

POLICY ● RESEARCH



Further Development of the Poor Parenting Environments Index

Feasibility study

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Section One Introduction and background to the feasibility study

This report has been prepared by the Policy Research Bureau (PRB) and the Centre for Urban and Regional Development Studies (CURDS), Newcastle University as the final element of a feasibility study to investigate the possibility of developing a new Index measuring the relative suitability of each neighbourhood in the country as a place to bring up children. Such an index would, in effect, attempt to be a parent-centred measure of areas' 'liveability'. This research represents an extension of our earlier study which created the PPE-Index (Poor Parenting Environments Index; Ghate and Hazel 2002). The study was commissioned by the Home Office, working in collaboration with the NRU [ODPM] and the DfES. The PPE-Index was previously developed for rating the quality of neighbourhoods as places to raise children, as part of a major study of parenting in poor neighbourhoods for the Department of Health's *Supporting Parents* Research Initiative. The aim of the current project was first to ascertain whether there is a need for further development of the Index, and second to determine the technical feasibility of different development options.

The report sets out:

- a discussion of the rationale and development of the original PPE-Index
- a review of the background to commissioning the current project, including a discussion of potential uses for an updated Index
- a discussion of the conceptual issues underlying the project, including definition of key terms, exploration of the relationship between parenting and risk and protective factors at the neighbourhood level, and identifying the key dimensions under which specific indicators of risk and protection can be grouped
- a review of the technical issues involved in the construction of Indices that measure neighbourhood quality, the various options for constructing a Index to measure the quality of neighbourhoods for parenting, and specific consideration of the technical implications and feasibility of each option
- conclusions and recommendations thus far regarding feasibility and future work

The report has been through a number of iterations, combining work by a team at the Policy Research Bureau (Deborah Ghate, Ilan Katz and Sokratis Dinos) with input from consultants to the project appointed because of their expertise in related areas of academic study. Professor Mike Coombes from Newcastle University has taken the role of lead technical consultant to the project, and has been responsible for drafting the 'technicalities' section of this report. Other consultants were George Smith, at the University of Oxford, to

whom we also are grateful for chairing an expert workshop towards the end of the feasibility study; Martin Frost from the National Evaluation of Sure Start at Birkbeck College; and Tom Smith at Oxford Consultants for Social Inclusion . In addition, a group of fifteen experts from around the UK joined us for a workshop held in London on February 2nd 2005 to discuss an earlier version of this report and debate some of the conceptual and technical challenges of the project (see Appendix 2 for the agenda of the workshop as well as a list of participants). This version of the report represents our best attempt to synthesise the learning from the feasibility study and to outline recommendations and continuing questions for future work in the area. The feasibility study was commissioned principally to ascertain if there would be a need for a new Index, and to clarify the conceptual and technical issues that would be encountered in building what might eventually become a new National Statistic. Subject to the findings from this stage of the work, it was hoped that a further stage of development might then take place that would actually do the work of building and field-testing a new Index. Appendix 3 contains a preliminary specification for a main stage development study.

Background to the original PPE-Index

The PPE-Index was developed as a tool for classifying areas according to the relative degree of challenge they present to parenting. That is, the Index allows areas at the lowest level of geography available in the pre-2001 Censuses (i.e., Enumeration Districts or EDs) to be scored in terms of their quality as places to bring up a family. The Index was developed in the first place (1996-1997) as a tool for sampling for a large national survey of parents in poor environments, funded by the Department of Health. Its design was innovative (for the field of family studies) but relatively straightforward, and in many respects resembles a simple deprivation index¹. Essentially, it is a weighted scale, using data from the Census of 1991. The PPE-Index differs from other existing deprivation indices in that the variables or indicators on which the scale rests were selected with the specific issues of parenting difficulties and child maltreatment in mind (rather than, say, poverty). Thus, variables were selected because the literature (up to the mid to late 1990s) showed that they were strongly associated with parenting problems or with rates of child maltreatment (that is, they were 'risk' factors for parenting problems). As in all such indices, the variables to be included were also selected bearing in mind the national availability of robust measures at the community level.

The PPE-Index was used in the national survey of parents to identify the enumeration districts across Great Britain that were likely to present the

¹ Technical information about how the Index was created is given in the book of the study (Parenting in Poor Environments, D Ghate and N Hazel 2002; p21-25 and Appendices 1 & 2 pages 263-277)

greatest challenge to parenting. The top scoring EDs (i.e. those that were most problematic for parents) were then used as sampling points from which a probability sample of households was drawn, and each selected address was screened for the presence of a family with a dependent child. 1,750 parents selected by this method then took part in the survey. Amongst other things, they reported on life circumstances and difficulties at the individual, family and local community level, and the results of the study showed that the more problematic the area on the PPE-Index, the greater the level of a wide range of difficulties. The conclusion was therefore that the Index had served as a valid tool for identifying in broad terms the level of difficulties that families living in any given area might face, and that an area's score on the PPE-Index could be taken as an indication, in some important respects, of the level of 'parenting need' likely to be found in that area.

Rationale for updating the Index

Since the PPE-Index 'Mark I' was first developed, the research evidence base has grown substantially – especially in respect of understanding more about outcomes for children and how these are determined. The literature on parenting and outcomes for children is huge and international, and although much still remains to be established about the precise role of community and neighbourhood factors in shaping outcomes for parents and children (Brooks-Gunn et al 1997), it is now widely accepted that the nature of the local neighbourhood or 'environment' in which families live is an important aspect of overall "family ecology" (Bronfenbrenner 1977; 1979; Garbarino, Vorrasi and Kostelny 2002) and see below, 'Parenting environment'), and that may be either a help or a hindrance to parents in raising happy, healthy and well-socialised children. That "*lower-quality neighbourhoods are generally associated with poorer outcomes for children*" (Curtis, Dooley and Phipps 2004) has now been conclusively demonstrated by major research studies from across the developed world. Various schemas for grouping clusters of factors at the neighbourhood level that may impact on parenting and outcomes for children have been proposed. For example, Ellen and Turner (1997)² identified six mechanisms by which neighbourhood characteristics influence outcomes for children: socialisation by adults (including role models provided by adults), local social networks, peer influences, quality of local services, exposure to crime and violence, and physical distance and isolation from economic opportunities.

We have also begun to develop a more sophisticated understanding of how 'risk' factors at various levels of the ecological system for families may interact to produce poor outcomes, and how 'protective factors' may conversely help contribute to resilience in the face of adversity. Again, the precise identification of risk and protective factors for families in different

² Cited in Curtis et al op cit

circumstances, and the specific interactions that lead to differential outcomes are still the subject of considerable debate within the scientific community, but it is generally agreed that certain risk and protective factors are located at the neighbourhood level, as well as at the family and individual level.

Since the Mark I Index was designed, there has also been substantial change in the parenting, family support and children's services field. Partly as response to the growing research evidence base on risk and protective factors in outcomes for children, parenting itself has become a topic of considerable policy and research interest and activity, with two major Green Papers (*Supporting Families*, Home Office 1998, and *Every Child Matters*, Treasury 2003) setting out the case for regarding parenting support as vital to the nation's well being and heralding a series of substantial government initiatives. Family support services have proliferated across the country in the last few years on the back of large-scale government-funded area based initiatives (ABIs - e.g. Sure Start, YJB parenting programme, Children's Fund, Parenting Fund, Family Support Grant etc). The provision of family support in local communities is generally regarded as one of the mechanisms for tackling risk factors at the family and individual levels. There is growing, if uneven, evidence of the efficacy of support interventions - though again still much that is not known - so that the availability of support services may even be seen as a form of 'protective factor' in itself. Certainly, most local authorities now consider the provision of parenting and family support services an important and justifiable area of spending.

As well as changes in research evidence and in the service provision landscape since the Mark I Index was developed, there have also been important changes in the technical background, in terms of data availability and the way that areas are organised administratively. An obvious change has been that the Census 2001 has superseded the Census 1991. In addition, the general scope and availability of local statistics has widened considerably meaning that, theoretically at least, it could now be possible to draw on a much greater range of indicators of neighbourhood quality (for example, data on local crime) rather than being limited to what is measured on the Census. There have been other developments too. Levels of geography used for many administrative purposes have also changed, for example, and the old Enumeration Districts are no longer used and have been replaced by Output and Super-Output areas (OAs and SOAs)³ Alongside these developments, major projects such as the one to update the Index of Multiple Deprivation have taken place, providing new and more sophisticated ways of capturing

³ An Enumeration District (ED) was, roughly speaking, the size of a Census Enumerator's 'walk' and in the 1991 Census for England and Wales contained on average 450 residents. In the 2001 Census, in England and Wales Output Areas contained on average 300 residents and Super Output Areas on average 1550 residents. SOAs are therefore approximately three and a half times the size of the old ED.

local data that can enrich the development of other complementary indices. The IMD, for example, is now structured as a single composite measure (the 'full' IMD), made up of a number of sub-indices that measure different dimensions of poverty. The range of ways in which the information collated by the IMD can be used has thus considerably increased.

To summarise, the rationale for having a robust, nationally standardised method of scoring local areas in terms of the challenge they present to parenting has, if anything, increased since the PPE-Index was first developed, and the potential uses for such an index do seem to be substantial (as we outline below). However, the Index as it currently stands is of limited utility. Conceptually the Mark I Index is limited by the fact it includes only indicators of risk; technically it is out of date in that it relies on a limited set of Census 1991 indicators; and the context in which family life is enacted has arguably been transformed for some families by the widened availability of family support services. At the same time, as far as we are aware no other indices are currently available or in development that would serve the purpose of identifying the quality of environments for parenting. In the light of these changes, the Policy Research Bureau has been commissioned by the Home Office (working in consultation with NRU [ODPM] and the DfES) to undertake a small-scale feasibility study to see if it would be possible to update and further develop the PPE Index. This would extend its use beyond a research/sampling device to a national statistic that could be used by family support and children's services service planners and providers to inform their thinking about the nature of need in local areas. The hope is that if the feasibility study shows positive results (i.e., shows that there is scope for updating and elaborating the Index in a meaningful and technically robust way), a further stage of developmental work could take place that would actually develop and test a 'Mark II' Index, and place a fully-documented final version in the public domain alongside other national statistics that are commonly used. For this to be worthwhile, it would need to be clear that a new Mark II Index could add value both to the PPE-Index Mark I, and to the suite of other available national statistics such as the Indices of Multiple Deprivation.

Section Two Key terms and definitions for the project

Parent

We use the term ‘parents’ to include all those who provide significant care for children in a home or family context in the UK. Most often this means biological parents, but it can include other important groups of carers, such as step-parents, and foster or adoptive parents or grandparents. It should be noted that we are using the term to refer only to those who care for children in a family setting, since the factors that influence corporate parenting (parenting of children in the public care) are not well documented in the literature, but are likely to be related to structural aspects of the care situation (staff: child ratios, staff training and experience etc) rather than to wider environmental factors.

‘Parent’ is of course a catch-all term that can obscure aspects of diversity amongst parents that may be very relevant to understanding the significance of neighbourhood factors in outcomes for children. The neighbourhood level factors that hinder or help parenting may vary, for example, between parents by sex, by ethnic group, by whether disabled or able-bodied and by family life-stage and age of children (e.g. pre-school vs adolescence). Whilst recognising that there may be a limit to the extent to which any Index can be sophisticated enough to capture all these aspects of diversity, we have tried to consider them as far as possible. The general view of experts who have commented and advised on the feasibility study has been that age, in particular, may be an especially important factor. The factors that define a ‘good’ parenting environment for parents of teenagers are likely to be rather different to those that define a good environment for parents of pre-schoolers, and some studies suggest that neighbourhood effects have a relatively indirect relationship to outcomes for young (pre-school) children but more direct one for adolescents (Brooks-Gunn, Duncan, Leventhal and Aber 1997). The same might be true for parents from different ethnic or cultural backgrounds. One of the questions the feasibility study has considered is whether we should aim to produce a number of Indices that will differ in various ways from one another (for example, based on indicators of particular relevance to a defined sub-population of parents), or alternatively whether we should generally aim to produce a single composite Index based on indicators of common significance for parenting, irrespective of individual and family characteristics.

