

REPORT

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Young people, pregnancy and social exclusion:

A systematic synthesis of research evidence to identify effective, appropriate and promising approaches for prevention and support.

The Evidence for Policy and Practice Information and Co-ordinating Centre (EPPI-Centre) is part of the Social Science Research Unit, Institute of Education, University of London

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EXECUTIVE SUMMARY

Summary

This report presents the findings from a systematic review of the research evidence relating to teenage pregnancy, parenting and social exclusion. It contributes a new focus to the wealth of existing research on teenage pregnancy by locating it within the context of social disadvantage and exclusion. The review systematically examines research relating to policy initiatives aimed at tackling the social exclusion associated with unintended teenage pregnancy and young parenthood. It concludes that there are strong grounds for investing in early childhood and youth development programmes as strategies for reducing unintended teenage pregnancy rates. Happiness, enjoyment of school and ambition can all help to delay early parenthood. The available research evidence also points both to daycare and to education and career development programmes as promising ways of supporting young parents. Holistic support programmes appear to be appropriate but have not yet been shown to be effective. However, studies of young people's views suggest many important research gaps. These include the development and evaluation of policies to promote young people's involvement in schooling, further education and training, and to support families experiencing problems linked with social disadvantage and poverty.

Background

The background to the review is the widespread policy concern with high rates of unintended teenage pregnancy in the UK, the highest in western Europe. While rates are falling in many European countries, recent statistics show that the UK Government target of halving teenage conceptions by 2010 is unlikely to be met. Social disadvantage and teenage pregnancy are strongly related. Young people are more strongly motivated to defer parenthood in countries where they have a reasonable expectation of inclusion in the opportunities and advantages of living in an economically advanced society. There are also more resources and support available in these countries to young people who do become parents.

Teenage parenthood is not in itself a social problem, and some young people make positive choices to become parents early. The problem, and the focus of this review, is the social disadvantage and exclusion that in some societies, especially the UK, are linked to young parenthood both as consequences and as contributing factors.

Research questions

This review seeks to answer two questions:

- What research has been undertaken that is relevant to informing policy and practice in the area of young people, pregnancy, parenting and social exclusion?
- What is known about effective, appropriate and promising interventions that target the social exclusion associated with teenage pregnancy and parenting, which might therefore have a role to play in lowering rates of unintended teenage pregnancy and supporting teenage parents?

The review was conducted in three parts. First, we searched for and mapped the existing research literature. Secondly, and thirdly, we conducted two separate reviews of the evidence relating to the prevention of unintended teenage pregnancy and support for young parents. The focus of these reviews was on the following areas: housing, childcare, education and training, employment and careers, and financial circumstances. These in-depth reviews included statistical meta-analyses of the effects of different approaches on pregnancy rates, young people's participation in education, training or employment, and mothers' emotional wellbeing.

An important feature of the review is that it includes different types of research. Its conclusions are drawn both from international evaluations of policy and practice interventions, and from the findings of recent 'qualitative' research conducted in the UK examining the views and experiences of young people themselves.

We did not include in the review studies of sex education alone, since these have already been the subject of several systematic reviews and they do not include a focus on social exclusion.

Mapping the research

Altogether our literature searches produced 34,615 records. These were narrowed down to 669 studies which were included in the first, mapping stage of the review. Three quarters of the studies included in the map related to social exclusion and teenage parenthood, and a quarter to teenage pregnancy. Most of the intervention research was conducted in the USA. We found only seven studies of UK-based interventions.

Most of the intervention studies reported multi-component interventions. In the area of teenage pregnancy, the most common intervention was some type of educational support. The most popular approach for teenage parenthood was parent training. The qualitative research focused on personal and family issues rather than structural factors.

Like all systematic reviews although comprehensive methods were used to search for studies it is possible that some relevant research has been missed. We invite readers to contact us if they know of relevant published or unpublished studies that have not been included in the review.

The research in-depth

A smaller number of studies were looked at in more detail for the two in-depth reviews. The teenage pregnancy review included 15 studies: 10 evaluations of interventions, and 5 studies of young people's views. All the interventions were multi-component and based in the USA. Six of the intervention studies provided sound evidence of the value of two particular approaches to targeting the social exclusion associated with unintended teenage pregnancy: early childhood interventions consisting of preschool education, parenting support, and social skills development; and youth development programmes combining community service and student learning, or providing a programme of academic and social development. A statistical meta-analysis (random effects model) revealed that these approaches reduced by 39% the number of young women reporting teenage pregnancy (Relative Risk = 0.61, 95% CI 0.48, 0.77), and also had positive effects on employment and economic status. The qualitative research revealed three recurrent themes in the experiences of young people: dislike of school; poor material circumstances and unhappy childhoods; and low expectations for the future.

A total of 38 studies, 18 of interventions and 20 of young people's views, were included in the in-depth review of parenting support. Ten of the intervention studies provided sound evidence for the value of particular approaches. Two of these looked at welfare sanctions or bonuses, four reported on the effects of educational and career development programmes, three examined holistic, multi-agency support, and one focused on the effects of daycare. A statistical meta-analysis (random effects model) suggested that educational and career development interventions increased by 213% the number of young parents in education or training in the short-term (Relative Risk = 3.13, 95% CI 1.49, 6.56). Daycare and welfare sanction/bonuses programmes also had positive short-term effects. None of these types of interventions showed any long-term effects. The most promising approach for reducing repeat pregnancy appears to be the provision of daycare. The qualitative research included in the in-depth review of parenting support highlights the diversity of needs and preferences within this group; struggles against negative stereotypes of teenage parenthood; heavy reliance on family support; the continuation of problems existing before parenthood; and the wider costs and benefits of education and employment.

The contribution of this review

By focusing on social exclusion as the major context within which many young people embark on parenthood, the review described in this report identifies important pointers to successful strategies for lowering the incidence of unintended teenage pregnancy and for supporting parents. These conclusions need to be set against the findings of sex education research. Although sex education is an important part of young people's preparation for adulthood, the evidence is that it is not, on its own, an effective strategy for encouraging teenagers to defer parenthood. Our review also highlights significant research gaps, particularly the lack of evidence from the UK relating to the value of social-structural interventions, and the neglect of the messages arising from qualitative research with young people themselves.

1. BACKGROUND

1.1 Teenage pregnancy

The focus of this report is the research evidence relating to teenage pregnancy, parenthood and social exclusion. This is a different focus from most previous reviews of research in this area, which have been concerned with the role of sex education and similar initiatives in lowering rates of teenage pregnancy.

The UK is widely quoted as having the highest live birth rate among 15–19-year-olds in western Europe (United Nations Population Division, 2002). Even the most prosperous areas in the UK have higher rates of teenage pregnancy than the national rates for the Netherlands and France. While rates fell by half or more in many European countries in the 1970s and 1980s, in the UK the rate did not decrease between 1979 and 1999 (Social Exclusion Unit (SEU), 1999). Recent statistics show that the government target of halving teenage conceptions by 2010 is unlikely to be met: conceptions among under-16-year-olds rose by 1% between 2002 and 2003 (Office of National Statistics, 2005).

