Table 2 Dimensions of social capital: mean scores and correlations

Panel 1: Mean scores					
Dimensions	Mean scores				
	Mean	Standard deviation	Range		N
			Minimum	Maximum	
Neighbourhood attachment	0.008	0.999	-3.552	2.701	7,477
Social network	0.005	0.999	-3.404	1.116	7,273
Civic participation	0.011	1.008	-0.891	4.585	7,462

Panel 2: correlations			
	Correlation		
	Neighbourhood attachment	Social network	Civic participation
Neighbourhood attachment	1.000 (7,477)		
Social network	0.145 ^{***} (7,248)	1.000 (7,273)	
Civic participation	0.113 ^{***} (7,434)	0.083 ^{***} (7,265)	1.000 (7,462)

Note:

- 1 Standardised scores and weighted data are used in this and all tables below.
- 2 * p<0.05, ** p<0.01 and *** p<0.001; the same below.
- 3 The Ns are placed in brackets for the pair-wise analysis in panel 2.

Table 3 Mean scores of social capital dimensions by socio-cultural attributes

	Neighbourhood attachment	Social network	Civic participation	N
Class				
Service	-0.092 ^{***}	0.115 ^{***}	0.456 ^{***}	2,626
Petty bourgeois	0.046	-0.082	-0.101 ^{***}	648
Intermediate	0.047	0.079 ^{***}	-0.056 ^{***}	2,741
<i>Working class</i>	0.057	-0.148	-0.337	2,645
Education				
Degree	-0.203 ^{***}	0.190 ^{***}	0.723 ^{***}	792
Professional	-0.006 ^{***}	0.069 ^{***}	0.282 ^{***}	1,819
A/O Levels	-0.075 ^{***}	0.071 ^{***}	-0.137 ^{***}	2,005
<i>Voc/None</i>	0.182	-0.172	-0.241	2,599
Gender				
Male	-0.076 ^{***}	-0.144 ^{***}	-0.017 [*]	3,486
<i>Female</i>	0.111	0.122	0.037	4,019
Marital status				
Married	0.131 ^{***}	-0.035 ^{***}	0.115 ^{***}	4,394
<i>Other</i>	-0.167	0.063	-0.136	3,018
Social deprivation				
Not deprived	0.115 ^{***}	0.032 ^{**}	0.207 ^{***}	2,384
Mildly deprived	0.018 ^{**}	-0.002	-0.043 ^{***}	3,171
<i>Severely deprived</i>	-0.074	-0.050	-0.146	1,912

Note

- 1 Social deprivation refers to the ward-level (Carstairs) index of deprivation based on the characteristics drawn from the 1991 Census: unemployment rate, percentage with no car, percentage in overcrowded housing, and percentage in lower social classes. The respondents are assigned scores of local social deprivation. The variable has 10 categories which are recoded so that categories 1-3 = 'not deprived', 4-7 = 'mildly deprived' and 8-10 = 'severely deprived'.
- 2 Mean scores are used in the table. The statistical significance of each category is also shown against the reference group, which is the last category of each variable listed in italics.

Table 4 Regression coefficients of social capital dimensions by socio-cultural attributes

	Neighbourhood attachment	Social network	Civic participation
Class			
Service	-0.113 ^{***}	0.146 ^{***}	0.486 ^{***}
Petty bourgeois	-0.046	0.090	0.158 ^{***}
Intermediate	-0.057 ^{***}	0.109 ^{**}	0.180 ^{***}
Education			
Degree	-0.328 ^{***}	0.308 ^{***}	0.685 ^{***}
Professional	-0.185 ^{***}	0.218 ^{***}	0.314 ^{***}
A/O Levels	-0.242 ^{***}	0.222 ^{***}	0.020
Gender			
Male	-0.189 ^{***}	-0.284 ^{***}	-0.121 ^{***}
Marital status			
Married	0.281 ^{***}	-0.096 ^{***}	0.195 ^{***}
Social deprivation			
Not deprived	0.240 ^{***}	0.054	0.199 ^{***}
Mildly deprived	0.096 ^{**}	0.047	0.031
Constant	0.023	-0.079 [*]	-0.499 ^{***}
R ²	0.055	0.044	0.156
N	7,149	6,968	7,132

Note

- 1 Robust standard errors are used in all models (the same below). Owing to the large amount of data presented, standard errors are not shown but are available on request.