Parenting

‘Put succinctly, parents create people. It is the entrusted and abiding task of parents to prepare their offspring for the physical, psychosocial and economic

conditions in which they will eventually fare, and it is hoped, flourish... Parents are the “final common pathway” to children’s development and stature, adjustment and success.’ (Bornstein, 2002; Preface, page ix)

For the purposes of this study, stated very simply, we have defined ‘parenting’ as composed of two key roles or dimensions: *nurturance* (physical and emotional); and *socialisation* of children. Definitions of ‘good parenting’ vary both between and within cultures, and the extent to which agents external to the family (e.g. the wider community, the state) are seen as having a role to play in raising children also varies. However, most cultures see parents as having the primary responsibility to ensure that their child’s basic physical and emotional development needs are met (for example, to ensure children are adequately fed and clothed, to protect them from physical or psychological harm, and to provide positive ‘attachment’ figures to enable children to develop as emotionally secure individuals). Most cultures also regard parents as the primary agents of socialisation of children, with a responsibility to ensure children learn to behave in a way that does not seriously transgress the prevailing social norms of that culture. This will include monitoring and shaping children’s behaviour, helping them to learn and internalise the moral precepts of their own society or cultural group, and equipping them to function well in the society in which they live (for example, by ensuring children receive basic education). Given our definition of ‘parenting’, when we try to establish the aspects of the ‘parenting environment’ that may help or hinder parenting (see below), we have considered both factors that bear on the nurturance role of parents, and factors that bear on their role in relation to socialisation of children.

We also need to be clear that we are concerned in this study with parenting *behaviours* and not what is now often labelled as ‘*parenting style*’ (e.g. Darling and Steinberg 1993). Parenting behaviours are part of parenting style, but they are not the same thing. Studies of how parents discipline children have expended considerable effort trying to elucidate these two constructs for the purposes of operationalising measures of both behaviour and style, and may help illustrate the issues at hand. Thus for example smacking is a parenting behaviour, but may happen within or outwith the context of an ‘authoritarian’ parenting style, which is defined as a pattern or an approach to child rearing that is demanding, controlling, rejecting, unresponsive, and parent-centred (Maccoby and Martin 1983). As will be clear from this example, parenting style is a much more complex construct than parenting behaviour, involving both behaviours (which can be quantified and may therefore be more straightforward to measure) and affective, qualitative aspects of interaction that are very hard to measure. In this study, then, we are concerned only with actions that parents take (or do not take) that are constrained by the quality of the environment in which their family is located. We are not concerned with other non-behavioural aspects of parenting, such as the affective quality of the parent-child relationship, even though these may (theoretically) be influenced

by environment. This is at least partly a reflection of the state of the evidence base at present: we know that parenting behaviours are constrained by environment; we do not know whether or to what extent parenting style may be similarly affected.

Lastly, it is important to note that for the purposes of this study, we are concentrating only on parenting in the UK⁴, whilst recognising that factors we consider important in this specific cultural context might not be equally applicable in other countries.

Child

When we talk about children in this report we mean dependent children of all ages from birth to eighteen years. It may seem obvious to point out that children are different from parents, but it is worth noting that there is a conceptual challenge for us in this project to identify and disentangle community-level factors that may be influential on parenting, as opposed to factors that bear on outcomes for children. Parenting is of course one of the major (though not the only) influences on outcomes for children, as countless studies have demonstrated. It is a critical factor in the pathway to outcomes for children. However, what is influential on parenting is not necessarily the same as what is influential on children. Though parents who report high levels of stress also report managing less well with the daily challenge of child rearing (Ghate and Hazel 2002) and are more likely to engage in aversive interactions with children (for example, using co-ercive methods of punishment (e.g. Gershoff 2002), not all children whose parents are highly stressed have negative outcomes. On the contrary, many display remarkable resilience in the face of compromised parenting. There is of course bound to be a high degree of overlap between what influences parents and what influences child outcomes, because of the key mediating and moderating role that parenting plays in outcomes for children. However, parents are people in their own right as well as carers of children, (and as some studies have shown, sensitivity to this fact may be vital for delivering effective family support services, see for example Ghate, Shaw and Hazel 2000). By the same token, as the development of a school of thought and research often labelled the ‘new sociology of childhood’ (e.g. James, Jenks and Prout, 1998) has helped to make clear, children are not just people in the care of their parents. Childhood needs to be understood as happening in the ‘here and now’, and children need to be viewed not just as ‘adults in training’. Thus, though some of the factors we isolate as critical neighbourhood influences on parents would also no doubt figure in an ‘Index of quality of environment for

⁴ In fact we are likely to further restrict the area covered to England for reasons of data coverage and standardisation; see below p24.

children', some we would expect to be discrete⁵. What makes for a child-centred or 'child-friendly' neighbourhood in the eyes of young people themselves is likely to differ in some important respects from what makes a good neighbourhood from parents' perspective, especially as children grow towards adolescence and independence.

Parenting environment

The 'parenting environment' is only one of many factors that may influence parenting. Our thinking for this study is shaped by the ecological perspective on human development (Bronfenbrenner, 1977; 1979; Belsky, 1980) that has become the dominant paradigm for parenting and family studies over the past two decades or so. As its name would suggest, the ecological model takes a 'systems' perspective, and provides a framework for understanding how factors that impinge on parents and children nest together within a hierarchy of four levels; socio-cultural ('macro system'), community ('exo system'), family ('micro system') and individual ('ontogenic level'). These levels also describe a pathway of influence moving from the distal (social and community factors) to the more proximal (family and individual factors), reminding us that parenting does not take place in a vacuum, but within a complex web of interacting, interdependent factors, and that we cannot understand factors associated with one level of the model without also exploring those at other levels. Building upon this model, other writers have also reminded us that parents and children influence each other in a 'bi-directional' way (Belsky and Vondra, 1989), and that we cannot consider parenting without also considering the characteristics of the children being parented.

For the purposes of this study, we define a 'parenting environment' as **the external community context in which bringing up a child is enacted**⁶. Thus, our focus is on identifying those environmental factors that constrain or enable parenting. Another way of putting this might be to think in terms of identifying the parenting needs and parenting 'opportunities' (as in the concept of 'opportunity structure', e.g. educational opportunities for children) which can be expected to vary by area (Garbarino, Vorrasi and Kostelny 2002). Also, because we are trying to build a tool for measuring the quality of parenting environments across the country, factors to be considered for inclusion have to be measurable (or else amenable to statistical modelling) at

⁵ Indeed, there would be case for developing a separate Index focused in child outcomes, and developed in such a way as to maximise complementarity and 'additionality' between the two measures.

⁶ Note that some authors use the term 'parenting environment' to denote aspects of the home and family, but for this study we are using the term to focus on features of the community and neighbourhood within which families live (i.e. external to the home).

the neighbourhood or area level. In the terms of the ecological model of parenting, this means we are including only those factors that exist at the macro and exo-system levels: that is, social and community level factors. So, we do not include micro-system or ontogenetic factors except insofar as they influence the 'parenting environment' of those around them.

It is however important to remember that community or area level influences are only one part of the complex of factors that bear on families. For example, for children at the pre-school age, the most important direct influences are family and individual level factors, and not community ones (Chase-Lansdale et al 2002). Community and neighbourhood however becomes more influential as children grow older, as family and parent factors attenuate and peers and social and cultural factors begin to impact directly on young people rather than being 'filtered' (or mediated) through parents and other family members (Beale Spencer, Cole, Jones and Phillips Swanson 2002). Living in a poor neighbourhood does not inevitably mean poor outcomes for children, and studies show that individual and family characteristics often outweigh the effect of neighbourhood quality, measured broadly (e.g. in the UK National Child Development Study, McCulloch and Joshi 2001). However, it is also becoming increasingly clear from large scale research studies that are able to use more sensitive and sophisticated, triangulated measures of neighbourhood quality that after controlling for individual and family characteristics, neighbourhood nevertheless does exert an independent effect on outcomes for children (Curtis, Dooley and Phipps 2004).

Though there is comparatively less high quality research on *parenting* and neighbourhood effects than there is on outcomes for *children* and neighbourhood effects, it seems reasonable to conclude that the same mechanisms of influence are at work in parenting as they are in child development. Certainly where individual and family characteristics also predispose to parenting difficulties, we can expect poor neighbourhood to have an exacerbating effect, and this appears to be supported to some extent by previous studies of parenting and neighbourhood (e.g. Ghate and Hazel 2002). However, it is also important to note that the key word here is 'influence' on parenting rather than 'causality'. Though we now have substantial evidence that parenting is affected by environment, we do not have evidence that poor environments 'cause' parenting difficulties. For that we would need a different evidence base, composed of robust longitudinal studies following controlled samples over time and tracking the chronology of different behaviours and outcomes. We do not have such an evidence base, and so at this point we cannot talk of neighbourhood effects as determinant on parenting, but rather as influential, and in ways not fully understood. This 'fuzziness' is a real attribute of the social world (i.e. not just an artefact of poor theorising), and as will be seen has contributed to our proposed technical approach to Index construction discussed in Section Five.

Area and neighbourhood within the context of ‘parenting environments’

What do we understand by the ‘neighbourhood’ or ‘local area’ from the point of view of a parent or a family, and how could we define it? Could concepts used in other areas of research and policy (e.g. ‘travel to work’ areas) be adapted for our purposes? There are both technical and conceptual complexities here.

Overall, pinning down a standard definition of area/neighbourhood with specific meaning for parenting has not generally proved possible, and not only for family studies. For example, Sure Start areas were originally conceived as ‘walk to school’ areas centred on a specific local primary school. However, according to those involved in the ongoing national evaluation of Sure Start (NESS) the extent to which this maps onto the actual geographical ‘range’ of a families living in those Sure Start areas (or onto some other meaningful definition of a ‘parenting community’) has not been possible to determine and there is insufficient research knowledge on this subject at present. The research challenge here is illustrated by the fact that within any one family, different family members will have different ‘ranges’, and by the fact that families living in close proximity to one another will also have different ranges dependent on variables such as family needs, life style, and family resources. Low-income families, for example, may have smaller ‘ranges’ in terms of the community resources they will typically access whereas wealthier families may have wider ranges, as they are able to buy or import resources from outside their local neighbourhoods. Thus a low income family’s access to education will generally be limited to what is available locally that they can afford, whereas a middle class family may choose to access resources from distant neighbourhood (e.g. by sending children to private schools outside the local area, buying in private tuition and coaching, etc). A low-income family will have limited choices in terms of childcare outside the immediate household, whereas a higher income family may be able to employ a child minder, private nanny, and so forth.

Given that the meaning and importance of ‘local area’ as a limiting factor on the parenting opportunity structure will vary by family resources, the significance of a ‘poor parenting area’ as defined by any Index we develop will also vary. That is, for any given household, living in a poor parenting area is likely to be more significant in terms of impact on parents and children when that household also has limited personal or family resources. Families with multiple family and individual level stress factors (especially health problems and low income) will be more affected by living in a poor parenting environment than families who have greater resources at their disposal. For example, for a family of young children without a car, living in a neighbourhood without adequate safe play spaces will be a serious limiting factor on the quality of family life. However a family with a car living in the

same neighbourhood may be less affected because they can travel to play space outside the immediate local neighbourhood.

Thus, we have concluded that for the purposes of this project, given the various unknowns, there is probably no strong argument against using the currently accepted, standardised administrative areas as proxies for 'parenting neighbourhoods'. Thus, the choice is between output areas, super-output areas (SOAs), wards and local authority areas. Previous discussions amongst consultants to the feasibility study have further clarified that in practice, SOA is likely to be the most appropriate level of geography for the Index. This is also the level of geography used for the IMD⁷, and in addition the Office of National Statistics have advised us that to maximise comparability with other neighbourhood statistics any new Index should ideally use SOA-level data rather than (for example) ward-level data. In addition, SOA provides the opportunity to a more detailed set of measures relating to a given local neighbourhood, which could then in theory be aggregated to up to other levels. Although variations can still occur within a particular SOA area, they are considered to offer a level of homogeneity that does map onto social boundaries, and that can minimize the risk of hidden pockets of environmental deprivation being obscured at the analytic level.

Risk and protective factors

One of the key points of debate for us is the extent to which a new Index should measure both risk and protective factors in the parenting environment. Though defining risk factors for parenting has proved relatively easy for the research community, the same cannot be said of the attempt to define protective factors, which remain stubbornly elusive in much of the writing to date.