Research across Europe indicates that a combination of access to skills and services and the chance to gain the education and employment needed to succeed reasonably in society is associated with lower rates of teenage pregnancy (Cheesbrough *et al.*, 2002; Kane and Wellings, 2003; McLeod, 2001; United Nations International Children's Emergency Fund (UNICEF), 2001; Wellings and Kane, 1999). Social disadvantage and teenage pregnancy are strongly associated (Dickson *et al.*, 1997; SEU, 1999). In countries where teenagers have a reasonable expectation of inclusion in the opportunities and advantages of living in an economically advanced society, they are more strongly motivated to avoid early parenthood (UNICEF, 2001 p 13).

Factors related to teenage pregnancy have been categorised as operating at the following levels:

- individual (e.g. knowledge, self-esteem, age at first intercourse);
- family (e.g. parent/child communication, family structure, history of mother or sister being pregnant as a teenager, children in care);
- education (e.g. provision of sex education, truancy, lack of qualifications);
- community (e.g. social norms related to sexual activity, peer and media influences); and
- social (e.g. experience of childhood poverty, employment prospects and housing and social conditions).

The relationship between these factors is complex. For example, there is mounting evidence that dislike of school is both associated with family social disadvantage and is a risk factor for unintended teenage pregnancy (Arai, 2004; Bonell *et al.*, 2003, 2005; Wiggins *et al.*, 2005a).

1.2 Teenage parenthood

Teenage or early parenthood in countries such as the UK is more likely to be associated with adverse social and health outcomes than pregnancies or parenting at a later age (Dickson *et al.*, 1997; Hobcraft and Kiernan, 1999; McLeod, 2001). Teenage parents are often excluded from education, training and employment, particularly when they are already socially disadvantaged (SEU, 1999). Early parenthood, for both young men and young women, is strongly associated with adverse outcomes in later life. This includes a lack of qualifications, living in social housing and, for young women, higher depression scores and being in receipt of benefits (Hobcraft, 2002). Other adverse health outcomes associated with teenage parenting can include low birthweight, higher infant and child mortality, postnatal depression, lower rates of breastfeeding and a higher rate of childhood accidents (Botting *et al.*, 1998; Dickson *et al.*, 1997; Kiernan, 1995; SEU, 1999). However, the evidence is contradictory as to whether these adverse outcomes are related to age per se as distinct from the mother's socioeconomic position (Berthoud *et al.*, 2004; Lawlor and Shaw, 2002).

From this epidemiological perspective, pregnancy and parenthood belong to a broad range of factors (such as academic underachievement, drug and alcohol abuse, unemployment, homelessness, and crime), that are correlated with poverty and related social exclusion for young people (SEU, 1999; Wilkinson, 1994). These population-level associations mask extensive cultural variation in the experience and meaning of pregnancy and parenthood (Phoenix, 1991). The extent to which teenage pregnancy and parenthood are conceptualised as social problems on a policy level also varies between countries (Bonell, 2004). Not all teenage pregnancies are unintended or unwanted, and teenage parenthood can be a positive experience (Aggleton *et al.*, 1998; Clemmens, 2003; Ervin *et al.*, 1997; Macintyre and Cunningham Burley, 1993).

1.3 Social exclusion

Social disadvantage and exclusion is both a cause and consequence of teenage pregnancy and parenthood (Kiernan, 1995; SEU, 1999; Swann *et al.*, 2003). Social exclusion has been conceptualised differently in different academic traditions and in different countries (Saraceno, 2001). It can be seen as a process in which individuals are detached from their community and from shared values as a result of exclusionary practices of the socially included; as a lack of recognition of basic rights; and as a result of individual choice as well as of institutional barriers and forms of discrimination (Burchardt *et al.*, 2002a). The concept of social exclusion goes beyond a concern for economic resources or basic needs in its emphasis on participation and involvement.

England's Social Exclusion Unit (SEU) has defined the term 'social exclusion' as 'a shorthand for what can happen when people or areas suffer from a combination of linked problems such as unemployment, poor skills, low incomes, poor housing, high crime, bad health and family breakdown' (SEU, 2001, p 11). These problems are linked and mutually reinforcing. Key risk factors identified by the SEU are low income, family conflict, being in care, school problems, living in a deprived neighbourhood, and mental or physical health problems. More recent work has refined this risk picture (Allen *et al.*, forthcoming).

Barry (2002) argues that social exclusion occurs when individuals or groups are denied the opportunity to participate in society, whether or not they desire to participate. Four key dimensions of social participation have been identified by Burchardt *et al.* (2002b):

1. consumption – the capacity to purchase goods and services, including health services
2. production – participation in economically or socially valuable activities including voluntary work
3. political engagement – involvement in local or national decision-making
4. social interaction – integration with family, friends and the wider community

Each dimension could represent an outcome measure indicating social exclusion or inclusion. Although teenage pregnancy is often used as a measure of social exclusion, it is more appropriately seen as the expression of a complex problem with strong links to social exclusion, and also as a potential risk factor for social exclusion.

The recent SEU report on *The Impact of Government Policy on Social Exclusion* exemplifies a more holistic approach to understanding teenage pregnancy and parenthood (Bynner *et al.*, 2004). As with teenage pregnancy rates, initial progress in the UK has not been maintained: since 2002 participation rates of young parents in education and training have declined. Considering the role of social exclusion in teenage pregnancy and parenthood suggests the need to think beyond sex education or the provision of sexual health services. Relevant interventions aiming to lower rates of unintended teenage pregnancy or to prevent adverse social outcomes and long-term social exclusion among young parents might include, for example, poverty relief, housing assistance, and fostering career aspirations among young people and encouraging them to complete their education. These are policy-level interventions which aim to bring about change for whole groups, communities or populations.

1.4 Policy context

Contemporary policies in the UK, with their focus on social exclusion, have largely transcended traditional views of pregnant teenagers and teenage parents as irresponsible and feckless individuals, including them instead among a number of groups whose social circumstances make them vulnerable and more likely to be squeezed out of mainstream society into what Power (2000) has called the 'least popular places'. This view broadens the focus of policy initiatives beyond the traditional focus on educational programmes.

In the UK, most efforts to prevent unintended teenage pregnancy have focused on increasing the knowledge and skills of young people in relation to the access and use of contraception through sex education and improved sexual health services. This approach ignores the role of other factors associated with teenage pregnancy such as social disadvantage and a lack of educational qualifications and opportunities. Similarly, mainstream services for pregnant women and parents have often failed to provide the holistic care required to support social

inclusion or social re-integration for teenage parents. The ensuing disruption to their education and employment is therefore more likely to have adverse material and social consequences (SEU, 1999).

