

The Dynamics of Bad Housing: The impact of bad housing on the living standards of children

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EXECUTIVE SUMMARY

Bad housing can take many forms, embracing issues such as the physical conditions of the accommodation and overcrowding. Whilst the presence of a link between bad housing and child outcomes has been acknowledged in a number of studies, relatively little is understood about the nature of this relationship. In particular there is little evidence on how long children live in bad housing for and whether the duration of bad housing is associated with other well-being outcomes for children.

This research was jointly funded by Eaga Partnership Charitable Trust (Eaga-PCT) and Shelter. The study was carried out by Matt Barnes, Wojtek Tomaszewski and Sarah Butt of the National Centre for Social Research (NatCen). The main report presents the results of this study. Key findings are presented in this summary.

How is bad housing measured?

The research uses data from the Families and Children Study (FACS), a large-scale government sponsored survey of families with dependent children in Britain. FACS collects information on a range of topics, including accommodation, where parents are asked their opinion on the state of their housing. Three aspects of bad housing are used in this research:

1. *Overcrowding*, which measures whether children live in accommodation that falls 1 or more bedrooms below the 'bedroom standard' criterion (an established assessment that takes into account the number of rooms in the accommodation, and the size and composition of the family);
2. *Poor state of repair*, which measures whether children live in accommodation that suffers from three or more problems from a list including rising damp in floor or walls, general rot and decay, and problems with drafts; and
3. *Inadequate heating*, which measures whether children live in accommodation that the family is unable to keep warm enough in winter.

How many children experience bad housing?

Although FACS measures bad housing using a different methodology to the specialist housing surveys, some of which employ an independent surveyor to assess the accommodation, FACS finds patterns of bad housing in line with other published research. According to FACS, in Britain in 2005:

- 15 per cent of children were living in overcrowded accommodation;
- 11 per cent of children were living in accommodation in poor state of repair; and
- 5 per cent of children were living in accommodation with inadequate heating.

One in four children (25 per cent) experienced at least one form of bad housing, but only a minority (5 per cent) experienced multiple housing problems.

How long do children experience bad housing for?

FACS interviews the same families on an annual basis, which means the circumstances of children can be tracked over time. This research uses five years of FACS data to explore how long children lived in bad housing over the period from 2001 to 2005. Over this five-year period a substantial proportion of children experienced bad housing:

- 24 per cent of children spent at least one year living in overcrowded accommodation;
- 23 per cent of children spent at least one year living in accommodation in poor state of repair; and
- 13 per cent of children spent at least a year living in inadequately heated accommodation.

Children were categorised according to their history of bad housing over the period:

1. *Persistent* bad housing, describes children in bad housing at 3, 4 or 5 of the five annual observations;
2. *Short-term* bad housing, describes children in bad housing at 1 or 2 of the five annual observations; and
3. *No* bad housing, describes children who avoided bad housing over the period.

Children experienced different housing problems for different lengths of time. Overcrowding was the housing problem most likely to be experienced on a persistent basis.

- 13 per cent of children persistently experienced overcrowded accommodation;
- 6 per cent of children persistently experienced accommodation in poor state of repair; and
- 4 per cent of children persistently experienced accommodation with inadequate heating.

Which children are most at risk of persistent bad housing?

The propensity for children to experience persistent bad housing varied according to characteristics of their family and local area. For example, the duration of all three types of bad housing varied by tenure, even after controlling for a range of other circumstances.

- Children living in social rented accommodation were the most likely to experience persistent overcrowding (26 per cent).
- Children living in private rented accommodation were the most likely to persistently experience accommodation in poor state of repair (19 per cent)
- Children living in private rented accommodation were the most likely to persistently experience inadequately heated accommodation (19 per cent).

There were other groups of children at particularly high risk of persistent bad housing. The groups of children at risk varied depending on the type of bad housing in question.

- Children in families with four or more children were four times as likely to experience *persistent overcrowding* than all children (53 per cent compared with 13 per cent)
- Children in families with an Asian mother were over twice as likely to experience *persistent overcrowding* than all children (32 per cent compared with 13 per cent)
- Children living in one of the 20 per cent most deprived areas were more likely to experience *persistent disrepair* than all children (10 per cent compared with 6 per cent)
- Children in families below the income poverty line were twice as likely to experience *persistent disrepair* than all children (12 per cent compared with 6 per cent)
- Children in families that had a number of debts were more than twice as likely to experience *persistent disrepair* than all children (14 per cent compared with 6 per cent)
- Children in families that had a Black mother were more than twice likely to experience *persistent inadequate heating* than all children (10 per cent compared to 4 per cent)
- Children in lone-parent families were twice as likely to experience *persistent inadequate heating* than all children (9 per cent compared to 4 per cent)
- Children in families that had a number of debts were more than twice as likely to experience *persistent inadequate heating* than all children (11 per cent compared to 4 per cent)

What are the associations between persistent bad housing and other outcomes for children?

The cross-cutting nature of the FACS survey, coupled with the fact that it collects information on each separate child in the family, means that it is possible to directly compare outcomes for children who have different experiences of bad housing. The FACS data shows that children who lived in persistent bad housing were significantly more likely to face negative child outcomes across the range of the *Every Child Matters* outcomes framework, including:

Being healthy:

- 25 per cent of children who persistently lived in accommodation in poor state of repair had a long-standing illness or disability compared to 19 per cent who lived in this type of bad housing on a short-term basis

Staying safe:

- 29 per cent of children who persistently lived in accommodation in poor state of repair had been bullied inside or outside of school in the past year compared to 18 per cent who lived in this type of bad housing on a short-term basis

Enjoying and achieving:

- 12 per cent of school-age children who persistently lived in overcrowded accommodation did not have a quiet place at home to do homework compared to 6 per cent who lived in overcrowded accommodation on a short-term basis

Making a positive contribution to society:

- 5 per cent of children aged 8-18 years who persistently lived in accommodation in poor state of repair had been in trouble with the police in the past year compared to 3 per cent who lived in this type of bad housing on a short-term basis

Achieving economic well-being

- 67 per cent of children who persistently lived in inadequately heated accommodation had not had a holiday in the past year compared to 50 per cent who lived in inadequately heated accommodation on a short-term basis

The analysis suggests that even when controlling for other factors, such as poverty and poor parental health, an increased duration of living in bad housing – in other words, living in bad housing persistently rather than on a short-term basis - is associated with higher likelihood of children experiencing certain negative outcomes.

An increased duration of living in *overcrowded accommodation* is significantly associated with the following outcomes:

- Feeling unhappy about their own health
- Having no quiet place at home to do homework

An increased duration of living in accommodation in a *poor state of repair* is significantly associated with the following outcomes:

- Having a longstanding illness, disability or infirmity
- Having chest or breathing problems
- Having stomach, liver or digestive problems
- Being bullied in or out of school
- Feeling unhappy about their family life
- Getting in trouble with the police

An increased duration of living in *inadequately heated* accommodation is significantly associated with the following outcomes:

- Having no quiet place at home to do homework
- Having multiple negative outcomes

What policy areas should be targeted?

This research suggests that children that live in bad housing for longer face an increased risk of other negative outcomes - even when controlling for other factors that could impact on children's well-being, such as living in families where the parents have poor health. The most obvious policy direction therefore is to focus on the substantial number of children who live in bad housing for long durations. However, this research has also revealed that far more children experience bad housing over a period of time than is suggested from the point-in-time surveys commonly used by government statisticians. So although there is a minority of children that experience bad housing persistently, there is a much higher number of children that experience bad housing at some stage during their childhood.

Children in persistent bad housing are disproportionately likely to come from large and BME families and families that live in rented accommodation. Housing policy must necessarily be very tenure specific given the different policy levers that work within each sector. Policy must therefore consider the different types of families that live in social and private rented accommodation, so that housing policies can best target interventions at the most appropriate groups. For example, it is clear that the government has a particular responsibility in tackling bad housing in the social-rented sector. The current government has a target to bring all social housing into a decent condition by 2010. This research has suggested that persistent overcrowding is a particular issue for families with children in social-rented accommodation - which suggests an ill fit between families in the social rented sector and the availability and affordability of suitably sized accommodation.

Bad housing is not restricted to the social-rented sector however and this research has found that a higher proportion of children living in privately rented accommodation persistently lived in accommodation in a poor state of repair or inadequately heated accommodation. Inadequately heated accommodation is an increasing concern for families with children, and other population groups, since the recent rise in energy prices. Indeed, as energy prices have been increasing since 2005 (the latest year of FACS data used in this study) it may well be the case that the number of children living in inadequate heated homes has grown. This research has shown poverty to be inherent amongst many families in persistent bad housing and the cost of heating a home has significant repercussions for families on low income – either for those unable to afford to heat their home or for those whose spending on heating means their family has to go without other essentials. We know from other research that families do not necessarily put heating at top of their list of spending priorities.

Given the link between bad housing and child outcomes, it appears crucial that policy makers consider the impact of bad housing when designing policies centred on child welfare. Bad housing is itself intrinsically a bad outcome that children should avoid, but more so given its link to other negative aspects of well-being. With this in mind policy makers need to consider a framework for looking at children's well-being that affords a prominent role to housing. Housing does not feature strongly in the government's current framework for looking at children's well-being (*Every Child Matters*) and this means that there is no co-ordinated approach to tackling bad housing amongst families with children. This research implies that incorporating housing issues into the policy agenda on the well-being of children will result in efficiency savings in other policy goals, as interventions in housing provision and quality are likely to lead to improvements in many other aspects of children's lives. Progress in this area therefore is also likely to have positive impacts on the government's ambition to eradicate child poverty by 2020.

1 INTRODUCTION

Bad housing can take many forms, embracing issues such as the physical conditions of the accommodation, overcrowding and homelessness. Bad housing is a problem that affects the lives of a large number of children. Shelter estimate that approximately 1.6 million (14 per cent) children in Britain currently live in bad housing¹ (Shelter, 2006).

Whilst the presence of a link between bad housing and child outcomes has been acknowledged in a number of studies, relatively little is understood about the nature of this relationship. This is partly because much of the evidence is based on small-scale studies that have difficulty isolating the “housing effect” from the impact of other factors that could cause negative child outcomes - such as poverty and area deprivation. There is therefore a concern that any association between housing and child outcomes may be the result of these other factors rather than the effect of bad housing per se. There is also a lack of information on the dynamics of bad housing – that is, how long children live in bad housing for and whether the duration of bad housing is associated with outcomes for children.

In response to the current policy focus on reducing child poverty and improving child outcomes, and the limitations of existing research, this study uses information from a uniquely-appropriate source of longitudinal data on families with children to provide a large-scale quantitative analysis of the association between outcomes for children and living in bad housing. The findings of the research will be used to discuss the needs of families with children living in bad housing and the implications for policies designed to improve the outcomes of children in these families.

The chapter is organised in the following way:

- Section 1.1 introduces the notion of bad housing and discusses the different forms of bad housing that can be found in Britain.
- Section 1.2 reviews the existing research on the link between bad housing and well-being outcomes for children.
- Section 1.3 outlines the main objectives of this research and describes how it will add to current state of knowledge in the area.

1.1 What is bad housing?

This section outlines the various aspects of bad housing that affect children in Britain. The government has a number of housing indicators incorporated within Public Service Agreements, most of which have particular implications for families with children, and we include these measures in our discussion. We also include evidence on the most up-to-date estimates of bad housing amongst children and families with children.

Non-decent housing

The government describes a ‘decent home’ as one that meets all of the following four criteria:

- i) It meets the current statutory minimum standard for housing based on the Housing Health and Safety Rating System (HHSRS)², and is free from serious ‘Category 1’ hazards which cover the condition and layout of the home³;
- ii) It is in a reasonable state of repair (related to the age and condition of a range of building components including walls, roofs, windows, doors, chimneys, electric and heating systems);
- iii) It has reasonably modern facilities and services (related to the age, size and layout/location of the kitchen, bathroom and WC and any common areas for blocks of flats, and to noise insulation); and

¹ Defined as living in temporary accommodation, overcrowding, or unfit conditions.

² The HHSRS is the Government’s new risk assessment procedure for residential properties. It replaced the Housing Fitness Regime in April 2006 in England, and in Wales later that year. HHSRS has replaced the Fitness Standard as an element of the Decent Homes Standard.

³ A detailed definition is available at <http://www.communities.gov.uk/publications/housing/203412>

- iv) It provides a reasonable degree of thermal comfort (related to insulation and heating efficiency), (Department for Communities and Local Government, 2006).

In 2005, 23 per cent of all families with children in England were classified as living in non-decent homes (English Housing Condition Survey, 2005). The estimate of dwellings that fail on fitness⁴, repair or modernisation criteria only (i.e. ignoring thermal comfort criterion) is just over one in ten⁵. Those most likely to live in non-decent homes were vulnerable households (those in receipt of means tested and disability related benefits) with children and lone parents (DCLG, 2007).

Inadequate heating and fuel poverty

One of the Decent Home criteria is for accommodation to achieve a reasonable degree of thermal comfort. This is assessed on the basis of the state of insulation and heating efficiency in the house. As such, it is not a direct measure of the level of heating being adequate or not, but rather an instrument to assess whether it is difficult for a house to maintain a satisfactory heating regime⁶. In 2005, one in six (approximately 16 per cent)⁷ of dwellings in England failed on the thermal comfort criterion of the Decent Home Standard.

Another official indicator related to this housing problem is 'fuel poverty'. Tackling fuel poverty is key to the government's wider agenda of reducing poverty, tackling social exclusion, and improving health (DEFRA 2004). A household in fuel poverty is defined as one that needs to spend in excess of 10 per cent of household income on all fuel use in order to maintain a satisfactory heating regime, which is usually defined as 21°C in the living room and 18°C in other occupied rooms⁸. This definition essentially focuses on what people would need to spend, rather than what they actually spend, on heating.

Around one in eight of all fuel poor households contain children (13 per cent) and estimates from the EHCS 2005 show that 3 per cent of all households with children are fuel poor. The rates are substantially higher for lone parents (7.5 per cent). However, given the recent fuel price increases, these figures are likely to underestimate the current scale of the problem. New figures reveal that as many as one in six British households may now live in fuel poverty. The consumer group Energywatch currently estimate there to be around 4.4 million fuel poor households in the UK, slightly over 3 million of these in England alone.⁹

Overcrowded accommodation

Another common aspect of bad housing is overcrowding. Overcrowding exists when there are not enough rooms or enough space for the number of people who live there. There are a number of established ways of measuring overcrowded accommodation, the most commonly used being the "bedroom standard"¹⁰.

The most recent figures for overcrowding (based on a 3 year moving average of figures from 2003/04 to 2005/06) estimate that around 900,000 children, 9 per cent of all children in England, live in overcrowded accommodation (Survey of English Housing, 2007). Overcrowding is an issue that, perhaps not surprisingly, is disproportionately likely to affect families with children, particularly larger families. Figures based on the Survey of English Housing 2000-03 show that around 70 per cent of all overcrowded households comprised families with children. Overcrowding increases with household

⁴ The Fitness Standard, which was used instead of HHSRS at the time when the data analysed in this report were collected, defined the statutory minimum standard for housing as being free from serious disrepair, being free from dampness prejudicial to the health of the occupants, and having adequate provision for lighting, heating and ventilation.

⁵ Figure based on the authors' own calculations of data from the English House Condition Survey 2005.

⁶ Also, the statutory HHSRS criterion of the Decent Home Standard evaluates, among other things, 'excess cold' hazard. However, because this element is combined within the HHSRS with a number of other housing problems, it is not possible to provide official estimates of inadequately heated homes.

⁷ Figure based on the authors' own calculations of data from the English House Condition Survey 2005.

⁸ See www.dti.gov.uk/files/file16495.pdf for more details.

⁹ More information can be found at <http://www.energywatch.org.uk/media/news/index.asp>

¹⁰ A detailed definition of the bedroom standard is given in Section 2.2.

size but varies widely by tenure, region and ethnicity. The highest rates can be found in the social rented sector and amongst Black or Minority Ethnic groups (most often situated in London, the South East and the West Midlands) (DCLG, 2006).

Homelessness and living in temporary accommodation

Homelessness and living in temporary accommodation are often considered as the most extreme forms of bad housing. The government has a target to halve the number of households living in temporary accommodation by 2010. This builds on existing legislation, introduced in 2004, which made it illegal to house families with children in bed & breakfast accommodation (except in an emergency, for a period up to six weeks).

It is difficult to quantify the scale of homelessness because of the often hidden nature of the problem. Homelessness can be temporary, with people experiencing episodes of homelessness between periods in more settled accommodation. However, some government statistics are available on the number of households that approach local authorities and are given assistance under homelessness legislation. According to latest estimates, there are nearly 500 people sleeping on the streets in England (CLG, 2007). However government research has acknowledged that at least 10 times that number sleep rough over the course of a year (Randall and Brown, 2002).

Under current homelessness legislation, local authorities must ensure that suitable temporary accommodation is available for homeless households who are in priority need and unintentionally homeless until settled accommodation can be found. Temporary accommodation can include local authority's housing stock; short-term housing leased from private landlords; council or registered social landlords' hostels; or bed and breakfast hotels. Approximately 85,000 households are estimated to live in temporary accommodation in England (CLG, 2007). Currently, 70 per cent of all households living in temporary accommodation are in London.

1.2 The link between housing and child outcomes

There is a large body of evidence that points to an association between living in bad housing and child outcomes (see Harker, 2006 for a recent review of the literature). The majority of this evidence relates to the effect of housing on health and education (see ODMP, 2004 and BMA, 2003 for a review of the literature in this area).

A limited number of large-scale surveys have been collected to investigate the experiences of families living in bad housing. Shelter found that overcrowding was most commonly seen as having a negative effect on family relationships (Reynolds, 2005). In addition, the majority of families living in overcrowded conditions also said that overcrowding had a negative effect on their child's education and development and the family's health.

There is even more limited evidence on how the duration of bad housing affects outcomes. Surveys of families living in temporary accommodation have found that families were more likely to report health problems the longer they had been living in temporary accommodation (Mitchell et al, 2004) and that depression was particularly common during the first few months spent in temporary accommodation. Some longitudinal analysis has been carried out using cohort studies to look at the long-term effects of bad housing in childhood on health, after controlling for current living conditions. Links have been found between bad housing and the likelihood of suffering from a range of health problems in adulthood, including respiratory conditions and stomach problems (ODPM, 2004). However, there is little longitudinal evidence that looks at childhood outcomes. Furthermore, there have been few studies that have made full use of longitudinal data to trace changes in housing conditions during childhood or to look at how different housing histories may impact differently on outcomes.

Despite the growing body of evidence pointing to an association between bad housing and child outcomes, there are a number of limitations to the existing research (Thomson et al, 2001; ODPM, 2004). The first of these is that much of the evidence is based on small-scale studies that are often

qualitative in nature and where the measurement of outcomes is not consistently defined. This limits the extent to which robust conclusions can be drawn.

A second issue raised by existing studies is the difficulty of isolating the “housing effect” from the effect of other variables on child outcomes. In particular, bad housing may be associated with certain socio-economic conditions. Families living in bad housing are more likely to have low income, to be social renters, and to be living in deprived areas (DCLG 2006a) - all factors which have been shown to be associated with child outcomes (Magadi and Middleton, 2005).

In the absence of multivariate analysis, there is a concern that any demonstrated association between housing and child outcomes may be the result of these other factors rather than the effect of bad housing per se. There are some studies that appear to show an independent link between bad housing and health (ODPM, 2004) and bad housing and education (e.g. Goux and Maurin, 2003). However, there remains a need for more comprehensive analysis.

The third limitation of the existing literature is that it is nearly all based on information collected at a point in time. This makes it difficult to establish a causal link between bad housing and child outcomes and limits our understanding of how the duration of bad housing impacts on outcomes. The few studies that have used longitudinal data to explore the effect of time spent in bad housing have found that experiencing bad housing in childhood leads to worse outcomes in adulthood (Ghodsion and Fogelman, 1988; Marsh et al, 1999).

1.3 Aims of this research

This project will use longitudinal data from a unique study of families with children to provide robust and detailed quantitative evidence linking bad housing to children’s living standards. In particular the research will explore the dynamics of bad housing for children and investigate how persistently living in bad housing impacts on other outcomes for children. The research will cover a number of distinct, but related, research questions:

How many children live in bad housing?

The research will use various measures of bad housing to identify the kinds of housing problems that children face. These measures will include general conditions of the property, such as state of repair, warmth, and overcrowding. The research will explore how bad housing varies across different tenure types and which children are most at risk of bad housing.

For how long do children experience bad housing conditions?

The research will adopt a longitudinal aspect, using five years of survey data on the same children, to investigate the dynamics of bad housing – with a focus on how long bad housing conditions last. So, for example, it will be possible to see whether children endure particular types of bad housing for long periods or whether certain problems manifest for only short periods of time.

What is the association between the dynamics of bad housing and the living standards of children?

The research will segment children according to the type and duration of housing problem they face, to investigate the association between bad housing dynamics and various measures of children’s living standards. The analysis will structure measures of children’s living standards around the government’s *Every Child Matters* framework that identifies five outcomes most important to children and young people - be healthy, stay safe, enjoy and achieve, make a positive contribution, and achieve economic well-being. Comparing living standards outcomes across groups of children with different durations of housing problems will allow the research to assess the impact of bad housing, and the duration of bad housing, on negative outcomes.

What are the implications for strategies to reduce bad housing to improve the living standards of children?

The findings of the research will be used to inform future policy making designed to improve conditions across all housing tenures, particularly in relation to the living standards of children, and to contribute to the general poverty and social exclusion policy agendas.

2 MEASURING BAD HOUSING USING THE FAMILIES AND CHILDREN STUDY

The main goal of this chapter is to introduce the measures of bad housing used in this research study. The chapter is organised as follows:

- Section 2.1 is a brief overview of the dataset used in the research – the Families and Children Study (FACS).
- Section 2.2 describes how the data is used to create three measures of bad housing: overcrowding, poor state of repair and inadequate heating. The indicators are validated and discussed in the context of other relevant variables available in FACS.
- Section 2.3 presents estimates of the prevalence of bad housing among children and the overlap of different types of bad housing. The analysis also looks at how bad housing varies across the different tenure types.
- Section 2.4 discusses the challenges of measuring bad housing using FACS and the limitations of survey data in general.
- Section 2.5 presents a brief overview of the chapter and summarises the most important points.

2.1 The Families and Children Study (FACS)

The Families and Children Study (FACS) is a series of annual surveys that investigate the lives of British families with dependent children. FACS is commissioned by the Department for Work and Pensions (DWP) and carried out by the National Centre for Social Research (NatCen). The study began in 1999 with a survey representative of all lone-parent families and low-income couples. In 2001 the study was enlarged to be representative of all families with dependent children.

One of the main objectives of the FACS surveys is to provide information on general family welfare issues, including the government's long-term targets to eradicate child poverty. The survey therefore covers a number of themes related to work, income, receipt of social security benefits and tax credits, deprivation and hardship. The survey also collects a range of socio-demographic and economic information from the parents and children, including family composition, educational qualifications, health and disability status, and social activities and relationships.

FACS includes a suite of questions about housing, including tenure, conditions and facilities but measures housing characteristics differently than specialised housing surveys - FACS relies on parental (usually the mother's) perceptions of the home rather than the views of an independent housing surveyor. There is a range of information collected in FACS that could be used to measure bad housing. Parents are asked about the conditions of their property and why any problems exist, including questions on damp, mould, condensation, draughts and heating. They are also asked to indicate any problems with heating as well as point out the parts of the house affected, and describe the reasons behind the insufficient heating. How we define bad housing for this project is discussed in more detail in the sections below.

FACS includes a number of measures of living standards for children. The survey contains a wealth of information on education and health outcomes for each child in the family, including school performance in core subjects, school behaviour, and specific physical and mental health illness. Additionally, in 2003 and 2004 children aged 11 to 15 years were given a self-completion questionnaire that asked their views on a range of well-being issues, including social contact, alcohol, cigarette and drug use and feelings towards school, appearance, health and their family.

Children's living standards can also be influenced by the circumstances of the family members who they live with. FACS collects very detailed information on family income, including earnings and receipt of benefits and tax credits. FACS also asks whether the family can afford a number of deprivation items, ranging from food and clothes to white goods and holidays. Box 2.1 summarises the main themes covered in FACS.

Box 2.1 Main themes covered in FACS

Mother's interview

Information about the family unit

- Family composition;
- Relationship histories;
- Contact with non-resident parents;
- Housing;
- Receipt of other social security benefits;
- Receipt and the renewal process of New Tax Credits (Working Tax Credit and Child Tax Credit);
- Other income and savings; and
- Expenditure and hardship.

Information about the main respondent herself

- Education and training ;
- Health;
- Caring responsibilities;
- Social capital
- Employment and self-employment;
- Work history; and
- Unemployment and job search.

Information about each specific dependent child

- Health;
- School and education;
- Problems and use of local services;
- Parental aspirations for children; and
- Childcare arrangements.

Partner's interview

For couple families, a short interview was carried out with the partner, including questions on:

- Education and training;
- Health;
- Employment and self-employment;
- Earnings;
- Unemployment and job search; and
- Caring responsibilities.

In cases where the partner interview was not completed with the partner, a proxy interview was carried out with the mother to minimise the risk of having no data about the partner. The proxy partner interview collected information on:

- Current or recent work status;
- Earnings;
- Industrial and occupational classification data; and
- Qualifications.

Child self-completion questionnaire

In 2003 and 2004, all children aged 11 to 15 were invited to complete a short self-completion questionnaire, which included questions on:

- Activities in spare time;
- Visiting friends;
- Cigarette, alcohol and drug use;
- School life; and
- Opinions about the local neighbourhood and the family.

One of the qualities of FACS is that it is a panel study, which means that it returns to interview the same families year after year. It can therefore be used to observe dynamic behaviour and experiences. For example it can be used to answer questions such as how many families move house from one year to the next? And how do families' income and living standards change after such a move?

The main FACS interview takes place with a mother figure in a household, and a shorter interview with her partner. The FACS sample has two main elements. The *panel sample* includes families who had entered the study in a previous year and are re-interviewed year on year. The *booster sample* consists of new families added to the sample in order to ensure it is representative of all families with dependent children in Britain. Table 2.1 shows that approximately 7,000 families and 15,000 children take part in FACS each year¹¹.

Table 2.1 Number of families and children in FACS, 2001-2005

Year of FACS survey	Number of families with children	Number of children
2001 (Wave 3)	7,721	15,959
2002 (Wave 4)	7,358	15,287
2003 (Wave 5)	7,250	15,056
2004 (Wave 6)	6,940	14,099
2005 (Wave 7)	6,976	13,814

Note: In 1999 and 2000 FACS only interviewed lone-parent families and low-to-moderate income couple families. From 2001 FACS is representative of all families with children.