By 'risk' factor we mean a factor that has been shown by research to be associated with difficulties in parenting – for example, with elevated rates of child maltreatment, elevated rates of problems in coping with parenting, elevated rates of parenting stress, and associated higher probability of poor outcomes for children. Risk factors make parenting more difficult. By the

⁷ SOAs have less variable populations than wards, and their boundaries should not change for a while as they have been defined specifically to side-step the instability of ward boundaries. They are roughly equivalent in area to four of the old Enumeration Districts. SOAs are likely to be subject to less data volatility over time, though there are still likely to be issues around small numbers and confidentiality. Some data that may be relevant to us will only be available at larger area level (or at a completely different area level- e.g. Primary Care Trust or Health/Education Authority level) but hopefully can be estimated at SOA level. See below, Technicalities of Index development.

same token, in this study, we are defining ‘protective’ factors as things that actively and independently contribute to making parenting easier. Another way to put this is to say that protective factors are those factors that contribute to resilience – conceptualised as the ability of an individual to maintain healthy functioning in the face of significant adversity (i.e. *in spite of* the presence of risk factors; Luthar, Cicchetti and Becker 2000). It is therefore important to note that protective factors should not simply be viewed as the ‘opposite’ or ‘absence of’ risk factors. Thus, if ‘low income’ is a risk factor for parenting (as we know it is), this should not imply that ‘above average income’ must automatically be a protective factor. To give another example, ‘poor mental health’ is known to be another important risk factor in parenting. However, it is not the case that ‘not being in poor mental health’ is a protective factor. For the purposes of this study, protective factors must therefore be factors whose *absence* would not necessarily diminish the quality of the parenting environment, but rather, should be factors whose *presence* could be expected to measurably improve the environment for some or all parents in the neighbourhood, or which at least offset negative aspects of the environment. They are factors that moderate the impact of risk factors by buffering parents and children from the most deleterious effects of risk (Rutter 1987).

There are a number of different possibilities for including a ‘protective’ element to the Mark II Index. As we have noted, theoretically it is very attractive to do so because it is known that outcomes are dependent not only on risk factors, but also protective factors in the parenting environment. So, taking protective factors into account will provide a much more fine-grained picture of the environment for parents. It could thus aid planners and researchers understand more accurately the ‘real’ nature of the parenting environment. However, how to do this in practice remains an issue that is still to be resolved. One of the main problems is related to the level of measurement of risk and protective factors. In the way that we have conceptualised them, (discussed in detail later in this report), many protective factors are located together in a domain concerned with public services and institutions, and will need to be measured in a different way from most risk factors, which are located more widely across the range of other domains. Many of the risk factors we have identified can be measured (or modelled) at the SOA level, whereas protective factors data will be collected at a level that does not map straightforwardly onto SOAs (for example, at the local school or local education authority level). For this reason, aggregating factors that involve different levels of measurement can prove problematic.

Another problem in combining risk and protective factors within a single Index is that factors may ‘cancel out’ one another in a misleading way. For example, poorer areas are often allocated extra resources for service provision compared to wealthier neighbourhoods, reflecting their generally higher levels of need. If risk and protective factors are combined in one index to

produce a single score, the qualitative difference between poor and other areas may be obscured. We understand that it was partly for this reason that the researchers who designed the IMD decided not to include service provision as a dimension.

There are a number of potential (technical) solutions to these difficulties. One is to develop two completely separate Indices, one measuring risk and one measuring protective factors. A variation on this theme is to develop a 'module-index', containing one module concerned with risk factors, and another concerned with protective factors. Separate scores can be calculated based on the inclusion of one module or the other, or both in combination as appropriate to the needs of the user. Alternatively, of course, protective factors could be excluded altogether. We discuss our recommendations in this regard below; Technicalities in Index development.

Section Three Potential uses of an updated Index

Given what has been said above in regard to the effect of neighbourhood factors on outcomes for families, and the fact that the significance of local area on family life is different for poor as opposed to wealthier families, we have concluded that the main value of a new Index for policy and planning will be to identify **aspects of parenting need and parenting opportunity at the local area level which are of particular significance for lower-income families.**

This is not to say that quality of environment has no significance for higher socio-economic status (SES) households with children, but simply that the significance is different and is probably less strongly predictive of parenting difficulties.

Using this as our starting point, one of the key aims of the feasibility study has been to clarify the likely uses for a new Index. The feasibility study itself was not commissioned with any one specific use in mind, allowing us at this stage to explore range of possibilities. Different uses imply different technical approaches and there are likely to be 'trade offs' between different options. The uses to which the index could be put will have important implications for its technical construction.

There is, for example, a dilemma between, on the one hand:

- (a) identifying the best possible index for a single well-defined purpose and, on the other,
- (b) seeking an index which is based on more generalised concerns in order to meet a range of related but differing requirements.

Strategy (b) underlies the design of the Index of Multiple Deprivation, but this can lead to a criticism that it attempts to be a 'one size fits all' solution. The key counter-argument is that this approach tries to reflect a broader syndrome of concern, representing the diverse facets of the phenomenon of multiple deprivation, whose complex processes are inter-linked in ways not yet fully understood. This line of argument is not really sustainable for the IMD's sub-indices (e.g. Child Poverty), where the indexing method is primarily playing the modest statistical role of seeking to 'draw strength' from several individual measures which cannot do justice to the issue concerned if they were taken on their own. This preamble sets the parameters for discussing the question of purposes/uses for a new Index. Strategy (a) would be the appropriate one if there were a pre-existing specific requirement for the Index (for example, to guide implementation of a specific policy). In this case, the key tasks would be to develop an Index that is 'customised' to that application, and to provide guidance on the range of other uses for which this Index might also be valid. However, in the absence of such a pre-existing, single 'defining' use, strategy (b) seems more appropriate. The question is

then whether the Index should be more like the general-purpose multivariate full IMD, or, more modestly, should be like one of the more narrowly-defined IMD sub-indices that each relate to just one 'domain' of deprivation and are based on a small number of indicators.

We suggest that the updated PPE-Index would be most useful as a more broadly-based index, rather like the 'full' IMD. If we were to follow this route, however, then the new Index could be suitable for purposes similar to those for which the full IMD is currently used. One of the main uses of the IMD is of course to provide a standardised method of comparing levels of local deprivation across the country. Similarly, we see the primary purpose of a new Index of as providing a method for local areas to measure and compare their own situation in respect of quality of the environment for parenting. By extension, the new Index would provide a way for levels of 'need' in respect of parenting and family support to be assessed at the local level. This would provide a measure that was in effect complementary to the IMD, measuring quality of the child-rearing environment in a way that could be viewed alongside IMD scores.

This main potential use for a new Index can be illustrated by reference to some specific uses to which the IMD is regularly put: similar applications could be found for a new parenting environment Index where the focus is explicitly on aspects of, and influences upon, the well-being of children. We present them below in order of what we feel are the most appropriate uses, based on the work so far and discussion with experts in relevant fields:

1. Prioritisation of funding	Funding for mainstream services can be targeted in order to effect an improvement in the trends being monitored, or to recognise the higher levels of policy and service need in areas with the higher IMD values (e.g. ODPM uses the IMD extensively in the funding regime for local government). Similarly, when bidding for funding from central government in competition with one another, local areas regularly cite IMD scores as evidence of need to support their application. Scores on a new parenting environment Index could be used in the same way to evidence the need for family support funding in the future.
2. Initiative targeting	New policy initiatives may be focused on the most challenged areas (e.g. the NRU used the IMD's predecessor to identify 88 priority areas for Neighbourhood Renewal Funds). Similarly the pilot areas for a new programme may be selected by reference to levels of need (e.g. for On Track, an early intervention initiative to reduce youth antisocial behaviour, the pilot sites all had to be situated in areas of high deprivation). New parenting and family support initiatives might be designed to reach particularly needy areas in future, using the scores on the new Index as an indicator.

3. Evaluation and research	Some policies without explicit spatial targeting can be assessed by measuring the extent to which they concentrated their impact in the areas of greatest need (e.g. research by CURDS which compared areas' IMD values to the levels of the funding they received for voluntary sector projects tackling problems of deprivation). Similar applications could be envisaged in relation to a new parenting environment Index (for example, the impact of initiatives such as Sure Start could be assessed with reference to the level of parenting need in different Sure Start areas).
4. Survey sample stratification	This was the primary use of the original PPE-Index, which was used in constructing a sample for a national survey of parents. In addition to providing a simple tool for stratifying samples, once an area classification is in place it can also be used, for example, to monitor attitudes and behaviours in different types of areas and perhaps to over-sample relevant official surveys in the neediest areas to give better evidence on conditions there.
5. Contextualisation of monitoring activities	In keeping with its very broad ambit, the IMD provides the ideal contextualisation for efforts to monitor high-level government policy targets such as those for neighbourhood renewal (e.g. the concentration of crime in areas with the highest IMD values is monitored to assess whether people are becoming less disadvantaged by where they live). In the same way, outcomes or targets for children and families that are monitored by specific indicators of policy effectiveness could have these measures contextualised by using the score of the area in which they live according to the new Index so as to better understand the impact of neighbourhood on outcomes for children.

Section Four Dimensions of the parenting environment to be measured – our thinking so far

As we noted earlier, any new Index of ‘quality of parenting environment’ should ideally take account both of risk factors and protective factors in parenting. Technically, the best way to do this appears to be to build a ‘module-index’, with one module built from risk factors and another built from protective factors, and this is discussed in more detail in Section Five Technicalities of Index Design. At this point we cannot know how this strategy will work in practice – that remains to be tested in a further stage of development and a key issue will be our ability to collect sufficient robust data on protective factors, which are likely to be relatively more difficult to obtain. This said, we organise the discussion that follows on the key ‘dimensions’ of the parenting environment into two key modules of variables: risk factors, and protective factors.

In defining the key dimensions of any new Index, and in identifying specific indicators within dimensions, we are cognisant of the fact that the evidence base on which these decisions rest is variable to say the least. On the basis of our knowledge of the existing evidence base we are reasonably confident that the *dimensions* we have selected are the right ones. There is substantial research that indicates that these dimensions constitute the major domains of influence on parenting at the neighbourhood or area level. In respect of specific *indicators*, however, we are sometimes on more shaky ground. Whilst there is relatively strong evidence for the inclusion of some indicators there is less evidence for others, even where it seems very plausible in theory that a particular indicator could substantially influence the quality of a parenting environment. This is an inevitable function of the state of the research evidence base in parenting studies, which is still limited (though growing all the time). It is especially a problem where protective factors are concerned, mainly because much less research attention has been paid so far to specifying key protective factors for parenting compared to the attention that has been paid to defining risk.

This then leads on to questions about the extent to which the indicators we select are direct or indirect measures of important neighbourhood influences on parenting. It is a general rule of research that direct measures should be used rather than indirect or proxy measures wherever possible; however in some cases the direct measure may be hard to obtain and a proxy may have to suffice. The risk is, of course, that proxy measures may be only approximate measures of the influences on parenting that we really want to capture, and that by including proxy measures we introduce into our model a degree of inaccuracy that might result in misrepresenting the nature of parenting challenge in some or all areas. Also, much of the evidence on what influences

parenting and outcomes for children at the neighbourhood level comes from research in other countries, notably the United States and Canada, and though there is a growing British literature on neighbourhood effects (e.g. Burrows & Bradshaw, 2001), the extent to which this evidence translates to the specific cultural and social conditions of parenting in Britain remains a question. A further dilemma then arises: do we follow a more conservative strategy, including only those indicators for which there is the strongest evidence of influence on parenting, or do we allow ourselves to include fuller and more diverse set of indicators on the basis that the balance of theory seems to uphold their inclusion, even though the empirical evidence may not yet be of the highest order? The first strategy is undoubtedly the safer one, though it carries with it the risk that the new Index may then resemble the IMD so closely that little additional value is created. The second strategy is more risky but also more appealing, in that it allows us the latitude to continue development work on a wider range of indicators that research and practice leads us to believe to be important for an understanding of parenting and how it is shaped by environment. However, this could result in an Index that was more open to challenge, and would certainly result in a design that would change over time as the evidence base firms up and allows us to reject or confirm the inclusion of certain variables. Nevertheless, at this stage we would argue for the latter strategy, since it seems premature to ‘close down’ avenues of investigation before a main development and testing stage is even underway. Thus, the discussion below includes a wide range of variables. The case for inclusion is stronger for some variables than for others, though we have tried to flag this up clearly where it is an issue.