Targeting the social exclusion associated with teenage pregnancy and parenting has been a government priority in the UK for some time. Two national targets were set in 1999:

- i. to reduce by 50% the rate of unintended teenage conceptions among under-18-year-olds by the year 2010
- ii. to ensure that 60% of young mothers are in education, training or employment by 2010, so that they avoid social exclusion (SEU, 1999)

These initiatives have been co-ordinated by the Teenage Pregnancy Unit. This body was set up within the Department of Health and is now located within the Department for Education and Skills. It is linked to other initiatives (most notably the Sure Start, Sure Start Plus and Connexions services) and aims to integrate fragmented services, and augment these with additional resources and personnel (such as regional Teenage Pregnancy Advisers).

1.5 The role of research evidence

Research evidence should play a role in informing policy processes. Such evidence includes evaluation research about which interventions work, and which interventions *might* work, for whom and in which contexts, both to prevent unintended teenage pregnancy *and* to support teenage parents. The domain of relevant research also includes qualitative and other types of studies of the opinions and experiences of young people themselves about the factors leading to teenage pregnancy, and about policy initiatives which are seen as capable of modifying these factors and increasing support for those young people who do become parents. This report describes a systematic review of both these types of evidence. We examine 'outcome evaluations' which are designed to establish whether or not an intervention works and 'views studies' which use qualitative and other types of methods to study young people's perspectives and experiences.

A systematic review is a specialist review technique which employs standardised and explicit methods (Cooper and Hedges, 1994; Egger *et al.*, 2001). These methods are employed in order to minimise the risk of drawing the wrong or misleading conclusion from a body of evidence and include searching exhaustively to find all relevant research, assessing the quality of the research and the use of rigorous techniques to synthesise findings. When study findings are numerical, statistical meta-analysis can be used to synthesise findings. In a review of effectiveness, a statistical meta-analysis pools or aggregates the effect sizes from individual trials (Lipsey and Wilson, 2001; Sutton *et al.*, 2000). Methods for the synthesis of non-numerical findings or qualitative research have only recently emerged and are still under development. Examples include meta-ethnography (e.g. Campbell *et al.*, 2003), meta-study (e.g. Paterson *et al.*, 2001) and thematic analysis (e.g. Harden *et al.*, 2004). These types of syntheses aim to understand the phenomenon under review from the perspectives of the people being studied and they produce new descriptions, theories or interpretations rather than aggregated effect sizes.

1.6 Existing systematic reviews

Seven other systematic reviews of effectiveness have been carried out in the general area of teenage pregnancy and parenthood (Brunton and Thomas, 2001; Coren and Barlow, 2003; DiCenso *et al.*, 2002; Dickson *et al.*, 1997; Oakley *et al.*, 1995; Peersman *et al.*, 1996; Swann *et al.*, 2003). Reviews of the effects of sex education, low birth weight prevention and group-based parenting programmes have shown mixed results (Brunton and Thomas 2001; Coren and Barlow 2003; DiCenso *et al.*, 2002). Previous EPPI-Centre reviews revealed similar mixed results for sexual health promotion (Oakley *et al.*, 1995; updated in Peersman *et al.*, 1996). The Health Development Agency (HDA) 'review of reviews' highlighted the paucity of good quality reviews; the difficulties in abstracting clear messages for policy and practice, especially for the UK context; and the need for future reviews to integrate different types of evidence (Swann *et al.*, 2003). An early review by the UK Centre for Reviews and Dissemination highlighted the importance of access to a good general education for delaying early parenting, and the role of initiatives such as social support, educational opportunities and preschool education in helping young parents (Dickson *et al.*, 1997). Thus, there is a need for an up-to-date review of the research evidence relating to social exclusion and its impact on teenage pregnancy and parenthood. There is also a clear role for a new synthesis of a broader range of research evidence.

1.7 Aims and review questions

The research questions for this review were:

- What research has been undertaken that is relevant to informing policy and practice in the area of young people, pregnancy, parenting and social exclusion?
- What is known about effective, appropriate and promising interventions that target the social exclusion associated with teenage pregnancy and parenting in order to prevent unintended teenage pregnancy and to support teenage parents and increase their social inclusion?

The overall aim of the review is to help policy-makers, researchers, practitioners, and young people access research and identify interventions that target social exclusion, and are supported by reliable evidence of their effectiveness and appropriateness for preventing unintended pregnancies among teenagers and helping pregnant teenagers and teenage parents. The review also identifies interventions for which there is no convincing evidence, and those which are promising and worthy of further development and testing.

The focus of this review is *unintended* teenage pregnancy. Some young people make informed decisions to embark on parenthood. The research evidence relating to strategies designed to decrease birth rates among teenagers per se is beyond the aim of this review. However, for readability the term 'teenage pregnancy' is not always prefixed by 'unintended' in the rest of this report.

The review falls into three parts. First, we mapped the existing research literature. Then we conducted two separate reviews of the evidence relating to the prevention of unintended teenage pregnancy and support for teenage parents.

Within each of these reviews we analysed and synthesized two different types of research evidence: studies of intervention effectiveness, and studies of young people's own views. Our syntheses of the evidence were driven by more detailed questions. For the review looking at the prevention of unintended teenage pregnancy, the questions were as follows:

- What are the perspectives of young people in the UK on the role of social exclusion in teenage pregnancy, and what kinds of interventions do young people regard as important/appropriate?
- Which interventions that target social exclusion are effective for preventing unintended teenage pregnancy and which do not show any effects (and why)?
- Which interventions address the concerns of teenagers and which do not?
- Which are the promising interventions for targeting social exclusion worth developing and testing in the future?

In this part of the review we focused on education and training, employment and careers, and financial circumstances.

We took a similar approach in the review of research relating to the support of young parents/pregnant teenagers. Here the detailed questions were:

- What factors related to social exclusion do young people identify as important influences in their lives as teenage parents/pregnant teenagers, and what kinds of interventions do young parents regard as important/appropriate?
- Which interventions are effective for supporting teenage parents/pregnant teenagers to reduce social exclusion and which are not (and why)?
- Which interventions aimed at social exclusion address the concerns of teenagers and which do not?
- Which are the promising interventions for reducing the social exclusion of teenage parents that are worth developing and testing in the future?

In this part of the review we focused on housing, childcare, education and training, employment and careers, and financial circumstances.

2. METHODS

2.1 User Involvement

An Advisory Group was set up to inform the scope and development of the review and to increase its relevance to policy and practice. Group membership comprised a mixture of researchers, policy specialists and practitioners, representing a number of organisations. (These are listed in the acknowledgments section of the report.)

The Advisory Group met twice over the course of the 18 months of the project. Specific tasks undertaken by the group included advising on the scope of the review, identifying unpublished reports, and prioritising the focus and outcomes of interest for the in-depth review.

2.2 Mapping exercise

2.2.1 Inclusion and exclusion criteria

A mapping exercise was undertaken to identify and classify potentially relevant studies. The scope of the map included research focused on three areas:

- preventing unintended pregnancy or supporting parents
- young people aged under 20 years old
- social exclusion

In order to be considered relevant to the map, a study report had to describe:

- An **outcome evaluation** of an intervention which targeted social exclusion to prevent unintended teenage pregnancy or to support teenage parents – for example, interventions providing educational support, further education and training, income support, or housing assistance. Relevant outcomes for pregnancy prevention were teenage pregnancy or birth rates, and, for parenting support, indicators of social exclusion (e.g. education, employment, income level); or
- A **'views study'** which examined young people's perspectives on, or experiences of, teenage pregnancy, parenthood and social exclusion. Relevant groups of young people included young parents and young people at high risk of becoming a teenage parent.