2.2 Developing measures of bad housing using FACS

Bad housing is a general term used in this report to designate various problems or disadvantages concerning housing conditions. As discussed in the introductory chapter, there are many different aspects of bad housing. For this study we have selected three major housing problems that can be measured with FACS data. The three aspects of bad housing that we focus on in this report are:

- Overcrowding;
- Poor state of repair; and
- Inadequate heating.

We are not able to look at temporary accommodation in this research because there are too few families affected by this problem in the FACS sample. It is inherently difficult for general household surveys, such as FACS, to routinely identify families in temporary accommodation, mainly because they move around a lot and, by definition, have no fixed abode from where to be contacted.

The following subsections describe the measures of bad housing used in this research in more detail.

Overcrowded accommodation

The definition of overcrowding used in this research mirrors the 'official bedroom standard' methodology. The bedroom standard states that a standard number of bedrooms are required for each household in accordance with its age/sex/marital status composition and the relationship of the members to one another. A separate bedroom is required for each married or cohabiting couple, for any other person aged 21 or over, for each pair of adolescents aged 10 - 20 of the same sex, and for each pair of children under 10. Any unpaired person aged 10 - 20 is paired, if possible with a child under 10 of the same sex, or, if that is not possible, he or she is counted as requiring a separate bedroom, as is any unpaired child under 10 years old. This standard is then compared with the actual number of bedrooms (including bed-sitters) available for the sole use of the household. If a household has fewer bedrooms than required by the standard, it is deemed to be overcrowded.

¹¹ For more information on FACS see www.esds.ac.uk/longitudinal/access/facs/l4427.asp

The bedroom standard is calculated in FACS from information on the size and composition of the household and from a question asked to the mother about the number of bedrooms in the accommodation. The precise wording of this question is as follows:

Q. How many separate bedrooms do you have here? (include only rooms to which respondent's household has access. 'Bedrooms' includes boxrooms and bedrooms not currently used as bedrooms)

Hence the way FACS measures overcrowding using the bedroom standard is very similar to official estimates obtained from specialist housing surveys. However, as will be discussed later (see Section 2.4), FACS estimates of overcrowding, and other aspects of bad housing, cannot be directly compared to official estimates.

Accommodation in poor state of repair

The second measure of bad housing that we use in this study relates to an accommodation's state of repair. The academic literature points to a number of methods to measure this aspect of bad housing. One of the most highly regarded methods is to ask about a range of problems with the accommodation and to construct an indicator of poor housing conditions based on a composite index of this set of problems. This methodology is well established and has been widely used and tested in research on material deprivation (see for example Whelan et al., 2001, 2004).

This methodology is favoured over that which uses one question to ask a family to directly assess their accommodation on a scale, for example, from 'very poor state of repair' to 'very good state of repair'. Most people tend to respond quite positively when asked to self-assess their accommodation. However, this self-assessment can vary according to tenure, where those in the rented sector tend to be more critical than people who live in owner-occupier accommodation.

Hence we construct this measure using responses to the following question that FACS asks the mother about the state of repair of her accommodation:

Q. Are there any repairs that need to be done to your home such as the problems listed on this card? (give as many that apply)

- *Raising damp in floor or walls;*
- *Water getting in from roof, gutters or windows;*
- *Bad condensation problems;*
- *Problems with mould growth;*
- *Problems with electrical wiring;*
- *Problems with plumbing;*
- *General rot and decay;*
- *Problems with insects;*
- *Problems with mice or rats;*
- *Problems with drafts;*
- *Other repairs (respondent free to indicate).*

Mothers are asked to indicate as many repairs as possible from the above list and these are added cumulatively to give an overall number of repairs that the accommodation requires. With a composite index such as this, the choice of a threshold to indicate 'bad housing' is inevitably somewhat arbitrary. To address this issue we performed a number of tests to select the most appropriate threshold to define accommodation in disrepair. This decision was also influenced by the need to have an adequate number of children experiencing bad housing to allow more complex statistical analyses in this report. The results of these tests suggested that accommodation with at least three items requiring repair should be defined as in disrepair.

To verify this measure, and the choice of threshold of items requiring repair, we looked at other measures of poor conditions in the FACS survey. No families living in accommodation that required three or more repairs described their accommodation as being in an 'excellent state of repair' and very few (8 per cent) described it as "very good". These analyses suggest that the approach we have

taken to quantify accommodation in disrepair is robust and limits the degree of subjectivity that could influence the measure.

Inadequate heating

The third and final measure of bad housing we use in this study focuses on inadequately heated accommodation. FACS does not ask how much of a family's income is spent on heating the home, so it is not possible to construct a direct measure of fuel poverty. Instead, we use a measure of inadequate heating that is derived from the following question.

Q. In winter, are you able to keep this accommodation warm enough? (yes, no)

Families that responded negatively to the question are defined as living in inadequately heated accommodation.

The ability to keep accommodation warm enough, or adequacy of heating, as determined by the respondent may be based on a number of physical or financial reasons, or a combination of both. These include the heating system being inefficient or broken, an inefficient building fabric, and the family being unable to afford heat of an adequate level. Therefore, we use other information in FACS to provide some context to this measure.

Families reporting inadequate heating tend to be less likely to have central heating¹² (58 per cent compared to 88 per cent that do have adequate heating). These families have other forms of heating appliances in the home, such as fixed room heaters (25 per cent compared to 7 per cent that do have adequate heating). The reasons why families may have their homes insufficiently heated varies quite considerably. An almost equal number of families (approximately three in ten) pointed to inefficient or broken heating, poor insulation and the cost as the main reasons.

Another potentially important issue related to the problem of inadequate heating is the method of payment for the fuel bills¹³. The way in which bills are paid can affect the amount of money spent on fuel bills and consequently, may lead to inadequate heating or to fuel poverty. The presence of expensive payments methods, such as pre-paid meters, can be particularly important in this context. The FACS data shows that although families that report inadequate heating are more likely to have a pre-payment meter, it is the tenure type that differentiates these families the most – with those in social rented houses by far the most likely to have this form of heating payment system.

2.3 Estimates of bad housing using FACS

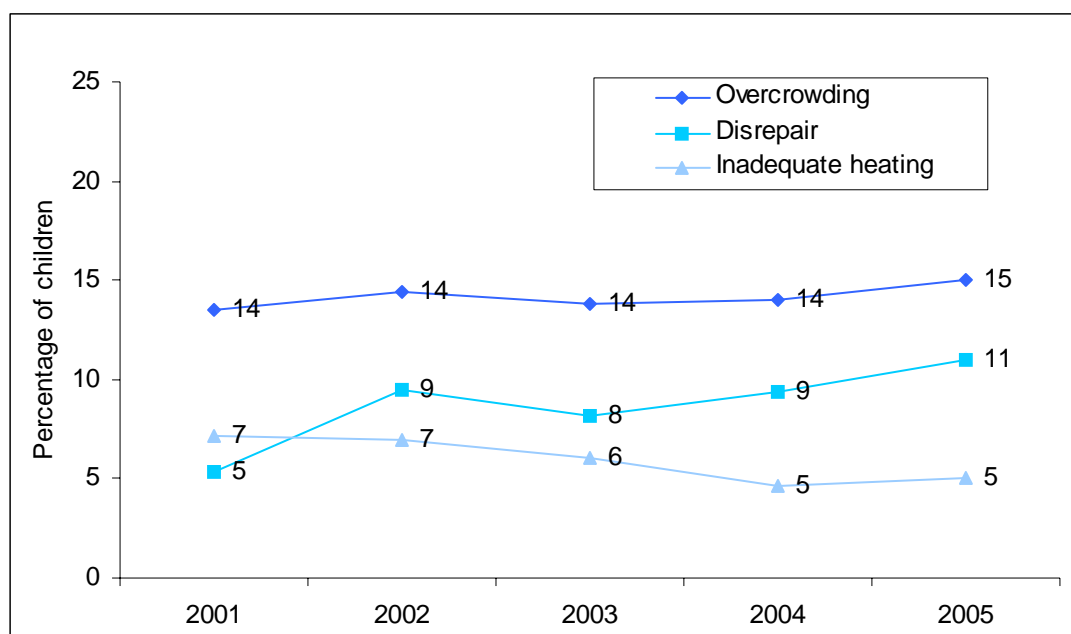
This section shows the trend prevalence of the three aspects of bad housing in Britain according to FACS data from 2001 to 2005 (the most recent years that the survey was collected). We present estimates for children, rather than for families, as the analysis in later chapters relates to the experience of children (for example, how living in bad housing is associated with other forms of children's well-being). In this section we also present estimates for children living in accommodation across the different housing sectors and the overlap between the three housing problems.

Figure 2.1 shows that the rates of all three types of bad housing are roughly stable over the five-year period. Although FACS data may suggest a slight increase in the prevalence of disrepair and overcrowding, and a decrease in the incidence of inadequate heating, these variations are only minor. The lower figure for disrepair in 2001 can be explained (at least partially) by the list of housing problems presented to the respondent in the FACS survey being slightly different from the list used in the four subsequent years.

¹² This may be an important factor since figures based on ECHP 2005 show that 26 per cent of households with no central heating are fuel poor.

¹³ According to ECHS 2005, households with pre-payment meters make up 20 per cent of all fuel poor households.

Figure 2.1 Incidence of bad housing, 2001-2005



Base: Dependent children in Britain
Source: FACS 2005

Table 2.2 shows the incidence of bad housing according to tenure. Almost 15 per cent of children were affected by overcrowding in 2005. The situation varies widely depending on the tenure type. Less than 10 per cent of children living in privately owned houses were affected by overcrowding, while the proportion was much higher in the rented sector (26 per cent). The difference between private and social tenants is also quite substantial: while among private tenants the proportion of children living in overcrowded dwellings is around 20 per cent, it rises to over 28 per cent among social tenants.

Table 2.2 The incidence of bad housing by tenure

	Overcrowding		Poor state of repair		Inadequate heating	
	%	N	%	N	%	N
Owned	9	739	7	540	2	181
Rented - private	20	204	22	235	14	154
Rented - social	28	794	19	599	13	402
All rented	26	998	20	834	14	556
All	15	1827	11	1399	5	749

Base: Dependent children in Britain
Source: FACS 2005

Similarly, we see a large gap between owned and rented houses in disrepair, with the proportion of children living in accommodation in a poor state of repair three times higher for those living in rented accommodation (20 per cent and 7 per cent). Here however, we do not see a big difference between those in private and social rented housing. Children living in privately rented housing are slightly more likely to experience disrepair, which is in line with the findings from the English House Conditions Survey (DCLG, 2006).

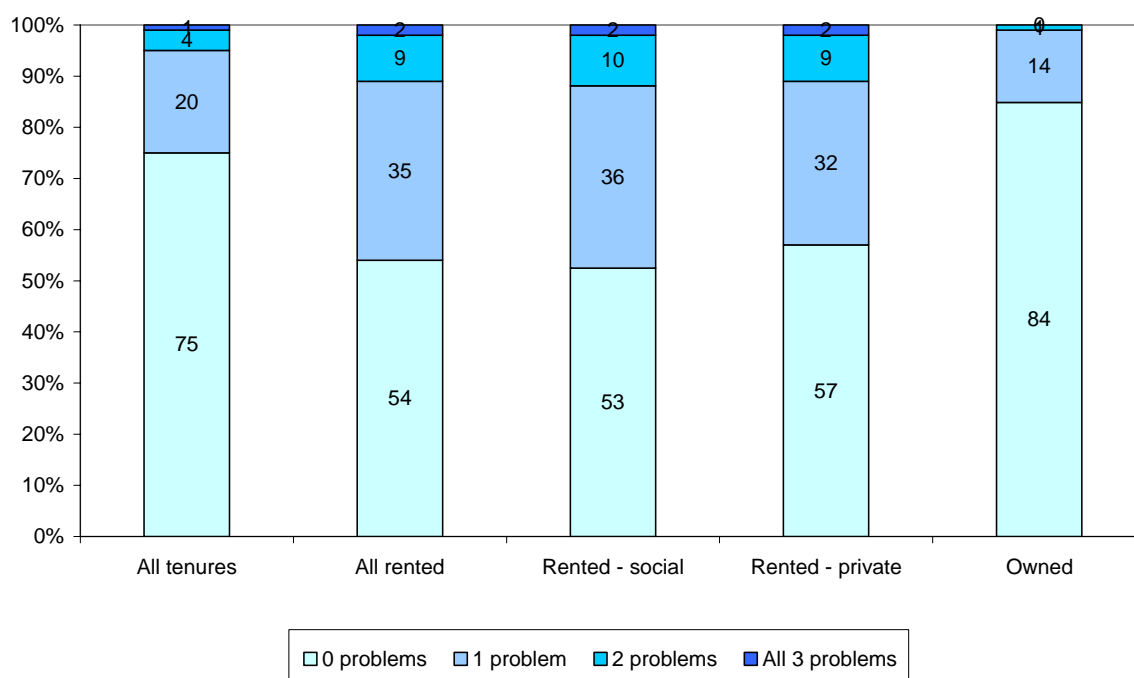
In the case of inadequate heating, the picture is very similar to that for accommodation in poor state of repair. Again, we see a substantial difference between owned and rented houses, with the proportion of children living in inadequately heated accommodation as low as 2 per cent for owner-occupiers and 14 per cent for those in rented accommodation. Once again, there is hardly any difference between children in private and social rented accommodation (14 and 13 per cent).

The overlap between different types of bad housing

Of course it is possible that some children live in accommodation with more than one of the three problems that we look at in this study. Figure 2.2 presents the proportions of children that experienced multiple housing problems (again the analysis is split by tenure type). The first observation is that a majority of children live in homes that are free from any of the three housing problems. However, the likelihood of this depends very much on tenure type. Over four in five (84 per cent) children in owner-occupied accommodation do not experience any of the three aspects of bad housing. This reduces to just over half of children in rented accommodation (57 per cent of in private rented and 53 per cent in social rented).

Similarly, we see a difference in accommodation with multiple housing problems according whether it is owned or rented dwellings; whether the accommodation is privately or socially rented does not make a big difference. For example, very few (less than 2 per cent) children in owner occupied accommodation face two or more housing problems compared to over one in ten of children in rented accommodation (11 per cent of in private rented and 12 per cent in social rented).

Figure 2.2 The overlap between overcrowded, poor conditions and inadequately heated housing, FACS estimates for children



Base: Dependent children in Britain
Source: FACS 2005

2.4 Challenges of measuring bad housing using FACS

Clearly there are many challenges in using survey data, such as that from FACS, to measure bad housing. In this section we explain the main challenges, by outlining the strengths and weaknesses of the measures we use in this study.

One of the main reasons for using FACS in this study is that the survey collects a range of information on children and their families. This provides the opportunity to investigate the association between living in bad housing and child well-being. FACS is also a panel survey; it follows the same families at annual intervals, meaning it is possible to explore how circumstances of children change over time. This makes FACS quite different from the specialist surveys on housing (such as the Survey of English Housing, and, the English Housing Conditions Survey), which are not longitudinal and,

despite being very detailed in their coverage of the housing topic, do not include information on child outcomes.

However by one of the main differences between FACS and the specialist housing surveys is that FACS asks parents their *opinions* on their housing, whereas EHCS, for example, uses an independent surveyor to assess the accommodation. By asking parents for their opinions on their accommodation, information from FACS is subject to bias as certain families are more likely to report problems with housing than others (for example, social tenants are more likely to report problems than owner occupiers, who may be reluctant to focus on problems that they may have to correct themselves, or at least pay someone else to do). However, self-reporting of opinions, as collected in FACS, is interesting information in its own right, as it captures families' perception of their accommodation and this is something qualitatively different to that measured in the specialised housing surveys.

For these reasons, and the fact that different surveys use different question wording and conceptualisation of housing problems, we can anticipate that estimates of bad housing from FACS may vary slightly from those from the specialist housing surveys. Even in the case of overcrowding, where the FACS measure is very close to the official one, estimates are not identical (even allowing for sampling error). An example of why these estimates may differ is that in the specialised housing surveys the number of bedrooms a dwelling has is assessed by an independent surveyor. Bedrooms converted to other uses are not counted as 'a bedroom' unless they have been denoted as bedrooms by the residents - bedrooms not actually in use are counted unless uninhabitable. On the contrary, FACS data are self reported and therefore it is possible that families do not report the number of bedrooms using the same judgements.

A similar issue arises when we measure accommodation in poor state of repair. FACS uses a set of items of disrepair that differs from that used in the ECHS. Furthermore the judgement of an independent surveyor has the potential to differ quite markedly from the view of the family living in the accommodation. Likewise the measure of inadequate heating in FACS is quite different to official estimates – it measures something different than fuel poverty and is rather more basic than the heating element of the Decent Home Standard.

To conclude, because the methods of measuring bad housing in FACS are different to those used in the specialised housing surveys, we do not attempt to directly compare estimates (even though FACS estimates of bad housing are broadly in line with those from other studies). This is not to say that the measures we use in this study are not valid. They tell us about how families feel about their accommodation and the problems that they believe their accommodation has.

2.5 Summary

FACS is an annually representative survey of all families with children that can be used to estimate the incidence of bad housing amongst children living in Britain. FACS covers a range of topics other than housing that means it can be used to compare the living standards of children in different forms of bad housing. FACS also follows the same children over time so can be used to explore how long children live in bad housing and how this is associated with child outcomes.

This study focuses on three aspects of bad housing that can be measured using FACS data:

1. *Overcrowding*, measured as falling 1 or more bedrooms below the 'bedroom standard' criterion, which takes into account the number of rooms in the accommodation and the size and composition of the family.
2. *Poor state of repair*, indicating the accommodation suffering from three or more problems such as rising damp in floor or walls, general rot and decay or problems with drafts.
3. *Inadequate heating*, defined as the situation where family is unable to keep the accommodation warm in winter.

Although FACS measures bad housing using a different methodology to the specialist housing surveys, estimates of bad housing derived from FACS find patterns of housing problems broadly in line with other published research. According to FACS, in Britain in 2005:

- One in seven (15 per cent) dependent children were living in overcrowded accommodation;
- One in ten (11 per cent) dependent children were living in accommodation with poor conditions; and
- One in twenty (5 per cent) children were living in accommodation with inadequate heating.

In general there are marked differences in estimates of bad housing for children living in different tenure types, particularly between those that live in owner occupied and rented accommodation. For example, less than one in ten (9 per cent) children living in owner occupied accommodation were affected by overcrowding compared with 20 per cent (private) and 28 per cent (social) in the rented sector.

For certain housing problems we also see differences in children within the rented sector, although for other problems these differences disappear. There is a large gap between the proportions of children in owner occupied and rented accommodation deemed to be in disrepair (7 per cent and 20 per cent respectively). There is less of a difference between private rented and social rented accommodation (22 per cent and 19 per cent respectively).

Very few, only 2 per cent, of children in owner-occupied accommodation live in housing with inadequate heating. Again there is a substantial difference between owner-occupied and rented houses, but little difference between private and social rented accommodation (13 per cent and 14 per cent respectively).

One in four children (25 per cent) experienced at least one form of bad housing. A minority of children (5 per cent) experienced multiple housing problems. Again, the likelihood of having multiple housing problems varies according to tenure type. Over one in ten (11 per cent) children from rented accommodation face two or more bad housing problems, with very little difference between private and social rented accommodation, compared to just 2 per cent of children from owner-occupied accommodation.

3 THE DYNAMICS OF BAD HOUSING

This chapter introduces a longitudinal element to our investigation of bad housing. FACS is used to explore children's experiences of bad housing over a five-year period to distinguish children who persistently lived in bad housing from those who experienced problems on a more short-term basis. Drawing on research into poverty dynamics, the chapter begins by explaining what can be gained by taking a longitudinal perspective rather than simply relying on point-in-time estimates of bad housing. The chapter goes on to create longitudinal measures of each of the three indicators of bad housing used in this report, based on the length of time that these problems lasted. The chapter then explores the family characteristics associated with different durations of bad housing.

The rest of this chapter proceeds as follows:

- Section 3.1 discusses the importance of understanding the dynamics of bad housing. It is argued that the use of panel data to explore children's experiences over a five-year period can improve both our understanding of the true extent of the bad housing problem and of the possible risk factors most associated with experiencing bad housing. Identifying how long children spend in bad housing can also further our understanding of any link between bad housing and child outcomes.
- Section 3.2 looks at the incidence of bad housing (overcrowding, disrepair, and inadequate heating) over the period 2001-2005 and demonstrates that the proportion of children affected by bad housing is significantly larger than point-in-time estimates would suggest. Section 3.2 also introduces the longitudinal measure of bad housing used in this report, with children classified as experiencing short-term or persistent bad housing based on whether they experienced bad housing for 0-2 or 3+ years between 2001 and 2005. Results show how the duration of bad housing varies depending on the housing problem considered. Overcrowding is shown to be the most persistent housing problem.
- Section 3.3 explores the relationship between housing tenure and experiencing bad housing on either a short-term or persistent basis. The duration of bad housing is shown to vary significantly by tenure. Children living in socially rented accommodation were particularly likely to have experienced persistent overcrowding, whilst children living in privately rented accommodation were particularly likely to have experienced on a persistent basis, accommodation in disrepair or inadequately heated accommodation.
- Section 3.4 looks at how the duration of bad housing varies depending on a range of family characteristics. Experiencing persistent bad housing was associated with being in a lone-parent family, living below the poverty line, coming from a large family, living in a deprived area and living in London. There were also interesting associations between ethnicity and the experience of bad housing.
- Section 3.5 presents the results of running multivariate analysis to identify the risk factors most associated with experiencing housing problems on a persistent basis, controlling for other factors associated with experiences of disadvantage such as poverty and location.

3.1 The importance of understanding dynamics

Very little is currently known about the dynamics of bad housing, for example how long people live in bad housing. Official estimates of bad housing provide only a snapshot of families experiencing problems at a particular point in time. Similarly, research looking at the risk factors associated with bad housing also tends to look only at the experience of bad housing in a single year (Quilgars, 2005; Barnes et al, 2006; DCLG, 2007).

The research on bad housing contrasts with a growing body of evidence on the short-term dynamics of child poverty. Official statistics on child poverty report not only the proportion of children living in poverty at a particular point in time but also the proportion of children living in persistent poverty; that is being below a low-income threshold in at least three years of a four-year period.¹⁴ Research looking at the causes and consequences of child poverty increasingly adopts a dynamic perspective, focusing

¹⁴ This is the approach taken in the Households Below Average Income (HBAI) series. See DWP (2007).

on children's experiences across several years and differentiating between short-term and persistent poverty (see Smith and Middleton, 2007 for a review of the literature).

There are a number of reasons why taking a longitudinal perspective may be useful either when considering child poverty or children living in bad housing. First, it is only by looking at evidence over time that we are able to estimate the true extent of the problem. As this chapter will demonstrate (Section 3.2.1) many children experience bad housing on a short-term basis only and may move into or out of bad housing at different times. This means that single point in time estimates, as available from cross-sectional surveys, will fail to pick up all the children who may be affected by bad housing.

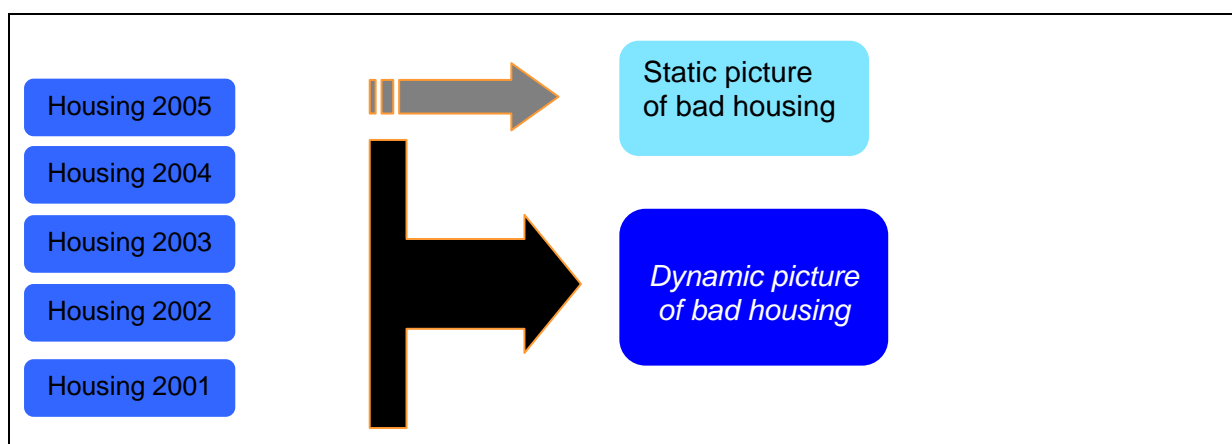
Secondly, taking a dynamic perspective will allow us to identify children with different bad housing histories. Differentiating children who experience bad housing on a persistent basis from those who experience it only short-term can help to better identify those children most at risk from bad housing and the factors that make the problem more likely. Understanding dynamics is important if we are to develop effective policy solutions and concentrate on tackling the causes of disadvantage rather than simply alleviating symptoms (Bradbury et al, 2001).

Finally, identifying how long children spend in bad housing can help us to better understand the nature of any link between bad housing and child outcomes. It may be that the effect of bad housing on child outcomes depends on how long the problem is experienced. Studies of income poverty have shown that persistence, rather than severity, of low income is the key to understanding household exclusion (Magadi and Middleton, 2005). Furthermore, if we can establish a link between the duration of bad housing and the strength of any housing effect, it will help us to be more confident that we have identified a genuine relationship between housing conditions and child outcomes. The relationship between the duration of bad housing and child outcomes is the focus of Chapter 4.

3.2 Using FACS to measure housing dynamics

FACS data provides us with an opportunity to explore the dynamics of bad housing. FACS is a panel study in which the same families with children are interviewed on a yearly basis. This report uses five years of FACS data to build up a picture of the same children's housing experiences between 2001 and 2005 (Figure 3.1).

Figure 3.1 A longitudinal model of bad housing



Conducting longitudinal analysis raises a number of methodological issues that FACS, to a large extent, allows us to address. First, given the costs of repeatedly interviewing the same respondents, many panel studies are conducted on a small scale leading to problems with sample size. However, FACS is a large scale study and, because it focuses specifically on families with children, ensures a larger sample of children than it would be possible to obtain from general household panel surveys such as the British Household Panel Survey. The longitudinal analysis reported here, which relies on children from families that took part in all five waves of the study from 2001 to 2005, is based on a final sample of 6,341 children.