Risk factors module

The research literature suggests that four key dimensions of risk should be assessed in a new Index – *social*, *epidemiological*, *environmental*, and *education*. Some of these dimensions can readily be divided into further sub-dimensions. For example, the social dimension includes a number of important sub-domains such as poverty, crime and social cohesion. We have also compiled a ‘long list’ of indicators within the sub-dimensions, and the commentaries below should be read in conjunction with the long list (Appendix 1), attached. (Note that footnotes record discussions already had in the team or with consultants, and are included as supplementary information).

1. Social dimension

This was the main dimension from which indicators were selected for the PPE Index Mk I. Of all the dimensions listed here, the research evidence base probably provides strongest support for the social dimension, and the large

majority of 'known risk factors' for parenting difficulties at the macro or exo-system level are found here. There are potentially four sub-dimensions here: poverty (i.e. material deprivation); social problems (also referred to as social disorganisation or fragmentation in some literature); population structure; and 'social capital' (also referred to as social cohesion).

Poverty

There is strong - not to say overwhelming - evidence for the role of poverty in creating difficulties for parenting (Garbarino and Sherman 1980; Brooks-Gunn, Duncan, Leventhal and Aber 1997); Weatherburn and Lind 1998; Department of Health 2000; Ghate and Hazel 2002; Magnuson and Duncan 2002). Most of the evidence however relates to individual or family level factors (low household income, inadequate housing etc), and rather less is known about the way in which living in a materially poor community *per se* is a risk factor for parenting. However, the study of parenting in deprived environments that was the starting point for the development of the Index Mk I in fact showed that even *within* poor (i.e. deprived) areas there was a 'hierarchy of risk' related to the degree of neighbourhood poverty. Though not all risk factors were positively associated with increasing neighbourhood poverty, some were. For example, an important individual level factor relating to stress (Malaise score; a measure of emotional and mental health) was significantly related to degree of area-level poverty; the poorer the area, the more likely parents were to have mental and emotional problems. And on various counts, the greater the degree of objectively measured area-level poverty, the more likely parents were to rate their area as a 'bad place to bring up a family'. Although for methodological reasons (explained in detail in the book on the study) we could only partially address the question of whether it is worse to be a poor parent in a poor area than a poor parent in a more affluent area, overall we concluded that the balance of evidence was that "*parenting in poor environments is a more 'risky' business than parenting elsewhere, and it gets riskier the poorer the area*". Recently published research on a large scale cohort study of Canadian children also seems to support this conclusion, finding that although socio-economic status at the family level was more strongly related to child well-being than neighbourhood quality, nevertheless outcomes across a range of measures were significantly worse in 'poor' neighbourhoods (Curtis, Dooley and Phipps 2004). Presence of low income families was also identified as the neighbourhood characteristic most likely to be associated with poor child outcomes in the extensive studies carried out in the US and reviewed in Brooks-Gunn, Duncan, Leventhal and Aber (1997).

From the perspective of this project, what is most important about area-level poverty is that it predicts a large number of other social risk factors such as high crime, as well as factors in other dimensions (bad service provision, bad schools, high rates of health problems, high rates of child maltreatment, poor local infrastructure, low social capital/social support etc). Thus poverty at the community level (e.g. as measured by the IMD) is likely to form a very strong

proxy variable for other risk factors [and the technical question will be, what will adding covariates of poverty into the analysis contribute in terms of increasing the precision with which the Index can pinpoint differences between areas that are salient for predicting parenting challenge?]. If this project does move on to explore the implementation of an Index in a further stage of development, including compiling the relevant statistics, it would then be important to assess how distinct are the contributions to the Index of the many covariates of poverty within the analysis. Note that consultants to this project have also advised that **child poverty** measures be chosen wherever these are available, rather than the more general indicators.

Social problems

Included in this sub-dimension are the key risk factors crime and antisocial behaviour (ASB), and indicators of other social or community problems likely to impact on parenting (e.g. noise complaints). These are sometimes described as signs of 'social disorganisation' in the literature. Crime and ASB have been shown to have a major impact on parenting. Living in a community with high crime or ASB rates (including substance misuse) is a major risk factor in a number of ways, both psychologically and physically. In addition to heightened risk of actual victimisation, high crime and ASB rates place practical limitations on family activities through fear of crime – e.g. it may be deemed unsafe to allow children to play out of doors unattended (Department of Health 2000; Ghate and Hazel 2002; Curtis, Dooley and Phipps 2004). Evidence of drug or alcohol misuse in public spaces can be a health risk to young children (e.g. discarded syringes in playgrounds; Ghate and Hazel 2002) as well as physically threatening. Social capital theorists have also suggested that the reduced personal freedom of movement in high crime areas may diminish the potential for community social activities, which in turn diminishes informal networks and (for parents) may reduce the amount of vital informal social support that they have (Curtis, Dooley and Phipps 2004; Garbarino, Vorrasi, and Kostelny 2002). These factors would be likely to make the 'nurturance' aspect of parenting more difficult. In addition, especially as children grow into adolescence, the socialising influence of parents may be undermined by the increased likelihood of young people to associate with antisocial peers, which we now know is one of the major predictors of ASB and offending in youth (Eliot and Menard 1996; Rutter, Giller and Hagell 1998; Loeber, Farrington and Petechuk 2003). Curtis, Dooley and Phipps (2004) report that in the Canadian national longitudinal survey of children and youth, safer neighbourhoods⁸ were associated with fewer emotional and conduct disorders in children and with less hyperactivity.

Population structure

The demographic characteristics of the local population are also likely to impact on parenting, according to the literature, not generally in their own

⁸ Defined as those neighbourhoods where parents felt safe walking after dark, and felt safe letting children play outside.

right but because of their co-linearity with poverty, or because they are associated with social capital and its close relation, 'human capital'. Some of the American literature in this field conceptualises aspects of population structure in terms of human capital defined as: *“skills, knowledge and capabilities acquired by individuals ... (which) can in turn build an economic base in neighbourhoods... (and may) provide a role model for children and youth. At the neighbourhood level, human capital is evaluated in terms of employment and educationand...includes the percentage of high school graduates in a [census]tract, the percentage of unemployed individuals, and the percentage of professionals...”* (Brooks-Gunn, Duncan, Leventhal and Aber (1997) p290). By the same token, the percentage of lone parents in an area might be considered a risk factor for parenting, due to the high level of needs of these families, the strain on services, and (possibly) their reduced ability to offer informal support to one another (Weatherburn and Lind 2001). Living in an area with a largely mobile or transient population (or high levels of long term residents who wish to move) is also regularly cited in the literature as problematic for parenting, again not least through its relationship to lower levels of social capital and social cohesion (Vondra 1990; Curtis, Ghate and Hazel 2002; Garbarino, Vorrasi and Kostelny 2002). A further aspect of population structure that may or may not be important for us to consider is the ethnic diversity or homogeneity of the population in the local area. This may impact on parents in a number of ways, and differentially according to their own ethnic group⁹. Though after debate with consultants and other experts we have rejected the inclusion of a general measure of ethnic diversity or homogeneity as a core part of a new Index, it may be that one related indicator – the proportion of the local population speaking English as a second language – could be worth including, on the grounds that it may theoretically function as a proxy measure of something that we cannot measure in other ways. For example, where a substantial proportion of the population do not speak English this may be associated with lower social cohesion, and also with strain on services. (This would need to be investigated further in the next stage of the project, should it go ahead).

⁹ Increasingly sophisticated US research studies are beginning to show that a high degree of ethnic heterogeneity may erode neighbourhood social networks, and that even controlling for SES, ethnic diversity may not be beneficial for some outcomes for children (perhaps particularly where African American children are concerned; see Brooks-Gunn, Duncan, Leventhal and Aber (1997) p290-291 for preliminary conclusions in this regard). The suggestion is that some minority children may do better on some outcomes when they live in communities with greater concentration of other (same) minority families – that is, that ethnic homogeneity of an area may function as a protective factor for some minority ethnic groups. However, the UK evidence base on this point is relatively weak, and most of the evidence for this hypothesis comes from studies in the United States where social conditions may be rather different to those typically found in the UK. In general, we have concluded that this factor would be included in the Index only if we were assessing the quality of the parenting environment for families from different ethnic communities. Though this might be desirable in theory, in practice there has been general doubt that this would be useful in policy terms, since family policy is not made differentially on the basis of ethnic group.

Certainly all of these population factors regularly appear in the literature as neighbourhood correlates of difficulties in coping with parenting, elevated rates of child maltreatment, and poor outcomes for children. However, since most of these factors are also collinear with poverty, or could be construed as proxy measures of social capital, it would remain to be tested whether adding in these factors over and above more direct measures of neighbourhood poverty such as proportion of low income families, or more direct measures of social capital if/where these are available would enhance any Index's ability to identify areas of high parenting challenge. Further testing during a main stage of development might show that population structure is not in fact a sub-dimension in its own right, but can be subsumed under other sub-dimensions (poverty, social cohesion).

2. Epidemiological dimension

This dimension primarily relates to the nurturance function of parenting, and describes the level of 'background' risk to child health. Though the sub-dimensions discussed below primarily relate to outcomes for children (and we have cautioned against confusing these with outcomes for parenting), their inclusion rests on the assumption that in areas of particularly high risk to child health and well being, parenting is also adversely affected. In an area where more children become sick or risk death than in other parts of the country, parents will require additional services, will have to take avoiding action (e.g. not allowing children to play outside), and will experience more stress. There is substantial evidence that these types of risks are not distributed evenly across the population, though the extent to which they occur independently of poverty (again) remains to be tested in a further stage of development work. There are two groups of variables that may be worth including; child morbidity, and child mortality.

Child morbidity factors

Inclusion of these as factors in the Index Mark II would rest on the assumption that living in an area of higher than average child morbidity was in itself a risk factor for parenting and child care, or that they would provide useful indicators of 'parenting need' for policy and practice. Rates of transmissible diseases might be important to include, though base rates may be so low that they have only weakly predictive value. Accident rates may well be important, though these may be the consequence of directly measurable factors including the degree of external environmental hazard (see below, air pollution, traffic hazards).

Child mortality [risk factor]: e.g. child road traffic deaths. Also to be considered though base rates may be too low and the indicator too extreme to be useful.

3. Environment (built and natural) dimension

The inclusion of this dimension bears on the nurturance function of parenting and is strongly supported by the evidence. Sub-dimensions we might include in the Risk Module could relate to population density variables (e.g. traffic density, levels of air pollution), quality of the housing stock, and quality of public transport. Expensiveness/availability of accommodation might also be included here, and perhaps a measure of access to public housing (waiting lists for transfers, e.g.) as the difficulty of moving to larger accommodation as families grow is a major problem for many households in the more densely crowded areas of the country.

Traffic density, and air pollution

Within urban areas, these factor can have direct relevance to child safety and health (Ghate and Hazel 2002; Valent et al. 2004; Kunzli et al 2004). In areas of high traffic density, parents will be less likely to allow children to play outside or walk unattended to local facilities.

Quality of housing stock (and other aspects of degraded physical environment)

This is also likely to be important; areas where housing is poor and there are large numbers of crumbling or empty buildings self-evidently create a threatening and hazardous physical environment for both children and parents, as well as reflecting signs of social disorganisation (e.g. graffiti; Garbarino, Vorassi and Kostelny 2002). Research studies have shown that these kinds of environmental factors are consistently associated with variables such as rates of reported child maltreatment (Zuravin 1989), difficulties in coping with parenting (Ghate and Hazel 2002). A large number of overcrowded dwellings is also likely to predict strain on local services and facilities. A recent review of research suggests that in Britain, one in twelve children living in poor housing (of which there are estimated to be at least one million) are at increased risks for serious respiratory diseases, including transmissible ones, and other infectious diseases (BMJ News, 2004). The general health of all children living in neighbourhoods characterised by poor housing is therefore endangered, with attendant implications for parents.

Cost/availability of housing

Given the growing divide between areas of the UK in terms of house prices, and/or rents, and the diminished stock of public housing since the 'Right to Buy' policy was introduced, it would seem important to include a relevant indicator. Surveys of parents in poor environments suggest this may be a

major limiting factor for some families in achieving appropriate accommodation¹⁰.