There were no language restrictions for study reports, but the country in which the study was carried out and the publication date of the study report further defined the scope of the map. While evaluation studies were included regardless of their location or date of reporting, views studies were included only if they had been carried out in the UK and had publication dates of 1994 or later. These limits were

set because the main strength of views studies lies in their ability to describe specific contextual factors at a certain point in time and in a certain location.

2.2.2 Identification of studies

To reflect the challenges of searching for literature on this multifaceted topic, broad searches were conducted in seven major databases and six specialist registers (**Table 2.1**). Databases and registers were selected in order to cover a range of disciplines: health care, education, social sciences, psychology, and health promotion. A highly sensitive search strategy was devised using controlled vocabulary and free-text terms to identify studies focused on pregnancy and parenthood, young people, and social exclusion. The full search strategies are available on request from the EPPI-Centre.

Table 2.1: Details of the major databases and specialist registers searched

Major commercial databases	
Sources	Time period of search
PubMed (includes MEDLINE and OLDMEDLINE)	January 1950–June 2004
EMBASE	January 1981–June 2004
CINAHL (Cumulative Index to Nursing and Allied Health Literature)	January 1982–May 2004
ERIC (Educational Resource Index and Abstracts)	January 1985–April 2004
SocAbs (Sociological Abstracts)	January 1981–May 2004
ASSIA (Applied Social Sciences Index and Abstracts)	January 1987–May 2004
PsycINFO	January 1988–May 2004
Specialist registers	
Sources	Date searched
BiblioMap (the EPPI-Centre register of health promotion and public health research)	April 2004
CENTRAL (Cochrane Controlled Trials Register)	May 2004
NRR (National Research Register)	March 2004
HPLS (Health Promotion Library for Scotland)	March 2004
HealthPromis (Health Development Agency register)	April 2004

Attempts were also made to identify published and unpublished studies by hand searching of journals, searching reference lists, contacting authors of included studies, and contacting key organisations.

The following journals were handsearched: *The American Journal of Public Health* (from January 1999 to January 2004), *The Journal of Adolescent Health* (from January 1999 to February 2004), *The Journal of Adolescence* (from issue 1, 1999, to issue 2, 2004) and *Perspectives on Sexual and Reproductive Health* (from issue 1, 1999, to issue 1, 2004).

2.2.3 Classification of studies

All included study reports were coded using a standardised tool based on the EPPI-Centre keywording strategy for health promotion and public health research (Peersman and Oliver, 1997). Coding was done on the basis of information presented in the title and abstract of study reports rather than the full report. Study reports were keyworded according to (1) topic focus, (2) country, (3) study type and design, and (4) the substantive focus of the intervention or views studied. The study reports were divided between three researchers. These researchers initially coded the same reports until they reached consistency in the application of the codes. Each report was subsequently coded by one researcher.

2.3 From mapping to in-depth review

The mapping exercise found a large number of relevant studies from which to select those to review in-depth. The Advisory Group agreed that we should include in the in-depth review both views studies and outcome evaluations. They further agreed that outcome evaluations should only be considered if they employed a control or comparison group. There were two parts to the in-depth review: the first focused on the prevention of unintended teenage pregnancy, and the second on supporting teenage parents.

2.3.1 Preventing unintended teenage pregnancy

The Advisory Group recommended that the focus of the pregnancy prevention review should be in the areas of education and training, employment and careers and financial circumstances. These areas were prioritised by the advisory group because they were considered to be most relevant for policy intervention.

To be included in the in-depth review, outcome evaluations thus had to:

- meet the criteria for the map;
- employ a control or comparison group; and
- study interventions aiming to improve young people's education and/or training, employment or career prospects and/or financial circumstances.

Views studies had to:

- meet the criteria for the map; and
- examine young people's views about their education and training, employment and careers, and/or financial circumstances.

2.3.2 Supporting teenage parents

The Advisory Group also recommended that the in-depth review of the research evidence relating to the support of teenage parents should focus on education and training, employment and careers, and income. Because issues of childcare

and housing are interlinked with the above, these were added to the focus of the parenting support review.

To be included in the in-depth review, outcome evaluations thus had to:

- meet the criteria for the map;
- employ a control or comparison group; and
- study interventions aiming to: support young parents to undertake education and training; improve employment and career prospects; improve housing; or provide daycare services (including after school clubs) or other forms of childcare support (e.g. evening babysitting).

Views studies had to:

- meet the criteria for the map; and
- examine young parents' views about their education and training, employment and careers, financial circumstances, housing, or daycare services and other forms of childcare support.

The Advisory Group prioritised the following outcomes for the synthesis stage of the review:

- emotional wellbeing (e.g. self-esteem, depression, self-concept)
- participation in education, training and employment
- repeat pregnancy rates

2.4 In-depth review methods for outcome evaluations

A standardised tool was used to extract data on the development and content of the intervention evaluated, the populations involved, the design, implementation, and quality of the outcome evaluation, and the details of any integral process evaluation (Peersman *et al.*, 1997). This tool was applied by two reviewers independently who then met to compare their findings. Disagreements were resolved through discussion. Quality assessment, data extraction and synthesis procedures are described in more detail below.

2.4.1 Quality assessment

The procedures and criteria used for assessing methodological quality built on those described in previous EPPI-Centre health promotion reviews (see, e.g., Oakley *et al.*, 1996; Peersman *et al.*, 1996). We used four 'core' methodological criteria to divide the outcome evaluations *initially* into two broad groups: 'sound' and 'not sound'. 'Sound' outcome evaluations were those deemed to meet the following criteria:

- findings are reported for each outcome measure indicated in the aims of the study;
- a control/comparison group that is equivalent to the intervention group on socio-demographic and outcome variables is employed;
- pre-intervention data are provided for all individuals in each group; and
- post-intervention data are provided for each group.

However, these criteria only capture some of the known sources of bias in outcome evaluations. They do not distinguish between randomised and non-randomised trials, or between quality of method and quality of reporting. We therefore decided on a further category of studies as ‘sound despite not meeting all four *core* criteria’. This category included, for example, studies in which full pre-intervention data were not presented but in which authors had either stated that there were no differences between the groups or where any baseline differences had been accounted for in data analysis.