Secondly, with any panel analysis there is always a problem of attrition; in particular a problem arises if the families that drop out of the sample differ systematically from the families that remain, thereby introducing bias into the sample. FACS data is weighted to correct for any systematic differences in non-response.¹⁵ The profile of children included in the weighted panel sample corresponds well to the 2001 cross-sectional sample meaning that we can be confident that our findings are representative of all dependent children in Britain.¹⁶

Thirdly, monitoring change requires that the variables of interest be measured in a consistent way over the time period considered. The questions used to measure each of the three housing problems in FACS (see Chapter 2) were asked in a consistent format over all five waves of the study 2001 to 2005¹⁷. This means that we can be more confident that any changes in children's housing circumstances represent a genuine variation rather than being an artefact of differences in the way variables are measured.

Finally, once we start to consider dynamics and move beyond a simple dichotomous indicator of bad housing (i.e. did or did not experience bad housing), the question of how best to categorise children according to their different housing histories becomes more involved. Any classification will necessarily be imperfect given the data available only cover a discrete period of time and is censored at each end – in other words we do not know the child's housing history before 2001 or after 2005. This report follows an approach used in much of the literature on poverty dynamics (for example, see Jenkins and Rigg, 2001) - it models the duration of children's bad housing experience according to the number of years spent in bad housing over the five-year period being considered.

3.2.1 The incidence of bad housing 2001-2005

Figure 3.2 below shows the proportion of children that experienced each of the three housing problems in at least one year between 2001 and 2005 (and compared with the standard cross-sectional estimates, presented in Chapter 2, that provide the proportion of children living in bad housing in 2005). The longitudinal estimates suggest that the proportion of children affected by bad housing is significantly higher than the figures usually presented for a given point in time may lead one to presume.

Overall, one in four (25 per cent) children experienced overcrowding on at least one occasion between 2001 and 2005, compared with around one in seven (15 per cent) children living in overcrowded accommodation in 2005. Similarly, almost one in four (23 per cent) children lived in accommodation in disrepair on at least one occasion between 2001 and 2005, compared with one in 10 (11 per cent) children living in poor conditions in 2005. More than twice as many children had some experience of inadequate heating than the figures for 2005 alone may suggest. Around one in eight (13 per cent) children lived in inadequately heated accommodation on at least one occasion between 2001 and 2005, compared with just one in 20 (5 per cent) of children living in inadequately heated accommodation in 2005.

The differences between the longitudinal and the point in time estimates arise because of the dynamic nature of bad housing. Bad housing is not necessarily permanent, some children do move into or out of bad housing from one year to the next. Hence some of the children living in bad housing in a given year are not the same children who were living in bad housing in the previous or subsequent years.

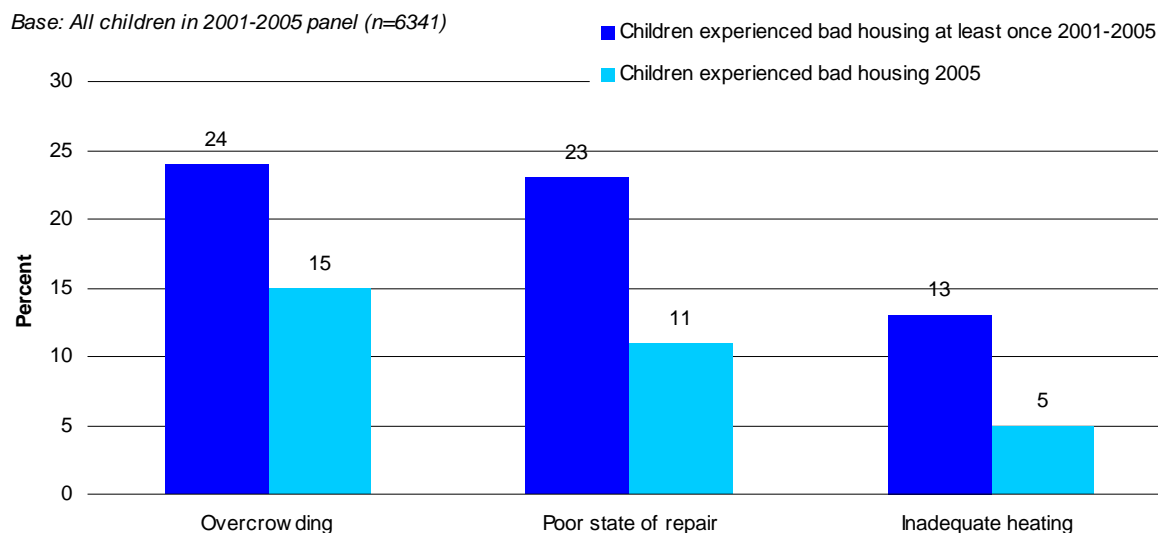
¹⁵ For further details see the series of FACS technical reports (http://www.dwp.gov.uk/asd/asd5/facs/facs_publication.asp)

¹⁶ The one respect in which the panel differs from a representative cross-sectional sample is in the age profile of the children covered. The panel comprises only children born in or before 2001 and therefore eligible to be included in that wave of the study. Any children who were interviewed in 2001 but became too old to be counted as a dependent child in any subsequent waves of the panel are excluded. This means that the age of children in the panel sample, as recorded in 2001, therefore ranges from 0-14 as opposed to 0-18. Similarly, in 2005, all of the children in the panel were aged between 5 and 18 as opposed to 0 and 18.

¹⁷ The only slight inconsistency occurs with the disrepair measure as a shorter list of items was asked to families in 2001 than in the other four years. However, further analyses have shown this not to have an impact on the longitudinal measure of disrepair used in this and the following chapter.

This highlights the importance of longitudinal data collected over several years in helping to establish the extent of the housing problem experienced during childhood.

Figure 3.2 Proportion of children living in bad housing 2001-2005



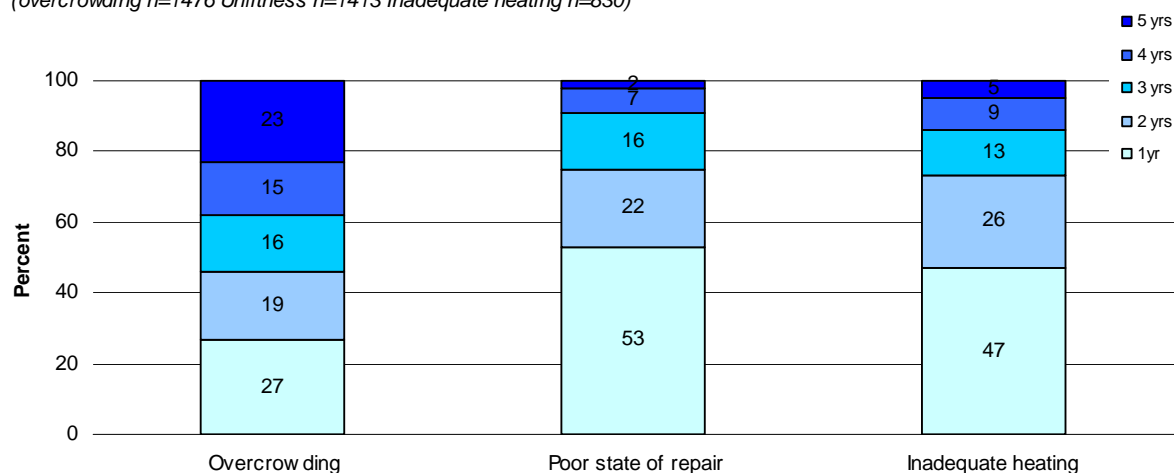
3.2.2 The duration of bad housing

The number of years children spend in bad housing varies on the specific housing problem being considered. Figure 3.3 shows the number of years children experienced each type of bad housing for between 2001 and 2005 (the analysis is restricted to just those children who experienced each type of bad housing, in other words it excludes children who avoided that type of bad housing over the period). Overall, overcrowding was the housing problem most likely to have the longest duration. Over half (54 per cent) of children with some experience of overcrowding spent three years or longer living in overcrowded accommodation. In contrast, the majority of children (53 per cent) with some experience of accommodation in disrepair experienced the problem in only one year out of five. Similarly, just less than half (47 per cent) of children with some experience of inadequate heating experienced the problem in just one year.

This pattern of results makes intuitive sense; it is likely to be more difficult for families to overcome the problem of overcrowding compared with the problems of disrepair or inadequate heating. The latter may be overcome by spending more on heating or on conducting repairs, whereas escaping from overcrowding is likely to involve moving house (or for a child to leave the household). Therefore, finding appropriate policy solutions to help families living in overcrowded accommodation is likely to be challenging.

Figure 3.3 Number of years spent in bad housing 2001-2005

Base: All children in 2001-2005 panel experiencing housing problem
(overcrowding n=1476 Unfitness n=1413 Inadequate heating n=830)



For the purposes of further analysis we classify children depending on the number of years they experienced each housing problem between 2001 and 2005. As is commonly done in research into poverty dynamics, we draw a distinction between children experiencing the problem on a short-term basis and those experiencing it on a more persistent basis (Box 3.1). Children who experience a housing problem for one or two out of the five years are classed as in “short-term bad housing” whilst those experiencing a problem for three or more years out of the five are classed as in “persistent bad housing”.¹⁸ Separate measures were created in the same way for each of the three housing problems under consideration.

Box 3.1 Defining persistent bad housing

For each of the three housing problems under consideration a three-category longitudinal measure of bad housing was created. Children were assigned to a category according to the number of years that they experienced the housing problem, across the five annual FACS interviews from 2001 to 2005.

- * None = 0 years with the housing problem
- * Short-term = 1 to 2 years with the housing problem
- * Persistent = 3 to 5 years with the housing problem

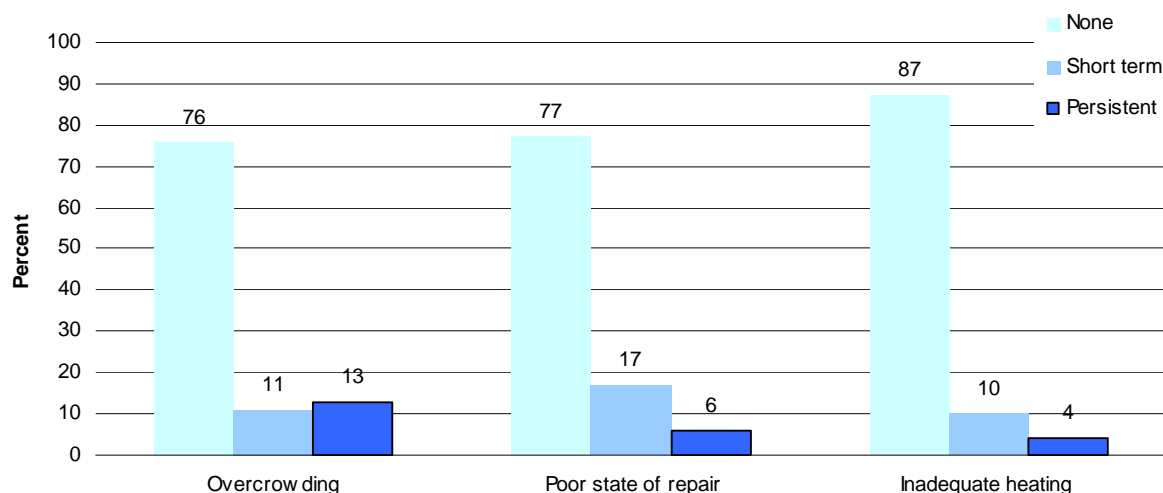
This three-category classification is used in all subsequent analysis.

Figure 3.4 shows the distribution of children according to this longitudinal measure of bad housing. A significant minority of children (13 per cent) had persistently lived in overcrowded accommodation between 2001 and 2005. A smaller proportion of children had persistently lived in accommodation in disrepair (6 per cent) or inadequately heated accommodation (4 per cent).

¹⁸ The decision to use three years as the threshold for persistent bad housing was based on the distribution of the data and the need to ensure that the “persistent” category applied to just a minority of children worst affected whilst still retaining enough cases to allow robust analysis.

Figure 3.4 Proportion of children living in persistent bad housing 2001-2005

Base: All children in 2001-2005 panel (n=6341)



3.3 Tenure and the dynamics of bad housing

Chapter 2 showed that the proportion of children living in bad housing in 2005 varied by tenure. Furthermore, the policy implications of children living in bad housing vary considerably depending on the type of tenure involved. This chapter therefore continues to distinguish between tenure types in exploring the dynamics of bad housing and compares the duration of bad housing experienced by children living in owner occupied, socially rented or privately rented accommodation.

3.3.1 Tenure dynamics

When looking at longitudinal data on bad housing, the analysis is complicated by the fact that children may have moved house, and possibly changed tenure, over the course of the time period being considered. Different patterns of tenure change or housing mobility may affect (or be influenced by) children's experiences of bad housing. It is therefore useful to consider the relationship between specific housing histories and the duration of bad housing. However, our ability to pursue this line of enquiry is restricted by the number of families in FACS that changed tenure or moved house over the five-year observation period, and even more so once we start to investigate the range of possible housing transitions.

Some exploratory analysis was conducted to look at the nature of house moves and tenure changes among FACS respondents. Overall, 29 per cent of children in our panel had moved house on at least one occasion between 2001 and 2005. Of the children who had moved, the majority (71 per cent) continued in the same tenure type, although a minority (29 per cent) changed tenure at least once.

The likelihood of children moving house or changing tenure varied depending on their initial tenure in 2001 (see Appendix Table A3.1 and A3.2). Generally speaking, those living in private rented accommodation in 2001 experienced the most housing mobility. This is consistent with the findings of other research that has looked in detail at patterns of tenure change (see for example Sefton, 2007). The fact that only a minority of children in our sample changed tenure, and that those who did change experienced a range of tenure combinations (see Table A.3.3), means that it is not possible to look at specific tenure transitions.¹⁹

¹⁹ The one sizeable group (n=210) is children moving from social renting to owner-occupiers. The majority of these are people who remain at the same address i.e. people purchasing their social housing. Compared with other social renters this group were no more or less likely to experience persistent bad housing (although they were less likely to experience short-term problems).

Nevertheless, in the analysis of bad housing that follows we do attempt to take some account of tenure and make comparisons across the three main tenure types – owner-occupiers, social renters, and private renters. Figures are based just on those children with constant tenure over the period 2001-2005.

3.3.2 The duration of bad housing by tenure²⁰

Table 3.1 shows that the proportion of children experiencing each of the three housing problems on a short-term or persistent basis varied by tenure. Children living in owner occupied accommodation were the least likely to have experienced overcrowding either on a persistent or a short-term basis. Children living in socially rented accommodation were the most likely to have experienced overcrowding and particularly likely to have experienced persistent overcrowding. Overall, around a quarter (26 per cent) of children living in social rented accommodation lived in persistent overcrowding compared with less than one in ten (8 per cent) of children living in owner occupied accommodation.

The proportion of children living persistently in accommodation in poor state of repair also varied by tenure. Overall, children living in owner occupied accommodation were the least likely to experience accommodation in poor state of repair either on a short-term or a persistent basis. There was no difference in the proportion of private and social renters who experienced accommodation in poor state of repair on a short-term basis. However, children living in private rented accommodation were more likely than children living in socially rented accommodation to experience accommodation in poor state of repair on a persistent basis (19 per cent compared with 12 per cent).

The results for inadequate heating follow a similar pattern to those for accommodation in poor state of repair (Table 3.3). Overall, children living in owner occupied accommodation were the least likely to experience inadequate heating on either a short-term or a persistent basis. As was the case with accommodation in poor state of repair there was no significant difference between social and private renting in the proportion of children experiencing inadequate heating on a short-term basis. However, children living in private rented accommodation were more likely than children living in socially rented accommodation to experience inadequate heating persistently (19 per cent compared with 11 per cent).

Table 3.1 Duration of bad housing, by tenure 2001-2005

			None	Short-term	Persistent	N
Overcrowding						
	Owner occupier	%	85	7	8	3977
	Social renter	%	55	19	26	1213
	Private renter	%	73	12	15	163
	All	%	76	11	13	6299
Unfitness						
	Owner occupier	%	85	12	3	4004
	Social renter	%	58	30	12	1225
	Private renter	%	48	33	19	165
	All		77	17	6	6334
Inadequate heating						
	Owner occupier	%	94	5	1	3957
	Social renter	%	70	19	11	1157
	Private renter	%	59	22	19	152
	All	%	87	10	4	6149

²⁰ Box 3.2 considers the experience of moving house. This is something we were not able to go into much detail about in this report and is a topic worthy of further investigation.

Box 3.2 The experience of moving house

An interesting area for further investigation is the extent to which moving house influences children's experience of bad housing. Depending on changes in family circumstances some children may be able to escape bad housing by moving house whilst others may find themselves moving into poor housing.

It may be the case that housing mobility leads to bad housing being experienced on a short-term basis only rather than persistently. Alternatively, it may be the case that families with high housing mobility find themselves moving from one instance of poor housing to another, thereby remaining in bad housing on a persistent basis.

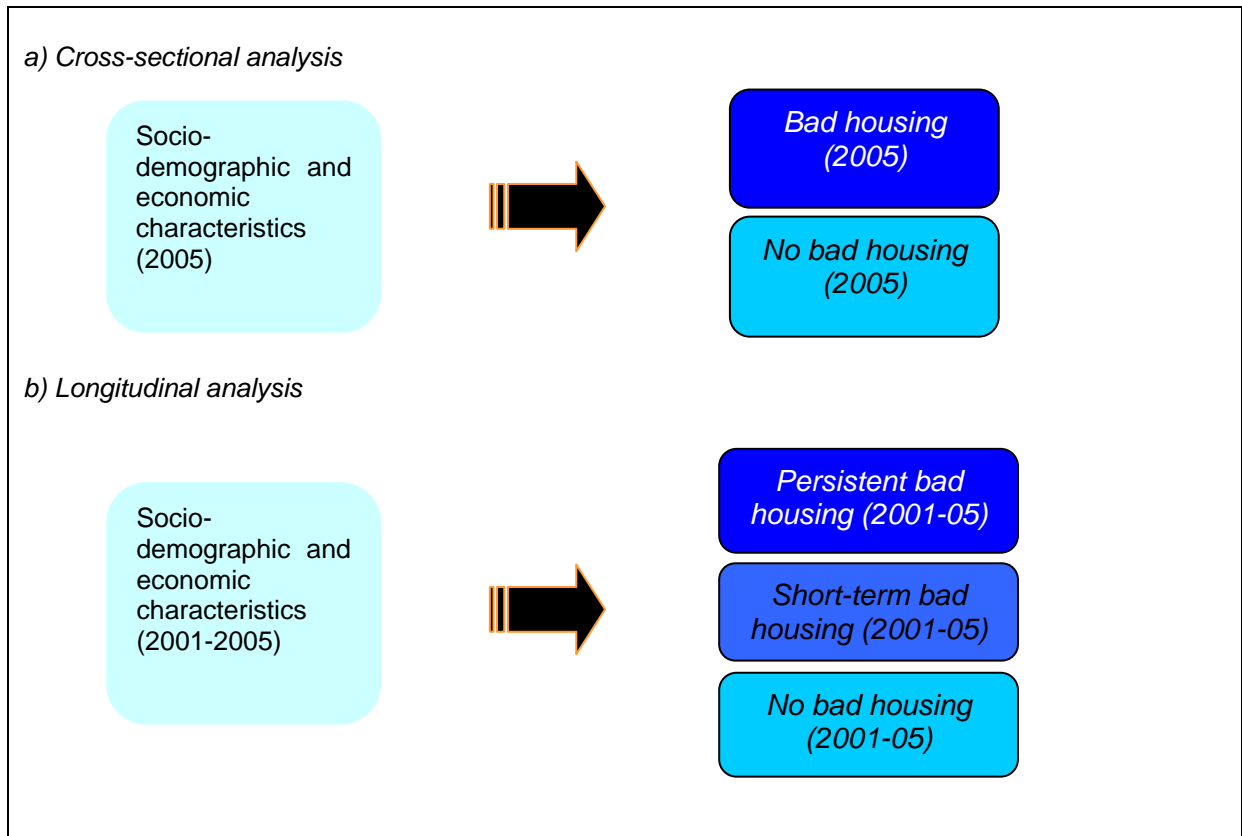
Unravelling the relationship between moving house and changes in housing conditions requires a detailed analysis of specific housing transitions. This is beyond the scope of this report. However, although we cannot say anything about the direction of impact, our analysis has highlighted a number of potential relationships between bad housing and moving which are worthy of further investigation.

- Among owner-occupiers and social renters there was no difference between movers and non-movers in the overall proportion of children experiencing overcrowding. However, movers were more likely to experience the problem on a short-term rather than a persistent basis compared with non-movers. This may suggest that moving house can be an effective way for families to escape overcrowding.
- Among private renters there was an association between moving house and experiencing inadequate heating on a persistent basis. This may suggest that private renters find themselves moving from one example of poor housing to another.
- Among renters (private and social) there was an association between moving house and experiencing inadequate heating. In particular a higher proportion of movers had experienced inadequate heating on a short-term basis. At the same time, however, moving house was not associated with a reduced likelihood of experiencing the problem on a persistent basis.
- Among owner occupiers, there was no significant association between moving house and experiencing accommodation in poor state of repair or inadequately heated accommodation. These may be problems that can be dealt with (or not) without moving house.

3.4 The duration of bad housing by family characteristics

Existing research using cross-sectional data has identified a range of characteristics that are associated with a greater likelihood of experiencing bad housing at a particular point in time. These include tenure, deprivation, family type, work status, and ethnicity (CLG, 2007). Longitudinal data allows us to go beyond simply comparing the characteristics of those children who are or are not living in bad housing at a particular point in time. It can help us to identify which of these characteristics are associated a greater risk of experiencing bad housing on a persistent rather than short-term basis (Figure 3.5). This may provide useful information for deciding how best to target government policies for dealing with bad housing towards those children most in need.

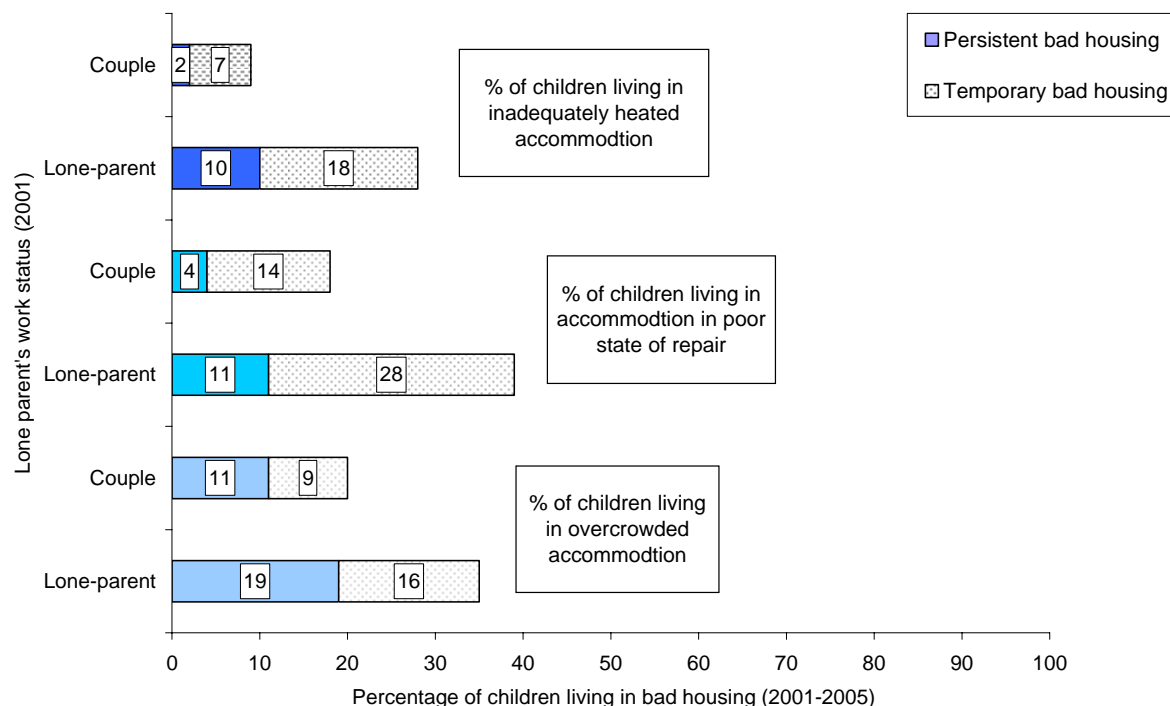
Figure 3.5 Exploring the risk factors associated with persistent bad housing



In this section we look at the risk of persistent bad housing for different groups. The next section presents the results from regression analyses to identify the key risk factors associated with experiencing each problem on a persistent rather than a short-term basis, after taking other characteristics into account.

The experience of bad housing was significantly associated with family type (See Figure 3.6). Children living in lone-parent families were more likely to experience each of the three housing problems than children in couple families. Overall, a higher proportion of children from lone parent families had experienced persistent bad housing. For example, almost one in five (19 per cent) children from lone parent families experienced persistent overcrowding compared with just over one in ten (11 per cent) of all children from couple families. Around one in ten (11 per cent) of children from lone parent families persistently experienced accommodation in poor state of repair compared with fewer than one in five (4 per cent) of children in couple families.