Quality of public transport

This would also be included under this dimension: in urban areas poor public transport when combined with low income and low levels of access to cars makes life especially difficult for parents with young children; and in rural areas for families of children of all ages lack of reliable and regular public transport can be especially problematic, limiting access to basic services and facilities (shops, GPs, etc) and restricting the extent to which children and parents can engage in activities independently of one another (Williams 2000).¹¹

4. Education and schools dimension

From the early years upwards, access to high quality education plays a major role in outcomes for children, and this dimension is likely to be particularly important to parents. Access to good quality child care is a major predictor of later attainment (Sylva, Melhuish, Sammons, Siraj-Blatchford, Taggart and Elliot, 2003), and also enables parents to work if they want to. In the UK, amongst more affluent parents, anecdotally it is widely thought that access to 'good' schools can be a major determinant of where the family lives, especially as children reach secondary school years. It may be that this in turn can build the social capital of an area (Furstenburg 1993), attracting more resources and better services, though as yet there is no evidence that this is the case. Sub-dimensions of risk might include school 'league table' positions, attainment indicators, and truancy and exclusion rates.¹²

League tables

There is a considerable evidence to suggest that poor schools militate against the socialisation function of parenting. League table positions should indicate the availability of 'poor' schools generally.

¹⁰ Note that consultants have suggested we might be able to measure affordability of housing, though in general it may be difficult to obtain good measures of these (especially regarding social housing figures).

¹¹ Note that consultants suggested some measures in this sub-dimension may become available soon as local authorities will soon be required to provide figures on such aspects of public transport as the proportion of the population that lives more than a certain number of metres from a regularly-served bus stop; however at present we are unclear how feasible it is to include this sub-dimension.

¹² Note that consultants agree that this was a relevant dimension and also suggested a further sub-dimension of access to higher education might be included. The PLASC data held by DfES would be a good source of many relevant indicators, as would the national pupil level database.

Attainment indicators

Likely to be a risk factor when low, these will indicate the absence of a critical mass of high-achieving children in the local area, which would otherwise 'pull up' the mean average scores of the lowest achieving children in the class.¹³

Attendance (including truancy and exclusion) rates

Truancy and exclusion rates strongly predict youth involvement in ASB as well as lowered attainment; Rutter, Giller and Hagell (1998) and are thus problematic for parents not only because they interfere with learning but also because they pre-dispose to involvement in various undesirable activities. For the neighbourhood as a whole, under-occupied and unsupervised children may create a serious nuisance. Truancy children in a local neighbourhood may also provide an 'anti-school' role model for other children (Malcolm, Wilson, Davidson and Kirk, 2003), and may undermine the efforts of parents of non-truancy children to instil a positive, pro-social attitudes to school and future prospects.¹⁴

Protective factors module

The literature is less well developed when it comes to identifying key dimensions of protection, whether we consider protective factors for parenting or indeed those for child outcomes. However, within this module we list below four dimensions in which protective factors may be located: *social, environmental, education and schools, and services for families.*

1. Social dimension**Social capital**

A group of factors in the social dimension related to protective elements in the parenting environment concern a somewhat intangible but likely very important group of factors loosely captured under the label 'social capital'. Indeed, this group of factors subsumes many of those factors connected with population structure, identified above. Social capital is defined as an attribute of a community or a neighbourhood that exists in relationships among persons and conceptualised as "*the intersection of families and neighbourhoods. (It) includes several components: interpersonal ties and reciprocity, norms and sanctions, information, stability, opportunity and quality of life*" (Brooks-Gunn,

¹³ Note: Key stage results from the national pupil level database could be used here.

¹⁴ Note that consultants thought that temporary exclusion only should be used here as permanent exclusions may be too few in number. Combining authorised and unauthorised absences may be advisable. A measure of mobility in the school - Janet Dobson, IOE has done work on this - could be a useful indicator as it correlates well with performance and can be derived from data available on PLASC.

Duncan, Leventhal and Aber 1997, p292, after Coleman 1987). These factors are thought to be extremely important influences on parenting at the neighbourhood level (Cochran and Niego 2002). In this dimension we include: social support for parents of the ‘informal’ variety (i.e. practical and emotional support from family, friends, and neighbours); and community or social cohesion (that is, the extent to which communities act together or participate together in local activities and ‘neighbourly exchanges’ or ‘positive neighbouring’; Vondra 1990). Parents who live in areas with low social capital are more likely to be socially isolated, and social isolation (especially for some types of families, e.g. those headed by lone parents) can be very prejudicial to coping with parenting (Cochran and Niego 2002; Ghate and Hazel 2002). However, finding robust direct indicators for this dimension is likely to be difficult, as the concept is notoriously hard to hard to operationalise for measurement purposes¹⁵.

2. Environment (built and natural) dimension

Availability of safe play space and green open space

This is important to families, and parents consistently refer to this as an important part of whether they rate their area as a ‘good place to raise a family’ or not (e.g. Ghate and Hazel 2002). Place space is also thought to relate to opportunities for children to get physical exercise (Haste, 2004), which protects against obesity and later CHD.

3. Education and schools dimension

Sub-dimensions of protection here might include school ‘league table’ positions, attainment indicators, truancy and exclusion rates, and potentially also the presence of specific preventive or therapeutic initiatives within schools in the area (though this may be hard to measure).

League tables

Likely to be both a protective factor or a risk factor at extreme ends of the distribution, ‘good’ schools assist with the socialisation function of parenting. League table positions should indicate the availability of ‘good’ schools generally, potentially providing a proxy measure of the ‘attractiveness’ of an

¹⁵ There may be [proxy] indicators available in survey datasets, however. For example the British Household Panel Survey has included questions tapping social capital (McCulloch 2001), and ONS is currently in the process of developing questions for inclusion in the General Household Survey (reported in the Guardian 17.11.04). Ghate and Hazel (2002) contained numbers of questions tapping aspects of social capital (focusing on social networks and social support and views of the neighbourhood), and could also provide a model for use in future research. Finally, ONS (Social Capital Question Bank, Ruston & Akinrodoye 2002) has compiled a list of major government and non-government surveys that included questions of social capital, intended as a reference tool for those interested in examining or using social capital data.

area to parents and also indicating the likelihood that children will have a good experience of school, engaging well and learning effectively. The 'added value' element of the league tables could identify schools that provide particularly good support for educationally challenged children, which would rank as a protective factor both for needy children themselves, and for those children who are not themselves needy but whose learning environment might otherwise be undermined by the presence of disruptive peers in school.

Attainment indicators

Likely to be a protective factor when high, (and a risk factor when very low), these will indicate the presence of a critical mass of high-achieving children in the local area. This may 'pull up' the mean average scores of the lowest achieving children in the class.

School-based initiatives

The presence of various initiatives designed to improve the school environment such as the Behaviour Improvement Programme (BIP), Behaviour and Education Support Teams (BESTs), and the Safer Schools Partnerships Programme (SSP), On Track, After-school clubs etc might be potential protective factors in this dimension (though as yet it must be admitted that concrete evidence in support of their efficacy in the UK is as yet unavailable, though there is a stronger evidence base for similar schools based initiatives in the United States; see e.g. Moran, Ghate and van der Merwe 2004). Schools that operate such programmes are likely to be making a serious effort to deal with problems in school, and to have levered in additional resources to deal with these problems. In addition, many of these initiatives have a specific remit to engage parents, including 'Extended Schools' (which have a particular function to encourage home-school links and provide parenting support) and so may be particularly important in improving the protective aspects of the educational dimension in a local area. After-school clubs and play schemes are especially valued by parents, where they occur, as they provide a form of structured and purposeful child care. They support parents in socialising children through group activities, may increase children's own social networks, and may well also provide a means by which parents can free up time for work or leisure or community activities (Kids Clubs Network, 2001).¹⁶

4. Service provision for families dimension

The final dimension of protection that we think will be important for the PPE Index Mark II concerns service provision, particularly in respect of family

¹⁶ Note that there is an ongoing question about these indicators could be combined within an Index as they involve very different levels of measurement. Note also that school-based initiatives could also be grouped within the service provision dimension, see below.

support services. One of the major changes that has taken place at both policy and practice levels since the previous version of the Index was developed is the exponential expansion in the family support service sector. This has been fuelled by the arrival of the big Area Based Initiatives like Sure Start, Children's Fund, Parenting Fund etc as well as the increasing interest from the youth justice and education sectors in mobilising parents as preventive agents in youth ASB (YJB parenting programme and introduction of Parenting Orders in 2000; Extended Schools; Parent Information Point initiative in schools (Bhabra and Ghate 2004) etc. Assuming that availability of services acts as protective and 'buffering' factor for parenting (for which there is limited but growing evidence, Moran, Ghate and Van der Merwe 2004; Cochran and Niego 2002; Ghate and Hazel 2002), or alternatively that absence or shortage of certain basic services can be a risk factor, we will probably want to include two sets or dimensions of services broadly grouped: health services, and parent-support and child care services.¹⁷

Note also that consultants considered that the inclusion of this dimension at all requires further consideration; on the one hand if it is accepted that these factors do have a genuine protective community effect, then they should be included. Not including these factors would give a distorted view of the parenting environment. On the other hand if a key use for the Index is to understand the impact of services and interventions on the community (but see above, Section Three, where we note that target monitoring may not in fact be the best use for an Index of this kind), then for analytic purposes the service inputs can be seen as 'independent variables' whereas the other factors (protective and risk) are the 'dependent variables'. Including them in the Index would then confuse matters analytically and would mean that any measure of community outcome using the index would not be valid (though it is possible that a modular design, as outlined above in Technical issues in Index development, could overcome this problem, so that the presence of 'protective' services could be included or excluded from the Index to suit different uses). There are also a number of other conceptual and technical questions arising out of consideration of a service dimension. First there is the issue of 'circularity' (will the presence of 'protective' services simply reflect the relative poverty of an area, in that family support services may be likely to be most widely available in areas of high deprivation, as a feature of govt policy?). For this reason the IMD did not include service provision (although one could argue that the PPE Index is a different sort of index in that it explicitly seeks to measure protective as well as risk factors, and again, a modular design could lessen this problem). Second there is a very real

¹⁷ Note that consultants have also suggested that we could include measures of public services more generally (e.g. local government spend on groups of services, e.g. PSS, environmental, NHS/PCT spending, policing etc), though it is unclear if these could be obtained for at a small enough local neighbourhood level.

technical and practical issue regarding levels of measurement and the complexity of service structures.

Health services

There is evidence from the United States that where primary health care services (e.g. GPs) are limited, mortality rates are higher even after adjusting for socio-economic factors such as income inequalities and smoking (Shi et al, 2001). In Britain, dissatisfaction with poor GP accessibility and heavy case loads, and long waiting times for Child and Adolescent Mental Health Services (CAMHS) are mentioned particularly frequently by parents as major sources of frustration and difficulty (Ghate and Hazel 2002). Good availability of paediatric services (in which we include Health Visiting) may also be important, as these are known to be effective in supporting parents and reducing child maltreatment for children (Olds et al 1986; Moran et al op cit). Certainly, the current government sees bringing health care and social services together under the new Children's Trusts (Every Child Matters, 2004) as fundamental to improving services for families. In addition, because of the co linearity of parenting problems, child behaviour problems and poor parental emotional and mental health (Ghate and Hazel 2002; Melter, Gatward, Goodman and Ford (2000); Zhan-Waxler, Duggal and Gruber 2000), we may also want to include availability of adult mental health services as an indicator.

Child care and parent support services

Including both formal support services (predominantly those provide by the statutory sector) and semi-formal support services (often provided by the voluntary or community sector in neighbourhood settings), these are probably even more vital to include in the Index Mark II than other kinds of services, because they are targeted specifically at reducing parenting problems. Garbarino (2002) argues that carefully designed parent support services can alter parenting style and skills as well as competence and confidence, and Moran, Ghate and Van der Merwe (2004) reviewed the international literature on what works in parenting support and found that there is now considerable evidence that these services can be effective. In the UK, formal services are often used at times of 'crisis' and are used in instrumental ways by parents to get help with specific issues (Ghate and Hazel 2002); semi-formal neighbourhood services tend to be used for more social reasons and also may positively help informal support networks (thus building social capital) by encouraging networking in local neighbourhoods (Ghate and Hazel 2002; Cochran and Niego 2002).