2.4.2 Data extraction and synthesis

Data on effects were extracted from all outcome evaluations judged to be methodologically sound. Depending on whether outcomes were continuous or binary, the data on effects were either means with standard deviations (e.g. self-esteem) or frequencies of events (e.g. pregnancy or birth). Data on relevant outcomes were identified from study reports and, if study reports did not contain all the necessary information in the appropriate form, study authors were contacted and asked to provide additional data on outcome frequencies or means for both intervention and control groups. Two reviewers extracted outcome data independently and then met to compare findings. If chi-square statistical tests for heterogeneity (‘Q statistic’) revealed no significant heterogeneity between the studies, their data on relevant effect sizes were combined in a random effects statistical meta-analysis using our specialist EPPI-Reviewer software. For binary data, relative risk was used to calculate both individual study and combined effect sizes. A relative risk (RR) is the risk of a particular outcome or event occurring in the intervention group (e.g. pregnancy) divided by the risk of the same event occurring in the control or comparison group. For continuous data, Hedges’ *g* (standardised mean difference) was used to determine study and overall effect sizes. In addition to pooling effect sizes, reviewers carried out a narrative analysis of other outcome measures. Our procedures for meta-analysis followed standard practice in the field (Cooper and Hedges, 1994; Egger *et al.*, 2001; Lipsey and Wilson, 2001) and were similar to those used in previous EPPI-Centre reviews (Rees *et al.*, 2004; Thomas *et al.*, 2003).

2.5 In-depth review methods for views studies

We used a standardised data extraction and quality assessment tool developed and piloted in previous EPPI-Centre health promotion reviews (e.g. Brunton *et al.*, 2003; Harden *et al.*, 2001). This tool was applied by two reviewers independently who then met to compare their findings. Disagreements were resolved through discussion. Quality assessment, data extraction and synthesis procedures are described in more detail below.

2.5.1 Quality assessment

Each study of young people's views was assessed against 12 methodological quality criteria. These criteria were informed by those proposed for assessing the quality of qualitative research (Boulton *et al.*, 1996; Cobb and Hagemaster, 1987; Mays and Pope, 1995; Medical Sociology Group, 1996; Popay *et al.*, 1998) and by principles of good practice for conducting social research with children (Alderson, 1995). Each study was assessed according to whether:

- the aims and objectives were clearly reported;
- there was an adequate description of the context in which the research was carried out (including a rationale for why the study was undertaken);
- there was an adequate description of the sample used and the methods by which the sample was identified and recruited;
- there was an adequate description of the methods used to collect data;
- there was adequate description of the methods used to analyse data;
- there had been attempts to establish the reliability of data collection tools (e.g. use of interview topic guides);
- there had been attempts to establish the validity of data collection tools (e.g. pilot interviews);
- there had been attempts to establish the reliability of the data analysis methods (e.g. use of independent coders);
- there had been attempts to establish the validity of data analysis methods (e.g. searching for negative cases);
- the study used appropriate data collection methods for helping young people to express their views;
- the study used appropriate methods for ensuring the data analysis was grounded in the views of young people; and
- the study actively involved young people in its design and conduct.

Studies did not have to meet all 12 criteria to be included in the synthesis. A final task involved reviewers assigning a 'weight of evidence' category to the study based on the extent to which they considered study findings to be grounded in the perspectives and experiences of young people (low, medium or high). Reviewers were asked to consider whether the study methods could have distorted, misrepresented or simply failed to pick up the views of young people. As a general rule, studies that met fewer than 7 of the quality criteria were considered to be 'low' quality, those meeting 7-9 quality criteria of 'medium' quality, and those meeting 10-12 quality criteria of 'high' quality. Only studies of medium and high quality were included in the synthesis stage of the review.

This approach represents only one of a number of approaches to assessing the quality of qualitative research. There is no agreement yet on the 'right' or the

'wrong' ways to assess the quality of this type of research. One strength of our approach is that it combines generic quality criteria (e.g. details of aims, context and sample) with criteria tailored to the purpose of our review (e.g. the extent to which study findings are rooted in young people's perspectives). We plan to use the experiences of applying these criteria to contribute to methodological debate in this area.

2.5.2 Data extraction and synthesis

Methods for the synthesis of views studies built on those recently developed at the EPPI-Centre (Harden *et al.*, 2004; Thomas *et al.*, 2004). Study findings were exported verbatim to the data analysis software package NVivo (Version 2.0) and were synthesised by adapting guidelines for the analysis of qualitative data (e.g. Miles and Huberman, 1994). Each finding was examined in turn and was assigned one or a number of codes to describe the content of the finding. Initially a priori codes were used to group findings into the areas of interest in the review (e.g. education, employment, housing). The next step involved 'free coding' in which researchers created codes to characterise findings in more detail (e.g. 'bullying', 'peers', 'expectations' were codes within 'education'). Findings and codes were compared and contrasted, refined, and then grouped into higher order themes (e.g. 'dislike of school'). In this way the findings of each study were broken down, interrogated and then combined into a whole via a listing of themes to describe and illuminate young people's perspectives and experiences of teenage pregnancy and parenting. A further stage of the analysis involved the review team drawing out the implications for interventions suggested by each theme. All analysis was guided by the review questions and undertaken by at least two members of the review team working independently and together. Direct quotes were used to indicate how the findings of the views studies related to our conclusions.

2.6 In-depth review methods for cross-study synthesis

A methodological and conceptual matrix, developed in earlier EPPI-Centre reviews in health promotion and public health (see e.g. Oliver *et al.* 2005; Thomas *et al.*, 2004), was used to juxtapose the findings of views studies and those of outcome evaluations. The implications for appropriate interventions derived from the views synthesis were used as the starting point for the cross-study synthesis. These were matched to interventions studied in outcome evaluations. Matching interventions were sought from our pool of sound outcome evaluations. Matches and gaps were noted in the right-hand columns of the matrix. These procedures enabled us to determine the implications for policy, practice and research from a wide range of relevant and reliable research evidence.

3. MAP RESULTS

3.1 Flow of literature through the map

Our searches identified a total of 34,615 records. **Figure 3.1** describes the flow of these records through the map.

After removing 3,189 duplicate records and 153 records where abstracts were not available, 31,273 records were screened. Most of these (98%) did not meet the inclusion criteria and so were excluded from the map.

The most common reason for exclusion was that the main focus of the studies was not pregnancy prevention or parenting (N=14,535, 48%). For example, many studies focused on sexual health, with pregnancy prevention only a minor issue. A further 5,586 reports (18%) were excluded because they were not about young people aged under 20. In addition, 6,631 records (22%) were excluded because they were not outcome evaluations or views studies. The main reason that descriptions of views studies were excluded was because the studies were not carried out in the UK (N=2,550, 8%).

At this point in the process we had identified 1,339 records describing international outcome evaluations or UK-based views studies, focused on young people, pregnancy, and parenting. This number dropped by over half (N=730) when we screened these records according to whether they studied the topic of young people, pregnancy and parenting in the context of social exclusion. For example, citations often described outcome evaluations focused on sex education rather than interventions designed to tackle social exclusion.

A total of 669 study reports were thus included in the map.

There were 185 (26%) reports describing studies relevant to social exclusion and the prevention of teenage *pregnancy*. Most of the reports described studies relevant to informing policy and practice in the area of interventions targeting the social exclusion associated with teenage *parenting*, and supporting teenage parents and increasing their social inclusion (N=525, 74%).

