

Are there neighbourhood effects on teenage parenthood in the UK, and does it matter for policy? A review of theory and evidence

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Abstract

This paper is a forerunner to an empirical study of neighbourhood effects on teenage parenthood using the British Cohort Study (BCS70). It reviews evidence for the existence of such effects within the quantitative ‘neighbourhood effects’ literature. It also draws on the wider literature on teenage parenthood to identify three explanatory frameworks for the phenomenon (opportunity costs, differential values and social networks), and to examine the qualitative and quantitative evidence that these mechanisms vary over space in ways that create distinctive ‘place effects’ at different spatial scales. We conclude that while there is good reason to believe that neighbourhood and wider area influences might be associated with planned or unplanned teenage pregnancies and with the propensity to continue to parenthood, statistical evidence is mixed, and relatively sparse for the UK. Policy makers need to draw on the wider body of literature, including qualitative studies and practitioner knowledge as well as ‘hard’ proof of neighbourhood effects. Finally we consider implications for policy. We critically interrogate the notion that area effects and area-based policies are necessarily related and instead offer some more specific conclusions as to what the evidence implies (and does not imply) for the purpose and design of policy interventions.

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Introduction

In this paper, we examine the question of whether there are apparent neighbourhood effects on teen(age) parenthood in UK, and the extent to which such knowledge does, or should, inform government policy on the issue.

Although teenage parenthood was fairly common across the social spectrum in the UK until the early 1970s, it has increasingly become relatively much more prevalent among the disadvantaged, as more advantaged young people have tended to postpone parenthood until their late twenties, thirties or even early forties. In contemporary UK society teenage and early parenthood tends to be associated with a range of disadvantageous background socioeconomic and educational characteristics. These include having a father in a manual social class (Hobcraft and Kiernan, 2001, Ermisch and Pevalin, 2003b), living in social housing (Hawkes et al., 2004, Lupton et al., 2009), living on state supported benefits (Harden et al., 2006), and leaving school at the minimum age (Kneale and Joshi, 2008, Rendall and Smallwood, 2003). Other factors that are associated with teenage parenthood include a dislike of school and poor school orientation (Bonell et al., 2005, Kneale, 2009), low educational aspirations (Social Exclusion Unit, 1999), low expectations of parents and teachers (Kneale, 2010), low parental interest in education (Kiernan and Diamond, 1983, Russell, 2002), growing up in a lone parent or reconstituted family (Kiernan and Hobcraft, 1997), having young parents (Meade et al., 2008), having philoprogenitive tendencies (Kiernan, 1997, Kendall et al., 2005) and having behavioural difficulties (Jaffee et al., 2001).

From an outcomes perspective, early parenthood is also associated with less advantageous outcomes later in life for both parent and child even when prior disadvantage has been accounted for (for example Boden et al., 2008, Social Exclusion Unit, 1999, Hobcraft and Kiernan, 2001, Shaw et al., 2006, Robson and Berthoud, 2003, Sigle-Rushton, 2005). For the parents, earlier births are more likely to be accompanied or followed by lone parenthood, lower educational qualifications, living in social housing, reliance on state benefits, low household income, general ill-health, being a smoker, malaise and low life satisfaction (Holmund, 2005, Sigle-Rushton, 2005, Hobcraft and Kiernan, 2001, Hobcraft, 2002, Kiernan, 2002). Living in childhood poverty but having a later birth has been found to be associated with a lower propensity for negative later-life outcomes compared to having an early birth (under 23) with no experience of childhood poverty (Hobcraft and Kiernan, 2001, Kiernan, 2002). Negative characteristics for children from having a young parent include poorer early childhood developmental scores through to a range of negative outcomes during early adulthood (Shaw et al., 2006, Francesconi, 2008, Hawkes et al., 2009). While prior disadvantage tends to attenuate the effect of age on the outcomes of early parenthood for parents and children, an age effect often remains (Hobcraft and Kiernan, 2001, Hawkes et al., 2009, Sigle-Rushton, 2005, Kiernan, 2002), and

teenage parenthood is thought to be a mechanism for the intergenerational transference of social exclusion.¹

On the strength of this kind of evidence, the recently departed New Labour government devoted considerable attention to teenage parenthood as part of its strategy to combat social exclusion. Following a report from the Social Exclusion Unit outlining what it saw as the problem (Social Exclusion Unit, 1999), the government established a Teenage Pregnancy Strategy and Teenage Pregnancy Unit (the TPU). It hailed this as “the first coordinated attempt to tackle both the causes and the consequences of teenage pregnancy” (Department for Children Schools and Families, 2010). From the outset, the strategy aimed both to reduce conceptions and to improve socio-economic outcomes for teenaged women who went ahead with their pregnancies. Rather more emphasis was given to the latter goal after 2007, when the strategy (by now part of the Every Child Matters (ECM) approach to the well being of children and young people) was reviewed, and more attention was given to outcomes for young fathers. Much of the emphasis on socio-economic wellbeing rested on young parents successfully gaining employment.

Box 1 contains an overview of the key policy initiatives, and we return to these later in the paper. By way of introduction, it is worth noting that the strategy has been regarded as relatively unsuccessful – certainly the targets on conception rates have been missed (see Appendix 1). The government has also been criticised in some quarters for (unhelpfully) manufacturing a policy problem. For example, Arai (2009) suggests that arguments for delaying fertility come from a white middle class perspective based on expectations of long periods of education and career development prior to parenthood. Among other social groups, early fertility may be regarded as normative, or even advantageous and desirable (Jewell et al., 2000, Geronimus, 2003). This being the case, the identification of teenage pregnancy as a social problem may serve to pathologise teenage parents and their communities, rather than helping them to handle the challenges of pregnancy and parenthood while making the most of its opportunities and pleasures. It is not yet clear what shape policy will take under the new Conservative/Liberal Democrat coalition government.

¹ The evidence for the negative consequences of a teenage birth is not conclusive across the literature. Studies using an Instrumental Variable approach find that if teenage mothers had postponed their birth, then this does not necessarily result in an economic advantage GOODMAN, A., KAPLAN, G. and WALKER, I. (2004) Understanding the Effects of Early Motherhood in Britain: the Effects on Mothers. *IFS Working Paper 04/18*. London, Institute for Fiscal Studies, HOTZ, V. J., MCELROY, S. W. and SANDERS, S. G. (2005) Teenage childbearing and its life cycle consequences - Exploiting a natural experiment. *Journal of Human Resources*, 40, 683-715.