Section Five Technicalities of Index development

Creating an Index from multiple separate measurements always poses dilemmas that can only be resolved by reference to the main priorities driving the research. Although it is simple to list a series of general preferences — for example, the Index should use ‘best practice’ statistical methods and also must be as easy to understand as possible — these preferences tend to pose difficult trade-offs such as, for example, the likelihood that the ideal statistical method for creating an Index from several separate indicators involves a ‘black box’ form of analysis which will not be easy for the lay person to understand. This section of the report outlines key technical decisions that must be made when developing an Index and it also highlights several of the trade-offs that are involved. Discussions earlier in the report have set priorities for this Index analysis, so the paragraphs below will follow through the implications of these priorities in terms of the technical options which are more appropriate as a result.

Strategic Issues

Contrast was made earlier in this report between an Index designed to meet one single well-defined purpose [Strategy (a)], as against an Index such as the IMD which aims to be suitable for a much wider range of applications [Strategy (b)]. Our previous discussion of possible uses for the proposed Index on parenting environments makes it clear that it has a wide range of possible applications and so the IMD provides a possible model here. Table 1 sketches three key technical features of the IMD and contrasts them with the equivalent features of a selected ‘single purpose’ Index (the Housing Needs Index or HNI).

Table 1 Key features of indices for many as opposed to few applications

	Index for many applications	Index with a single well-defined purpose
<i>Example</i>	<i>IMD</i>	<i>HNI</i>
Constituent Measures	general indicators	counts of specific concerns
Geographical Scale	neighbourhoods	local authority areas
Combination Method	statistical synthesis	direct arithmetic combination

Constituent measures

Whereas the HNI attempts to collate direct measures of the level of specific needs (e.g. numbers of homeless, numbers of unfit houses), the IMD adopts a much more generalised approach, reflecting the understanding of deprivation as a multi-faceted syndrome. In a similar way, the parenting environment Index will compile a range of indicators to reflect the generalised processes

through which poverty interacts with many other aspects of social exclusion. From the technical viewpoint, the crucial fact is that these various aspects of the parenting environment cannot be neatly measured independently of each other (in contrast to the separateness of the homelessness and unfit housing measures in the HNI). In the preceding discussion of the dimensions of the parenting environment, it was often noted that many of the influences at the neighbourhood scale are difficult to disentangle from each other and so the Index looks more like the IMD than the HNI in this respect.

Geographical scale

Whereas the HNI is concerned with local authorities' housing strategies and so does not need to focus down onto smaller areas, the IMD has been designed to measure deprivation at the level of neighbourhoods. The key technical consequence of this small area focus is that some relevant issues cannot be included in the Index because there are no suitable datasets at the necessary scale (which is, in practice, the Super Output Area). The parenting environment Index may, in the same way, find that some factors which would be desirable cannot be included because no suitable dataset is available at the neighbourhood scale. Even so, the neighbourhood is undoubtedly the critical scale for any Index which is developed.

Combination method

Whereas the HNI uses direct counts of types of need, and can combine these almost in a form of accountancy (e.g. $\text{need} = x + y - z$), this strategy is not possible for the IMD because its constituent measures represent a broad set of influences upon residents' attitudes and actions. For example, a measure of the level of a specific problem is not included in the IMD as a 'count' of that separable issue, but because it is indicative of local conditions experienced by all the area's residents (e.g. quite low numbers of people in an area taking drugs can have a substantial impact on many residents). The parenting environment Index – like the IMD – will be unable to combine its constituent variables in an accountancy way; instead these numerous and inter-related measures will have to be synthesised by a more complex statistical analysis which seeks to represent the underlying patterns in the data.

These three key technical issues are mutually reinforcing. For the parenting environment Index case, this report has outlined a strategy to use measures of generalised influences and effects at the neighbourhood scale: the implication is that Index has to be constructed using statistical methods which will be rather more 'black box' in nature than would be seen as ideal by many users.

Modularity

We use the term ‘modularity’ here to mean blocks of indicators, combined within a single modular index that can be used as an Index in its own right. Modules of the Index might also be used in various combinations, as the user requires, although there would need to be ‘health warnings’ given to steer users towards best practice in this regard.

The strategic approach which has been outlined involves ‘drawing strength’ from the wide range of measures to be collated to represent the many neighbourhood influences on parents and children. Combining these measures into an Index needs to be done using a statistical procedure which not only caters for the large number of input variables, but it also respects the statistical difficulties which can arise from the high degree of inter-relatedness of many of the issues which are being measured (in particular, poverty levels tend to be associated with many of the other factors). Does this degree of interaction between the various factors mean that the parenting environment Index cannot copy the IMD’s modular structure, with subsidiary Indices that reflect separable sub-sets of neighbourhood influences? The answer to this question depends on whether there are robust theoretical and/or policy arguments that justify separating out certain neighbourhood influences from other aspects of the parenting environment. Two possible options stand out.

- Separating out risk and protection factors is the probable aspiration for the Index development, although of course to operationalise two separable modules (‘Risk’ and ‘Protection’) will require real clarity between those factors deemed to be risks and those which are protective (e.g. with no ‘absence of risk’ measures used as surrogates for protection indicators).
- Separating out neighbourhood influences on parenting of pre-school age children from those which influence parents of teenagers, for example, may also be feasible; this would lead to separate modular-indexes for each age cohort *within* the broader division between risk and protective modules if they can be robustly distinguishable from each other.

More generally, it should be recognised that whilst a modular structure offers the possibility that more users will find there is a parenting environment Index which meets their needs, modularity raises the level of technical challenge faced in subsequent Index development. It is not a case of simply adding together two or more separate modules to form an overall index: at least two stages of analysis are required, depending on the number of modules. The first stage relates to creating each of the separate modules; the subsequent stages relate to the process of combining the modules. In the first stage, each separate module has to go through a statistical procedure to create a stand-alone ‘module-index’ from its input variables. In the second stage, a

single, overall Index is produced by combining the separate module-indexes using a defensible weighting reflecting their relative ‘importance’ as part of the parenting environment in general.

The discussion in this section of the report so far can be summarised in two key statements. The first is that the concerns to be reflected by the Index drive the technical approach to be adopted. The second is that the need for a highly localised analysis of a very complex set of processes leads to a statistical method to synthesise a wide range of variables and, due to the increased complexity which would result, a hesitancy over committing to a modular Index structure. To put it another way: the Index will be the outcome of a ‘fuzzy’ form of analysis, reflecting the complex and inter-related nature of neighbourhood influences on parenting, and a ‘fuzzy’ approach is not easily broken down into crisply separate parts.

Specific Issues

Some other important questions about the Index construction can now be tackled, given the strategic approach now outlined. The need to draw upon numerous indicators, so as to encompass many neighbourhood influences, tilts the balance on several technical trade-offs in Index development.

- 1) With the recognition that key neighbourhood influences are inter-related due to reflecting deep-seated socio-economic processes, the Index will prioritise measures of these underlying influences at the expense of measures that are likely to be more volatile over short periods (even though the latter could have had the potential of dramatising the possible effects of policy activity).
- 2) The priority on developing indicators reflecting a wide range of different neighbourhood influences, rather than emphasising short-term changes, allows the analysis to draw on more sources of data because it is not restricted to using datasets which are updated every one or two years.
- 3) The potential instability of data at the very detailed scale of neighbourhoods means that those datasets which *are* frequently updated can provide more robust indicators though pooling two or more years’ data (rather than using the multiple years’ data to measure the trajectory of change in areas).
- 4) The priority given to compiling a broad range of indicators means that the Index will probably have to be limited to covering England because, in more recent years especially, Welsh and Scottish datasets have become increasingly incompatible with those available on English neighbourhoods.

For all the four trade-offs listed here, the position outlined is similar to that taken with the IMD in practice. The fact that the technical strategy emerging here echoes many features of the IMD should not be seen as a problem, especially when it is remembered that the IMD was a product of a comprehensive process of consultation with experts and users alike. Perhaps the least welcomed aspect of the IMD is its complexity, with numerous 'black box' statistical processes taking place between the compilation of indicators and the calculation of final Index values. Earlier in this section of the report it was suggested that the parenting environment Index will not involve many — if any — subsidiary modules and this is one way in which a parenting environment Index is unlikely to duplicate the IMD's complexity.

At the more detailed level of individual indicators, the need for measures of many different aspects of very small areas may lead to the use of 'black box' statistical techniques (such as those in Geographic Information Systems) to fill gaps in the available datasets. As the IMD shows, substantial technical data manipulation can be the only way to get data at the neighbourhood scale on some key issues. If the issue is one that varies across cities and rural areas in a relatively predictable way — such as air pollution — then modelling a dataset that provides relatively few separate values can create estimates for each neighbourhood. The trade-off involved here is that the increase in the range of issues covered by the analysis will be at the cost of not using officially-produced data. Whilst it is clear that an Index composed entirely of official data would command more immediate acceptance, it is worth noting that the Office for National Statistics itself is now adopting a modelling approach in order to fill some of the gaps that would otherwise remain in its Neighbourhood Statistics database.

Section Six Conclusions and recommendations on feasibility

On the basis of our thinking so far, the following conclusions have emerged:

Rationale

- There is a rationale for updating the existing PPE-Index. Supporting parenting is currently a major policy and practice priority and looks set to remain so at least for the next few years.
- The PPE-Index 'Mark I' is now out of date and does not reflect major changes in the social, demographic and service dimensions of life in Britain over the past decade.
- A new Index could serve a number of useful purposes, including prioritising funding of initiatives across the country, targeting initiatives, research and evaluation purposes, stratification of survey samples and providing context for target-monitoring activities. The Index would potentially allow local areas to assess their position relative to one another, identify their relative levels of 'parenting need' across different dimensions, and perhaps also track progress over time in improving the environment for parents and children.
- No measurement tool that presently exists allows users to assess the level of parenting need at the neighbourhood level. Although the IMD contains a number of measures that relate to children (e.g. child poverty index, education, health) and has been used to allocate resources for children (e.g. nurseries), it is not designed to detect specific or subtler issues related to parenting. Therefore, allocation of parenting resources based on the IMD may leave out neighbourhoods or pockets of 'parenting deprivation' that are in fact in great need of resources. Therefore, the new Index would complement other available Indices such as IMD.

Conceptual aspects

- It is now widely accepted that neighbourhood or community factors form an important part of the ecology of family life, and have an important effect both on parenting and outcomes for children. However, neighbourhood is only one of several levels of ecology, the others being individual, family, and socio-cultural levels. These levels are inter-dependent, and thus neighbourhood factors are likely to vary in relative weight of influence depending on the factors operating at

the other levels. Therefore, the impact of neighbourhood factors is likely to vary according to the age of the children in a family (or family 'lifestage'), the socio-economic status (SES) of the household, and perhaps also by other factors such as health status and so on. SES is likely to be a particularly important variable, and most of the literature suggests that for families who are also themselves poor (i.e. have low income or other attributes of material deprivation) the damaging impact of living in a poor neighbourhood may be substantially worse. For this reason, we suggest that a new Index of the quality of parenting environments should focus on aspects of parenting need and parenting opportunity that are of particular significance for families with low income.

- We have identified two key modules (risk and protective factors) and within these a number of dimensions or clusters of factors that are known to influence either the nurturance or the socialisation function of parenting. These are: (Risk Module) - social, epidemiological, environmental, education/schools, and (Protective Module) social, environmental, education/schools and provision of services.
- Within these five dimensions, a number of sub-dimensions, and specific indicators within sub-dimensions, have been identified based on the literature and on our knowledge of the current circumstances under which parenting takes place in contemporary Britain. However the research evidence regarding their impact on parenting varies in availability and quality, and we are more confident about the need to include some indicators (e.g., crime rates) than we are about others (e.g. service availability).
- We have considered the case for including in the Index (in two separate modules) both risk and protective factors in parenting. However, the inclusion of protective factors would be an innovation (in terms of the established methods for developing these kinds of tools in the UK) and raises some issues. There is relatively less robust evidence about what exactly constitutes a protective factor (though the literature is unanimous that protective factors exist and play a vital – if as yet poorly understood - role in ameliorating risk)
- There might also be a case for recommending a further aspect of modularity for the finished Index, involving the construction of one module-index for measuring the quality of environment for parenting younger children, and one for parenting adolescents, since we believe the factors of relevance to parenting may vary considerably depending on the age of the child being parented.