Table 5 Social trust by social capital dimensions and socio-cultural attributes (percentage by row)

	Untrusting	Trusting	N
Social capital dimensions			
Neighbourhood attachment			
Top quartile	56.4	43.6 ^{***}	1,868
2 nd	59.5	40.5 ^{***}	1,882
3 rd	62.4	37.6 ^{***}	1,783
<i>Bottom</i>	71.1	28.9	1,646
Social network			
Top quartile	57.0	43.0 ^{***}	1,776
2 nd	60.0	40.0 ^{***}	1,793
3 rd	62.3	37.7 ^{***}	1,779
<i>Bottom</i>	69.2	30.8	1,674
Civic participation			
Top quartile	47.2	52.8 ^{***}	1,934
2 nd	61.1	39.9	1,892
3 rd	72.0	28.0 [*]	3,020
<i>Bottom</i>	64.9	35.1	352
Socio-cultural attributes			
Class			
Service	48.0	52.0 ^{***}	2,230
Petty bourgeois	62.3	37.7 ^{***}	530
Routine non-manual	65.4	34.6 ^{***}	2,234
<i>Working class</i>	73.3	26.7	2,046
Education			
Degree	37.7	62.3 ^{***}	742
Professional	57.0	43.0 ^{***}	1,701
A/O Levels	63.7	36.3 ^{***}	2,138
<i>Vocational/none</i>	71.2	28.8	2,535
Gender			
Male	60.0	40.0 ^{***}	3,340
<i>Female</i>	64.1	35.9	3,907
Marital status			
Married	58.6	41.4 ^{***}	4,277
<i>Non-married</i>	67.4	32.6	2,968
Social deprivation			
Not deprived	56.0	44.0 ^{***}	2,317
Mildly deprived	61.6	38.4 ^{***}	3,052
<i>Severely deprived</i>	71.1	28.9	1,839

Note

- 1 5% of the sample had the lowest standardised scores on the participation dimension (-.891) but 43% were on the next lowest score (-.750). Examination of the data shows that both standardised and unstandardised scores had the same problem due to the fact that whilst some minority of the respondents had a very low level of civic participation, a much large number of them had a rather similar or similarly low, albeit slightly higher, level of participation.

Table 6 Logistic regression models on social trust by social capital dimensions and socio-cultural attributes

	Model A	Model B
Social capital dimensions		
Neighbourhood attachment		
Top quartile	1.698***	2.060***
2 nd	1.559***	1.852***
3 rd	1.395***	1.523***
Bottom (base)		
Social network		
Top quartile	1.502***	1.375***
2 nd	1.322***	1.298**
3 rd	1.264**	1.266**
Bottom (base)		
Civic participation		
Top quartile	2.085***	1.414*
2 nd	1.232	0.944
3 rd	0.780	0.727*
Bottom (base)		
Socio-cultural attributes		
Class		
Service class		1.907***
Petty bourgeoisie		1.410**
Routine non-manual		1.266**
Working class (base)		
Education		
Degree		2.701***
Professional		1.323***
A/O Levels		1.306***
Vocational/none (base)		
Gender		
Male		1.181**
Female (base)		
Marital status		
Married		1.218**
Non-married (base)		
Social deprivation		
Not deprived		1.377***
Mildly deprived		1.310***
Severely deprived (base)		
Pseudo R ²	0.042	0.082
Model comparison	-	265.220 ^a
	p-value	<0.001
N	6,965	6,672

Note:

- 1 Adjusted Wald tests are used to test the additional blocks of model terms.
- 2 ^a refers to terms in Model 2 that are additional to those in Model 1.