Box 1: Overview of New Labour Policy on Teenage Parenthood 1999-2009

Reducing conceptions

Target: to halve the under-18 conception rate by 2010 (from 1998) and to establish a firm downward trend in the under-16 rate.

Initiatives:

- A national publicity campaign aiming at young people and focusing on taking control of their lives and exercising choices and responsibility
- Expansion of 'sexwise' phone line for young people wanting advice and counselling
- Strengthening sex and relationship training in schools through guidance to all schools, training and accreditation for teachers, and inspection
- Best practice guidance on youth contraception services, with particular guidance on making them accessible to young men and boys and to minority ethnic groups

Improving outcomes

Target: to increase the proportion of teenage parents in education, training or employment to 60% (also by 2010).

Initiatives:

- reintegration officers to help teenage parents back into education
- guidance to schools clarifying that pregnancy could not be a reason for exclusion
- Sure Start extension to help young parents back into education and employment
- Prioritisation of teenage mothers on low incomes by the Child Support Agency
- A pilot of subsidised childcare for 16 and 17 year-olds

From 2007:

- Midwifery and health visiting services to provide tailored provision for teenage parents looking at issues such as poor nutrition and smoking
- A pilot programme of structured home visits by health visitors during pregnancy and the first two years of life (based on the US Nurse/Family Partnership model)
- Increased support through children's centres and other community centres and through targeted youth support, with a particular emphasis on fathers

Our focus in this paper is on the influence of neighbourhood. Are there characteristics of neighbourhoods that make it more or less likely that a person will become a parent before his/her 20th birthday, all other things (such as his/her social background and education) being equal?

We ask this question because New Labour policy was ostensibly underpinned by the premise that this was the case. The 1999 document Teenage Pregnancy had a section headed 'Area Effects' implying that local factors were influential, and it has been the case throughout that areas with particularly high rates of teenage pregnancy have been

eligible for additional funds. For example, a Local Implementation Fund was introduced for the development of new schemes in high prevalence areas such as peer mentoring and advice for parents. The Health-led Parenting Pilot (based on the family/nurse partnerships) and the Sure Start Plus pilots were also targeted at similar areas. There was also a strong emphasis on local variation of approach. In addition to the national initiatives described in Box 1, all local authority areas were expected to have their own strategy and targets, and their own localised plans, coordinated by a teenage pregnancy coordinator. Follow-up strategies also emphasised an area component and suggested that ward level educational and deprivation measures should be used to identify high risk neighbourhoods (Department for Education and Skills, 2006). The 'RUthinking' initiative which encouraged young people to avoid early sexual debut and to use condoms was to be rolled out in schools with high or increasing rates of teenage pregnancy, and for all schools that served hotspot wards (those wards with elevated rates of teenage pregnancy) (Department for Education and Skills, 2006). This was supported by the work of the New Deal for Communities neighbourhood renewal strategy, which focussed on improving local access to contraception and changing attitudes to teenage pregnancy (Department for Education and Skills, 2006).

'Neighbourhood effects' are typically defined as effects arising from characteristics of the neighbourhood, whether these are demographic, social, physical or institutional: the idea being that the area exerts an influence, over and above any individual characteristics. If there are neighbourhood effects, similar people living in different neighbourhoods will have different outcomes. However, while New Labour's policy documents emphasised the existence of area effects and used that term, neither the original 1999 document nor any subsequent one provides any evidence of such effects. They only cite variations between neighbourhoods in the prevalence of conception and birth rates. Such variations which might arise simply because of areas' differing population composition rather than any influence of neighbourhood per se. For example, if people from manual occupational classes are more likely to be teenage parents, areas with many such people will tend to have higher rates of teen parenthood (a simple aggregation effect), but this would not necessarily mean that any given individual is more likely to become a teenage parent if they live in a manual class neighbourhood rather than a non-manual neighbourhood. For that to be the case, something about the neighbourhood would have to be influential. We discuss the importance of this distinction later in the paper.

This paper is a forerunner to an empirical study² (not yet published), in which we match neighbourhood data to the British Cohort Study (BCS70), in order to better understand the role of place in transitions to parenthood. While we refer to parenthood and motherhood interchangeably, our focus here, in line with the focus of policy, is on

² Early findings are available on-line at <http://ggsrv-cold.st-andrews.ac.uk/chr/media/neighbourhoods/Lupton%20-%20St%20andrews%20presentation.pdf>. Further work is in draft for a book chapter in a forthcoming collection on neighbourhood effects. Readers are invited to contact the authors for further details (r.lupton@lse.ac.uk)

motherhood. Here we examine the existing evidence about neighbourhood effects on teen motherhood, and consider how the existing evidence base could be developed through a more theoretically-driven approach based on a wider economic and demographic literature on early motherhood. We conclude by revisiting earlier work (Lupton, 2003) on whether and how neighbourhood effects actually matter for policy making, with a specific focus on the topic of this paper, teen motherhood.

Neighbourhood Effects on Teenage Parenthood: Evidence from Quantitative Studies

We start by reviewing quantitative studies that have explicitly set out to identify geographical influences on teenage parenthood using methodologies which control for the influence of individual or household factors. What ‘hard’ evidence of neighbourhood (or area, or place) effects is there?

Perhaps some of the most convincing empirical evidence comes from studies which have looked at variations in teenage parenthood in different labour markets. Using a limited range of family background controls (family of origin income and structure), Ermisch and Pevalin (2003), found that the one-year lagged unemployment rate in the travel-to-work area (TTWA) was positively associated with the hazard of becoming a teenage mother. According to their models, 9.8% of women would become teenage mothers if the women’s families earned the mean level of income when they were 16 and the family lived in a local labour market with the mean unemployment rate. If the women lived where the unemployment rate was one standard deviation below the mean then an estimated 7% would become teenage mothers; for women living in an area with an unemployment rate one standard deviation above the mean then 13.5% would become teenage mothers. Similarly, Del Bono (2004) used the employment rate at the county level in her study, which was found to be significant in increasing the risk of non-marital fertility.