Figure 3.6 Experience of bad housing by family type

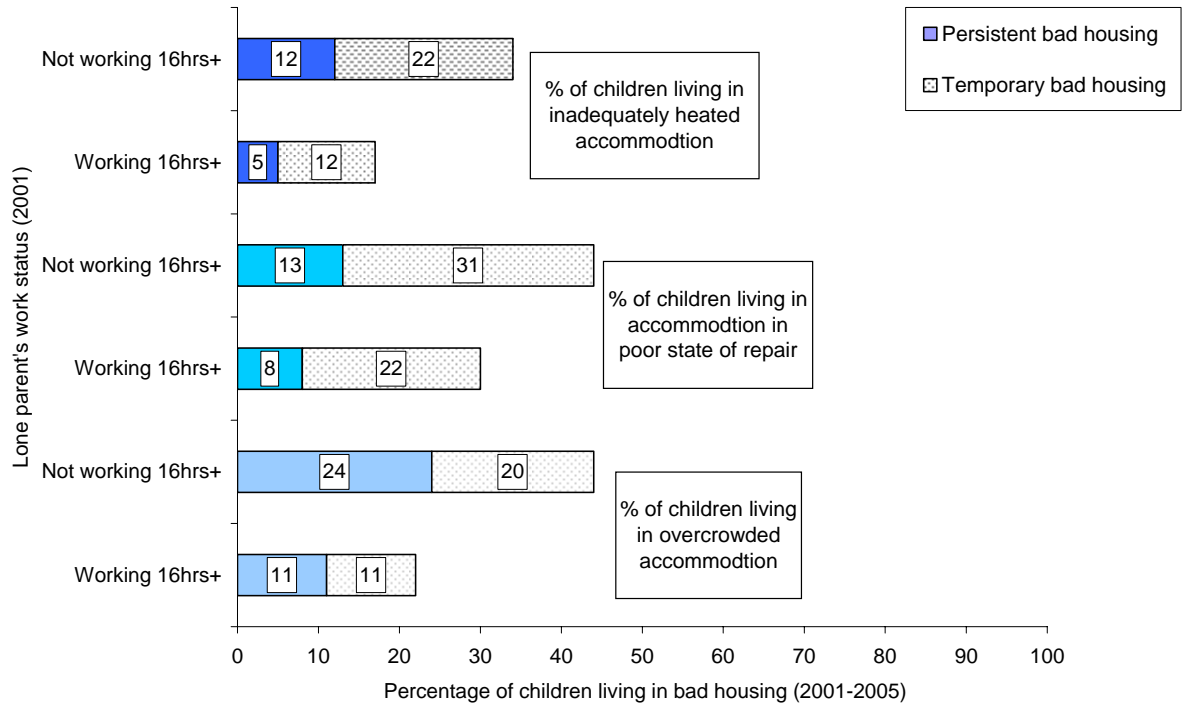


Family work status also made a difference to children’s experience of bad housing (See Figure 3.7). Children living in households where no parent worked 16 hours a week were more likely to experience bad housing, on both a short-term and a more persistent basis, compared with children living in households in which at least one parent worked 16 hours or more a week. This was the case among both couple and lone parent families. For example, almost one in four (24 per cent) of all children living in lone parent families where the parent worked less than 16 hours a week experienced persistent overcrowding compared with only around one in ten (11 per cent) of children where the lone parent worked 16 hours or more. One in ten (10 per cent) of all children in couple families where both parents worked less than 16 hours a week experienced inadequate heating on a persistent basis, compared with just one in 50 (2 per cent) of children in couple families where at least one parent worked 16 hours or more.

Figure 3.7 Experience of bad housing by family work status

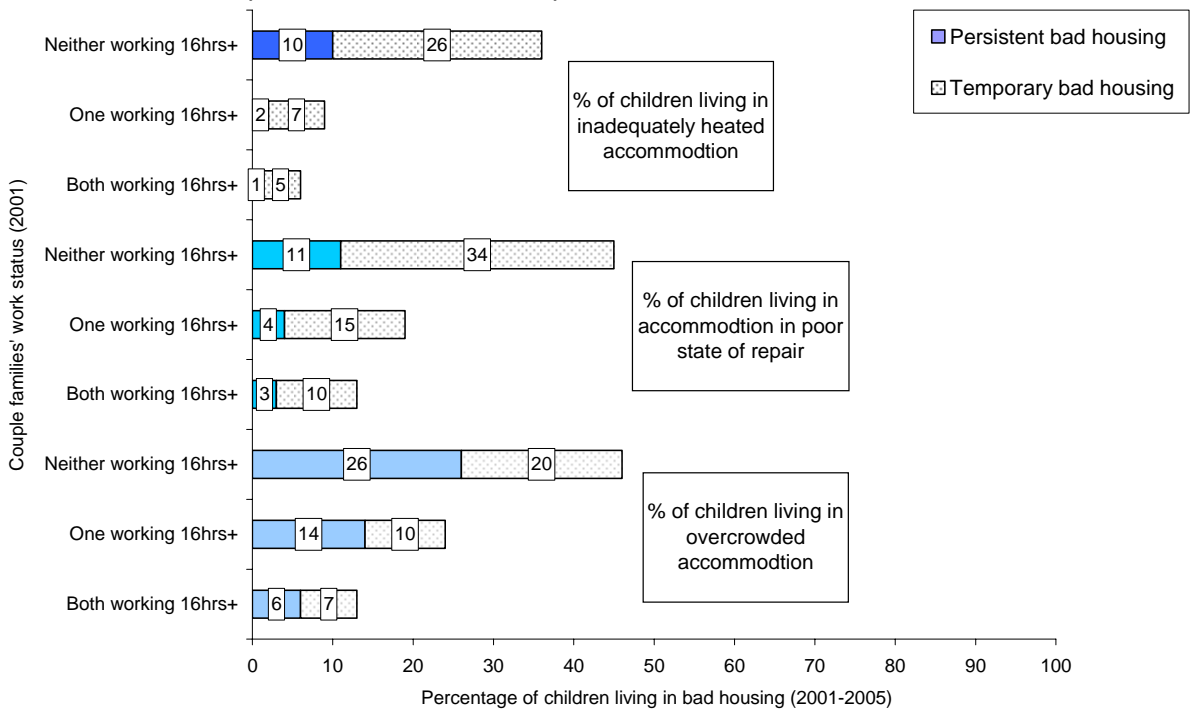
Lone parents

Base: Children in lone parent families in 2001-2005 panel



Couple families

Base: Children in couple families in 2001-2005 panel

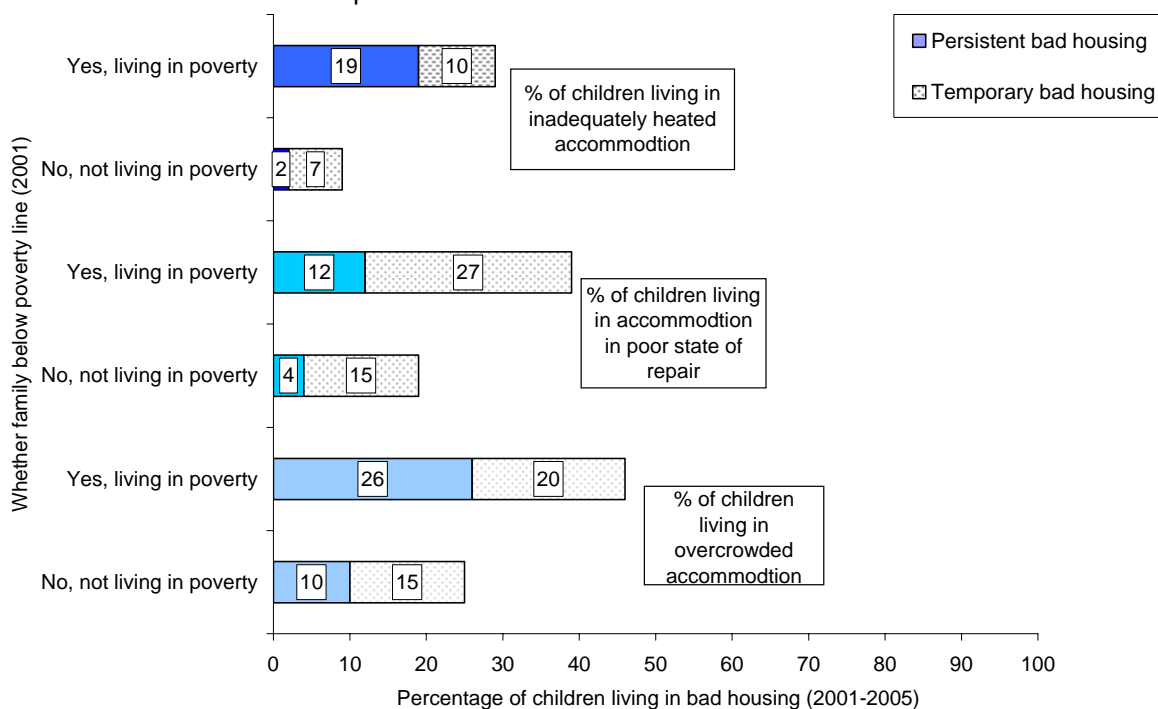


Unsurprisingly, living in poverty was also associated with children experiencing bad housing (Figure 3.8). Overall, children in families below the poverty line (with less than 60 per cent median equivalised income) were significantly more likely to experience each of the three housing problems, both on a short-term and on a more persistent basis. The difference between children living below the poverty line was particularly strong in the case of overcrowding. One in four (26 per cent) of all children living below the poverty line experienced persistent overcrowding compared with only one in ten (10 per cent) of children not living in poverty. This may reflect the fact that overcrowding tends to be a problem associated with larger families, which are in turn are more likely to be living below the poverty line.

A higher proportion of children living in poverty experienced accommodation in poor state of repair and inadequate heating on a persistent rather than a short-term basis. Families living in poverty may be less able to pay for repairs or other home improvements that would enable them to resolve these housing problems. The duration of inadequate heating, especially among low-income families, is also likely to be affected by fluctuations in fuel prices. The steep and persistent rise in fuel prices since 2003 may have lead to more families experiencing inadequate heating over this period.

Figure 3.8 Experience of bad housing by whether family below poverty line

Base: All children in 2001-2005 panel

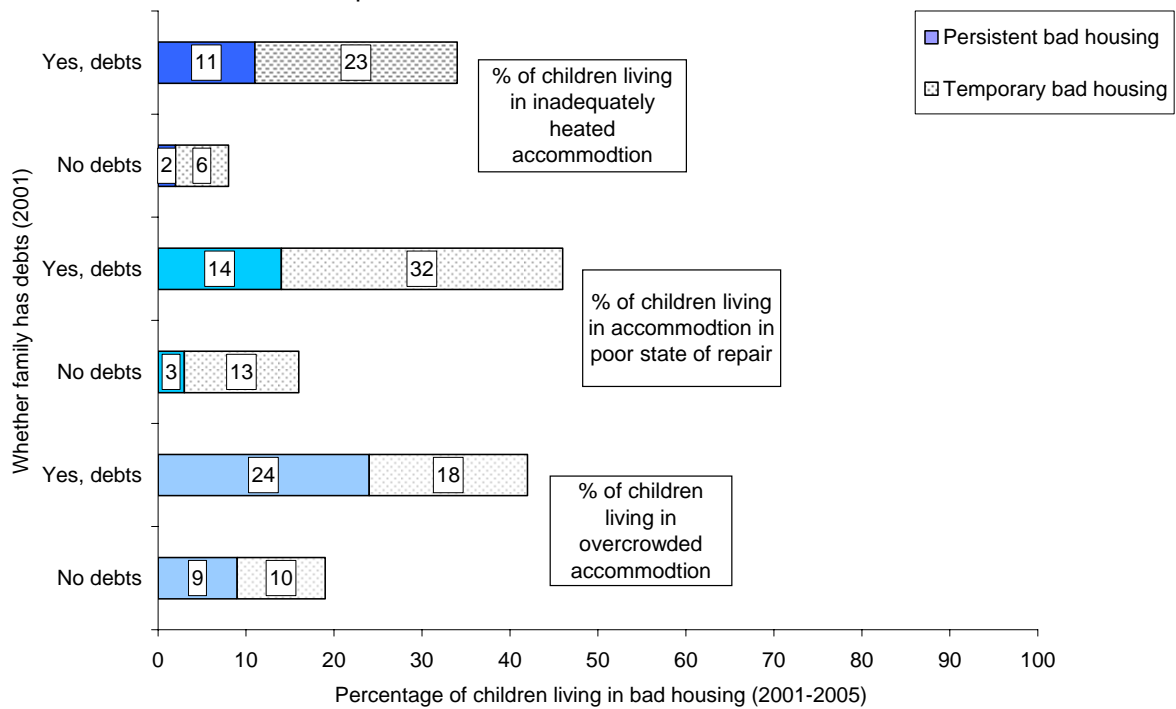


Family debt was associated with a higher incidence of bad housing, particularly persistent bad housing. For example, almost one in four (24 per cent) children in families with debts experienced persistent overcrowding compared with less than one in ten (9 per cent) of other children. One in seven (14 per cent) of children in families with debts persistently experienced accommodation in poor state of repair compared with only around one in 30 (3 per cent) of other children.

Among children with some experience of bad housing, that experience was more likely to be persistent rather than just short-term if the family had debts. For example, in families with debts, one in three children experiencing inadequate heating did so on a persistent basis, compared with one in four children in families without debts.

Figure 3.9 Experience of bad housing by whether family has debts

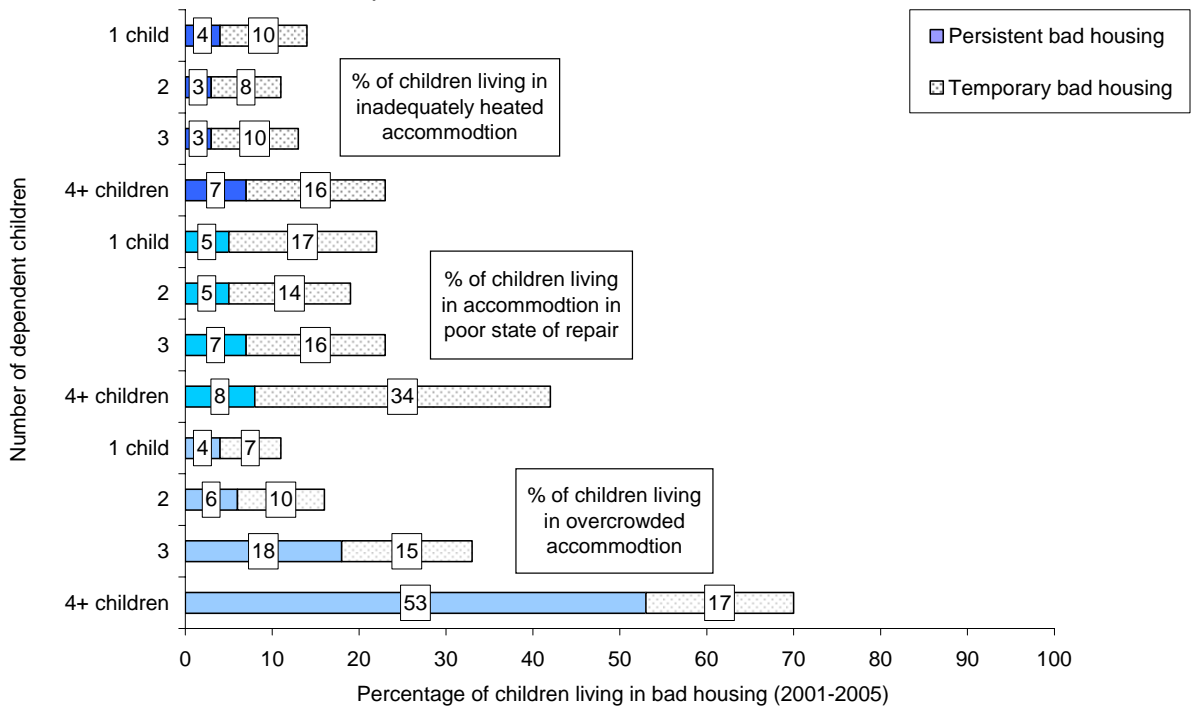
Base: All children in 2001-2005 panel



There was a strong relationship between family size and overcrowding particularly the proportion of children experiencing persistent overcrowding (Figure 3.10). More than twice as many children living in families with three or more dependent children experienced persistent overcrowding compared with children living in two child households (18 per cent vs. 6 per cent). Over half (53 per cent) of children in families with four or more children experienced persistent overcrowding compared with just one in 25 only children. There was little difference in the experience of accommodation in poor state of repair or inadequate heating between families with one to three children. However, among families with four or more children a higher proportion of children temporarily experienced accommodation in poor state of repair or inadequate heating compared with children living in smaller families. For example, around a third (34 per cent) of children in large families temporarily experienced accommodation in poor state of repair compared with one in six (17 per cent) of only children.

Figure 3.10 Experience of bad housing by number of dependent children

Base: All children in 2001-2005 panel



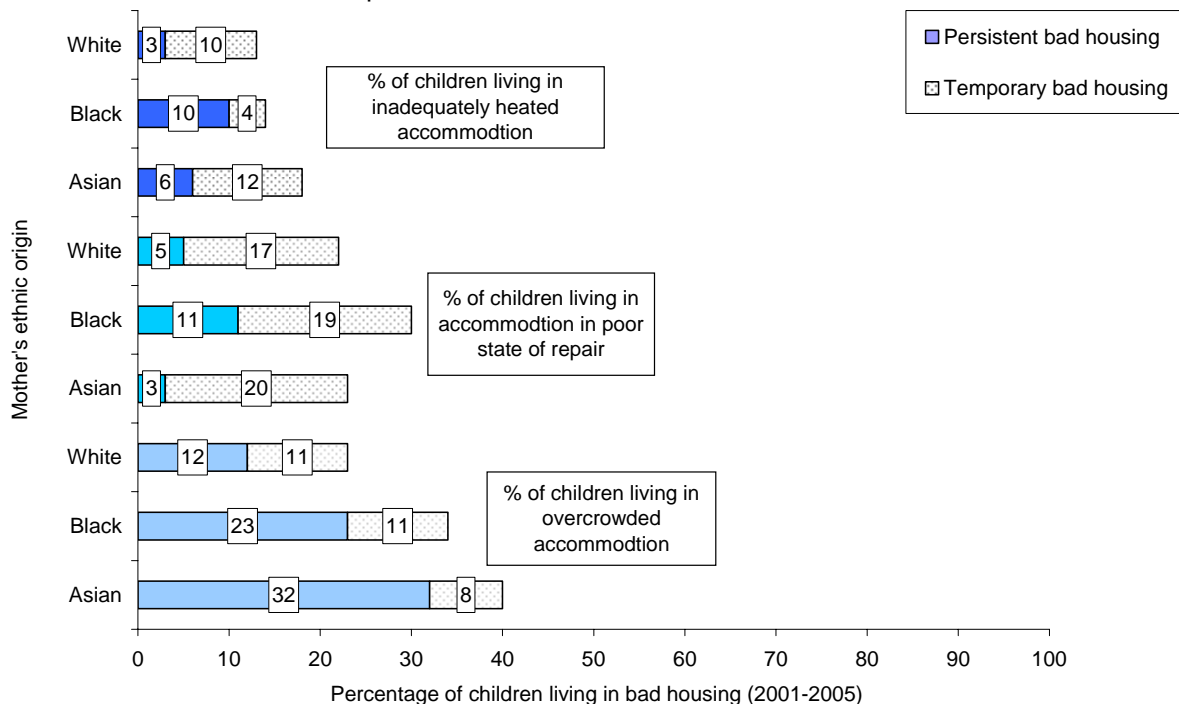
The relationship between bad housing and ethnicity varied depending on the specific housing problem (Figure 3.11). Children with Asian mothers were the most likely to experience overcrowding, and particularly likely to experience persistent overcrowding compared with other children. Almost a third (32 per cent) of children whose mother was of Asian origin lived in persistently overcrowded accommodation compared with one in eight (12 per cent) of children whose mother was White and around a quarter (23 per cent) of children whose mother was Black. This may reflect cultural differences regarding attitudes to personal space and crowding between Asian families and other ethnic groups.

Children whose mother was of Black ethnic origin were particularly likely to experience persistent bad housing. Overall, around one in ten (11 per cent) of children with Black mothers persistently experienced accommodation in poor state of repair compared with one in 20 (5 per cent) of children with White mothers. Among children with some experience of accommodation in poor state of repair, over half of children with Black mothers experienced the problem on a persistent basis compared with less than a third of children with White mothers.

A similar pattern was found with regard to the duration of inadequate heating. Among children with some experience of this problem, over two-thirds of children with a Black mother experienced the problem on a persistent rather than a short-term basis. In contrast, among children with a White mother, a similar proportion experienced the problem on a short-term basis only. This may reflect the fact that families where the mother is of Black origin are more likely to be living in households where no parent worked more than 16 hours a week and so have less money available to resolve these housing problems.

Figure 3.11 Experience of bad housing by mother's ethnic origin

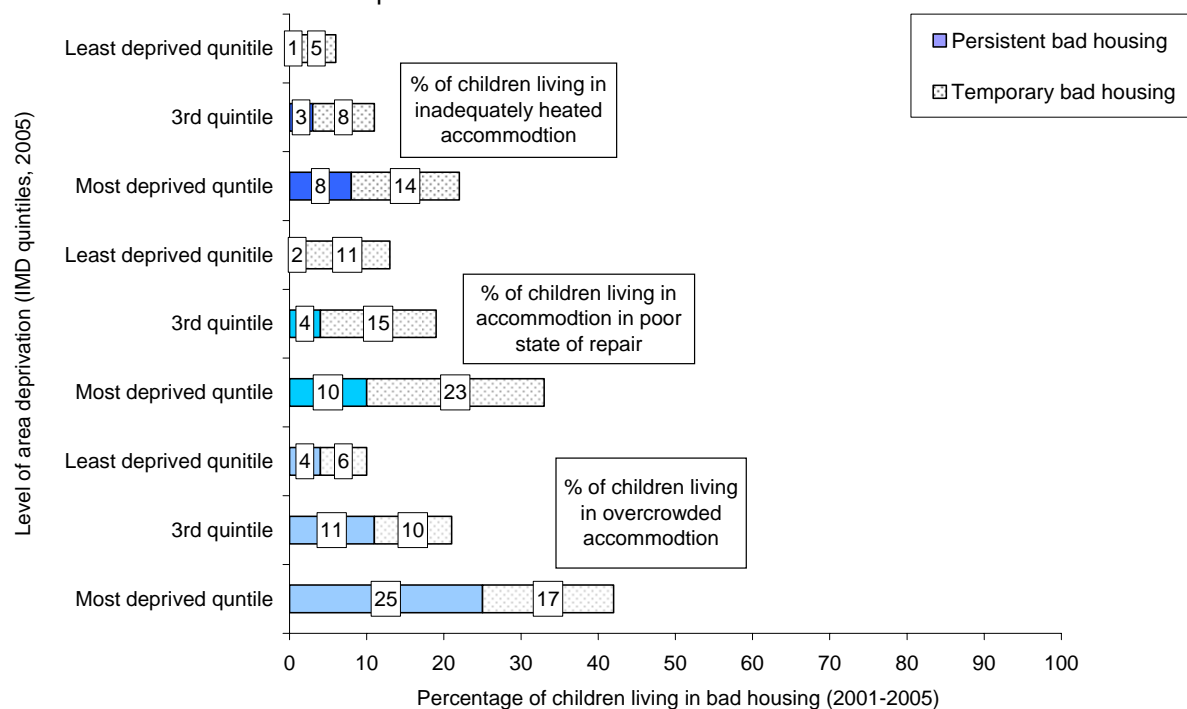
Base: All children in 2001-2005 panel



The proportion of children experiencing each of the three housing problems varied depending on the level of area deprivation (Figure 3.12 below and Table A.3.4 in Appendix). A higher proportion of families living in the most deprived quintiles experienced bad housing compared with children living in less deprived quintiles. This was the case for both short-term and more persistent bad housing. There appears to be a particularly strong relationship between the level of area deprivation and experiencing persistent overcrowding. A quarter (25 per cent) of children living in the most deprived 20 per cent of areas experienced persistent overcrowding between 2001 and 2005.

Figure 3.12 Experience of bad housing by level of area deprivation

Base: All children in 2001-2005 panel



There was also variation by government office region in the proportion of children experiencing bad housing (see Tables A.3.5 to A.3.7 in the Appendix). Consistent with previous research on housing in London (London Housing, 2004), one of the clearest findings was the high proportion of children in London living in persistently overcrowded accommodation. Nearly one in four (23 per cent) of all children in London experienced persistent overcrowding compared to around one in seven (13 per cent) children across Britain as a whole.

3.5 The children most at risk of persistent bad housing

We now go on to present the results of multivariate analysis designed to identify the risk factors associated with persistent bad housing. Logistic regression analysis is used to unravel which characteristics are related to an increased risk of persistent bad housing when taking into account other, potentially confounding, characteristics, such as tenure, poverty and area deprivation.

The key feature of this analysis is that the relationship of each characteristic to persistent bad housing takes into account any possible confounding influence of other characteristics. For example, descriptive analyses showed that the incidence of persistent bad housing was higher among BME families and families with no parent in work. Given that we know that BME families are more likely to have no adult in work, the key issue is whether it is ethnic origin or work status (or both) that is driving the relationship with bad housing. The regression analysis will allow us to unravel whether ethnic origin continues to be associated with a greater risk of living in persistent bad housing once we control for differences in work status. However, it is important to note that the analysis presents significant

relationships between the characteristics of families and the risk of persistent bad housing – the analysis does not unravel any *cause and effect* in the relationship. There may be other mediating factors that explain the relationship between the factors and persistent bad housing.

For each of the housing problems under consideration we present two sets of results. First, we present the results of a standard cross-sectional analysis modelling the factors associated with experiencing bad housing in a particular year (2005). We then go on to incorporate the idea of duration into our analysis and identify which characteristics are associated with persistent bad housing. We directly contrast children living in persistent and short-term bad housing to identify the characteristics associated with a longer duration of bad housing.

A wide range of socio-demographic and economic characteristics is included in the model, and these are described in Box 3.3 below. The majority of these characteristics are measured in 2001, the start of the observation period. In order to take account of possible changes in tenure over the course of the period, the tenure variable distinguishes those with constant tenure from those with more than one tenure type. We further control for change in housing circumstances by including an indicator of whether the family moved house over the period. We also include a proxy measure of persistent poverty, something intuitively associated with bad housing, by classifying families according to whether they claimed means tested benefits on a persistent basis (for 3-5 years), short-term basis (for 1-2 years) or not at all over the period.

Box 3.3 Characteristics included in the logistic regression analysis

Logistic regression allows us to predict a discrete outcome, such as presence/absence of poor health, from a set of variables that may be continuous, discrete, dichotomous, or a mix of any of these. These variables, measures of the duration of a child living in bad housing and characteristics of children and their families in this analysis, are detailed below. The variables have a number of categories and each category is interpreted in relation to a reference category (shown in bold).