3.2 Teenage pregnancy and social exclusion

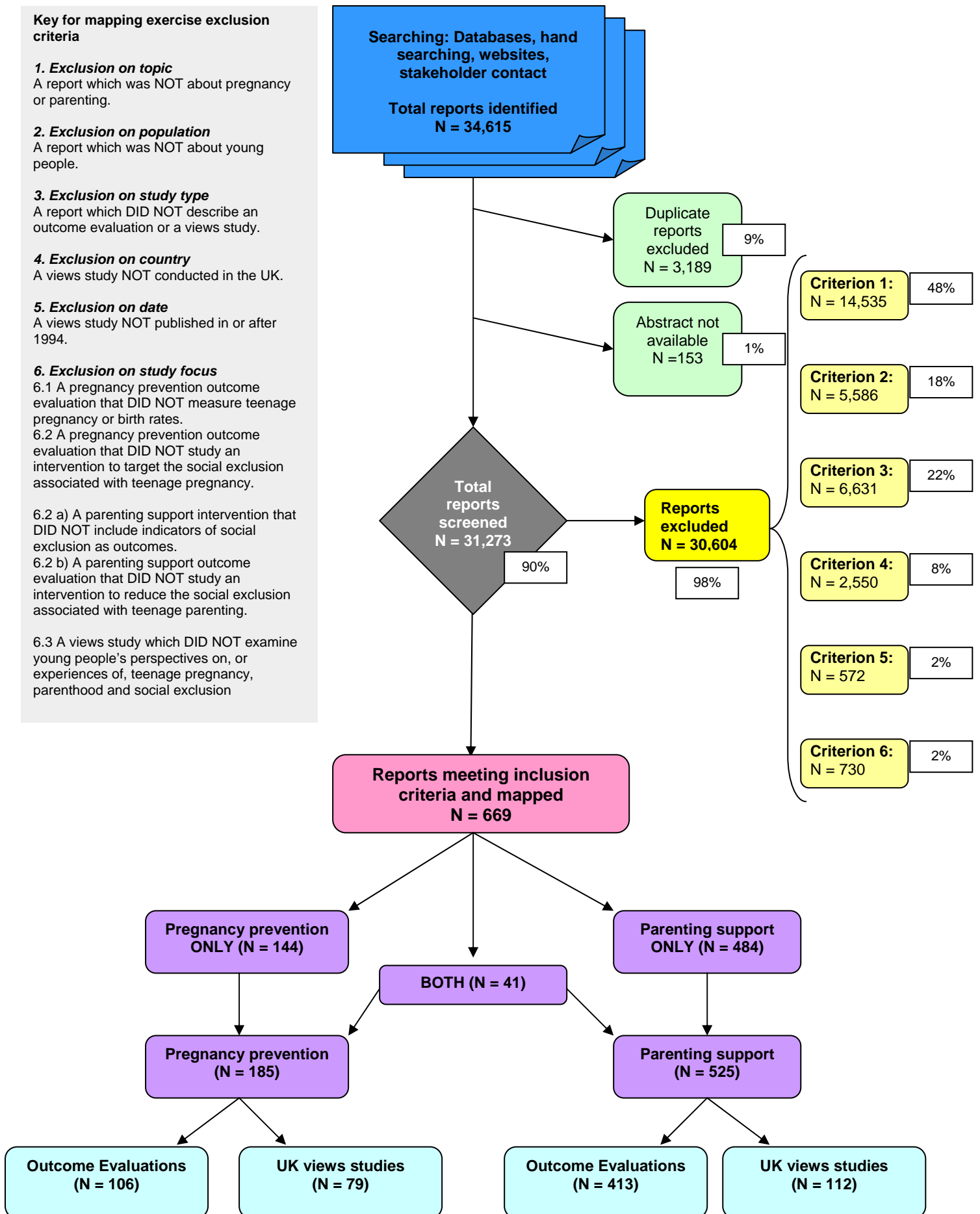
Of the 185 reports describing studies relevant to the task of targeting social exclusion in order to prevent teenage pregnancy, 106 (57%) described outcome evaluations, and 79 (43%) described views studies carried out in the UK.

3.2.1 Outcome evaluations

(a) Publication date

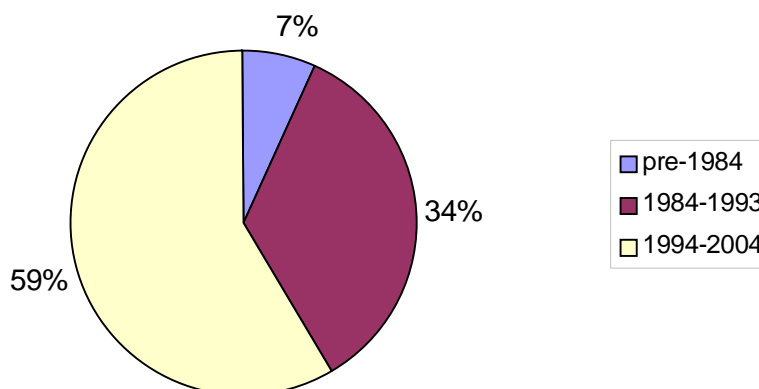
Although the policy interest in interventions targeting social exclusion has arisen relatively recently in the UK, outcome studies have been evaluating these types of

Figure 3.1: Flow of literature through the map



interventions for at least the past thirty years (**Figure 3.2**). Eight reports describing outcome evaluations (7%) had publication dates before 1984, a third of reports (N=40, 34%) had publication dates between 1984 and 1993, and just over half of the reports (N=58, 59%) had publication dates between 1994 and 2004.

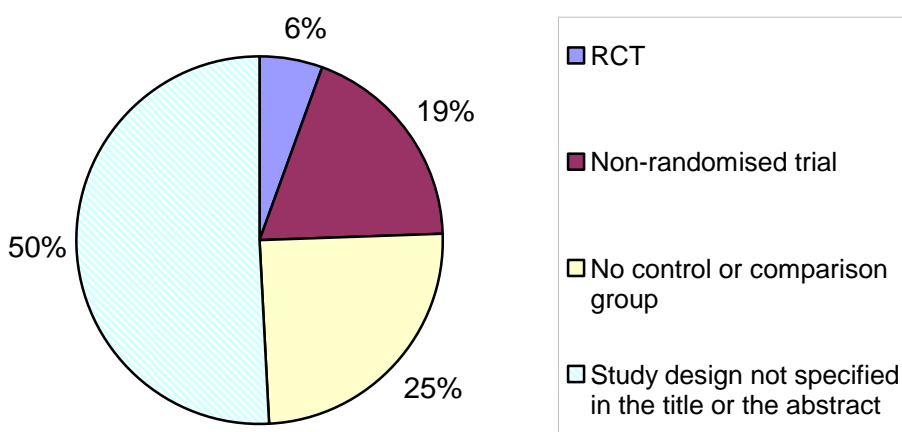
Figure 3.2: Teenage pregnancy prevention outcome evaluations by publication date (N = 106)



(b) Evaluation design

The use of randomised controlled trials (RCTs) or non-randomised trials to evaluate interventions is the exception rather than the rule in this area (**Figure 3.3**). Only six reports described outcome studies using an RCT design (6%) and only 20 reports described non-randomised trials (19%). Most reports either did not specify the evaluation design used or described other designs, such as a one group 'before-and-after' study (N=80, 75%).