Poorer labour markets are said to reduce the opportunity cost of childbearing through reducing employment opportunities and eroding the advantages of postponing a birth (for example Ermisch and Pevalin, 2003a, Carter and Coleman, 2006, Lee et al., 2004, Joshi, 2002). In a similar vein, disadvantaged male labour markets raise the likelihood of a non-marital birth through decreasing the attractiveness of marriage for young men, thereby increasing the population of unmarried women at risk of a non-marital birth; as well as being a reflection of poor female labour markets which in turn reduce the opportunity cost of childbearing and increasing direct and unmarried childbearing (for example Ermisch, 2000, Del Bono, 2004). Given that teenage fertility often takes place outside marriage (Kiernan, 2003), these pathways are likely to be relevant for this paper.

TTWAs range in the size of the employed population from 3000 to almost 4 million and are designed to reflect labour market areas (<http://www.statistics.gov.uk/geography/ttwa.asp>) being the unit typically used for labour market analysis.

However, it is also known that commuting distances for low-skilled and low-paid jobs are much shorter than for higher paid work (Green and Owen 2006) meaning that relevant actual travel-to-work areas (or perceived labour markets) are likely to be much smaller than average for many people living in poorer neighbourhoods. Moreover, while weak sub-regional labour markets are likely to give rise to, or reflect, weak local labour markets, there are good reasons to think there will also be local variation in work opportunities and perhaps in the structure of labour market relations. For example Lee and colleagues suggest that young women's fertility decisions depend more on the economic and social context of their lives, also a conclusion in other qualitative studies (Arai, 2007). This implies that neighbourhood effects on teenage parenthood could operate through economic adaptations to local labour market conditions and labour market expectations, more than through locally held views on abortion, contraception and age appropriate transitions, although the two are not mutually exclusive.

Although patterns of 'labour market' participation for low skilled jobs may appear confined to smaller geographies, similar contiguous geographies may exist and could be repeated many times over across wide areas, meaning labour market geographies may still hold relevance even for low skilled workers. UK quantitative studies that have compared large scale labour market effects on teenage parenthood with effects at a more local level are rare. At the same time it is not entirely clear that labour-market-based studies are only picking up pure labour market effects, rather than socio-cultural or other factors that may operate at this scale (a point we come to later).

A number of UK studies have looked more generally at the effect of area deprivation, rather than specifically at labour market variables. Here the evidence is mixed. Sloggett and Joshi (1998) found that a ward-level measure of deprivation³ (the Index of Multiple Deprivation) became insignificant once individual predictors were added to models. McCulloch also found deprivation not to be an important explanatory factor in models examining rates of teenage pregnancy using Sample of Anonymised Records District⁴ areas (McCulloch, 2001a). Nevertheless, his results suggested that an undefined neighbourhood effect existed and that certain metropolitan areas and areas characterised by deindustrialisation were predictive of teenage parenthood, and that these effects were not explained by deprivation; deindustrialisation, however, was not formally tested.

A number of US studies *do* find associations between generalised poverty and teenage parenthood even within small areas (for example South and Crowder, 1999, Crane, 1991). South and Crowder (1999) construct a neighbourhood poverty score which includes the proportions of female-headed families, high school dropouts, males not attached to the labour force, and welfare recipients. They find that among black

³ Wards in the UK have on average about 5,000 residents (somewhat larger than what most people think of as a neighbourhood), but they range in size from 1000 to about 30000.

⁴ Sample of Anonymised Record Districts were 278 areas in Great Britain formed from aggregating 459 Local Authority District areas.

women neighbourhood disadvantage has little impact on the risk of pre-marital childbearing although among white women, as neighbourhood disadvantage increases, premarital childbearing rates rise nonlinearly, with only neighbourhoods that had the most concentrated levels of poverty exhibiting substantial effects. In later work, the same authors examine the effect of poverty rates in contiguous areas. They find that living in an area characterised by high poverty surrounded by low poverty leads to a higher probability of pre-marital birth than living in areas of high poverty that are also surrounded by areas of high poverty (South and Crowder, 2010). Their findings suggest that relative levels of neighbourhood poverty, alongside and even above absolute poverty levels, are important in predicting non-marital fertility. Crane (1991) found non-linearity in the effect of socioeconomic measures on the probability of teenage motherhood, with a threshold level existing in order for advantageous neighbourhood characteristics to take effect.⁵ For example, for white women in large cities, Crane estimated that an increase of 3.5% of professional and managerial classes in the neighbourhood to 7.5% reduced the probability of teenage motherhood from 10% to 1%, with little difference with any increase thereafter; for black women an increase from 3.4% to 5% in the proportion of professional and managerial in the neighbourhood reduced the probability of teenage parenthood from 19.8% to 13.1%, with only moderate change thereafter. However, these estimates did not account for several known individual level predictors of teenage parenthood, and the effect of neighbourhood could have been overstated.

As with Crane, Galster and colleagues (2007) also used poverty in census tract areas as a predictor of the probability of early teenage parenthood (pre-18). Using instrumental variable techniques to minimise selection effects and endogeneity, this study found no evidence of neighbourhood effects on the propensity to become a teenage mother although this study only examined births up to and including age 17. Nationally in the UK and the US, this cut-off point would only capture around a third of teenage births (Office for National Statistics, 2007, US Department of Health and Human Services, 2006). The cut-off point used is likely to be significant in determining which neighbourhood effects are influential as evidence suggests that the risk mechanisms for teenage motherhood change with age: in line with motherhood occurring in the early twenties, the risk profile for older teenage motherhood includes a number of socioeconomic predictors (Kneale, 2009), while younger teenage motherhood may be more dependent on school and peer group factors (Bonell et al., 2007, Bonell et al., 2005).

Taken together, these studies show mixed evidence for neighbourhood effects. In the UK there seems to be some evidence of variation across labour market areas (at a larger scale), but not much quantitative evidence of any labour market or concentrated poverty effects at anything resembling a 'neighbourhood' level. In the US, some studies have found effects of concentrated poverty at the census tract level and have suggested that these are non-linear, but other work which attempts to eliminate

⁵ Both of these studies used census tracts or equivalent areas, typically housing about 4-5000 people.

selection effects (the fact that individuals selected into the most disadvantaged areas might be different in systematic ways to those not in such neighbourhoods) finds no significant associations. In any case, differences in the characteristics of disadvantaged neighbourhoods in the US and UK make it difficult to draw comparisons (Ostendorf et al. 2001, Musterd 2005, Galster, 2007a). Neighbourhood social segregation is more pronounced in the US, and is often synonymous with racial segregation, while social segregation in the UK is more likely based on class (Bonell, 2004). Many of the US studies only find (inconsistent) evidence of neighbourhood effects for certain ethnic groups (Driscoll et al., 2005, Crane, 1991, South and Crowder, 1999), which suggests an interaction of place and ethnicity in determining outcomes. Although a large proportion of the literature on teenage motherhood and neighbourhood effects is based on US data, the different ethnic make-up of the UK and distribution of ethnic groups across neighbourhoods makes it hard to apply some of the findings from the US to the UK context.