Sex of child	Boy , Girl
Age of child (2001)	0-4 , 5-9, 10-14
Family composition and Work status (2001)	Lone parent 16+ / 0-15 hours Couple both 16+ / one 16+ / both 0-15 hours
Number of dependent children (2001)	1, 2 , 3+
Age of youngest child (2001)	0-4 , 5-9, 10-14
Ethnic group of mother	White , Black, Asian, Other
Age group of mother (2001)	Under 25, 25-29, 30-34 , 35-39, 40-44, 45+
Parents' academic qualifications (2001)	Any parent has qualifications , No parent has
Parents' health problem/disability (2001)	No parent sick/disabled , any parent sick/disabled
Housing tenure (2001)	Owner , social tenant, private tenant, other
Family has savings (2001)	Yes , no
Family has debts (2001)	No , yes
Family has low income (2001)	No , yes
Region (2001)	North East, North West, Yorkshire and Humber, East Midlands, West Midlands, South West, Eastern, London, South East , Wales, Scotland
First language of mother	English , other
Index of Multiple Deprivation	Quintiles (families living in the least 20 per cent deprived quintile)
Moved house (2001-2005)	Yes, no
Claimed means tested benefits (2001-2005)	No , 1-2 years, 3-5 years

A wide range of characteristics was found to be associated with each type of bad housing in each (Table 3.2). Many of the characteristics associated with experiencing bad housing in a given year (2005) were also found to be significantly associated with experiencing bad housing on a persistent basis between 2001 and 2005.

Some characteristics were found to be associated with a greater risk of experiencing each of three housing problems on a persistent basis. These include housing tenure and level of area deprivation. However, some of the key risk factors identified varied depending on the housing problem being considered. Perhaps unsurprisingly the number of dependent children was found to be a risk factor for persistent overcrowding but was not a significant risk factor for living persistently in accommodation in poor state of repair or inadequately heated accommodation. Conversely parental health i.e. whether any of the child's parents had a long-term, limiting illness was associated with experiencing accommodation in poor state of repair or inadequately heated accommodation on a persistent basis but not with experiencing persistent overcrowding.²¹ Economic characteristics including family work status and whether the family had savings were significant risk factors for persistently experiencing accommodation in poor state of repair or inadequate heating, but not for persistent overcrowding. This makes sense as the former problems may be more easily resolved by additional spending, either on repairs or heating, than the problem of overcrowding.

Indicators of the family's economic status in 2001 were consistently significant predictors of whether the child experienced persistent bad housing (compared with experiencing no bad housing) over the period 2001-2005. This is despite the dynamic nature of poverty and employment and the fact that families' economic circumstances can change from one year to the next. Other economic variables (whether the family has savings or debts), which may provide a better indication of the household's underlying financial security, were also found to be significant risk factors associated with experiencing bad housing on a persistent basis. Furthermore, whether the family had debts was consistently found to be a significant characteristic in distinguishing between those children who experienced bad housing on a persistent rather than just a short-term basis. However, including the longitudinal benefits measure in the model as a proxy for persistent poverty did not significantly affect the results or emerge as a significant risk factor associated with experiencing bad housing on a persistent rather than a temporary basis.

The magnitude of different risk factors

As well as looking at the range of risk factors associated with different housing problems, it is also interesting to compare the magnitude of the effect of different characteristics on the likelihood of experiencing persistent bad housing. Table 3.3 displays this information in terms of odds ratios. An odds ratio of greater than one indicates that (compared with the reference group, detailed in Box 3.2 above) a characteristic is associated with a higher risk of persistent bad housing. An odds ratio of less than one indicates that a characteristic is associated with a lower risk of persistent bad housing.²² Only factors that were found to be strongly associated with experiencing persistent bad housing are displayed²³.

Even after controlling for a range of other characteristics, a clear relationship remains between tenure type and the experience and duration of bad housing. In particular, children living in private rented accommodation were four times more likely than children of owner occupiers to persistently live in accommodation in poor state of repair and more than ten times as likely to live persistently in inadequately heated accommodation. Furthermore, among children living in inadequately heated accommodation, the problem was nearly five times more likely to be experienced on a persistent basis (rather than short-term) if the child lived in private rented accommodation. Persistent overcrowding was linked to children in social rented accommodation, who were twice as likely to experience persistent rather than short-term overcrowding.

Other risk factors particularly associated with overcrowding include family size and ethnicity. Children from large families (three or more dependent children) were six times more likely to experience persistent bad housing compared with children from families with only two children. Among children with some experience of overcrowding, this overcrowding was three times more likely to be persistent rather than merely short-term if the child was from a large family. Children with Asian families were twice as likely to experience persistent overcrowding (and to experience overcrowding on a persistent basis rather than on a short-term basis) compared with children with White mothers. As previously

²¹ On the basis of this analysis it is not possible to determine whether parental illness leads to the family living in bad housing or vice versa.

²² For details of the relevant reference categories see Box 3.3.

²³ Please contact the authors for a full set of regression output.

discussed, this relationship between ethnicity and overcrowding may reflect different attitudes towards the family and personal space among different ethnic groups.

The problem of accommodation in poor state of repair was particularly associated with the economic situation of the family and the area in which they lived. Children living in one of the 20 per cent most deprived areas were more than twice as likely to persistently experience accommodation in poor state of repair compared with children living in one of the 20 per cent least deprived areas. Children whose family had debts were also particularly likely to persistently experience accommodation in poor state of repair. Overall, children living in families with debts were over three times more likely to persistently experience accommodation in poor state of repair. The odds of a child persistently living in accommodation in poor state of repair rather than just experiencing the problem on a short-term basis were 1.5 times higher if the family had debts. Living below the poverty line was also associated with significantly increased odds of experiencing accommodation in poor state of repair on a persistent rather than just a short-term basis. This may in part reflect the fact that families facing financial constraints are less able to pay for repairs to resolve short-term housing problems.²⁴

Risk factors particularly associated with experiencing inadequate heating on a persistent basis include being from a lone parent family, family debts, and having a Black mother. Children growing up in a working lone parent family were over twice as likely to experience persistent inadequate heating compared with children growing up in a couple family where both parents worked 16 hours or more a week. Overall, children whose families had debts were three times as likely to experience persistent inadequate heating compared with other children, whilst the odds of living with inadequate heating on a persistent rather than short-term basis were 1.5 times higher if the family had debts. Among children with some experience of inadequate heating, those with Black mothers were six times more likely to have experienced inadequate heating on a persistent basis (rather than just short-term) compared with children with White mothers.

²⁴ Parental health was also an important factor in predicting the duration of living in accommodation in poor state of repair. If at least one parent had a long term limiting illness or disability the odds of a child persistently living in accommodation in poor state of repair (as opposed to just experiencing the problem on a short-term basis) were 1.6 times higher compared with if both parents were healthy. It is possible that parental ill health may be a consequence of persistently living in accommodation in poor state of repair. Chapter 4 demonstrates a significant association between accommodation in poor state of repair and child's health.

Table 3.2 Characteristics associated with increased risk of experiencing persistent bad housing 2001-2005

Key: ✓ Characteristic associated with experiencing bad housing 2005
 ✓ Characteristic associated with experiencing persistent bad housing 2001-2005
 ✓ Characteristic associated with experiencing bad housing on a persistent rather than a short-term basis 2001-2005

	Overcrowding		Accommodation in poor state of repair		Inadequate heating	
	2005	2001-2005	2005	2001-2005	2005	2001-2005
Tenure	✓	✓	✓	✓	✓	✓
Number of dependent children	✓	✓		✓		
Ethnic group of mother	✓	✓	✓	✓		✓
Parent's qualifications	✓	✓	✓			
Parent's health			✓	✓		✓
Family work status	✓		✓	✓	✓	✓
Whether any savings	✓			✓	✓	✓
Whether any debts	✓	✓	✓	✓	✓	✓
Living in poverty	✓	✓		✓	✓	✓
Government office region	✓	✓	✓	✓	✓	✓
Level of area deprivation	✓	✓		✓		✓
Age of mother	✓	✓	✓	✓		
Age of youngest child	✓	✓				
Moved house		✓		✓		✓

Table 3.3 Factors that increase the likelihood of persistent bad housing, odds ratios (significant relationships only)

	Persistent overcrowding		Persistent poor state of repair		Persistent inadequate heating	
	compared to...		compared to...		compared to...	
	None	Short-term	None	Short-term	None	Short-term
Tenure (owner occupier)						
Social renter	2.54	2.08	1.32		3.64	
Private renter	1.94		4.03		10.77	4.82
Poverty (not in poverty)						
Living below poverty line	1.48			1.34	1.53	
Work status (couple, both work 16hrs+)						
Lone parent, working 16hrs+			1.52		2.65	
Lone parent, working <16hrs			1.79		3.64	
Couple, neither working 16hrs+			1.57		2.19	
Savings (has savings)						
Does not have savings			1.65		1.53	
Debts (none)						
Has debts	1.43	1.46	3.45	1.58	3.10	1.46
Number of children (2)						
1 child						
3+ children	6.22	3.07				
Mother's ethnic origin (White)						
Black					2.66	6.06
Asian	2.07	2.14			2.16	
Parents' health (no problems)						
Limiting, long term illness			1.96	1.45	1.69	
Parents' qualifications (has quals)						
No qualifications	1.57	1.33				
Area deprivation (Least deprived)						
Most deprived			2.26			3.24

Note: Reference category shown in bold

3.6 Summary

This chapter introduced a dynamic measure of children's bad housing experiences over the period 2001-2005 and distinguished children experiencing housing problems persistently (i.e. for three years or more) from those experiencing housing problems on a more short-term basis (i.e. for one or two years only). It also considered the risk factors associated with experiencing bad housing on a persistent basis. The main findings were:

- Because of the dynamic nature of children's housing situations, point-in-time studies under estimate the proportion of children affected by bad housing. Over a five year period as many as one in four children spent at least one year living in overcrowded accommodation. The same proportion spent at least one year living in accommodation in poor state of repair whilst one in seven dependent children spent at least a year living in inadequately heated accommodation.
- Children experience different housing problems for different lengths of time. Overall, overcrowding was the housing problem most likely to be experienced on a persistent basis.
- A significant minority of children experienced persistent housing problems. Between 2001 and 2005 one in eight dependent children lived in persistent overcrowding. One in 14 dependent children experienced accommodation in poor state of repair on a persistent basis whilst one in 25 experienced inadequate heating on a persistent basis.
- The duration of all three types of bad housing varied by tenure. Children living in social rented accommodation were the most likely to experience persistent overcrowding. Children living in private rented accommodation were the most likely to persistently experience accommodation in poor state of repair or inadequately heated accommodation. The risk of experiencing persistent bad housing varied by tenure even after controlling for a range of other family circumstances.
- Risk factors particularly associated with experiencing overcrowding on a persistent basis include living in a family with a large number of dependent children and having a mother of Asian origin.
 - A third of children with an Asian mother lived in persistent overcrowding. Children in large families were six times more likely to experience overcrowding on a persistent rather than a short-term basis compared with families with two children.
 - Almost a third of children in families with three or more children lived in persistent overcrowding. Children in Asian families were more than twice as likely to experience overcrowding on a persistent rather than a short-term basis.
- Risk factors particularly associated with persistently experiencing accommodation in poor state of repair include living in a deprived area or coming from a family facing financial difficulties.
 - Children living in one of the 20 per cent most deprived areas were more than twice as likely to persistently experience accommodation in poor state of repair compared with children living in one of the 20 per cent least deprived areas
 - Children living below the poverty line were three times more likely to persistently experience accommodation in poor state of repair compared with other children.
 - Children whose families had debts or who were living below the poverty line were significantly more likely to experience accommodation in poor state of repair on a persistent rather than just a short-term basis.
- Risk factors particularly associated with experiencing inadequate heating on a persistent basis include living in a family with debts, being from a lone parent family and having a Black mother.
 - Children from working lone parent families were more than twice as likely to experience persistent inadequate heating compared with children from working couple families.
 - Children with Black mothers were six times more likely than children with White mothers to experience inadequate heating on a persistent basis rather than just short-term.

4 THE DURATION OF BAD HOUSING AND OUTCOMES FOR CHILDREN

One of the potential advantages of longitudinal analysis over cross-sectional studies is that it allows us to build a detailed picture of when and for how long children experience bad housing. This in turn allows us to more fully explore the ways in which bad housing may be linked to negative outcomes for children. This chapter combines information on the duration of living in bad housing with a range of outcomes for children, to investigate whether there is an association between the two. The chapter proceeds as follows:

- In the first section (Section 4.1) we describe the existing research that has used information on the length of time children have lived in bad housing. A review of this literature reveals that there are relatively few studies that have used robust longitudinal information to investigate the consequences of children living in bad housing.
- We then move on to describe how we use FACS to measure outcomes for children (Section 4.2). We map the information that FACS contains according to child outcomes as specified in the government's *Every Child Matters* outcomes framework.
- Section 4.3 presents evidence of the percentage of children with negative outcomes according to the duration and type of bad housing they have been living in. The evidence suggests that children were at higher risk of a range of negative outcomes the longer they lived in bad housing.
- There are of course other factors that can be associated with negative outcomes for children, such as poverty, parental health and education. In Section 4.4 we attempt to isolate the association between the duration of bad housing and outcomes for children by controlling for these other factors in our analysis. This shows that for a number of the outcomes that is an independent association between the duration of bad housing and child outcomes.
- We summarise the main findings of the chapter in Section 4.5.

4.1 Existing research

There is existing research that suggests that children who live in bad housing also face a number of other disadvantages. Previous analysis of FACS by NatCen (Barnes et al, 2006) was used by Shelter in their *Against the Odds* report (Shelter, 2007) to demonstrate what life is like for children living in bad housing in contemporary Britain. The report presents evidence to suggest that living in bad housing is associated with a range of other negative outcomes for children. For example, children living in bad housing were almost twice as likely to gain no GCSEs compared with other children and twice as likely not to attend school.

Some longitudinal analysis has been carried out using cohort studies to look at the long-term effects of bad housing in childhood on health, after controlling for current living conditions. Links have been found between bad housing and the likelihood of suffering from a range of health problems in adulthood (ODPM, 2004). However, there is little longitudinal evidence that looks at childhood outcomes. Furthermore, there have been few studies that have made full use of the longitudinal data to trace changes in housing conditions during childhood or look at how different housing histories may impact differently on outcomes for children.

Ghodsion and Fogelman (1988) used NCDS data to trace people's housing histories through childhood and into adulthood. They found that those who suffered from overcrowding throughout childhood experienced poor relationship, employment and educational outcomes. Marsh et al (1999) used NCDS data to track people at age of 7 and 33 to show that living in bad housing at one point in time is a strong predictor of living in bad housing at subsequent points. There was evidence that experiencing bad housing at early childhood had a negative impact on health in adulthood. These studies provide a useful guide to the sorts of analysis that is possible using longitudinal data. However, the findings are now quite out of date and, furthermore, are primarily concerned with outcomes in adulthood rather than childhood.

As there is limited information on how the duration of bad housing is associated with outcomes for children, this project will add significantly to this evidence base. The longitudinal aspect of FACS allows this research to compare outcomes for children with different durations of living in bad housing. If an association is found between an increased duration of living in bad housing and an increased risk of poor outcomes, the research will contribute new evidence in two ways. First, it will add to the theory that living in bad housing has a negative impact on children's well-being. Secondly, it will show that how long children live in bad housing is important for predicting children's living standards.

4.2 Using FACS to measure child outcomes

Improving children's living standards is a top priority for government policy makers. The government is committed to ending child poverty by 2020 and the importance of housing in helping the government to achieve this is recognised in the new child poverty measure, which includes indicators of housing quality as part of an index of multiple deprivation (DWP, 2003). The government is also committed to improving outcomes for children that cover broader issues than income and material deprivation. *Every Child Matters* (ECM) is a national programme designed to improve the life chances of all children and young people. The ECM framework identifies five outcomes important to the well-being of children and young people²⁵ and creates a structure for the government's aim for every child, whatever their background or their circumstances, to have the support they need to:

- Be healthy;
- Stay safe;
- Enjoy and achieve ;
- Make a positive contribution; and
- Achieve economic well-being.²⁶

This research uses an outcomes-based approach to assess the well-being of children. The Families and Children Study (FACS) contains a range of information on child outcomes – for example children's health, education and happiness. Figure 4.1 shows the different indicators of children's well-being that can be measured using FACS data.

Figure 4.1 maps outcomes and indicators as specified by the ECM framework. The 'outcomes' are the conditions of well-being desired for children, families or communities. The 'indicators' describe how we measure these conditions using the FACS data. Information about children is collected from the latest wave of FACS (2005). We also make use of the child self-completion questionnaire that was asked that year to secondary school children (aged 11 to 15 years) in the 2004 wave of FACS²⁷. This separate questionnaire asks children about a variety of outcomes linked to school, anti-social behaviour and happiness. As Figure 4.2 shows, FACS has a good coverage of the outcomes specified in the ECM framework and provides multiple indicators for a selection of the outcomes. Only for the Make A Positive Contribution domain is FACS unable to provide information for two of the five outcomes.

²⁵ These outcomes are mapped against the rights set out in the United Nations Convention on the Rights of the Child (UNCRC) see www.unicef.ork.uk

²⁶ For more details on Every Child Matters see www.everychildmatters.gov.uk

²⁷ The self-completion questionnaire is not included in every wave of FACS and was not asked in 2005. Hence when we want to use information from the child-self completion questionnaire to measure a child outcome (e.g. life satisfaction) we use information from 2004 and when we want to use the standard survey information (e.g. child's health as reported by the mother) we use information from 2005. This inconsistency in time points from which the information is collected is likely to have little effect on the analysis.

Figure 4.1 FACS indicators of child well-being mapped against the Every Child Matters outcomes framework

BE HEALTHY		STAY SAFE		ENJOY AND ACHIEVE	
Outcomes (from ECM)	Indicators (from FACS)	Outcomes (from ECM)	Indicators (from FACS)	Outcomes (from ECM)	Indicators (from FACS)
Physically healthy	- Long-standing illness, disability or infirmity	Safe from maltreatment, neglect, violence and sexual exploitation	- N/A	Ready for school	- N/A
Mentally and emotionally healthy	- Feel happy about life, family, school, and appearance	Safe from accidental injury and death	- Visits to Accident & Emergency	Attend and enjoy school	- Ever skipped or bunked off school
Sexually healthy	- N/A	Safe from bullying and discrimination	- Bullied in or out of school	Achieve stretching national educational standards at primary school	- Mother's perception of child's attainment at school in maths, English and science (reported separately)
Live healthy lifestyles	- Done sport or other active things in last week	Safe from crime and anti-social behaviour in and out of school	- Worry about being robbed or mugged	Achieve personal and social development and enjoy recreation	- Frequency of having friends to visit or going to their house
Choose not to take illegal drugs	- Smokes, drink alcohol or use illegal drugs (reported separately)	Have security, stability and be cared for	- Parent(s) help with school work - Run away from home	Achieve stretching national educational standards at secondary school	- Mother's perception of child's attainment at school in maths, English and science (reported separately)

Notes:

- N/A means the information to construct this outcome is not available in FACS.

Figure 4.1 (cont.) FACS indicators of child well-being mapped against the Every Child Matters outcomes framework

MAKE A POSITIVE CONTRIBUTION		ACHIEVE ECONOMIC WELL-BEING	
Outcomes (from ECM)	Indicators (from FACS)	Outcomes (from ECM)	Indicators (from FACS)
Engage in decision making and support the community and environment	- N/A	Engage in further education, employment or training on leaving school	- N/A ¹
Engage in law-abiding and positive behaviour in and out of school	- Ever been suspended or excluded from school (reported separately) - Been in trouble with the police in the last year - Problem with smoking, alcohol or drugs in the last year	Are ready for employment	- N/A
Develop positive relationships and choose not to bully or discriminate	- Member of club or organised activity	Live in decent homes and sustainable communities	- Overcrowded accommodation - Accommodation in poor state of repair
Develop self-confidence and successfully deal with significant life changes and challenges	- N/A	Have access to transport and material goods	- Living in a family without a range of material goods, such as new clothes for children and an annual holiday. - Living in a family without access to a car or van
Develop enterprising behaviour	- Does paid work	Live in households free from low income	- Living in a family below 60 per cent of median contemporary disposable family income

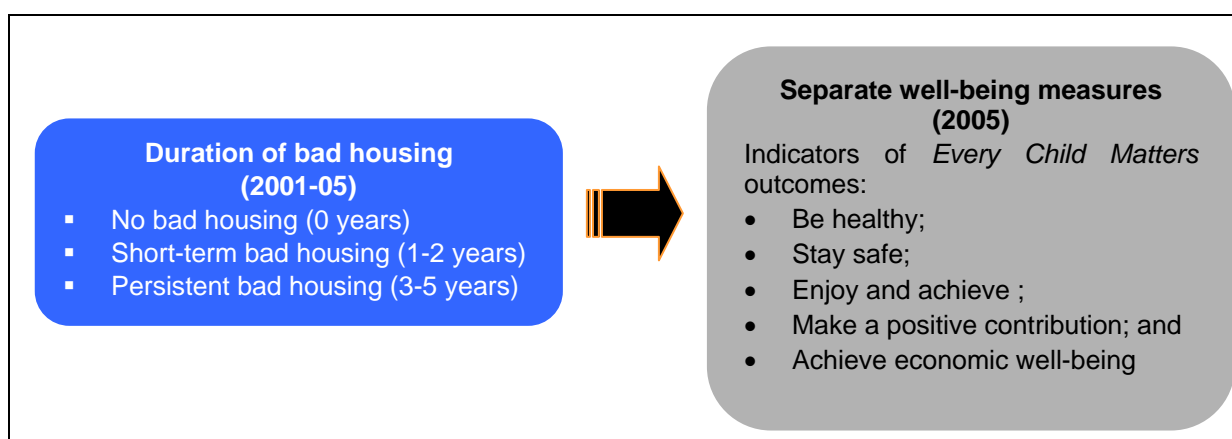
Notes:

- N/A means the information to construct this outcome is not available in FACS.
- ¹ Does not apply to the majority of children in FACS, who are pre- or currently attending full-time education.

4.3 Measuring child outcomes according to the duration of living in bad housing

This research will explore the association between how long children live in bad housing and a range of outcome indicators of children's well-being (see Figure 4.2). This means that the three measures of bad housing – overcrowded accommodation, accommodation in poor condition and inadequately heated accommodation - are used in their dynamic context to identify children that have lived in this type of accommodation long-term (3-5 years), short-term (1-2 years) and who avoided bad housing (0 years) over the period from 2001 to 2005. We then contrast measures of well-being for children with different durations of bad housing, using the range of indicators specified in Figure 4.1.

Figure 4.2 Analytical model: Exploring associations between duration of bad housing and child outcomes



As in Chapter 4, the analysis is performed for children whose family took part in the FACS survey in all five years from 2001 to 2005²⁸. Child outcomes are measured using the most up-to-date information from FACS. This also means that there is more chance of seeing any perceived 'effect' of living in bad housing on these outcomes²⁹. We also present estimates of child outcomes for all children, which act as a benchmark to compare with estimates for children living in bad housing.

Figure 4.2 shows three types of relationships that may emerge from the analysis in this section. If we see that the percentage of children with a negative outcome increases the longer a child has lived in bad housing (Example A), we have evidence to suggest that the duration of living in bad housing is associated with this outcome. If we see that the percentage of children with a negative outcome is higher for children in persistent and short-term bad housing than children who did not live in bad housing (Example B), it suggests that although bad housing may be associated with this outcome *per se*, the duration of living in bad housing may not be an important factor. Finally, if we see little difference in the incidence of a negative child outcome across the three housing categories it suggests that living in bad housing, let alone the duration of living in bad housing, has little association with this outcome.

²⁸ As detailed in the previous chapter, there were 6,837 children who took part in all five waves of FACS from 2001 to 2005.

²⁹ Using the latest available wave of FACS to identify child outcomes means that there may be some blurring of the relationship with the longitudinal bad housing categories. This is because some of the children may not actually be living in bad housing in the year that the child outcomes is measured. For example, the definition of persistent bad housing is that a child has to be living in bad housing for three or more of the five years from 2001 to 2005. It is possible therefore that a child in persistent bad housing could be living in bad housing in 2001, 2002 and 2004, but not in 2005 when the indicator of well-being (e.g. health) is measured. Likewise, a child in short-term bad housing may be living in bad housing in 2005, the year the child outcome is measured. However, these potential inconsistencies are likely to average out and not have a major effect on the analysis.

Figure 4.3 Analysing the relationship between bad housing and child outcomes

Hypothetical examples:

A. Implies that outcomes for children worsen as the duration of living in bad housing increases.

Longitudinal bad housing category

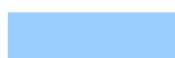
Persistent bad housing



Short-term bad housing



No bad housing



→ % of children with poor outcome (e.g. ill health)

B. Implies that outcomes for children living in bad housing are worse than for children not living in bad housing but that the duration of living in bad housing has no impact on outcomes.

Longitudinal bad housing category

Persistent bad housing



Short-term bad housing



No bad housing



→ % of children with poor outcome (e.g. ill health)

C. Implies that outcomes for children living in bad housing are no worse than for children not living in bad housing.

Longitudinal bad housing category

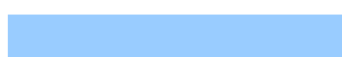
Persistent bad housing



Short-term bad housing



No bad housing



→ % of children with poor outcome (e.g. ill health)

We do not show graphs for all of the thirty child outcomes detailed in Figure 4.2. Instead we present the more interesting results graphically and summarise the analysis for all of the child outcomes in Table 4.1. Each figure presents the incidence of a separate child outcome (e.g. long-standing illness or disability) according to the duration (none, short-term, persistent) in each type of bad housing (overcrowded, poor conditions, inadequately heated).

The interpretation of the charts focuses on analysis where there is a statistically significant ($p < 0.05$) relationship between the duration of bad housing and the child outcome. So, where a finding is mentioned in the text the reader can be sure that difference is statistically different and not due to sampling error. Most often we focus on findings that show a difference in the child outcome according to whether the child was living in persistent compared to short-term bad housing, as this implies that the duration in bad housing has an association with the particular measure of well-being.

It is important to point out that the analyses presented in this section demonstrate *associations* between the durations of bad housing and child outcomes. The analyses do not prove any *cause and effect*. In the next section we do investigate this relationship further by taking into account other factors that can impact on child outcomes (see Section 4.4).

We now go on to present the relationship between the duration of bad housing and child well-being for a range of outcomes across the ECM framework, beginning with the *Be healthy* domain.