Practical issues

- We have outlined the options in terms of technical approaches to Index construction, and suggested that the arguments point in the direction of ‘Strategy (b)’ – i.e. developing an Index based on generalised concerns in order to meet a range of related but differing requirements (much along the lines of the IMD). This implies a more ‘fuzzy’ approach to the analysis on which the index would be based, but that is appropriate given that the science of the study of neighbourhood effects on parenting is itself still at an intermediate stage of development.
- However there are outstanding questions.
 - It is unclear how feasible it will be to have a very extensively modular Index in which each of the constituent module-indexes can be used in its own right as well as being put together in the one overall Index.
 - Perhaps the single most critical issue is whether not only risk but also protective factors can be accommodated (NB, it would seem that if they can, then they should constitute a separate module because protection factors would be measured in very different ways to risk factors).
 - The one plausible basis for a more extensive modular approach is by reference to children’s age.
 - There is an inevitable trade-off between, on the one hand, exploiting frequently updated input data to avoid the Index having a limited ‘shelf-life’ and, on the other, pooling several years’ data to maximise the robustness of the measures which can be devised for such small areas.
- Data on which the Index would rest will be primarily official data available at Super Output Area (SOA) level. However, many of the variables we have identified as important to include may only be available at a different level of geography, or may only be patchily available. In these cases it could be technically feasible using modelling techniques to manipulate the data so as to be able to use them, but this will require substantial input of time and resource and could be seen as introducing more data into the Index when some users may prefer to use only official data, and some of the variables we might want to include may require a degree of primary research. For example, obtaining comprehensive information on services available in local areas, or in schools, though feasible in principle, will require a special exercise. Alternatively there may be data already available in non-official datasets (e.g. social survey datasets) that we could use, but again, time will be required to investigate the options, and possibly to

undertake modelling work where data are unsuitable for our purposes in some way.

Whilst the technical decisions taken will be constrained by the level of resource available to a further stage of this study, it is very important to stress that the decisions taken must be designed to satisfy the needs of users and, more specifically, those of the funders of the research.

Naming the new Index

Lastly if we go ahead with further development work, there is a general consensus amongst the team and external consultants and experts that the new Index should have a different name from the 'poor parenting environments index'. At present we favour one of the following:

- Index of Parenting Environment Quality (IPEQ)
- Parenting Environment Quality Index (PEQ-Index)
- Quality of Parenting Environment Index (QPE-Index)
- Index of Neighbourhood Quality for Parenting (INQuP)
- Neighbourhood Index for Parents of Problematic Environments (NIPPEr)

We would agree on the name as part of the next stage of development work.

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APPENDIX 1:

List of dimensions and indicators for potential inclusion in a revised PPE index

Table 1: Dimensions and indicators

		Available at SOA level	Available nationally / reliably [1]	Available from single source [2]	Source	Comments (costs and how data is available)[3]
Social dimension						
Poverty						
Income deprivation affecting children (IDAC)	R	Y	Y	Y	IMD2004	A sub-domain of the IMD. Measures the proportion of children living in low income households (see IMD2004 definition, but includes Income Support and Jobseekers Allowance Income Based households, and WFTC / DPTC households below 60% median income)
Social class/Socio-economic group (SEG)	R & P	Y	Y	Y	Census 2001	Subsumes various factors; proxy for income
Proportion unemployed adults	R	Y	Y	Y	Census 2001 / DWP / NOMIS	Could use self-reported Census data, or Jobseekers Allowance data from DWP (monthly / annual counts from DWP and NOMIS). Maybe a more direct measure than SEG.
Proportion YP <18 NEET	R	?	?	?		Would need to be derived from different sources, unlikely to all be available at small area level. NEET groups likely to be mobile with lots of transitions, difficult to identify reliably at small area
Access to own car	R	Y	Y	Y	Census 2001	Strong rural-urban bias - significantly lower in urban areas than in rural areas. If used, should possibly be combined with some measure of "Access"
Social problems						
Crime rate	R	Y	Y	Y	Home Office	IMD2004 uses 7 indicators (persons, property, motor veh, burglary, theft, crim damage and violence. Data release for the project may have to be negotiated with Home Office / Police forces
Youth crime (e.g Yot caseloads)	R	?	N	N	Individual YOT areas	As far as we are aware, there is no central source collecting this, so would need to be collected from individual YOT areas. Variations may reflect local practice.
Proportion Parenting Orders	R	?	N	N	Individual YOT areas	As far as we are aware, there is no central source collecting this, so would need to be collected from individual YOT areas. Variations may reflect local practice.
Noise complaints	R	?	N	N	Individual Police Force / LAD	Recorded by Police and/or LAD at local level. As far as we are aware there is no national return of data to single source. Variations may reflect local practice.
Proportion crimes assoc w/alcohol	R	?	N	N	-	This is not routinely recorded with reported crime incidents. Local surveys may collect data, but unlikely to be available at small area level

Proportion registered drug addicts	R	?	N	N	Home Office, HES / DH	Registered addicts likely to strongly reflect success of local Outreach programmes. Hospital Episodes Statistic data from DoH gives information on admissions for drug-related health problems, can be aggregated to small area level using "Shrinkage"
Incidence teenage conceptions	R	?	Y	Y	ODPM, ONS, DfES Teenage Pregnancy Unit, individual LADs	Teenage conception information collected as part of the governments key Floor Targets. ONS hold detailed datasets, but may be difficult to gain access for project. Information typically available down to LAD level.
Population structure/Social Capital/social cohesion						
Proportion of households with dependent children	P	Y	Y	Y	Census	Or could use proportion of households receiving Child Benefit (DWP). Advantage of being updateable
Proportion of elderly residents	R	Y	Y	Y	Census	Or could use proportion of households receiving State Pension (DWP). Advantage of being updateable
Proportion moved in past year (pop mobility)	R	Y	Y	Y	Census	Info available on households that have moved in past year, or population that have moved out of an area
Proportion long term residents (5+ yrs) requesting social housing transfer	R	?	N	N	Individual LADs / Housing Associations etc	Information on social housing waiting lists not held centrally (as far as we are aware). Individual LADs may hold info, but some have contracted out to Housing Associations etc. so will not hold data.
Prop temporary resident (refugees, asylum seekers)	R	Y	Y	Y	IMD 2004	Resident asylum seeker information used in IMD 2004
Ethnic homogeneity	P (?)	Y	Y	Y	Census	
Epidemiological dimension						
Child (road) accident & death rates	R	Y	Y	Y	IMD 2004 / HES / ONS	IMD 2004 used DfT STATS19 information to produce SOA level measure of road traffic accidents involving injury to pedestrians or cyclists. May be broken down by age. Road accident coding on HES and ONS death data.
Environmental dimension						
Availability & extent of play space and green space	P	?	Y	Y	Individual LADs / Housing Associations etc/Sport England / HPI	Individual LADs may hold data on green spaces, but as far as we are aware no central source / Health Poverty Index used Sport England data to create LAD level access measure to public access sporting facilities
Pollution						
Air quality	R	Y	Y	Y	IMD 2004	UK National Atmospheric Emissions Inventory (NAEI) maintains 1km estimates of major pollutant concentrations. For IMD project, Staffordshire University modelled these to SOA level for 4 key pollutants.
Traffic density	R	?	Y	Y	DfT	The DfT publish motor vehicle traffic estimates at LAD level. It may be possible to obtain more detailed information for the project from the DfT.

Housing stock						
Housing stock quality	R	Y	Y	Y	IMD 2004	Households in poor condition (all tenures) modelled to postcode level for the IMD 2004 by the Building Research Establishment. Based on 2001 EHCS and RESIDATA.
Proportion social housing / privately rented housing	R	Y	Y	Y	Census 2001	Census has data on households by all types of tenure
Proportion overcrowded dwellings	R	Y	Y	Y	Census 2001	Census has data on overcrowding.
Proportion empty dwellings (or vacancies and dereliction)	R	Y	Y	Y	Census 2001 / ODPM	The ODPM General Demand Indicators dataset gives info on difficult to let, low demand and vacant dwellings by tenure, available at LAD level. Census has data on vacant dwellings.
Affordability and availability of suitable housing						
House prices or affordability	R	Y	Y	Y	Land Registry / VOA / IMD 2004	House prices by type available at small area level from Land Registry, Valuation Office Agency provides breakdown by Council Tax band. IMD 2004 modelled affordability at LAD level using survey-based income estimates (Bramley).
Waiting lists for social housing / transfers	R	?	?	?	ODPM, individual LADs, Housing Associations	Waiting list data available is not available from central sources as far as we are aware. However, ODPM does keep data on applications for assistance under homeless provisions - IMD 2004 used this data at LAD level.
Public transport quality and access to amenities						
Access to shops & other facilities	R	Y	Y	Y	ODPM / IMD 2004	The IMD 2004 used measure of "Access" as road distance from GPs, Primary Schools, Post Offices and Supermarkets
Public transport- availability and frequency	R	Y	Y	Y	DfT	DfT TransportDirect service provides point-to-point estimates of travel times across the country, based on bus and rail timetables. Comparison also made with car travel times. Underlying database would provide rich source of information.
Education & schools dimension						
School quality						
School(s) league table ratings	R & P (?)	Y	Y	Y	DfES	Can allocate school level data to small area level using eg PLASC data to define catchments, however might be better to use PLASC data directly in this case. Also question on whether to use Value Added or raw ratings?
Education resourcing per capita	P	Y	Y	Y	PLASC / DfES	Expenditure available at school level, can be allocated to small area level based on PLASC data. Large component of the allocation formulae based on characteristics of local area, eg level of deprivation

Pupil - teacher ratio	R	Y	Y	Y	PLASC / DfES	Teacher counts available at school level, can be allocated to small area level based on PLASC data. Highly related to school spend.
Mobility within schools	R	Y	Y	Y	PLASC / DfES	Can be derived from DfES PLASC, at small area level. Small numbers may be a problem at SOA level.
Attainment						
Key stage results, and GCSE/A Level results	R & P (?)	Y	Y	Y	DfES, PLASC	Pupil Level information from NPD linked to PLASC and aggregated to small area level
Access to higher education	P	Y	Y	Y	UCAS	UCAS datasets have info on successful applicants to Higher Education by residential postcode at time of application
Attendance						
Truancy /exclusion rates	R	?	?	?	PLASC, individual LADs	Permanent exclusion numbers are probably too small to use at small area level. Temporary exclusions are currently not published via central source - these would need to be obtained from individual LADs, possible from DfES in future
Initiatives in schools						
BEST, SSP, BIP programmes in school(s)	P				DfES, OFSTED	May be possible to obtain info on school initiatives etc, but question on how to attribute to local areas. A number of potential approaches, eg see Sure Start project.
After-school clubs	P				DfES, OFSTED	See above
Holiday play schemes, SPLASH etc	P				DfES, OFSTED	See above
Extended schools in area	P				DfES, OFSTED	See above
Service provision dimension						
1. Child care and parent support services						
Day care						
No of LA (& private?) nurseries	P				?	See above
No of registered child minders	P				SSDs?	See above
Other child care					Ofsted; DfES	PLASC data has data on provision for under fives
Sure Start in area	P				DfES, OFSTED	See above
Children's Fund services in area	P				DfES, OFSTED	See above
No of family centres	P					Will have to be collated from SSD and voluntary organisation data
No of Children's Centres/Early Years centres	P				DfES, OFSTED	See above
Parent Support						
? Parenting class provision	P				?	Will have to be collated from various sources (PF eval?)
Parenting Fund services in area	P				DfES, OFSTED	See above
Family Fund services in area	P				DfES, OFSTED	See above

2. Health care services						
General						To be agreed – see background paper
GP ratio per capita	P	?	Y	Y	HPI	GP per capita developed for HPI project at LAD level. May be possible to estimate down to smaller area level.
No of surgeries closed to new patients/GP vacancies	R	?	?	?		No knowledge of availability
Star rating of local hospital(s)	P	N	Y	Y		Available at hospital level. Would need to model across local area (could use HES data to model catchment)
Waiting list indicators	R	N	Y	Y		Available at hospital level. Would need to model across local area (could use HES data to model catchment)
Paediatrics						
Paediatrician availability	R	?	Y	Y	NHS Staff Survey / HES	May be able to estimate in same way as Health Visitors below.
Health Visitor ratio per capita	R/P	?	Y	Y	HPI / NHS Staff Survey / HES	HPI project produced LAD level estimates of Health Visitors per capita from NHS Staff Survey, and HES calculated catchment areas. Could be estimated down to smaller area level.
Child & Adolescent Mental Health (CAMHS)						
Waiting lists for CAMHS	P					
No of child psychologists/psychiatrists	P	?	Y	Y	NHS Staff Survey / HES	May be able to estimate in same way as Health Visitors above.
No of Ed Psychs in area	P	?	Y	Y	NHS Staff Survey / HES	May be able to estimate in same way as Health Visitors above.
No of CAMHS inpatient beds?	P	?	Y	Y	DH, HES	Inpatient bed data published at national level by DH, may be possible to obtain more detailed area level info from them. Alternative is to use HES individual level data on admissions, broken down by admission cause.
Adult Mental Health Services (MHS)						
Waiting lists for adult MHS	P					No knowledge of availability
No of adult MH inpatient beds	P	?	Y	Y	DH, HES	See CAMHS beds above
Dentists						
Ratio per capita (NHS provision)	P					No knowledge of availability
Waiting lists/vacancy rates	P					No knowledge of availability
Other services						

[1] Available in every (or the vast majority of) SOA in the UK.