In addition to these specific problems, all studies involving area grapple with the problem of finding an appropriate scale at which to measure neighbourhood effects - data rarely being available at exactly the relevant level, and with the difficulty that neighbourhood effects are likely to affect some people more than others, depending on their exposure to the neighbourhood, lifestyle and other resources (Lupton 2003) It is also possible that studies finding no effects are less likely to be published and, even when published, less likely to be identified in a search using the terms 'neighbourhood' (or 'area' or 'place' or 'geographic') effects. All of these factors make it difficult to draw strong conclusions from the available literature.

Explanatory Frameworks for Teenage Parenthood

Most of the studies cited above are situated within what might be described as the 'neighbourhood effects' paradigm – that is to say that they are conducted by scholars whose primary interest is the effect (or not) of geography, not the specific issue of teenage fertility. Teenage parenthood is often one outcome of a package of inauspicious outcomes tested to understand whether neighbourhoods are predictive of adolescent or young adult outcomes.

Another approach is to start with the specialist literature on early parenthood before directly considering area effects. What is known about this phenomenon and what hypotheses can therefore be derived about the possible influence of neighbourhoods? Within British demography, the complement of social and attitudinal changes that led to falling fertility rates including declining marital rates, increasing divorce and cohabitation, pluralistic household structures and increased female participation in the labour and education markets is described as the Second Demographic Transition (SDT). As in the case of the First Demographic Transition (at the time of the Industrial Revolution), changes in fertility patterns in the SDT have occurred against a background of substantial social upheaval including growth in women's labour market participation and educational qualifications (see Joshi, 2002 for a review of British

trends). While a full review for the SDT is beyond the scope of this paper, one of the most salient characteristics of the SDT is the rise in age at first parenthood, visible across most social groups but especially visible among highly educated women (who are usually from families of higher social class). One effect of this postponement has been an increasing divergence in fertility patterns between women in different social classes. Middle class and highly educated women have increasingly delayed fertility while patterns of young parenthood have persisted more strongly among working class women with low educational capital (for example Simpson, 2009).

This divergence is typically explained in terms of the opportunity cost of childbearing. Women who face the highest levels of wage penalties and missed chances for career progression through taking time out of the labour market as mothers (opportunity costs) will be those most likely to delay (Joshi, 1998, Joshi, 2002, Becker, 1991). One factor influencing labour market prospects is education, and young women with low qualifications are usually those thought to be at greatest risk of early motherhood. Several studies have consistently outlined the link between higher educational levels and delayed motherhood (for example Lappegard and Ronsen, 2005, Rendall and Smallwood, 2003, Smith and Ratcliffe, 2009, Rendall et al., 2005, Kiernan and Hobcraft, 1997).

An alternative sociological position is that early motherhood reflects non-normative values around fertility. In recent years, this notion has been framed within a discourse of 'social exclusion' i.e. that a position of exclusion from mainstream social, productive and consumptive activities in society (Burchardt et al., 2002) may lead to the adoption of values or behaviours that reject or render impossible approved or normative routes towards 'inclusion'. This suggests a more complex response to labour market factors than the rational weighing up of options: labour market exclusion based upon factors such as having low qualifications and a materially disadvantaged family background (for example Kiernan, 2002) and on low or alternative expectations (Arai, 2007, Afable-Munsuz et al., 2005), such that motherhood becomes the alternative to employment.

The major implication of this (social exclusion) theoretical perspective in relation to policy is that it should, in theory, be possible to achieve a shift towards more normative values by re-connecting excluded individuals to education and labour markets. This is, in some respects, problematic as it presents exclusion essentially as an individual problem, ignoring the economic and social power relations that systematically exclude some people from occupying high social positions (to the advantage of others) and presenting the values of the included class as normative and desirable, and other values as deficient or misguided and in need of treatment. In relation to early motherhood, a social exclusion perspective assumes that early motherhood is ultimately unwanted, although this is contrary to some existing literature, which finds early motherhood to be specifically desired, independent of structural factors (Afable-Munsuz et al., 2005, Kiernan, 1997), and early mothers to be strongly tied to the role of motherhood (Holmund, 2005). A number of authors prefer to suggest that there are differences in values around fertility between

social classes which are to some extent shaped by current labour market opportunities but also by historic patterns, gender roles, and attitudes towards family and community. While it may be the case that these different patterns have arisen partly out of the economic relations of capital and labour (thus historic economic exclusion), presenting working class values and behaviours as undesirable and the product of exclusion of individuals from otherwise equitable labour relations is in itself an exclusionary act. For example, Ridgeway and Correll (2004) argue that the positioning of young parents who stay at home to care for their children as socially excluded from the labour market demeans the value of child-caring activities, including their economic value, and reinforces notions of parenthood, but particularly motherhood, as a low status occupation.

A further theoretical perspective emphasises that ideas are diffused across social networks, and that both socioeconomic changes and changes in attitudes are necessary before new ideas on fertility are adopted (Lesthaeghe and Neels, 2002, Seltzer et al., 2005, Casterline, 2001). This theory has been used to explain historical variations in fertility trends. Applying this to the case of early parenthood (and the SDT, which is to a large extent a theory of ideational change) is analogous to saying that women are choosing to become early parents because this is sanctioned within their social network, and postponement of parenthood is not sanctioned within the social network. Clearly part of the sanctioning will come from shared values among people of the same social class who occupy the same networks. Shared values may relate to the role of motherhood, but also to sexual behaviour, the use of contraception and the acceptability of abortion. There may be different norms around what information is for public knowledge consumption and what information is kept privately within differing social networks. Also the different structure of social networks within different classes may be influential. For example, the closer geographical proximity of generations within traditional working class communities may enable stronger transmission of attitudes. However, while social network characteristics are likely to be strongly influenced by social class, local variation might also be expected, partly conditioned by geography, design, facilities and amenities, as well as housing market conditions, population turnover and so on. In theory, both the nature of networks and information flows across them might be influenced by policy intervention.