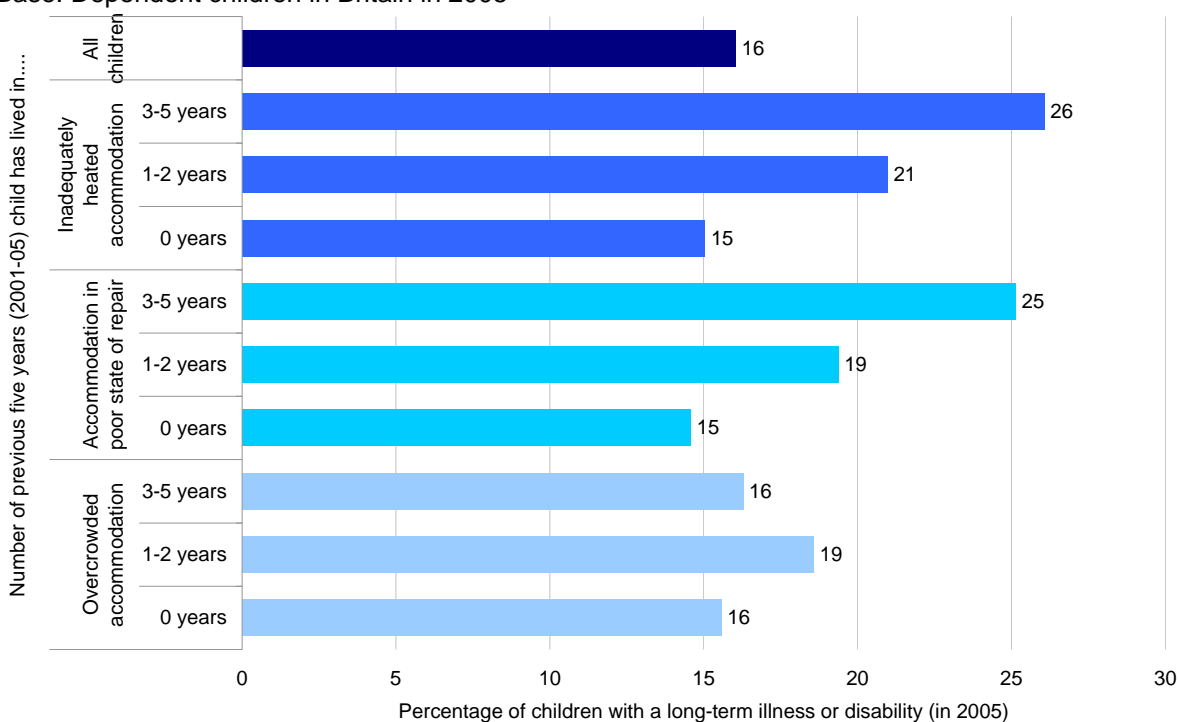
4.3.1 Be healthy

Living in bad housing is generally regarded as one of the contributing factors leading to poor health in children, where the evidence is particularly strong on the effect of cold, damp and mould (ODPM, 2004). Reviews of the evidence in the UK and other countries have concluded that children living in damp, mouldy homes are between one and a half and three times more prone to coughing and wheezing – symptoms of asthma and other respiratory conditions – than children in dry homes (Peat et al, 1998 and Strachan, 1991).

In FACS the mother is asked whether each of her children has a long-standing illness or disability. If so, the mother is asked which of a list of ailments her child has, including physical problems, skin conditions and allergies, respiratory problems and mental illnesses. Figure 4.4 shows that approximately one in six (16 per cent) children have a long-standing illness or disability (dark blue line). There is a clear association between the length of time in bad housing and having a long-standing illness or disability for children living in inadequately heated accommodation (royal blue line) or accommodation in poor condition (turquoise line). There is no relationship between children having a long-standing illness or disability and living in overcrowded accommodation (light blue line).

Figure 4.4 Percentage of children with a long-standing illness or disability, according to the number of years they have lived in bad housing

Base: Dependent children in Britain in 2005

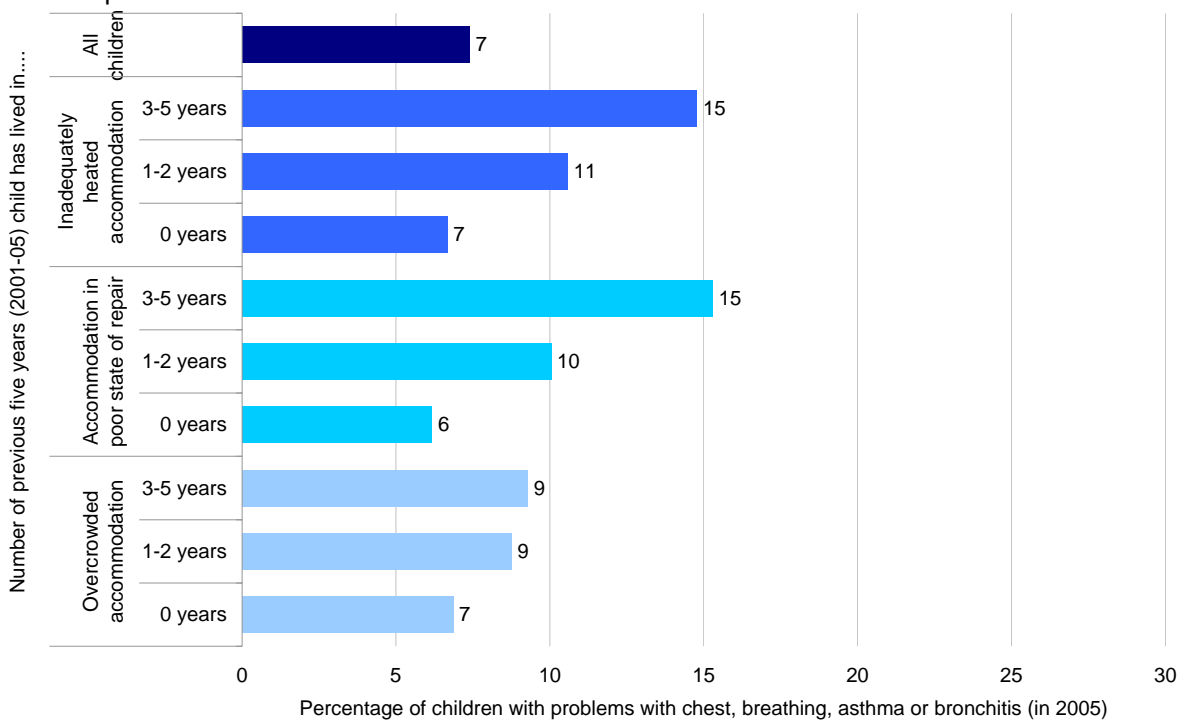


Certain illnesses are associated with living in bad housing. Figure 4.5 looks at rates of chest and breathing problems, such as asthma and bronchitis, among children in bad housing. As with the previous analysis, living in inadequately heated and poor conditions accommodation is related to an increased risk of these health problems. Children who had persistently lived in accommodation with these problems were over twice as likely to have these illnesses as children who avoided bad housing over the period.

Children who lived in bad housing for longer recorded higher rates of health problem suggesting that the duration of living in bad housing is associated with an increased risk of poor health. For example 15 per cent of children who persistently lived in poor conditions had health problems compared to 10 per cent who lived in poor conditions short-term.

Figure 4.5 Percentage of children with problems with chest, breathing, asthma or bronchitis, according to the number of years they have lived in bad housing

Base: Dependent children in Britain in 2005



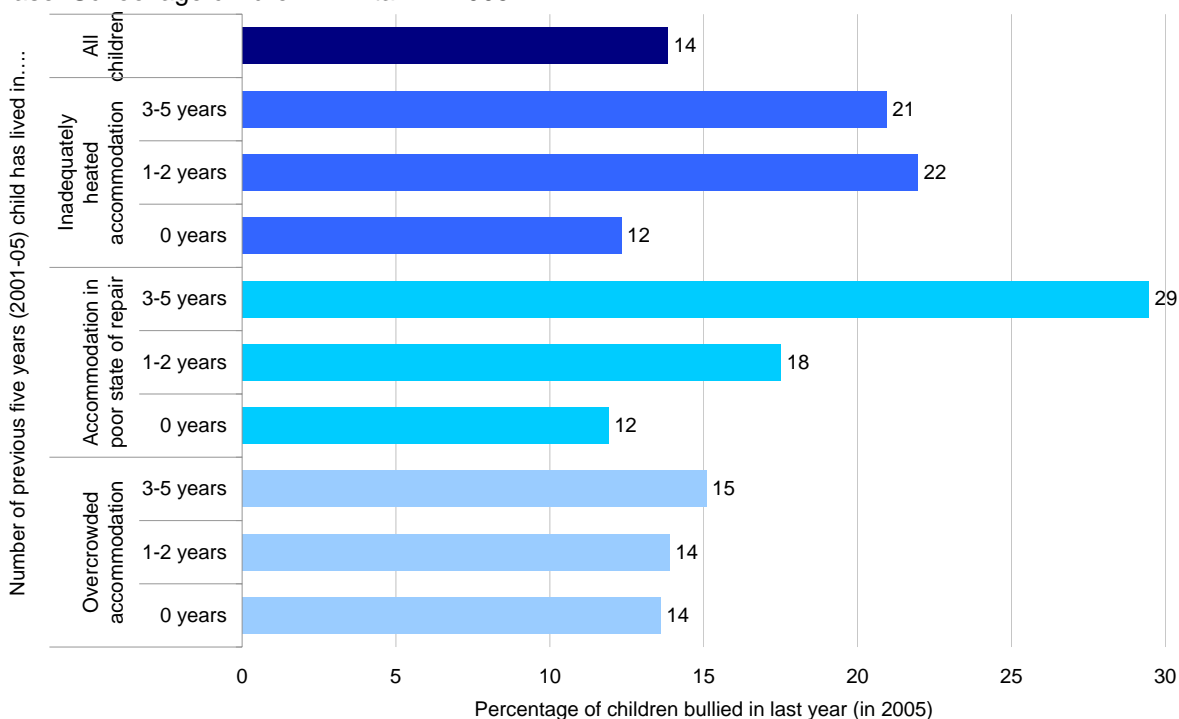
4.3.2 Stay safe

The stay safe domain of ECM is an attempt to raise awareness of the importance of safeguarding children and young people. This includes an increased focus on reducing anti-social behaviour and exclusion, and to reduce the incidence of bullying. FACS asks secondary school children, by the means of a self-completion questionnaire, whether they have been bullied in a frightening or upsetting way in the previous year.

Figure 4.6 shows an association between living in bad housing and bullying, with children who persistently lived in accommodation in poor condition at most risk of bullying. Three in ten (29 per cent) children who persistently lived in poor conditions had been bullied inside or outside of school in the past year compared to 18 per cent who lived in poor conditions short-term and 12 per cent who avoided poor conditions.

Figure 4.6 Percentage of children bullied in the last year, according to the number of years they have lived in bad housing

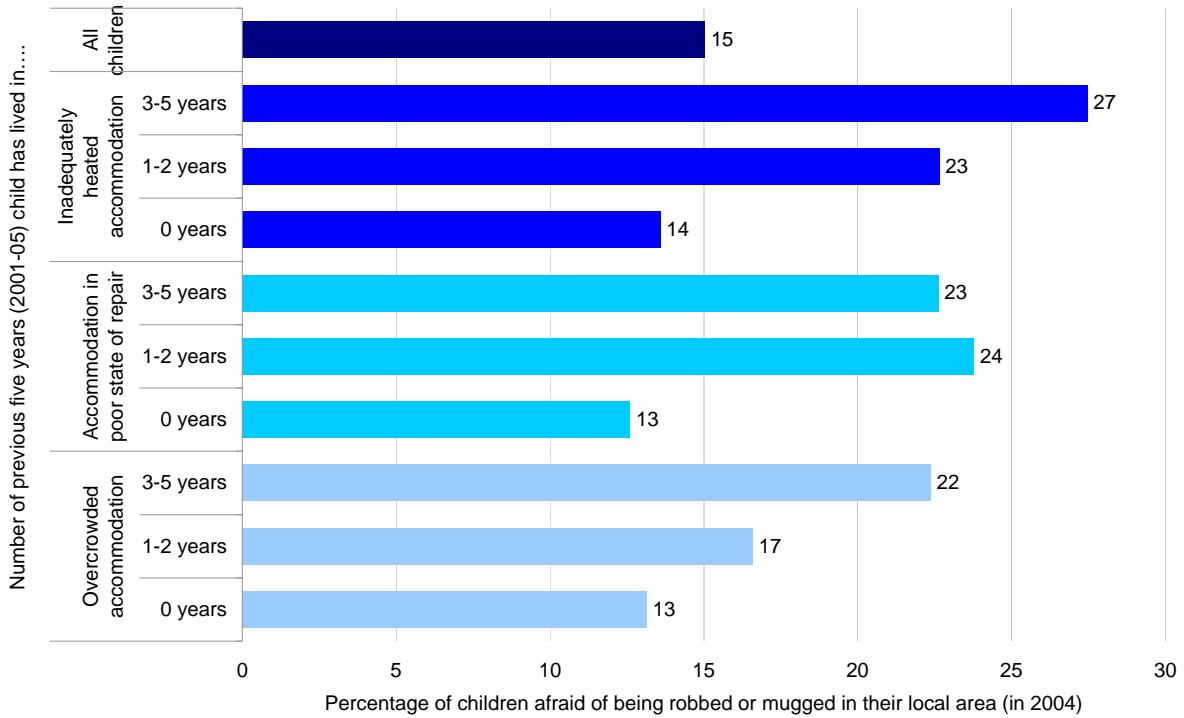
Base: School age children in Britain in 2005



The self-completion questionnaire also asked 11-15 year olds whether they were afraid of being robbed or mugged in their local area. Figure 4.7 shows that children in bad housing were more likely to state that they were afraid; particularly children persistently in overcrowded and inadequately heated accommodation (22 and 27 per cent respectively).

Figure 4.7 Percentage of children afraid of being robbed or mugged in their local area, according to the number of years they have lived in bad housing

Base: Children aged 11-15 years in Britain in 2004



4.3.3 Enjoy and achieve

The enjoy and achieve domain of the Every Child Matters framework is concerned with children and young people getting the most out of life and developing the skills for adulthood. This means increased access to high quality general education, as well as improved support for children not in school.

Figure 4.8 looks at the percentage of children that skipped or bunked off school in the past year. Those living in bad housing were more likely to have skipped or bunked off school, with children persistently in inadequately heated accommodation or accommodation in poor condition particularly likely to do so (13 per cent and 8 per cent respectively).

Figure 4.8 Percentage of children that have skipped or bunked of school in the past year, according to the number of years they have lived in bad housing

Base: School age children in Britain in 2005

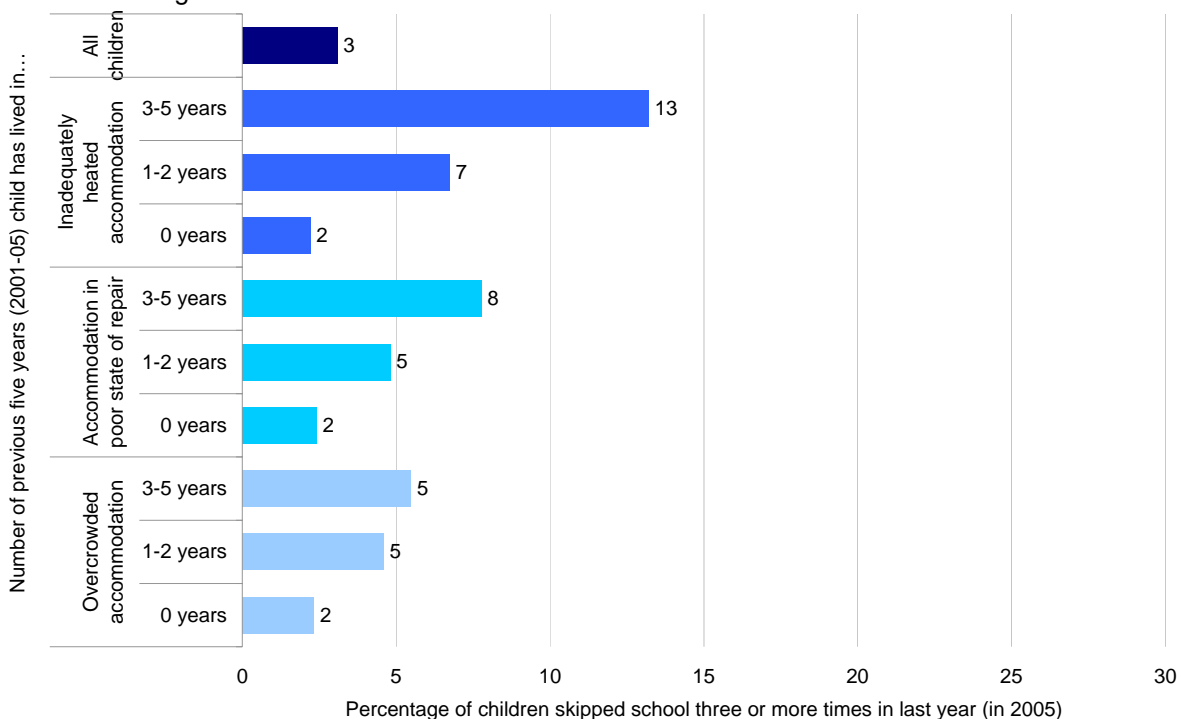
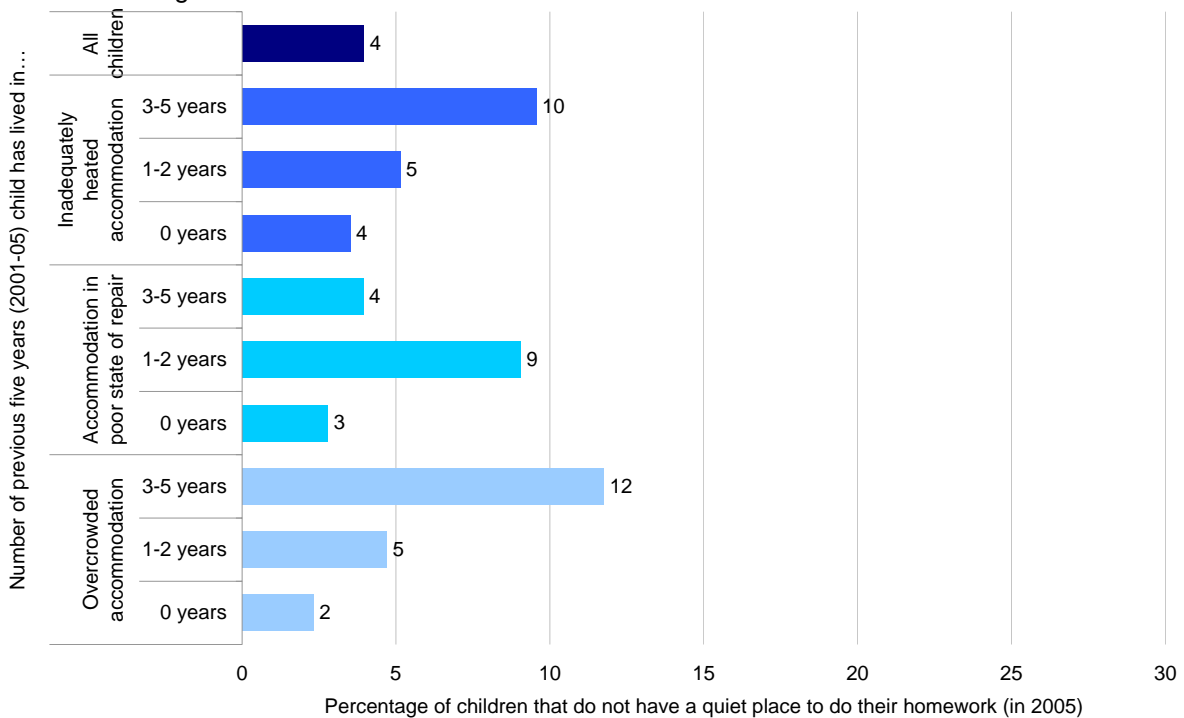


Figure 4.9 shows that 12 per cent of children who had persistently lived in overcrowded accommodation did not have a quiet place at home to do homework, compared to just 2 per cent of children who had not lived in this form of bad housing over the period. There are two main factors that are likely to contribute to this finding, the size of the accommodation (number of rooms) and the number of people living in the accommodation. This means it is likely that children from poorer families and large families are also at risk of not having a quiet place at home to do their homework. We see from Figure 4.9 that this is the case for children who persistently lived in inadequately heated accommodation, and as shown in the previous chapter families in this type of bad housing are disproportionately likely to be income poor.

Figure 4.9 Percentage of children that do not have a quiet place at home to do their homework, according to the number of years they have lived in bad housing

Base: School age children in Britain in 2005



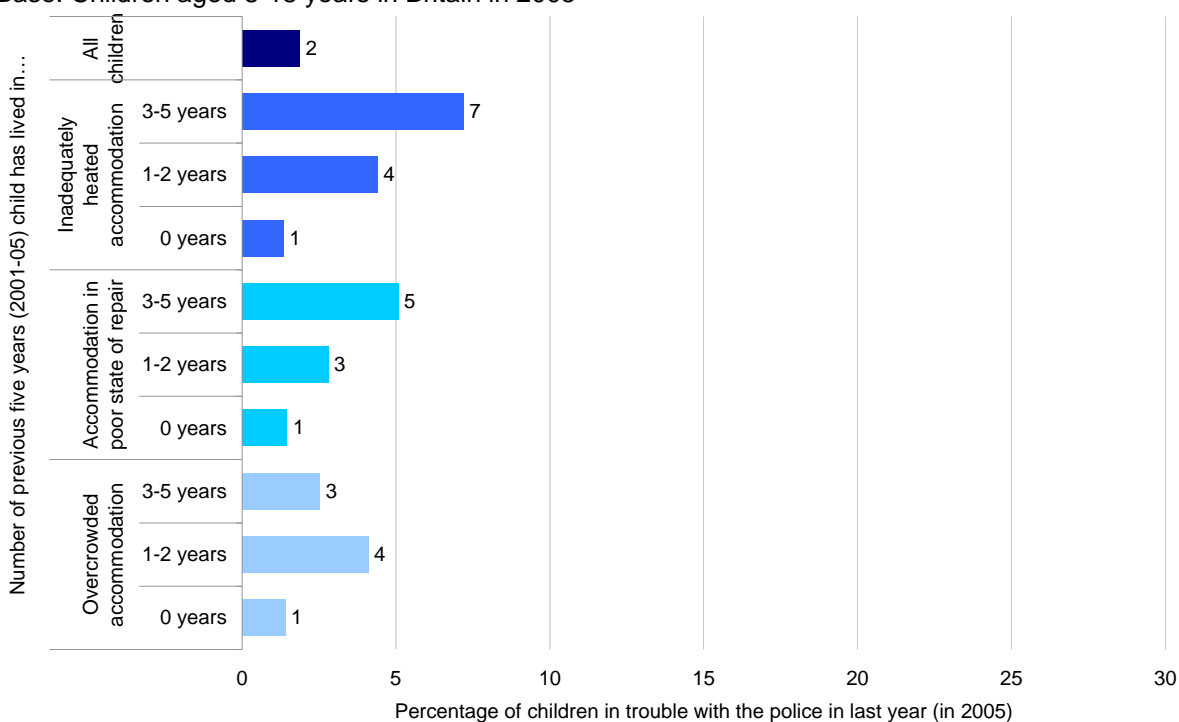
4.3.4 Make a positive contribution

Making a positive contribution is about children and young people being involved with the community and society and not engaging in anti-social or offending behaviour. Figure 4.10 looks at children (aged between 8 and 18 years) who have been in trouble with the police in the year prior to the FACS interview.

The pattern that suggests that the number of years spent in bad housing is associated with getting in trouble with the police is evident for children in inadequately heated accommodation and those in accommodation in poor condition. One in twenty (5 per cent) children aged 8-18 years who persistently lived in poor conditions had been in trouble with the police in the past year, as had 7 per cent persistently in inadequately heated accommodation. Although comparisons between the children in persistent and short-term bad housing shows only small differences, these differences are statistically significant.

Figure 4.10 Percentage of children in trouble with the police in the last year, according to the number of years they have lived in bad housing

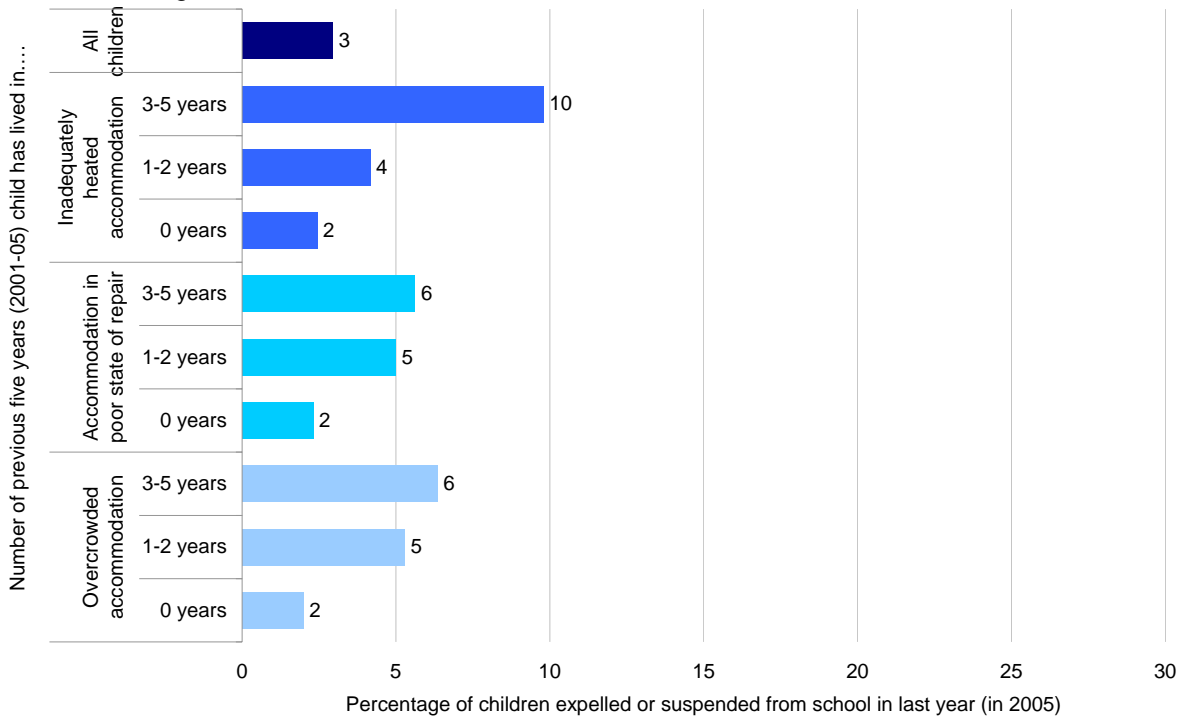
Base: Children aged 8-18 years in Britain in 2005



Children excluded from school are at particular risk of failing to benefit from the education system as not only does exclusion deny a child access to a full education, it has also been shown to be the trigger for an escalating rate of crime and disaffection (National Children's Bureau, 2003). Figure 4.11 shows that bad housing per se has an association with expulsions or suspensions for children in overcrowded and poor conditions accommodation. The length of time in bad housing has an association for children living in inadequately heated accommodation (10 per cent for children persistently in bad housing and 4 per cent for those for whom bad housing was only short-term).