[2] Available centrally from a Government Department, ONS or other central source.

[3] Comments already inserted are from PRB's original paper, but more information may be available.

Glossary of Acronyms and Technical Terms

CAMHS	Child & Adolescent Mental Health Services
DfES	Department for Education & Skills
DfT	Department for Transport
DoH	Department of Health
DPTC	Disabled Persons Tax Credit
DWP	Department for Work & Pensions
HES	Hospital Episode Statistics, DoH
HPI	Health Poverty Index
IMD	Index of Multiple Deprivation
LAD	Local Authority District
NEET	Not in Employment, Education or Training
NOMIS	Official Labour Market Statistics
NPD	National Pupil Database, DfES
ODPM	Office of the Deputy Prime Minister
OFSTED	Office For Standards in Education
ONS	Office for National Statistics
PLASC	Pupil Level Annual School Census, DfES
SEG	Socio-Economic Group
SSD	Social Services Department
UCAS	University Central Application System
YOT	Youth Offending Team
Shrinkage	Statistical technique for dealing with low count data at small area level, 'borrowing strength'; from larger areas with bigger counts
WFTC	Working Family Tax Credit



APPENDIX 2:

Agenda of the workshop and list of participants

Further Development of the PPE-Index: expert workshop
Wednesday February 2nd 2005 , 10.45 am to 4pm
RIBA, 66 Portland Place, London W1B 1AD

**Chair: George Smith, Department of Social Policy and Social Work,
 University of Oxford**

Agenda for the day

10.45 am	Arrivals and registration	
11.15am	Introduction to the day Introductions Background to commissioning of the Feasibility Study Structure of the day and What we hope to achieve in the workshop	Chair DfES PRB PRB
11.40am	Conceptual background to the project	All
12.00	Conceptual aspects – discussion	Prof Mike Coombes
12.25	Technical aspects Technical considerations for building a new Index	Prof Mike Coombes
12.50pm	Lunch	
1.35pm	Application aspects Potential uses for the Index	Dr Deborah Ghate
2.00pm	Application aspects - discussion	All
2.30pm	Technical aspects – discussion	All
3.00	Conclusions and closing comments	Chair
3.35	End	

List of delegates to workshop February 2nd 2005

Jude Belsham	Department for Education and Skills
Prof Jonathan Bradshaw	University of York
Prof Mike Coombes	University of Newcastle upon Tyne
Chris Coxon	Office for National Statistics
Mary Crowley	Parenting Education and Support Forum
Sokratis Dinos	Policy Research Bureau
Dr Martin Frost	Birkbeck College
Dr Deborah Ghatge	Policy Research Bureau
Clem Henrikson	NFPI
David Karfoot	LARIA
Sunny Kotecha	Nuffield College/DfES
George Smith	University of Oxford
Caroline Spencer	Office of the Deputy Prime Minister
Sara Trikha	Home Office
Andrew Walford	Audit Commission



APPENDIX 3:

Preliminary specification for a main stage study

Further Development of the Poor Parenting Environments Index (PPE-Index)

Preliminary specification for a main stage study

Background

The PPE-Index is a tool for classifying areas according to the relative degree of challenge they present to parenting. That is, the Index allows areas at the lowest level of geography available in the pre-2001 Censuses (i.e., Enumeration Districts or EDs) to be scored in terms of their quality as places to bring up a family. The Index was developed in the first place (1996-1997) as a tool for sampling for a large national survey of parents in poor environments, funded by the Department of Health. Its design was innovative (for the field of family studies) but relatively straightforward, and in many respects resembles a simple deprivation index. Technical information about how the Index was created is given in the book of the study (Parenting in Poor Environments, Ghate and Hazel 2002; p21-25 and Appendices 1 & 2 pages 263-277), and copies are attached to this brief. Essentially, it is a weighted scale. The PPE-Index differs from other existing deprivation indices in that the variables or indicators on which the scale rests were selected with parenting difficulties and child maltreatment in mind (rather than, say, poverty). Thus, variables were selected because the literature (up to the mid to late 1990s) showed that they were strongly associated with parenting problems or with rates of child maltreatment. As in all such indices, they were also selected bearing in mind the national availability of robust measures at the community level.

Since the PPE-Index 'Mark I' was first developed, much has changed in the parenting, family support and children's services field. Parenting itself has become a topic of considerable policy and research interest and activity, and family support services have proliferated across the country on the back of large scale government initiatives (e.g. Sure Start, YJB parenting programme, Children's Fund etc). The research evidence base and the literature has also grown substantially – for example in respect of understanding more about outcomes for children and how these are determined.

In the light of these changes, the Policy Research Bureau has been commissioned by Home Office (working in consultation with ODPM and the NRU) to undertake a small scale feasibility study to see if it would be possible to update and further develop the PPE Index. This would extend its use beyond a research/sampling device to a national statistic that could be used by family support and children's services service planners and providers to inform their thinking about the nature of need in their local area. The hope is that if the feasibility study shows positive results (i.e., shows that there is scope for updating and elaborating the Index in a meaningful and technically robust way), a further stage of developmental work could take place that would actually develop and test an Index, and place a fully-

documented final version in the public domain alongside other national statistics that are commonly used. For this to be worthwhile, it would need to be clear that a new Mark II Index could add value both to the PPE-Index Mark I, and to the suite of other available national statistics such as the Indices of Multiple Deprivation. At this point we think that added value could come from:

- elaborating the scoring method of the scale to include more variables that directly bear on parenting and outcomes for children (and especially variables that capture the nature of change over the last few years in the parenting and family support fields, such as availability of services)
- ensuring that the scale could identify both poor parenting environments (environments that pose particular challenges to parents) and, conversely, environments that positively enable parenting. This would mean consideration not just of known risk factors to parenting, but also protective factors (and the latter should be qualitatively different from the former, and not just their 'flip side')
- ensuring that the scale takes account of the differing contexts of parenting (for example, in rural as opposed to urban areas), and is not exclusively comprised of indicators associated with poverty and urbanity in a way that would make it less useful to those in rural areas or other areas that do not necessarily rate as 'high need' on other indices but where there may well be factors that pose challenges to parenting
- considering the relative advantage of an Index that can be relatively easily updated to keep pace with changes in various dimensions (i.e. social or demographic change and change in service provision availability), as against one which draws upon the most robust possible data even if those statistics are not so frequently updated
- and last but not least, verifying that even if the construction of the scale makes it different to others (i.e. the variables are different to those, for example, on which the IMD is calculated), the results are not in the end so similar that its ranking of areas is little different to that of the main IMD 'poverty' indicator.

Feasibility study project components (May 2004 – February 2005)

The **feasibility study** will focus on the conceptual and technical aspects of updating the PPE-Index, but will stop short of actually constructing the Index Mark II and testing it out. These two latter stages will not be undertaken until/unless a further development study is commissioned.

Conceptual and theoretical issues

1. The first stage is to confirm a 'long list' of dimensions of poor parenting environments, which at this early stage we have listed as the following:

- *Services (adult and child)*
 - Health (primary care, hospital)
 - Mental health
 - Dental
 - Child care
 - Parent Support
 - Education
 - Play & leisure
- *Epidemiological*
 - Child health, morbidity and mortality
- *Social*
 - IMD
 - Income and affluence
 - (Un)employment and training
 - Population mobility
 - Community cohesion/social capital (?)
 - Crime & disorder rates
 - Youth crime indicators
 - Noise
- *Education*
 - Quality of schools
 - Exclusion rates
 - Attainment indicators
 - 'Extended' schools & initiatives
- *Environment*
 - Housing & built environment
 - Traffic density and hazard
 - Pollution levels
 - Green space availability
 - Designated play space availability (and quality?)

2. Second, we need to review the parenting and child outcomes literature to identify key indicators where there is substantial or clear evidence that an indicator impacts on parenting. This will allow us to confirm a 'long short-list' of specific indicators to be investigated. This will not be a comprehensive or Systematic review in the technical sense of that term, but as we are currently engaged in / have recently completed a number of studies on various aspects of parenting and child outcomes this will draw on our existing knowledge of the literature in an informed way.

Data issues

3. We will then need to ascertain the availability of the selected indicators at different levels of geography, and verify the verify data sources, robustness,

compatibility issues etc. At this point many indicators will be de-selected as there will not be a robust national data source or measure on which we can draw.

4. Having identified the variables that it is possible to include, we will also need to explore the feasibility of combining different variables within single index (or several additive indices?), and identify any technical and statistical considerations such as weighting schemes, how to deal with missing data and so forth. We are unlikely to be able to do much more in the feasibility study than note the issues, and the resolution of these issues would form part of the work of a main stage project.

Putting it all together

5. Write an interim discussion paper suggesting possible models and describing the conceptual and technical issues; further consult with other experts and potential users via a seminar; write a final report outlining the conclusions of the feasibility study and recommendations for a main stage.

Main stage components

If the feasibility reports positively, a **main stage** of development work would take forward the project and do the following things:

6. Create a draft Index/Indices based on the models developed in the feasibility stage

This is likely to include resolving the technical challenges flagged up in the feasibility stage in terms of combining indicators available at different levels of geography, and statistical issues in weighting

7. Preliminary testing at different levels of geography

This will involve running the Index at different levels of geography (e.g. LA, Ward, Super Output Area, Output Area) and inspecting the distribution of scores across the country. We will probably also want to compare the distribution of low scoring/high scoring areas (i.e. 'bad' parenting areas and 'good' parenting areas) against scores on other indices like the IMD to make sure we are adding something that IMD does not pick up.

8. 'Sense' testing the results of (7)

This will involve consultation with service providers and others with local knowledge from areas at various points on the distribution (i.e. a form of face validity checking). We will be checking to see if (for example) an area at the top end of the distribution genuinely is perceived by local professionals as an area that is particularly challenging for parenting, and vice versa. There is likely to be a benefit

from including some independent verification of local statistics and indicators. We would include site visits as well as a telephone-checking exercise in a further ten areas round the country.

9. If possible (subject to funding): field testing

This will involve field testing in a survey-type situation (i.e. use the new Index to sample parents and verify that Index scores at the area level correlate in the expected way with parenting problems and strengths at the individual case level, and also that they vary in the expected ways between areas). It might be possible to do this relatively cost-effectively by applying the Index to an existing sample/data-set (e.g. Millennium Cohort Study) that asks questions about parenting and carrying out some secondary analysis. However, this would depend firstly on access issues (data-sharing protocols etc), and secondly on the degree to which existing surveys ask questions that would be relevant for testing the Index. Mounting a special 'test' survey would be costly, and more likely we would be seeking to collaborate with new surveys going out in to the field, by adding in a few questions of particular relevance. In this case, we would need to identify a suitable existing survey data set and factor in time for carrying out some secondary analysis.

10. Implementation, and documentation

That is, making the statistics available to stakeholders and users, writing technical documentation, writing a final report, and a small amount of dissemination (e.g. preparing a short briefing paper for potential users; giving one or two presentations).

Policy Research Bureau 2005



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