Essentially, then, we can identify three explanatory frameworks for teenage parenthood: economic theory (which identifies the importance of opportunity costs); differential values (whether 'cultural' or produced by localised processes of social exclusion); and the characteristics of social networks. Evidently these are not entirely separate. Equally evidently they could all be expected to vary across space, although not all at the same spatial scales. Social networks are most likely to operate at the neighbourhood level, labour market effects and socio-cultural effects at a variety of different geographies.

Evidence on Labour Market, Socio-Cultural and Social Network Effects

We have already observed that labour market effects have been tested to some extent in the neighbourhood effects literature. Quantitative tests of the importance of ‘cultural’ or social class values on teenage childbearing are relatively rare, possibly because of the lack of attitudinal data at local level. Joshi and Hawkes (2006) suggest that if they exist, these influences may operate at large spatial scales – they show that compared with the rest of the UK, Wales is characterised by patterns of early motherhood that are not explained by childhood antecedent characteristics of the mother. US studies find a cultural effect at a smaller geographic level. Way and colleagues (2006) also found a strong pro-natalist culture among Hispanic communities in the US. Crane’s (1991) study, cited above, was a test of neighbourhood social class composition, which might be taken as a proxy for class values, but was not a direct test of values or attitudes.

Evidently cultural norms are influential not only in relation to sexual behaviour or planned early fertility but in relation to abortion, such that in some communities abortion is seen as more acceptable than in others. This is a theme that is repeated several times in the qualitative literature. A later study by Arai cited the cultural unacceptability of abortion as recourse for early pregnancy:

“It is culturally quite acceptable to have children young in [place]. But quite often for young people they don’t do anything about it very quickly. They’re scared. They don’t know who to tell. I think they hope it would go away..... It’s [abortion] extremely controversial. For a lot of young women, the thought of a termination is just abhorrent.” (Arai, 2007)

Some studies have explicitly explored the impact on early parenthood of living in places with different social networks and social capital. Driscoll and colleagues (2005) found that both community opportunity and efficacy influenced the transition to teenage birth, with higher levels reducing the likelihood of parenthood occurring. Neighbourhood variables rendered selected parental and individual characteristics, notably educational expectations, as weak explanatory factors. Building upon the notion of collective efficacy and social control, although possibly also incorporating an element of a peer group effect, Haveman and colleagues’ (1997) study found the proportion of young adolescents belonging to religious organisations in a census tract area was associated with a lower likelihood of teen childbearing among individuals after controlling for individual and family level characteristics. This was alongside other neighbourhood characteristics, including state expenditure on family planning policies and so on. Dembo and colleagues (2009) found that neighbourhoods characterised by high levels of unemployment, income inequality and a high turnover of residents were said to be unable to provide social organisations and collectivity that would moderate risky behaviour. Gold and colleagues’ (2004) study of pregnancy intervals found that these were reduced in areas that had high levels of income inequality. Less cohesive areas, as measured through income inequality, were also less

likely to exert informal social control on residents' fertility behaviour, which may include decisions about childbearing while in poverty (Gold et al., 2004).

Social networks are conceptually distinct from culture and values. However in practice, values can be reinforced through networks (and networks through shared values) in ways that make it impossible to disentangle their direct associations with teenage motherhood. For example in Arai's framework, if a woman is to avoid using abortion as recourse once pregnant, then her social networks must exert pressure against this. Similarly, in Tabberer and colleagues' study of the influences on decisions made once pregnant, abortion was only used if young women knew others who had made the same decision. In the wider community context, the fear of being bullied or being called a murderer discouraged abortion in communities where abortion was deemed unacceptable, while the visibility of other teenage mothers was a positive factor towards continuing with a pregnancy (Tabberer et al., 2000). Local acceptance was also a theme explored in Cater and Coleman's 2006 study and Lee and colleagues' 2004 study. In the latter study, which included quantitative explorations, positive correlations between teenage and adult abortion rates were said to be reflective of local familial and cultural processes, and abortion was more likely to be used as recourse where there was extensive local family planning provision, higher proportions of female GPs and greater independent sector abortion provision. Qualitative studies are therefore in agreement that abortion is only used where young women have access to services, and where it culturally sanctioned. Where these conditions are not met, this is likely to lead to an increased prevalence of teenage mothers, which in turn increases the incidence. Therefore, in quantitative terms, a pregnant young woman in an area with a low concentration of teenage mothers is less likely to become a parent herself than an individual with similar characteristics living in an area with a high concentration of teenage parenthood. However, UK quantitative studies exploring this and other socio-cultural mechanisms are comparatively rare.

Outside the immediate teenage parenthood field, there is also a large number of studies looking at neighbourhood influences on adolescent sexual behaviour. For example, Cleveland and Gilson (2004) included the proportion of single parent families as an indicator of social control and found this to be associated with the total number of sexual partners for both males and females, although less so for females where the effect was mitigated by individual level family structure. Browning and colleagues found a similar dynamic between family-centred processes and neighbourhood as was the case for males in Cleveland and Gilson's study, although in their study this applied to both men and women and collective efficacy was only effective where individual family level processes were weaker (Browning et al., 2005). This study also found concentrated poverty (composed of an index of socioeconomic measures) to be a significant predictor of sexual behaviour.

More specific labour market and attitudinal mechanisms are outlined in Bell's UK study of teenage childbearing in coastal areas. Here, an algorithm of a 'carnivalistic' attitude of young people towards sex as a reaction to the temporary nature of the surrounding local population led to higher engagement in risk behaviours for early

pregnancy. Seasonal employment patterns in these coastal areas led many young people to shift their goals away from becoming a good employee to becoming a good parent, and this resulted in a wider neighbourhood acceptance of early motherhood and a low acceptance of abortion (Bell et al., 2004). Bell's findings tie in with the social disorganisation/community efficacy theory proposed by several studies of inauspicious fertility events.

Both theory and evidence therefore suggest that place is potentially relevant to all of the potential explanatory frameworks for teenage motherhood since all important variables could vary geographically. In addition, some features of place such as residential turnover, services and political organisation may also be important, although these lie outside the main explanatory frameworks outlined above. Institutional theories emphasize the role of schools, businesses, political organizations and social service agencies, and their moderating effects. South and Crowder (1999) outline the case for the behaviour of external (institutional) adults within the neighbourhood, for example teachers, the police and so on, in predicting early parenthood. Evidence from UK empirical studies of early motherhood also supports the case for institutions being important, for example the educational expectations of teachers were found to be significant predictors of teenage childbearing (Kneale, 2010).