Figure 4.11 Percentage of children expelled or suspended from school, according to the number of years they have lived in bad housing

Base: School age children in Britain in 2005



4.3.5 Achieve economic well-being

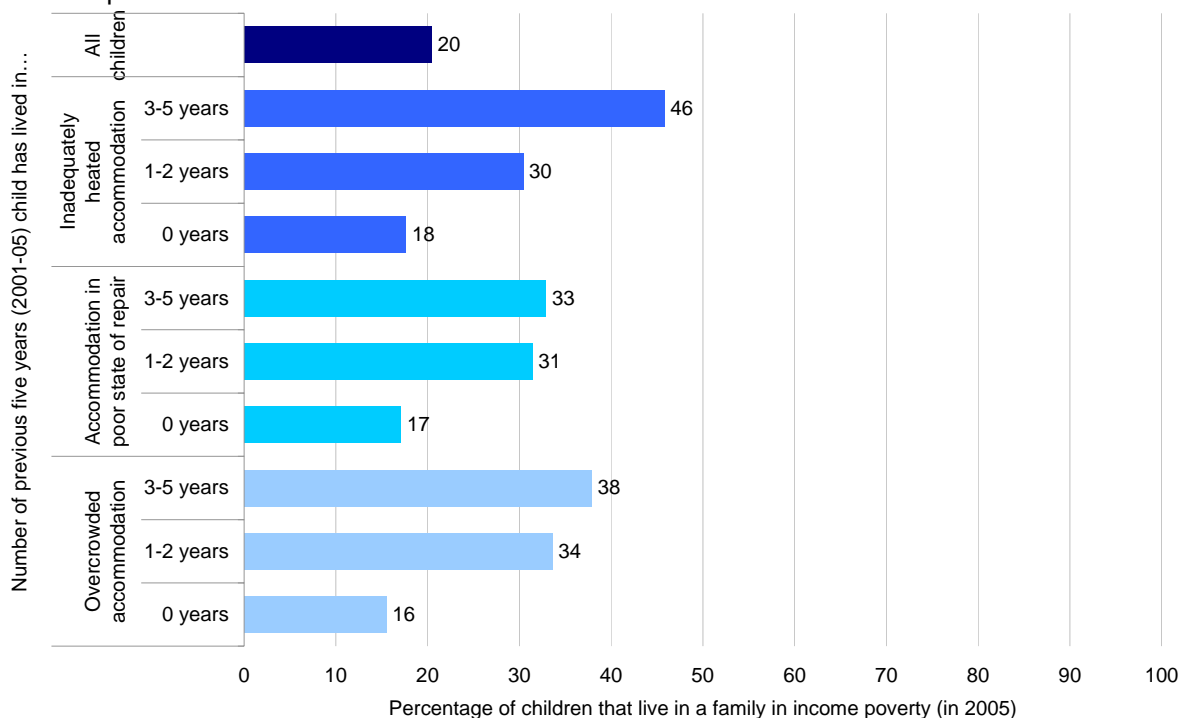
The economic well-being strand of the Every Child Matters framework concentrates on ensuring children and young people are not being prevented by economic disadvantage from achieving their full potential in life. This involves improving the housing arrangements for those in unsuitable accommodation and emphasising the importance of increased vocational and work related learning opportunities for older children.

Low income is likely to impact on the type and quality of housing that families can afford, with some poor families likely to find that substandard quality accommodation is the only available option. FACS contains detailed information on family income, collecting income from all family members from a range of sources including wages, tax credits and benefits. In this project low income is measured according to the government's *Households Below Average Income* series (DWP, 2007) that defines a low-income family as one with net disposable income before housing costs below 60 per cent of contemporary median family income. According to FACS one-fifth (20 per cent) of children were living in a low income family in 2005.

Figure 4.12 shows that the association between low income and persistent bad housing is strongest for children living in inadequately heated accommodation. Nearly half (45 per cent) of children persistently living in inadequately heated accommodation also lived in a low-income family. It is clear that low income is related to the other two forms of bad housing also, but that the duration of living in bad housing may not be as strong as for housing with inadequate heating. This is likely to be because income can directly impact on a family's ability to improve the heating in their home – for example from feeling able to afford to heat the home well, to replace poor quality or broken heating appliances, or being able to pay heating and fuel bills.

Figure 4.12 Percentage of children that live in a family in income poverty, according to the number of years they have lived in bad housing

Base: Dependent children in Britain in 2005



The notion of poverty implies deprivation as well as low income. Indeed many other studies have found there to be a strong relationship between material deprivation and low income (see Berthoud *et al*, (2004) and Goodman and Myck, 2005). The FACS survey has been used by Willitts (2006) to inform the material deprivation element of DWP's child poverty measure. The following two charts

use two items that relate to this measure; new clothes or shoes for children and an annual one-week holiday. A family is deprived if it does not have, wants, but cannot afford the item.

Figure 4.13 shows that persistently living in inadequately heated accommodation and accommodation in poor condition appears associated with a child not having an annual holiday. Two thirds (67 per cent) of children who persistently lived in inadequately heated accommodation had not had a holiday in the past year, as had 59 per cent who persistently lived in poor conditions – both twice the risk amongst all children (25 per cent).

Figure 4.13 Percentage of children that do not have an annual holiday because their family cannot afford it, according to the number of years they have lived in bad housing

Base: Dependent children in Britain in 2005

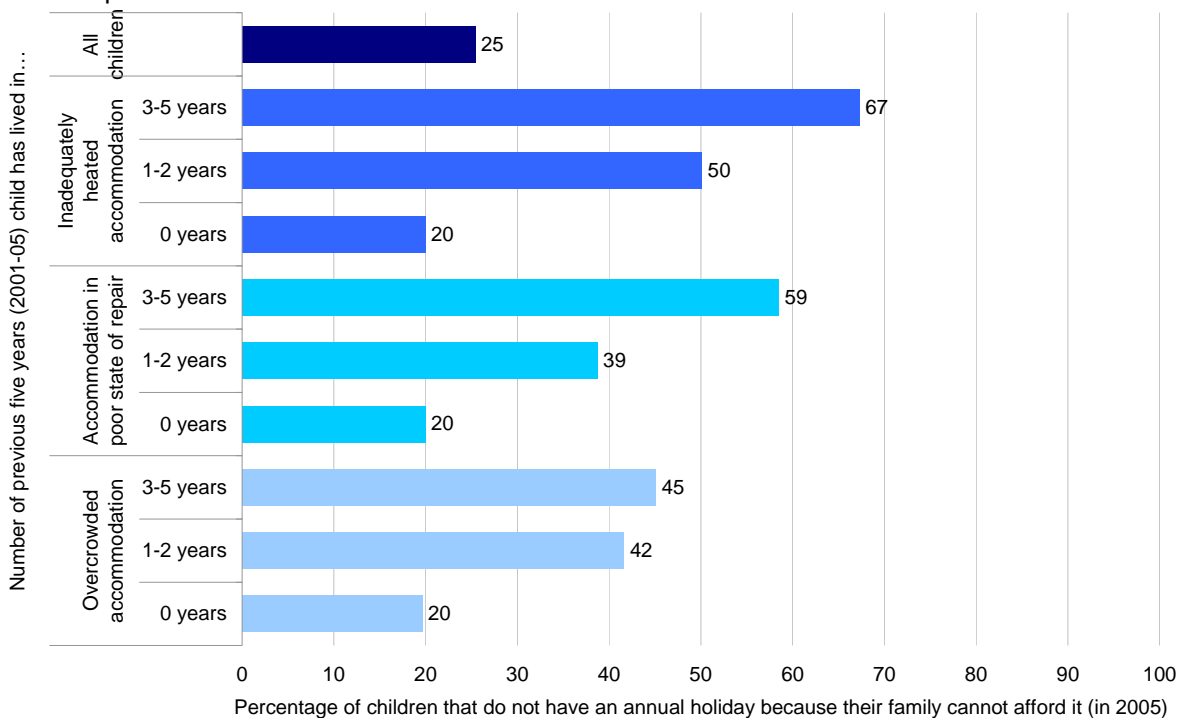
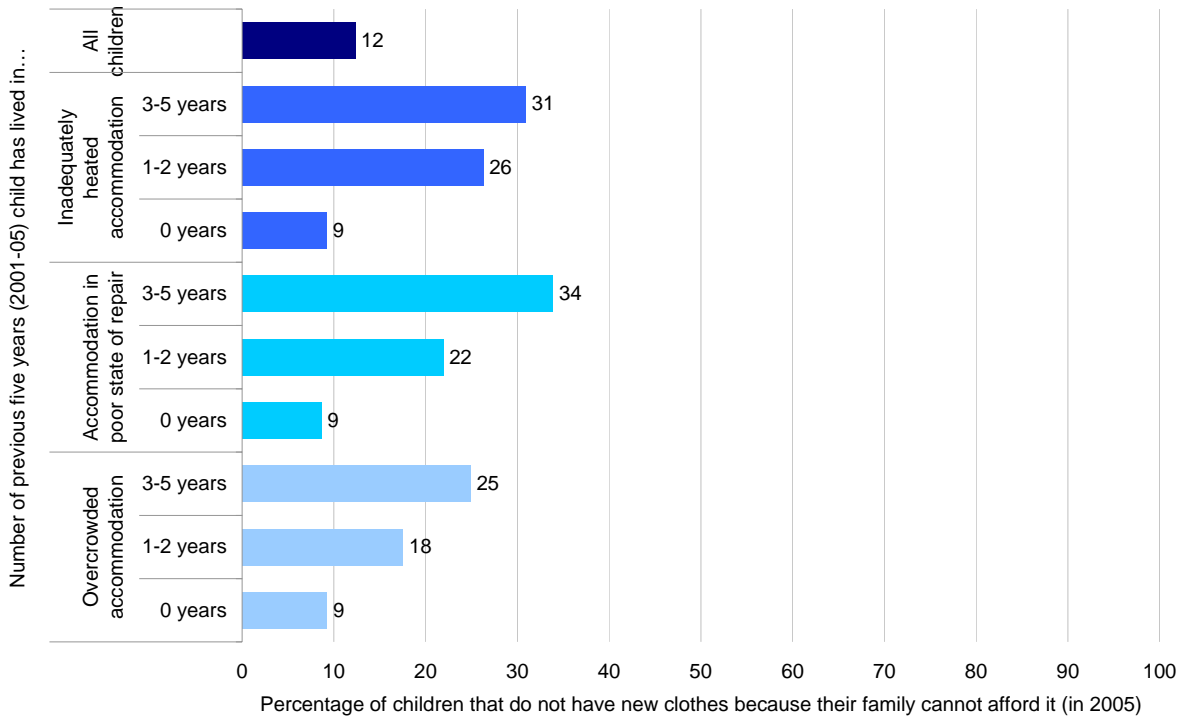


Figure 4.14 shows that going without new clothes or shoes is associated with the duration of living in bad housing. For all three types of bad housing the percentage of children without these items increased the longer the child had lived in bad housing.

Figure 4.14 Percentage of children that do not have new clothes or shoes because their family cannot afford it, according to the number of years they have lived in bad housing

Base: Dependent children in Britain in 2005



So far we have presented graphically a selection of the more interesting findings from these analyses. Table 4.1 below presents analyses for the complete range of child outcomes across the five Every Child Matters domains, including those displayed graphically above.

Table 4.1 Percentage of children with negative child outcomes by longitudinal bad housing status

	Overcrowded			Poor condition			Inadequate heating			All children
	None	Short-term	Persistent	None	Short-term	Persistent	None	Short-term	Persistent	
Be healthy										
Long-standing illness, disability or infirmity ¹	16	19	16	15	19	25	15	21	26	16
Skin conditions or allergies etc. ¹	2	3	1	2	3	3	2	2	4	2
Chest or breathing problem, asthma etc. ¹	7	9	9	6	10	15	7	11	15	7
Stomach, liver, digestive problems etc. ¹	1	1	2	1	1	4	1	2	2	1
Spent <1 hour/week on physical activity ²	6	7	10	6	6	8	6	10	7	6
Smokes, drink alcohol or use illegal drugs ⁴	4	7	7	4	9	9	4	9	13	5
Feel unhappy about own health ⁵	5	2	6	4	5	9	4	4	11	4
Feel unhappy about life as a whole ⁵	3	3	3	3	3	7	3	6	5	3
Stay safe										
Visited A&E twice or more ¹	4	4	5	3	6	5	4	8	5	4
Bullied in or out of school ²	14	14	15	12	18	29	12	22	21	14
Worry about being robbed or mugged ⁵	13	17	22	13	24	23	14	23	27	15
Feel unhappy about family ⁵	2	1	1	2	1	5	2	2	5	2
Run away from home ⁵	6	10	4	5	9	13	5	12	12	6
Enjoy and achieve										
Skipped/bunked off school 3 or more times ²	2	5	5	2	5	8	2	7	13	3
Poor attainment in English and maths ²	7	7	11	7	10	11	7	11	11	7
No quiet place at home to do homework ⁵	2	5	12	3	9	4	4	5	10	4
Has not seen friends in last week ⁵	6	7	9	7	5	6	7	7	6	7
Feel happy about school work ⁵	11	13	11	10	12	16	11	13	13	11

Notes:

- The outcomes relate to different age groups of children. These age groups are indicated as follows:

¹ All dependent children (aged 0-15 years or 16-18 and in full time education)

² Children aged 5-15 years

³ Children aged 5-18 years

⁴ Children aged 8-18 years

⁵ Children aged 11-15 years

- The 'All children' category is calculated from all children in the panel from 2001-2005, rather than all children in the 2005 wave of FACS.

Table 4.1 (cont.) Percentage of children with negative child outcomes by longitudinal bad housing status

	Overcrowded			Poor condition			Inadequate heating			All children
	None	Short-term	Persistent	None	Short-term	Persistent	None	Short-term	Persistent	
Make a positive contribution										
Not important to do well at school ⁵	3	4	5	3	3	3	3	2	4	3
Suspended or excluded from school ³	2	5	6	2	5	6	2	4	10	3
Punished at school three or more times ⁵	19	27	23	19	27	30	20	25	33	21
Been in trouble with the police ⁴	1	4	3	1	3	5	1	4	7	2
Achieve economic well-being										
Family cannot afford an annual holiday ¹	20	42	45	20	39	59	20	50	67	25
Family cannot afford new clothes ¹	9	18	25	9	22	34	9	26	31	12
Family does not have access to a car ¹	10	26	31	10	27	39	10	30	57	15
Living in a family in income poverty ¹	16	34	38	17	31	33	18	30	46	20

Notes:

- The outcomes relate to different age groups of children. These age groups are indicated as follows:

¹ All dependent children (aged 0-15 years or 16-18 and in full time education)

² Children aged 5-15 years

³ Children aged 5-18 years

⁴ Children aged 8-18 years

⁵ Children aged 11-15 years

- The 'All children' category is calculated from all children in the panel from 2001-2005, rather than all children in the 2005 wave of FACS.

4.3.6 Multiple negative outcomes

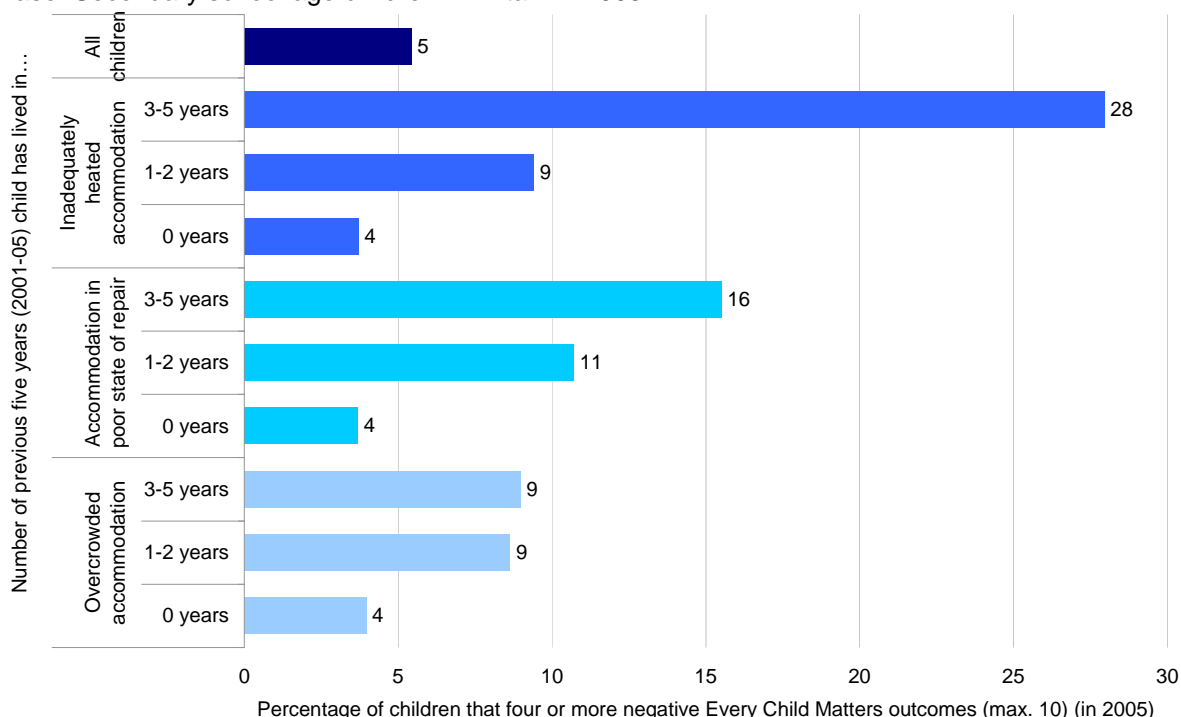
It is of course feasible for children to face more than one of the negative outcomes covered by the ECM framework. A recent review of *Families At Risk* by the Social Exclusion Task Force (SETF) has shown that there are approximately 140,000 families with children who face five or more parent-based disadvantages, such as worklessness, poor skills and mental health problems. The SETF research has shown that children from families where parents experienced multiple disadvantages were more likely to face negative outcomes themselves (SETF, 2007). Children aged 13 to 14 years who lived in families with five or more problems were 36 times more likely to be excluded from school than children in families that had no problems and six times more likely to have been in care or to have had contact with the police (HM Treasury and DFES, 2007).

Figure 4.15 below presents the likelihood of children facing four or more negative ECM outcomes according to the number of years they have lived in bad housing. Ten outcomes are considered, two from each ECM domain³⁰. The analysis is restricted to secondary school children as many of the outcomes of interest are only collected about, or from, children of this age. Overall five per cent of secondary school children face four or more negative ECM outcomes.

Secondary school children persistently living in inadequately heated accommodation or accommodation in poor condition face an increased risk of multiple problems. A clear step increase in risk is observed across the duration of living in this type of bad housing.

Figure 4.15 Percentage of children that have four or more negative Every Child Matters outcomes, according to the number of years they have lived in bad housing

Base: Secondary school age children in Britain in 2005



³⁰ The ten outcomes are i) A long-standing illness or disability, ii) to go without regular physical exercise, iii) in trouble for smoking, drinking or taking drugs, iv) bullied in or out of school, v) expelled or suspended from school, vi) does not see friends and does not attend organised activities, vii) has been in trouble with the police, viii) below average in key academic subjects, ix) family cannot afford an annual holiday, and, x) family in income poverty. The choice of indicators is restricted by the availability of information in FACS and consequently the indicators should not be seen as definitive measures of the Every Child Matters outcomes framework.

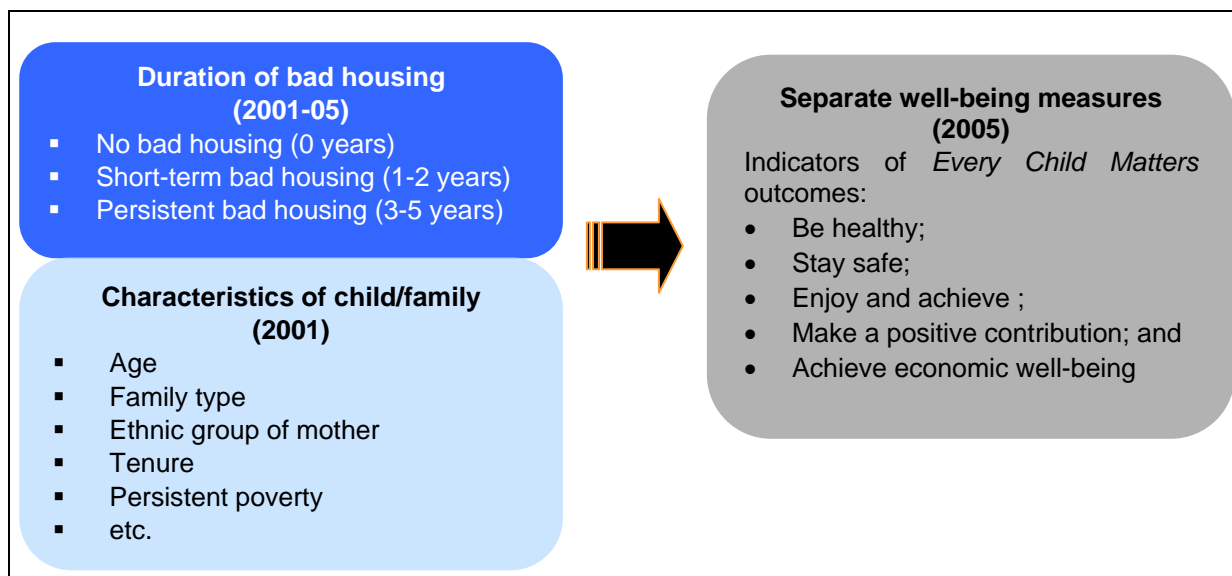
4.4 Isolating the association between persistent bad housing and child outcomes

The focus of this study now goes on to explore in more detail whether we can isolate the association between persistent bad housing and child well-being. The objectives of the analysis in this section are twofold. First, to explore in more detail a possible 'housing effect', by investigating whether living in bad housing is associated with negative outcomes for children when other potential confounding factors are taken into account. Secondly, to identify the extent to which the duration of living in bad housing is important, by examining whether children in persistent bad housing face a higher risk of negative outcomes than children in short-term bad housing.

The combined qualities of this research means that it makes a unique contribution to the existing evidence base of studies into bad housing and living standards. These qualities are, first that it uses a large-scale, robust survey of families with children that contains a wealth of information on families' housing situation and the living standards of children. Secondly it uses longitudinal information on the same families and children, available in very few surveys, to explore whether the duration of living in bad housing is linked to well-being. Thirdly it uses multivariate techniques to consider whether, and to what extent, living in bad housing is associated with children's well-being.

The analytical model employed in this section is presented in Figure 4.16. The analytical model is similar to that of the previous section (illustrated in Figure 4.2) except that here we explore the relationship between the duration of bad housing and child well-being taking into account other characteristics of the child and her family.

Figure 4.16 Analytical model: Exploring associations between duration of bad housing and child outcomes, taking into account characteristics of the child and her family



The characteristics of the child and her family that are used in the analysis are given in Box 4.1 below. These characteristics relate to information collected from families in 2001 (the first of the five waves of FACS used in this research). The characteristics include basic demographics of the child and her family, such as gender, age and family type. The characteristics also include factors that could be associated with the child outcomes.

Given the potential importance of poverty as a factor in many of the child outcomes we look at, we include in the analysis the number of times a family was in poverty over the observation period. This is measured according to how many of the five years under investigation a family was claiming a

range of means-tested benefits, including Housing Benefit, Income Support and Council Tax Benefit³¹. For similar reasons we also use a measure of the number of times a family has moved house over the five-year period.

Logistic regression is again used for this analysis and this technique has been discussed in detail in Chapter 3. Logistic regression is a powerful technique because it allows us to determine whether the duration of bad housing is associated with negative child outcomes when controlling for a range of other factors. The analysis identifies only those factors that are significantly related to persistent, rather than temporary, bad housing by using a step-wise approach to fitting the most appropriate statistical model. The main findings of the analysis are presented in Tables 4.2 and 4.3.

Box 4.1 Characteristics included in the logistic regression analysis

Logistic regression allows us to predict a discrete outcome, such as presence/absence of poor health, from a set of variables that measure the duration of a child living in bad housing and other characteristics of the child and her family. These variables, detailed below, have a number of categories and each category is interpreted in relation to a reference category for that variable (shown in bold).

Duration of bad housing (2001-2005):

Overcrowding	Did not experience overcrowding, short-term overcrowding , persistent overcrowding
Poor conditions	Did not experience poor conditions, short-term poor conditions , persistent poor conditions
Inadequate heating	Did not experience inadequate heating, short-term inadequate heating , persistent inadequate heating

Characteristics of child and family:

Sex of child	Boy , Girl
Age of child (2001)	0-4 , 5-9, 10-14
Family composition and Work status (2001)	Lone parent 16+ / 0-15 hours Couple both 16+ / one 16+ / both 0-15 hours
Number of dependent children (2001)	1, 2 , 3+
Age of youngest child (2001)	0-4 , 5-9, 10-14
Ethnic group of mother	White , Black, Asian, Other
Age group of mother (2001)	Under 25, 25-29, 30-34 , 35-39, 40-44, 45+
Parents' academic qualifications (2001)	Any parent has qualifications , No parent has
Parents' health problem/disability (2001)	No parent sick/disabled , any parent sick/disabled
Housing tenure (2001)	Owner , social tenant, private tenant, other
Family has savings (2001)	Yes , no
Family has debts (2001)	No , yes
Family has low income (2001)	No , yes
Region (2001)	North East, North West, Yorkshire and Humber, East Midlands, West Midlands, South West, Eastern, London, South East , Wales, Scotland
First language of mother	English , other
Index of Multiple Deprivation	Quintiles (families living in the least 20 per cent deprived quintile)
Moved house (2001-2005)	Yes, no
Claimed means tested benefits (2001-2005)	No , 1-2 years, 3-5 years

³¹ We do not use a direct measure of income to measure poverty because at the time of the research, the total income of a family was only available for families without a self-employed parent. This is because self-employed income is inherently difficult to measure. Consequently work is being undertaken on the FACS dataset to ensure the income information collected from self-employed parents is robust.