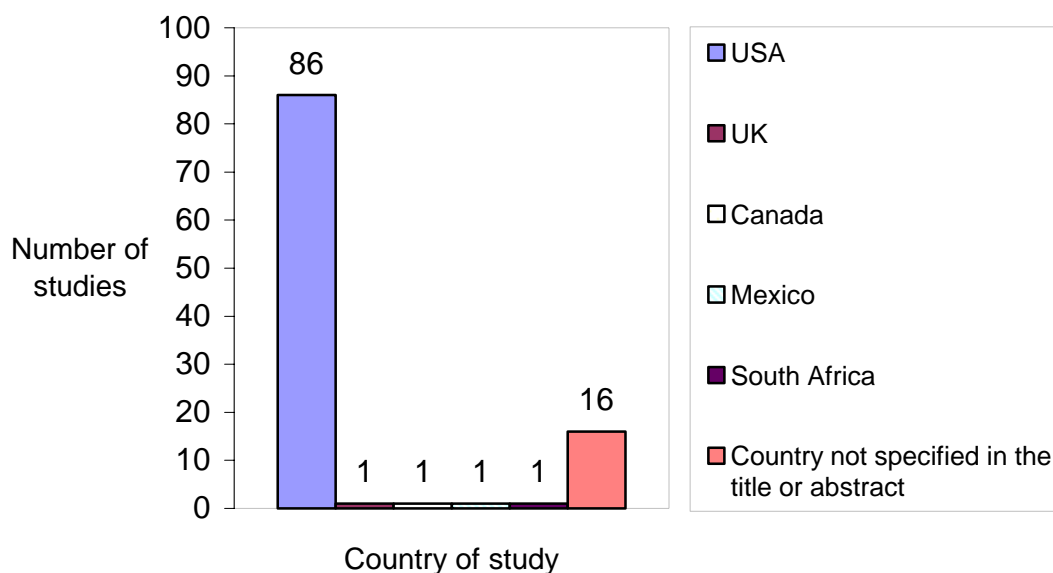
Figure 3.3: Teenage pregnancy prevention outcome evaluations by study design (N = 106)



(c) Country

Outcome evaluations of interventions which target social exclusion in order to prevent teenage pregnancy are more common in the USA than any other country (N=86; 81%) (**Figure 3.4**).

Figure 3.4: Teenage pregnancy prevention outcome evaluations by study country (N = 106)



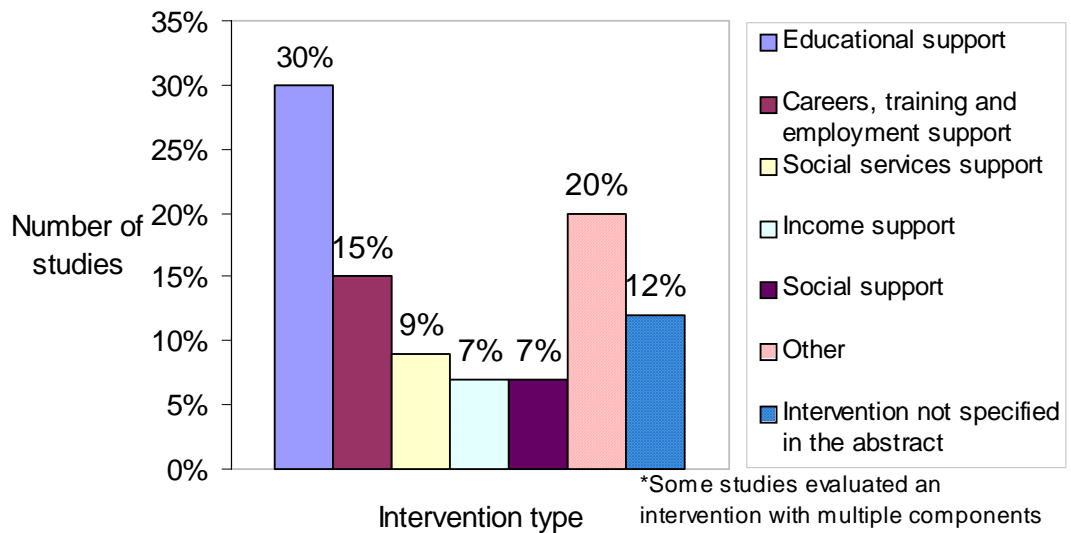
Four reports each described one outcome evaluation carried out in the UK, Canada, Mexico and South Africa. The outcome study carried out in the UK evaluated two community-based teenage pregnancy prevention strategies in the Nottingham Health Action Zone (Coppel, 2002).

(d) Intervention type

A number of different types of interventions tackling social exclusion have been evaluated (**Figure 3.5**).

Most of the reports described studies evaluating multi-component interventions (N=64, 60%). (In these cases multiple codes were applied to describe all the intervention components.) Reports most often described studies evaluating educational support (N=48, 45%) such as preschool education or learning support in secondary schools. The next most common intervention type was careers, training or employment support (N=23, 22%). Fifteen reports described outcome studies that evaluated social service interventions. The effects of income support and social support on teenage pregnancy rates were each evaluated by studies described in 11 reports (7%). Approximately one third (N=31, 29%) of the reports described studies evaluating 'other' interventions or intervention components – for example, medical or counselling programmes, or incentives designed to change behaviour or facilitate young people's involvement in a particular programme.

Figure 3.5: Teenage pregnancy prevention outcome evaluations by intervention type (N = 158 interventions, N = 106 studies)*