In reality, however, it is difficult to test these theories separately. Many of the same factors which underpin opportunity cost calculations (eg low local labour market prospects) may well co-exist and be associated with long term economic exclusion, cultural preferences for early marriage and childbearing, and social networks that facilitate or encourage teenage birth. For example deindustrialisation and male unemployment have been found to be predictive of lone motherhood in other research where males' lowered status and increased interpersonal tensions were said to undermine stable partnerships (Rowthorn and Webster, 2008). Joshi and Hawkes note that Welsh families, on average, have higher levels of involvement of the grandparents in childcare and numerous other indicators of social capital including regular contact with friends and family. All of these factors may reflect different cultural expectations around family life and/or support rational decision-making about combining career and family (especially in the light of low male employment but high maternal employment), and/or be read as social network effects.

Moreover, even if these could be separately identified, they are hard to test robustly. Certainly in the UK, many of the issues highlighted as being significant in qualitative studies could not be investigated in quantitative studies as there exist no neighbourhood level measures to support these, for example community attitudes on abortion, or the existence and quality of advice services.

Implications for Policy

We conclude from this review of the literature that there is good reason on the strength of qualitative neighbourhood studies and the wider literature on antecedents of teenage parenthood to believe that neighbourhood and wider area influences might be associated with an early planned (or anticipated) pregnancy and with the propensity and opportunity to engage in risky sexual behaviour leading to unplanned pregnancy. Neighbourhood factors could also affect the likelihood of continuing rather than terminating a pregnancy. However, statistical evidence to date is mixed, and relatively sparse for the UK. In general terms, this suggests that policy-makers should not rely too heavily on this kind of evidence, but should draw on the wider body of literature, including qualitative studies and practitioner knowledge as well as ‘hard’ proof of neighbourhood effects. The same applies across many areas of policy where neighbourhood effects are at issue.

Having reviewed much of this work here, we now draw out some of the implications for the way in which area variations might be approached in teenage parenthood policy.

Relationships between area effects and area policies in general

A starting point is to be clear about the ways in which area effects might theoretically impact on policy design. One claim that has frequently been made is that demonstrable neighbourhood effects provide a rationale for area-based interventions and that the absence of such effects removes this rationale (Buck, 2001, McCulloch, 2001b, McCulloch and Joshi, 2000, Propper et al., 2005). However we contend that ‘area-based interventions’ or ‘area-based policies’ can take different forms, some of which are closely dependent on the existence of area effects and some of which are not (Table 1).

In the first category (closely dependent on the existence of area effects) are policies that are explicitly designed to address features of particular geographical areas that are believed to be influential. Examples would include initiatives to tackle ‘cultural factors’ such as low educational aspirations, residential mobility programmes enabling aspiring individuals to move away from disadvantaged areas, or attempts to change the socio-economic characteristics of areas through mixing communities. These interventions are ‘area-based’ in the sense that tackling area effects is the logical basis for the intervention.

In the second category (not closely dependent on the existence of area effects) are policies that allow or promote local variation in approach according to local circumstances (tailored local strategies). These are area-based in the sense that decision-making is localised and area is the basis of differentiation between one intervention and another. Also in this category are interventions that are physically located in particular areas, area being the basis for delivery. We might also include policies that target certain areas for intervention or for additional intervention, area

characteristics in this case being the basis for the extent of the action to be taken and the distribution of resources.

Table 1: Types of ‘Area-Based’ Policy

	Policy Approach	Sense in which ‘area-based’
Closely Dependent on Existence of Area Effects	Interventions tackle characteristics of area thought to be influential	Area has causal role in outcomes
Not Closely Dependent on Existence of Area Effects	Locally designed interventions	Decisions made locally and responsive to local conditions
	Locally-delivered interventions	Physically based in certain areas not others
	Targeting of interventions to particular areas	Resource distribution varies spatially

All of these policy interventions take place in the real world, where logic is not the only factor at work, and where there are additional and sometimes competing logics that influence decision-making. Thus, while we argue that policies that are area-based in the sense that they are explicitly designed to address causal area should closely depend on the existence of evidence of area effects, there are often other reasons why these policies might be pursued. Mixed community policies are a good example – these can be advocated in the belief that people influence each other and that, for instance, norms of non-employment might develop in areas with very few working people (e.g. Berube et al. 2005). However, such policies can also be advocated for other reasons, for instance that societies are more socially cohesive when people of different kinds live in close proximity, or that areas which have a mix of housing types and tenures enable people to stay close to friends and relatives as their incomes and housing needs change over time. They might also be opposed for a range of reasons, including but not confined to discussions about positive area effects as well as negative ones. For example, Cheshire et al. (2008) argue that market forces lead inexorably to social segregation regardless of policy attempts, and that there can be value in ‘specialised neighbourhoods’ with services and networks to support disadvantaged communities. Lupton et al (2009) point to the potential economic and social costs of achieving mix in existing neighbourhoods, arguing that these need to be offset against the gains that could potentially be made by individuals living in mixed neighbourhoods. Some of these gains (in particular those relating to improved social networks) are in any case disputed. It is not necessarily the case that socially engineered mixed neighbourhoods will display the same characteristics as ‘organically mixed’ neighbourhoods that have evolved over time (see Tunstall and Lupton, forthcoming, for a review of the evidence, also Tunstall and Fenton 2006).

To an even greater extent, it is evident that other considerations than area effects may influence policies that area ‘area-based’ in the other senses we describe. While

evidence of specific local effects would provide a rationale for locally-tailored services, there are others. Different local services might grow up on the basis of local consultation, perceived need or the capacities of individuals and institutions, in ways which could maximise their impact. Where the prevalence of social problems is heavily spatially skewed, there tend to be numerous rationales for more policy activity in the areas of highest prevalence, and for services based where people can most easily access them. Even if policies were targeted entirely at individuals with no presumption of a neighbourhood effect, the practicalities of service organisation tend to lead to area-based interventions. For example, if an advice programme were to be offered to all individuals who had themselves been born to teenage mothers, the most efficient way to organise this might be to base a worker in schools with significant numbers of such individuals.