Table 4.2 Associations between bad housing and negative child outcomes for children, logistic regression analysis

Key: ✓ Bad housing is associated with negative outcome, but no evidence of association according to duration
 ✓ Children in persistent poor housing have significantly greater odds of negative outcome than children in short-term bad housing

	Overcrowding	Poor conditions	Inadequate heating	Other factors associated with negative outcome
Be healthy				
Long-standing illness, disability or infirmity ¹		✓		Boys, parent health problem, rented
Skin conditions or allergies etc. ¹				Mother with poor mental health, deprived area
Chest or breathing problem, asthma etc. ¹		✓		Boys, parent health problem, rented
Stomach, liver, digestive problems etc. ¹		✓		Lone mother, parent health problem, rented
Spent <1 hour/week on physical activity ²				Girls, young, uneducated mother, BME mother, poverty
Smokes, drink alcohol or use illegal drugs ⁴		✓		Older, White mother, rented, debts
Feel unhappy about own health ⁵	✓			Two child family, older mother, family has debts
Feel unhappy about life as a whole ⁵				Lone mother
Stay safe				
Visited A&E twice or more ¹				Boys, parent with poor physical health, rented
Bullied in or out of school ²		✓		Only child, parent health problem, White mother
Worry about being robbed or mugged ⁵		✓		Girls, uneducated mother, debts, London
Feel unhappy about family ⁵		✓		Older, parent health problem
Run away from home ⁵				Older, poverty
Enjoy and achieve				
Skipped/bunked off school 3 or more times ²			✓	Older, parent with poor physical health, social rented
Poor attainment in English and maths ²				Boys, older, uneducated mother, rented
No quiet place at home to do homework ⁵	✓		✓	No savings, rented, West Midlands, London
Has not seen friends in last week ⁵				Younger, Asian mother, deprived area, moved house
Feel unhappy about school work ⁵				Boys, older mother, mother with poor mental health
Make a positive contribution				
Not important to do well at school ⁵				Poverty
Suspended or excluded from school ³	✓			Boys, older, uneducated mother, debts, poverty
Punished at school three or more times ⁵				Boys, older, lone mother, social rented, moved house
Been in trouble with the police ⁴		✓		Boys, older, lone mother, rented, moved house
Achieve economic well-being				
Family cannot afford an annual holiday ¹	✓	✓	✓	Younger mother, BME, debts, no savings, rented, poverty
Family cannot afford new clothes ¹	✓	✓		Younger mother, debts, no savings, rented, poverty
Family does not have access to a car ¹			✓	Lone mother, uneducated mother, debts, poverty, rented
Living in a family in income poverty ¹	✓			Large family, younger mother, uneducated mother, work
Multiple negative outcomes				
			✓	Boys, parent health problems, debts, rented

Notes: - The outcomes relate to different age groups of children. These age groups are indicated as follows: ¹ All dependent children (aged 0-15 years or 16-18 and in full time education), ² Children aged 5-15 years, ³ Children aged 5-18 years, ⁴ Children aged 8-18 years, ⁵ Children aged 11-15 years

Table 4.3 Associations between bad housing and negative child outcomes for children, odds ratios (significant relationships only)

Notes: The odds of an event are calculated as the number of events divided by the number of non-events. For example, if on average 16 of every 100 children have an illness, the odds of any randomly chosen child having an illness is: number with illness / number without illness, i.e. 16 / 84 or about 0.19. An odds ratio is calculated by dividing the odds in the selected category by the odds in the reference category. Categories that have an odds ratio greater than one signify that the odds of the outcome (e.g. illness) is greater than the odds of the outcome for the reference category. In the table below we focus attention on the bad housing variables, but also present findings for other variables included in the regression analysis (gender, tenure etc.). For the bad housing variables the **grey text** indicates that living in bad housing per se is significantly associated with a greater risk of the negative outcome, but there is no evidence of an association according to duration of living in bad housing. The **black text** indicates that persistently living in bad housing is significantly associated with a greater risk of the negative outcome compared to living in bad housing short-term, i.e. duration is important.

Outcome by ECM domain	Over-crowding	Poor conditions	Inadequate heating	Other factors significantly associated with negative outcome
Be healthy				
Long-standing illness, disability or infirmity ¹		1.38		Boys (1.43), parent physical health problem (1.52), mother mental health problem (2.32), social rented (1.64)
Skin conditions or allergies etc. ¹				Mother mental health problem (2.31), most deprived areas (2.71)
Chest or breathing problem, asthma etc. ¹		1.43		Boys (1.43), parent physical health problem (1.74), social rented (1.56), private rented (1.46)
Stomach, liver, digestive problems etc. ¹		2.54		Lone mother (2.20), parent physical health problem (2.68), shared ownership (4.56)
Spent <1 hour/week on physical activity ²				Girls (1.79), 0-10 year olds (1.40), uneducated mother (1.84), BME mother (2.81), poverty (1.50)
Smokes, drink alcohol or use illegal drugs ⁴		1.67		16-18 year olds (7.25), social rented (2.37), private rented (2.54), family has debts (2.11)
Feel unhappy about own health ⁵	4.23			Parent physical health problem (2.49), mother over 45 years old (2.02), family has debts (2.07)
Feel unhappy about life as a whole ⁵				Lone mother (1.81), parent physical health problem (1.98)
Stay safe				
Visited A&E twice or more ¹				Boys (1.64), parent with poor physical health (1.48), social rented (1.56)
Bullied in or out of school ²		1.67		Primary school children (2.11), parent physical health problem (1.51), White mother (2.85), family has debts (1.24)
Worry about being robbed or mugged ⁵		1.64		Girls (1.84), uneducated mother (1.89), family has debts (1.69), London (3.52)
Feel unhappy about family ⁵		4.04		Parent health problem (2.23)
Run away from home ⁵				Persistent poverty (2.34)
Enjoy and achieve				
Skipped/bunked off school 3 or more times ²			1.92	Parent physical health problem (1.99), mother mental health problem (2.25), no savings (1.84), social rented (2.51)
Poor attainment in English and maths ²				Boys (2.44), uneducated mother (1.60), mother mental health problem (1.99), social rented (1.79), private rented (1.80)
No quiet place at home to do homework ⁵	1.89		3.24	No savings (2.09), social rented (1.85), West Midlands (6.20), London (6.02)
Has not seen friends in last week ⁵				Uneducated mother (1.69), Asian mother (2.84), moved house (2.36)
Feel unhappy about school work ⁵				Boys (1.69), mother mental health problem (3.24), no savings (1.51)
Make a positive contribution				
Not important to do well at school ⁵				Persistent poverty (2.31)
Suspended or excluded from school ³	1.82			Boys (4.12), uneducated mother (1.81), family has debts (2.09), persistent poverty (2.75)
Punished at school three or more times ⁵				Boys (2.17), lone mother (1.43), social rented (1.75), moved house (1.56)
Been in trouble with the police ⁴		3.03		Boys (2.94), lone mother (1.87), uneducated mother (1.81), social rented (2.86), moved house (3.23)
Achieve economic well-being				
Family cannot afford an annual holiday ¹	1.59	1.75	1.52	Mother <30 yrs (1.47), BME (1.75), debts (1.86), no savings (1.38), rented (1.42), poverty (2.99), work poor (2.51)
Family cannot afford new clothes ¹	1.53	1.59		Debts (1.85), no savings (1.66), social rented (1.46), private rented (2.69), poverty (2.79), work poor (1.77)
Family does not have access to a car ¹			2.07	Lone mother (2.56), uneducated mother (2.20), debts (1.35), poverty (5.70), social rented (2.38), private rented (3.19)
Living in a family in income poverty ¹	1.45			3 or more children (1.43), uneducated mother (1.24), BME (2.01), work poor (4.55), rented (1.42)
Multiple negative outcomes			1.89	Boys (1.45), parent physical health problems (2.34), debts (1.77), social rented (3.35), private rented (2.61)

Notes: - The outcomes relate to different age groups of children. These age groups are indicated as follows: ¹ All dependent children (aged 0-15 years or 16-18 and in full time education), ² Children aged 5-15 years, ³ Children aged 5-18 years, ⁴ Children aged 8-18 years, ⁵ Children aged 11-15 years

In this analysis we demonstrate that the duration of living in bad housing is important for predicting a range of negative outcomes for children. Tables 4.2 and 4.3 show that there is evidence that for certain outcomes, an increased duration of living in bad housing is associated with higher odds of disadvantage - higher even than for children who face bad housing for only short periods (signified by the black ticks in Table 4.2 and the black text in Table 4.3). What is important about these findings is that they add to the evidence suggesting a 'housing effect' in two ways; first by controlling for other relevant socio-demographic and economic variables associated with child outcomes, and secondly by showing that the longer children live in bad housing the greater their risk of negative outcomes – greater even than for children who lived in bad housing only short-term.

Children living in persistent overcrowded accommodation faced other disadvantages across the Every Child Matters framework, including feeling unhappy about their health, having no quiet place to do their homework and living in a family that cannot afford new clothes for their children. For example, regarding feeling unhappy about their own health - children who persistently experienced overcrowded accommodation had an odds ratio 4.23 times higher than children who experienced overcrowded accommodation on a short-term basis only. Overcrowded children were also more likely to experience poverty and deprivation than children not living in overcrowded accommodation (signified by the grey tickets in Table 4.2).

Health problems are clearly associated with children who persistently live in accommodation in poor condition, who are significantly more likely to have a long-standing health problem, disability or infirmity. In terms of more specific illnesses, these children are more likely to face chest or breathing problems, such as asthma, and stomach, liver or digestive problems. Other disadvantages that these children face tend to span the stay safe and achieve economic well-being Every Child Matters domains. They tend to be more likely to face being bullied and to feel unhappy about family (and also more likely to have reported being in trouble with police). In terms of deprivation, they also come from families unable to afford items such as an annual holiday and new clothes for their children.

Children who persistently live in accommodation that suffers from inadequate heating also live in families that face a number of other economic disadvantages. This suggests an issue of affordability and perhaps families with little disposable income. Indeed there is evidence from other studies that suggest that families on low income do not necessarily put heating near the top of their spending priorities³². Children who persistently live in accommodation that suffers from inadequate heating are also at increased risk of having no quiet room at home to do their homework. This may be because the family can afford to only part heat their home and that heating is focused on the most used rooms, and hence the noisiest, such as the living room.

By including a range of characteristics of children, their family and their local area in the analysis, we can identify the factors other than bad housing that are associated with negative outcomes for children. These factors are obviously interesting in their own right, and although not the main focus of this report they add context to the findings and robustness to the overall analysis. Here we see, for example, the relationship between poor health of children and poor health of their parents, and that girls are more worried than boys about being mugged or robbed. Children with no quiet place at home to do their homework are more likely to be found in rented accommodation and in areas such as London and the West Midlands (which have higher concentration of ethnic minority families, poverty, and larger families). We also find the link between low attainment and boys, lone mother families and children who move house a number of times. Finally, we see the much-studied association between material deprivation, debts, a lack of savings and poverty.

Persistent inadequate heating was also associated with multiple disadvantages (children with four or more of the ten disadvantages specified in Section 4.3.6 above). Experiencing multiple disadvantages was also more likely for boys, children with a parent with a long-standing physical illness or disability, those in a family with a number of debts, and, children living in rented accommodation (particularly social rented accommodation).

³² See evidence at http://www.energypeopletrust.co.uk/more_fuel_poverty.html

4.5 Summary

The cross-cutting nature of the FACS survey, coupled with the fact that it collects information on each separate child in the family, means that it is possible to directly compare outcomes for children with different experiences of bad housing. The FACS data has been used to show that children who lived in persistent bad housing were significantly more likely (than both children who avoided bad housing and children in short-term bad housing) to face negative child outcomes across the range of the Every Child Matters outcomes framework, including:

Being healthy:

- 25 per cent of children who persistently lived in poor conditions had a long-standing illness or disability compared to 19 per cent who lived in poor conditions for a short-term and 15 per cent who avoided poor conditions

Staying safe:

- 29 per cent of children who persistently lived in poor conditions had been bullied inside or outside of school in the past year compared to 18 per cent who lived in poor conditions short-term and 12 per cent who avoided poor conditions

Enjoying and achieving:

- 12 per cent of school-age children who persistently lived in overcrowded accommodation did not have a quiet place at home to do homework compared to 6 per cent who lived in overcrowded accommodation on a short-term basis and 2 per cent who avoided overcrowded accommodation

Making a positive contribution to society:

- 5 per cent of children aged 8-18 years who persistently lived in poor conditions had been in trouble with the police in the past year compared to 3 per cent who lived in poor conditions short-term and 1 per cent who avoided poor conditions

Achieving economic well-being

- Although unlikely to be causal, 67 per cent of children who persistently lived in inadequately heated accommodation had not had a holiday in the past year compared to 50 per cent who lived in inadequately heated accommodation on a short-term basis and 20 per cent who avoided inadequately heated accommodation
- Again although unlikely to be causal, 59 per cent of children who persistently lived in poor conditions had not had a holiday in the past year compared to 39 per cent who lived in poor conditions short-term and 20 per cent who avoided poor conditions

Logistic regression analysis was used to explore the 'housing effect' by determining whether bad housing is associated with negative child outcomes even when other factors are taken into account. This analysis also compared outcomes for children in persistent and short-term bad housing to provide evidence on whether the duration of living in bad housing has a bearing on other disadvantages that children face. The results demonstrate that the duration of living in bad housing is important in predicting poor outcomes for children.

There is evidence that for certain outcomes, an increased duration of living in bad housing is associated with higher odds of disadvantage - higher even than for children who face bad housing for only short periods.

An increased duration of living in overcrowded accommodation is significantly associated with the following outcomes:

- Feeling unhappy about their own health
- Having no quiet place at home to do homework
- Their family cannot afford to buy new clothes

An increased duration of living in accommodation in poor condition is significantly associated with the following outcomes:

- Having a longstanding illness, disability or infirmity
- Having chest or breathing problems
- Having stomach, liver or digestive problems
- Being bullied in or out of school
- Feeling unhappy about their family life
- Getting in trouble with the police
- Their family cannot afford to buy new clothes
- Their family does not have access to a car

An increased duration of living in accommodation in poor condition is significantly associated with the following outcomes:

- Having no quiet place at home to do homework
- Their family does not have access to a car
- Having multiple negative outcomes

5 DIRECTIONS FOR POLICY AND PRIORITIES FOR FURTHER RESEARCH

The main aim of this study was to use five waves of data from the Families and Children Study (FACS) to explore the impacts of bad housing for children. The objectives of the research were to investigate:

- *How long children experience bad housing;*
- *Which children are most at risk of persistent bad housing; and*
- *The associations between persistent bad housing and other outcomes for children*

In this chapter we summarise the main analytical findings in a discussion of what the research means for policies focused on housing and outcomes for children. We also discuss areas where further research is warranted and highlight the priorities for future studies.

5.1 Directions for policy

The obvious policy directions of this study are to focus on the children who persistently live in bad housing. The research has shown that a significant proportion of children experience persistent bad housing (defined in this study as three or more years of bad housing over a five-year period). From 2001 to 2005, 14 per cent of children persistently experienced overcrowding, 7 per cent persistently experienced accommodation in poor condition and 4 per cent persistently experienced inadequate heating. It is these children that policy should focus, given the evidence from this study on the association between persistent bad housing and negative child outcomes.

Most current research on bad housing uses only point-in-time studies that only allow the differentiation between 'those living in bad housing' and 'those not living in bad housing'. Dynamics research highlights different durations and patterns of bad housing experience that people encounter, and it is likely that different policy solutions are required for people with different bad housing histories. As already mentioned, this research suggests that for a range of outcomes, children that live in bad housing for longer face an increased risk of negative well-being - even when controlling for other potentially confounding factors such as long-term poverty.

Another more general issue for policy makers is the sheer number of children affected by bad housing that this research identifies. More children are seen to experience bad housing when a longitudinal perspective is taken than when simply looking at those living in bad housing at a point in time. For example, 11 per cent of children were living in housing in disrepair according to the 2005 wave of FACS. However, when a longitudinal perspective is taken we see that over twice this proportion of children (23 per cent) were living in housing in disrepair at one of more annual observations over the period from 2001 to 2005. This implies that bad housing touches more children than official estimates may lead one to believe.

This research has helped to identify the types of children that face persistent bad housing and this has clear pointers for the direction of policy. However summarising these relationships is not straightforward given that risk factors varied depending on the housing problem being considered. The children most likely to experience persistent overcrowding include living in a family with a large number of dependent children and having a mother of Asian origin. Those associated with persistent experience of accommodation in disrepair include those living in a family that has debts or was living below the poverty line. The children most likely to experience inadequate heating on a persistent basis include living in a family that has debts, living in a deprived area and having a mother of Black ethnic origin.

Housing policy must necessarily be very tenure specific given the different policy levers that work within each sector. Where possible, given limitations of sample size, the research has sought to provide evidence of bad housing for children that live in different housing sectors. Of particular interest here is the break down of risk factors of bad housing by tenure, so that housing policies can target interventions at appropriate groups.

It is clear that the state has a particular role to play in tackling bad housing in the social rented sector. The current government has a target to bring all social housing into a decent condition by 2010. This research has suggested that overcrowding is a particular issue for families with children in social rented accommodation. Children in social rented housing were the most likely to experience persistent overcrowding, both on a short-term basis and on a more permanent basis. This suggests an ill fit between families in the social rented sector and the availability and affordability of suitably sized accommodation. We also know from other research (Bradshaw, 2007) that larger families are more prone to poverty and hence disproportionately likely to be found in social rented accommodation. Bad housing is not restricted to the social rented sector however and the research found that a higher proportion of children living in privately rented accommodation persistently lived in poor conditions or inadequately heated accommodation compared with children in social housing.

The research has pointed to different implications for policy to improve child well-being according to the different types of bad housing that children experience. For example, inadequately heated accommodation is an increasing concern for families with children, and other population groups, since the recent rise in energy prices. Indeed, as energy prices have been increasing since 2005 (the latest year of FACS data used in this study) it may well be the case that the number of children living in inadequate heated homes has grown. The cost of heating a home may have significant repercussions for families on low income – either for those unable to afford to heat their home or for those whose spending on heating means their family has to go without other essentials. Here we need to bear in mind that fuel bills cover more than simply heating the home. We also know from other research that it is not necessarily the case that families put heating at top of their list of spending priorities.

There is evidence from this research that suggests that there is a notional link between bad housing and child outcomes. Multivariate analysis that controls for the impact of other factors suggests that bad housing, and the duration of bad housing, is linked to negative outcomes for children. What appears crucial therefore is the need for policy makers to consider the impact of housing, and of bad housing in particular, when designing policies centred on child welfare. Additionally, as well as considering the effect of bad housing on other child outcomes, research such as this continues to highlight whether bad housing is itself intrinsically a bad outcome that we would wish children to avoid.

With this in mind policy makers need to consider a framework for looking at children's well-being that affords a prominent role to housing. Housing does not feature strongly in the current framework for looking at children's well-being, Every Child Matters, and this means that there is no co-ordinated approach to tackling bad housing. This is not to suggest that bad housing should be a solitary outcome for policy makers given that this research has shown that the impacts of bad housing cross into other policy areas. This implies that efficiency savings can be made with relation to other policy goals as interventions in housing provision and quality are likely to lead to improvements in many of the other outcomes of child well-being. Progress in this area therefore is likely to have positive impacts on the government's ambition to eradicate child poverty by 2020.

With government policy increasingly target driven and focussed on improving point-in-time estimates, taking a dynamic approach to housing research provides an evidence base for new forms of policy making. As well as understanding durations of housing experience, policy makers want to know who it is that is experiencing improvements or deteriorations in housing and what drives these experiences. It has not been possible to investigate these transitions in this research, but this and other possibilities point to priorities for further research.

5.2 Priorities for further research

There is always scope for research to delve deeper into certain issues. It is clear from a review of the literature (see Chapter 1) on bad housing and impacts for children, that there is a need for further research in this area. Not only has the impact of bad housing on children been under researched, there are also limitations with existing research. These include the tendency for studies to use unrefined measures of bad housing, and the inability of research to scrutinize the 'housing effect' because of the lack of control variables used.

This study has categorised children according to the duration of their bad housing based experience. Clearly understanding the dynamics of children's bad housing experiences is a complex issue. Having only five years of FACS information in this study has limited the understanding of how bad housing issues behave over time. In 2010 there will be eight waves of FACS data available (plus the first two waves, which focused on low-income families only) which should enhance the analytical powers of longitudinal investigations into bad housing for families with children.

There is certainly scope for more investigation into the transitions children make into and out of bad housing. With longitudinal data it is possible to distinguish between recurrent experiences of bad housing and entrances to, or exits from, bad housing. Here events that can trigger movements into and out of bad housing are crucial for clues to successful policies to prevent, and lift children out of, the bad housing experience.

The severity of housing problems is also important to understanding the effects on children's well-being. This research has focused on the association between the duration of bad housing and outcomes for children. The severity of bad housing is also likely to influence children's outcomes and understanding this relationship can help set standards of suitable accommodation.

Given that children can face different types of bad housing problem, there is the need to explore the overlap of these problems in more detail – something we have only touched upon in this research. Studies that measure more than one housing problem are able to investigate which housing problems tend to be most strongly, and weakly, associated with each other and, if the study has a longitudinal element, how these housing problems interact over time. It is then possible to ascertain how particular combinations of bad housing, and durations of different combinations, are associated with children's living standards.

Although this research has shown a link between bad housing and outcomes for children, it is clear that there are other factors that impact on the well-being of children. Although these other factors have been controlled for in this research, and discussed alongside the association of bad housing, for policy makers to be confident that improvements in housing provision will have an impact on child well-being, the size and strength of the marginal impact of housing needs to be made clear. There is still very little research on the cost benefit of improving housing, rather than these other factors, in order to improve outcomes for children.

Clearly a thorough understanding of bad housing dynamics would benefit from a specialised survey that follows individuals and their families over time with a particular focus on housing issues – much in the same way that current cross-sectional studies, such as the English Housing Conditions Survey (EHCS) and the Survey of English Housing (SEH), collect specialist information on housing issues. However, longitudinal and specialised surveys are inherently expensive, and the former take a long time to provide data to be of use to these types of investigations. Additionally, given the link between bad housing and other forms of disadvantage, a survey that over-samples the more disadvantaged households would allow the circumstances of these households to be studied in more detail.

Further research into the dynamics of bad housing should not be confined to quantitative studies of course. Qualitative research, and in particular longitudinal qualitative research, can be used to explore the more complex underlying links between bad housing and outcomes for

children, and provide further evidence towards understanding the causal processes linking bad housing to negative outcomes for children.

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APPENDICES

Annex A: Moving house and tenure

Annex B : Risk of duration of bad housing by characteristics of children, family and local area

APPENDIX A MOVING HOUSE AND TENURE (CHAPTER 3)

Table A.3.1 Whether moved house, by tenure 2001

	Owner occupier	Social renter	Private renter	Other	All
	%	%	%	%	%
Did not move	75	67	37	53	71
Moved once	21	26	38	24	23
Moved 2+ times	4	6	25	23	6
Unweighted base	4245	1591	348	134	6318

Base: All children in 2001-2005 panel

Table A.3.2 Whether changed tenure, by tenure 2001

	Owner occupier	Social renter	Private renter	Other	All
	%	%	%	%	%
Changed tenure	16	33	68	99	29
Did not change	84	67	32	1	71
Unweighted base	1064	533	218	60	1875

Base: All children in 2001-2005 panel who moved house 2001-2005

Table A.3.3 Tenure in 2005, by tenure 2001

Tenure 2005	Tenure 2001							
	Owner occupier		Social renter		Private renter		Other	
	%	N	%	N	%	N	%	N
Owner occupier	Na	na	36	209	11	66	7	35
Social renter	5	28	na	na	11	73	2	8
Private renter	10	65	8	45	Na	na	3	18
Other	5	27	3	21	1	9	Na	Na

Base: All children in 2001-2005 panel who changed tenure 2001-2005 (excludes multiple changes)

Note: Cell percentages

APPENDIX B RISK OF BAD HOUSING DURATION BY SOCIO-DEMOGRAPHIC CHARACTERISTICS

Table A.3.4 Proportion of children living in persistent vs short-term bad housing 2001-2005, by level of area deprivation 2005

	1 st quintile – least deprived	2 nd quintile	3 rd quintile	4 th quintile	5 th quintile – most deprived	All
	%	%	%	%	%	%
Overcrowding						
Persistent	4	8	11	15	25	13
Short-term	6	8	10	14	17	11
None	90	84	79	71	58	76
Poor state of repair						
Persistent	2	4	4	8	10	6
Short-term	11	15	15	20	23	17
None	87	81	81	72	67	77
Inadequate heating						
Persistent	*	2	3	5	8	4
Short-term	5	6	8	15	14	10
None	95	92	89	81	78	87
Unweighted base	1208-1226	1362--1374	1076-1101	1196-1254	1302-1381	6149-6341

Table A.3.5 Proportion of children living in persistent vs short-term overcrowding 2001- 2005, by government office region

		None	Short-term	Persistent	Unweighted base
North East	%	71	15	14	392
North West	%	75	9	16	700
Yorkshire and the Humber	%	74	15	12	630
East Midlands	%	79	13	8	558
West Midlands	%	83	9	8	651
South West	%	78	12	10	569
Eastern	%	84	7	10	499
London	%	66	11	23	479
South East	%	76	13	11	856
Wales	%	75	13	11	384
Scotland	%	74	12	14	562
All	%	76	11	13	6341

Table A.3.6 Proportion of children living in persistent vs short-term accommodation in poor state of repair 2001- 2005, by government office region

		None	Short-term	Persistent	Unweighted base
North East	%	78	19	4	392
North West	%	79	16	5	696
Yorkshire and the Humber	%	76	18	6	630
East Midlands	%	75	17	8	558
West Midlands	%	78	16	6	651
South West	%	79	15	6	569
Eastern	%	87	10	3	496
London	%	69	23	8	479
South East	%	74	21	4	856
Wales	%	72	20	8	384
Scotland	%	80	16	5	562
All	%	77	17	6	6334

Table A.3.7 Proportion of children living in persistent vs short-term inadequately heated accommodation 2001- 2005, by government office region

		None	Short-term	Persistent	Unweighted base
North East	%	86	10	4	368
North West	%	85	11	4	692
Yorkshire and the Humber	%	82	12	6	611
East Midlands	%	85	10	5	527
West Midlands	%	89	9	2	630
South West	%	88	8	4	559
Eastern	%	90	8	2	475
London	%	87	9	5	466
South East	%	88	10	2	846
Wales	%	85	13	2	373
Scotland	%	89	8	3	543
All	%	87	10	4	6149