Appendix: Component variables for the social capital dimensions

BHPS question number (QN) and question wording (QW)

Dimensions (QN) (QW)

Neighbourhood attachment

HV14

SHOWCARD V3

I'm going to read out some statements about neighbourhoods. Please look at this card and tell me how strongly you agree or disagree with each statement. (Strongly agree; Agree; Neither agree nor disagree; Disagree; Strongly disagree)

hopngbha

I feel like I belong to this neighbourhood.

hopngbhb

The friendships and associations I have with other people in my neighbourhood mean a lot to me.

hopngbhc

If I needed advice about something I could go to someone in my neighbourhood.

hopngbhd

I borrow things and exchange favours with my neighbours.

hopngbhe

I would be willing to work together with others on something to improve my neighbourhood.

hopngbhf

I plan to remain a resident of this neighbourhood for a number of years.

hopngbhg

I like to think of myself as similar to the people who live in this neighbourhood.

hopngbhh

I regularly stop and talk with people in my neighbourhood.

Social network

GS5

If you had any of the following problems, is there anyone you could rely on to help you from outside your own household?
(Yes, No, Not sure)

gxsupa

If you were feeling depressed

gxsupb

If you needed help finding a job for yourself or a member of your family

gxsupc

If you needed to borrow money to pay an urgent bill like electricity, gas, rent or mortgage

GS6

Here are a few questions about people in your life who can provide you with help or support. **(Tick on only)**
(Yes, one person; Yes, more than one person; No-one)

gssupa

Is there anyone you can really count on to listen to you when you need to talk?

gssupb

Is there anyone who you can really count on to help you out in a crisis?

gssupc Is there anyone who you can totally be yourself with?
gssupd Is there anyone who you feel really appreciates you as a person?
gssupe Is there anyone who you can really count on to comfort you when you are very upset?

Civic participation

GV10

SHOWCARD 34

Are you currently a member of any of the kinds of organisations on this card?
(Yes; No)

gorgma Political party
gorgmb Trade unions
gorgmc Environmental group
gorgmd Parents/School Association
gorgme Tenants'/Residents' Group or Neighbourhood Watch
gorgmf Religious group or church organisation
gorgmg Voluntary service group
gorgmh Other community or civic group
gorgmi Social Club/Working men's club
gorgmj Sports Club
gorgmk Women's institute/Townswomen's Guild
gorgml Women's group/Feminist Organisation
gorgmm Other group or organisation
gorgmo Professional organisation
gorgmp Pensioners group/organisation
gorgmq Scouts/Guides organisation

Coding

BHPS coding	Our recoding	Resulting codes
<i>Neighbourhood attachment</i> hop* 1=Strongly agree 2=Agree 3=Neither 4=Disagree 5=Strongly disagree	1=5 2=4 3=3 4=2 5=1	1=Strongly disagree 2=Disagree 3=Neither 4=Agree 5=Strongly agree
<i>Social networks</i> gss* 1=Yes, one person 2=Yes, more than one 3=No one gxs* 1=Yes 2=No 3=Not sure 4=Does not apply	3=0 1=1 2=2 1=2 2=0 3=1 4=.	0=No one 1=Yes, one person 2=Yes, more than one 0=No 1=Not sure 2=Yes
<i>Civic participation</i> gor*		

0=Not member 1=Member		0=Not member 1=Member
--------------------------	--	--------------------------

Note:

1. We use Stata 7 for coding the variables and constructing the scores of the dimensions via GLLAMM. In Stata terminology, the dot (.) means system missing. g* variables are from Wave 7 and h* variables from Wave 8.
2. The variable names, coding, frequency and the associated question wording can be found at <http://www.iser.essex.ac.uk/bhps/>