Thus evidence of area effects is important but less so for some kinds of ‘area-based’ policy than others. Clearly evidence of very strong area effects might outweigh other considerations for or against a policy. Furthermore, the importance of area effects as a justification for policy may depend on whether the policy is being pursued in isolation or as part of a wider mix. For example, one of the criticisms often levelled at area-based interventions is that they run the risk of being ineffective overall because individuals outside the target areas would be missed (Tunstall and Lupton 2003, Townsend 1979). This is clearly a much more important consideration if the area-targeted approach is the only intervention being offered, with people outside the chosen areas getting nothing, than it is where area targeting is a relatively small add-on policy. In the former case, evidence of strong area effects might provide a justification for concentrating resources in a few selected areas; in the latter it would seem less important as a rationale.

Bearing this in mind, what does the existing evidence of area effects on teenage parenthood suggest for policy on this issue in England?

Area Effects and Teenage Parenthood Policies in England

Overall, the totality of the evidence to date tends to suggest that there are probably area-level influences, although they are not particularly strong relative to individual and family influences. This suggests that there is some rationale for area-based interventions that explicitly tackle area characteristics but that these need to be combined with wider policies that recognise non-spatial influences on the propensity for early parenthood. In broad terms, this is the policy approach that has been followed over the last decade, with a variety of universal policies (such as education campaigns and advice) being topped up with additional funds for areas of high prevalence, and local tailoring. Recognising that area effects and area policies are only part of the issue is important in this case, and in general when the issue of area effects is debated in policy. Policies that aim to tackle problems in the mistaken belief that area effects are the main driver are likely to fail, and this may sometimes lead to a ‘throw the baby out with the bathwater’ approach which concludes that area effects

are not important at all and that area-based policies are irrelevant. This review demonstrates that area effects should not be considered in isolation and that a more rounded approach to assessing the contributory root causes of social ‘problems’ such as teenage parenthood is required.

Beyond this, the current literature offers relatively little help to policy-makers. It is fairly uninformative about *which* characteristics of area affect teenage parenthood, as it tends to test single variables (such as overall deprivation levels) across the whole spectrum of neighbourhoods, and in this sense, it provides a rather weak basis for considering how policies might be tailored. Data from well-evaluated local interventions might provide a stronger basis. Evidence from some qualitative studies also points to the potential value of tailored approaches – for example the research cited earlier by Bell and colleagues on sexual behaviour in coastal areas. A useful development would be quantitative testing of particular mechanisms like this, based on identifying types of areas which have particular combinations of circumstances, compared with other ‘types’ of area, rather than on variation between areas on single variables.

The literature is also unclear about scale. The strongest statistical evidence from the UK suggests effects at the labour market level, while qualitative evidence and US studies point to more local mechanisms such as cultural norms, collective efficacy and social control, and the presence and performance of specific services and professional inputs. There remain, however, problems of data and methodology which make it hard to draw firm conclusions. In many quantitative studies the enquiry is determined by the geographies available in the data, and the selection of the scale is not justified in theoretical terms. In some cases this is because teenage parenthood is just one of a number of outcomes being studied for neighbourhood effects, rather than the study being motivated by specific hypotheses generated from an understanding of the broader patterns and mechanisms around teen parenthood. Few studies test different geographies together to establish which scale is most important, never mind whether different scales are important for different people in the same space. Data is not always available at the desired scales. On the other hand, some qualitative studies describe local influence but without further investigation to establish the different geographies that apply for different aspects of personal, social and economic life. Unless academic research can contribute more on the importance of different scales, its value to policy will be limited. In the meantime, a pragmatic way forward is the adoption of local strategies based on analysis of local dynamics (as implemented by the last government) but perhaps with integration at the sub-regional or labour market level.

Some specific pointers do come from the existing work. One relates to mixed community policies. It is unlikely of course, that such policies would be advocated just on the basis of teen parenthood, although this is one of a number of outcomes that is often considered in relation to mixed community debates. Specifically in relation to teenage parenthood, we see no strong evidence to suggest that people would do better in mixed communities than homogenous ones. South and Crowder’s (2010) US study

seems to provide some evidence to the contrary, as does Gold's (2004) finding on income inequality. However, factors associated with concentrated poverty, such as community efficacy, have also been shown to be important in some studies. The critical point is that neighbourhood effects, where found, are always relatively small. While they might support arguments for mix in new build, they are not of sufficient magnitude to justify wholesale re-structuring of existing communities, especially while there is some evidence that this may even make things worse.

Moreover, the use of mixed community policies to eliminate negative neighbourhood effects would only be considered in the context of a policy which problematises being a young parent. The qualitative literature that we have reviewed from the wider teenage parenthood literature suggests that in some communities teenage motherhood is accepted, encouraged and well supported, not necessarily a problem to be avoided. In this light, a more pertinent question might be whether certain neighbourhoods provide better opportunities for young parents to achieve successful outcomes in terms of well-being, health, education and employment than others, what characterises these neighbourhoods and how policy can best engender and support these characteristics. Drawing on the wider teenage pregnancy literature as well as the neighbourhood effects literature also enables us to make two other observations for policy. One is that age is potentially important. The differences between US research on under 17 parenthood and UK research on under 20's point to the potentially different neighbourhood mechanisms to which young people of different ages are exposed. For both age groups, a combination of local and national influences is probably at work, but it cannot be assumed that the local influences are the same for different age groups. Local knowledge will suggest which routes (schools, youth groups, street gangs, employment or club-based networks) are effective routes for information and support for different ages, and which issues (for example, work prospects or peer pressure) might be most important.

More fundamentally, the importance of 'teen-age' as a cut off to define the 'problem' is challenged by this wider literature. Several studies show that the disadvantage associated with teenage parenthood spills over into the early to mid twenties (Hobcraft and Kiernan, 2001, Robson and Berthoud, 2006). In terms of predicting early parenthood, there is also little to distinguish teenage definitions of early parenthood from those that include women in their early to mid-twenties (Kneale, 2009), although there is more justification in the case of fatherhood. It is argued that teenage cut off point may actually be more of a political construct (Kneale, 2009, Duncan, 2007, Geronimus, 2003, Furstenberg, 2007) that takes the form of manufactured risk than actually a meaningful way in which to view occurrences of early parenthood. Teenage parenthood itself crosses moral and legal boundaries in the UK, although most of those falling within the definition are aged 18 and over. For example in 2007, roughly a third of teenage mothers were teenagers under the age of 18, and 5% to those under the age of 16 (Office for National Statistics, 2007). If the policy focus on teenage parenthood is due to concerns about the socioeconomic circumstances, health and well-being of parents and children then the evidence suggests the focus should include

parents in their early twenties. If teenage parenthood is a moral and legal concern, then the focus should be on parenthood occurring at age sixteen and under. A second point illustrated by the literature about cultural and social norms around abortion and the importance of advice and information networks is the need to distinguish between conception (leading to pregnancy) and childbearing (continuing with a pregnancy to full-term and beyond). A different set of neighbourhood characteristics may predict conceptions as opposed to parenthood. For example, labour market characteristics may influence some young people to plan to become parents early, while the availability of services or cultural norms around abortion may be what determine post-conception decisions for those whose pregnancies are unplanned. These mechanisms are very difficult to identify in quantitative studies but vital in planning interventions.

Concluding Remarks

We undertook this review primarily as a forerunner to an empirical investigation of neighbourhood effects on teen parenthood in the light of a current policy focus on this ‘problem’ and a set of policy interventions that have been a) apparently underpinned by a belief in area effects, and b) largely regarded as unsuccessful. We asked to what extent there are neighbourhood effects and how this information matters for policy design and implementation.

The work brings us to three main conclusions. First, the number of quantitative studies on neighbourhood effects on teenage parenthood is relatively small in the UK (although larger in the US). However, qualitative studies within the wider teenage parenthood literature are suggestive of place effects. Policy-makers need to take a broad view of what constitutes ‘evidence’.

Second, the literature in this field is beset by some of the tensions and difficulties which beset neighbourhood effects research more generally namely: the tendency to atheoretical approaches in which mechanisms and the scales at which they operate are not fully theoretically elaborated; unavailability of data at the theorised spatial scales; difficulty of separately identifying mechanisms such as cultural or economic effects; failure to test different geographies together; and the tendency to look only for variation on single variables across the full spectrum of neighbourhoods, rather than identifying types of neighbourhood with distinct circumstances. We have not addressed some of the more complex methodological difficulties with which scholars in this field have to grapple, such as how to deal with selection effects, although we acknowledge their importance.

Third, the claims that are made for the importance of neighbourhood effects research in academic circles turn out to be somewhat over-exaggerated in the rather messy world of designing affordable, cost-effective and workable policies and implementing them locally in a pre-existing institutional landscape. Neighbourhood effects only ever provide one rationale for intervention, and are not of the magnitude, on their own, to

justify costly restructuring. On the basis of the evidence we have reviewed, we suggest that the research evidence lends some support to the existence of local strategies alongside national ones (i.e. the current approach), provides little guidance on if and how interventions should be tailored, and does not support a policy of social mixing to reduce teenage childbearing. It also raises some rather more fundamental questions for policy. What outcome should policy be trying to achieve – a reduction in teen pregnancy, a reduction in teen childbearing (in which case at what age) or an improvement in the outcomes of those who have children early? Neighbourhood-based interventions to support the latter would likely be very different from those designed to support the former policy.

Our own empirical investigation now proceeds with an attempt to model some of the different mechanism identified here at the relevant spatial scales and using bespoke geographies (for initial findings see Lupton and Kneale 2010), thus building on some of the existing work we have reviewed here while attempting to deal with some of its current problems. We offer the current paper in part as a sobering reminder that a) progress in neighbourhood effects research is incremental and we are currently still far from a strong evidence base and b) that the relationship between evidence and policy is far from straightforward. Neighbourhood effects research will never provide all the answers for policy makers nor should it!

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Appendix 1: Policy Failure?

By 2007⁶, the national rate had fallen to 41.7 per thousand females aged 15-17, from 46.6 in 1998, a fall of around 11% on the 1998 rate. After a steady decline to 2006, the rate rose again in 2007. The under-16 rate seemed to have established a downward trend from 1998 to 2004 (in line with the government's targets), but has subsequently risen.

Table A1: Under 18 and Under 16 Conceptions for England: 1998-2007

Year	Under-18 conception rate*	Under-16 conception rate*
1998	46.6	8.8
1999	44.8	8.2
2000	43.6	8.3
2001	42.5	8.0
2002	42.7	7.9
2003	42.2	7.9
2004	41.6	7.5
2005	41.3	7.8
2006	40.6	7.7
2007	41.7	8.3

Source: Office for National Statistics and Teenage Pregnancy Unit, 2009. Citation in <http://www.dcsf.gov.uk/everychildmatters/resources-and-practice/IG00200/> accessed January 2010.

Some caution needs to be applied before leaping to a conclusion of policy failure from these data. Firstly, the number of teen conceptions is relatively small (around 40,000 per year under 18 and 7000 per year under 16). Local authorities are of different sizes and have different rates, but for typical urban authorities under-18 conceptions tend to number between 150 and 300. County councils have been 300 and 800 under-18 conceptions per year. Evidently calculations of rates, particularly at the local level, are vulnerable to random changes and to changes in underlying demographics. Secondly, not all conceptions are included in the data, only those which are known because they result in a birth or legal abortion. Conceptions resulting in miscarriage or illegal abortion are not included. It is certainly plausible that improvements in advice and guidance services might lead to a higher proportion of these previously unknown conceptions coming to light and leading to legal rather than illegal abortion or to legal abortion rather than miscarriage. In other words, policy interventions could lead to an increase in known conceptions. Thirdly, and a connected point, the proportion of

⁶ These are the most recent data, published February 2009. Given that data include conceptions that lead to a live or still birth (which may be registered up to six weeks after the birth) or legal abortion, there is inevitably a lengthy time lag from the date of conception to the publication of the data.

conceptions resulting in legal abortion has been steadily rising, thus the rate of teenage parenthood has been declining, even if the rate of teenage conceptions has been ostensibly rising.

Table A2: Percentage of Teenage Conceptions Leading to Legal Abortion 1998-2007

Year	Percent of U18 conceptions leading to legal abortion	Percent of U16 conceptions leading to legal abortion
1998	42.4	52.9
1999	43.5	53.0
2000	44.8	54.5
2001	46.1	56.0
2002	45.8	55.7
2003	46.1	57.6
2004	46.0	57.6
2005	46.8	57.5
2006	48.8	60.2
2007	50.6	61.9

Sources: Office for National Statistics, 2009. Citation in <http://www.dcsf.gov.uk/everychildmatters/resources-and-practice/IG00200/> accessed January 2010.