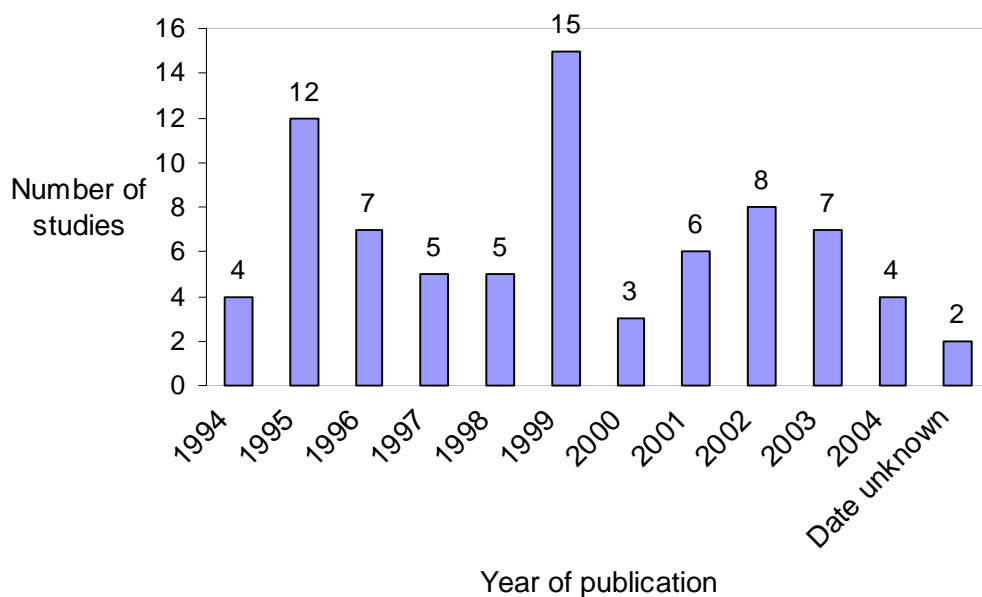


3.2.2 Studies of young people's views

(a) Publication date

We only included in the map reports describing studies of young people's views published in the last ten years (**Figure 3.6**). The year in which the greatest number of reports was published was 1999, the date of a major policy report on teenage pregnancy in the UK (SEU, 1999). More reports were published in or after 1999 (N=45, 58%) than before 1999 (N=33, 42%).

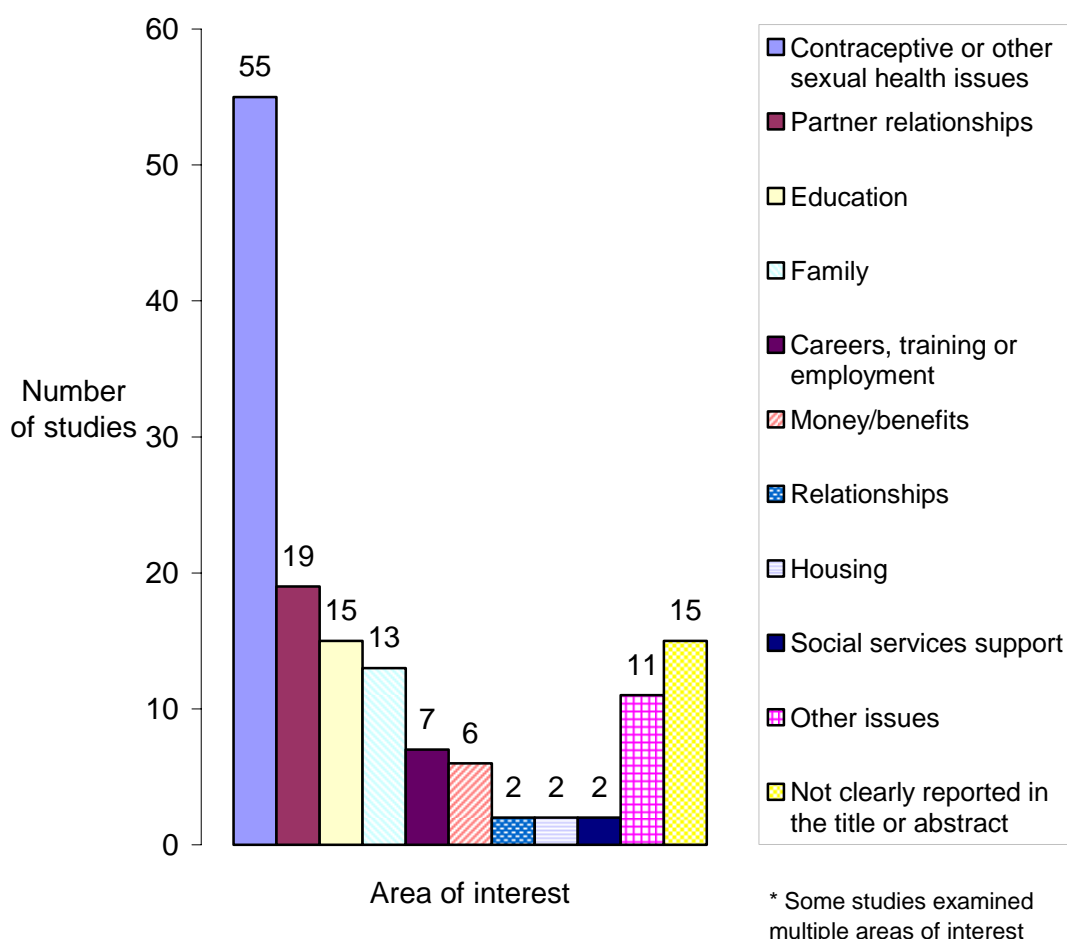
Figure 3.6: Teenage pregnancy prevention views studies by publication date (N = 78)



(b) Topic focus

Studies asked young people for their perspectives and experiences relating to a range of factors in the area of teenage pregnancy, including structural factors, such as education, employment or housing, and personal or family issues, such as sexual health or relationships (**Figure 3.7**).

Figure 3.7: Teenage pregnancy prevention views studies by area of interest (N = 147 areas, N = 78 studies)*



Most of the reports described young people's views about personal or family factors associated with teenage pregnancy: 55 reports (71%) described studies which had examined young people's views about contraception and sexual health issues, and 19 reports (24%) described studies of views about relationships. Fewer reports described studies exploring structural factors such as education (N=15, 19%), careers, training and employment (N=7, 9%) and money and benefits (N=6, 8%). Two reports (3%) described studies which obtained young people's views about housing, and another two examined views of social services (N=2, 3%). Eleven studies (14%) reported young people's views about other issues such as health care services or additional personal issues.

3.3 Teenage parenting and social exclusion

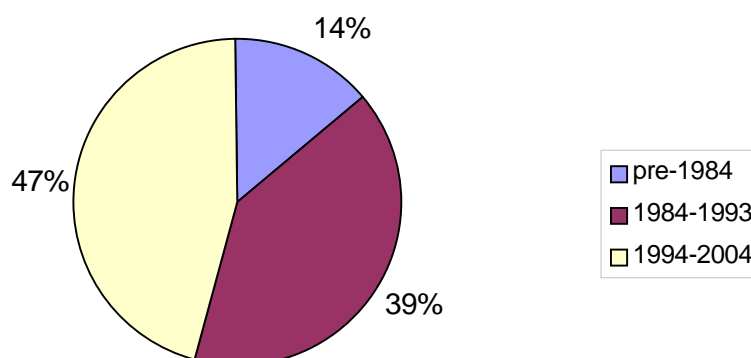
Of the 525 reports describing studies relevant to the task of targeting the social exclusion associated with teenage parenting, 413 (79%) described outcome evaluations and 112 (21%) described UK views studies.

3.3.1 Outcome evaluations

(a) Publication date

Similarly to the interventions which target social exclusion in order to prevent unintended teenage pregnancy, outcome studies have been evaluating interventions that aim to tackle the social exclusion associated with teenage parenting long before the recent policy interest in this approach (**Figure 3.8**). Fifty-nine reports (14%) were published before 1984 and 163 between 1984 and 1993. Nearly half the reports were published within the last ten years (N=191, 47%).

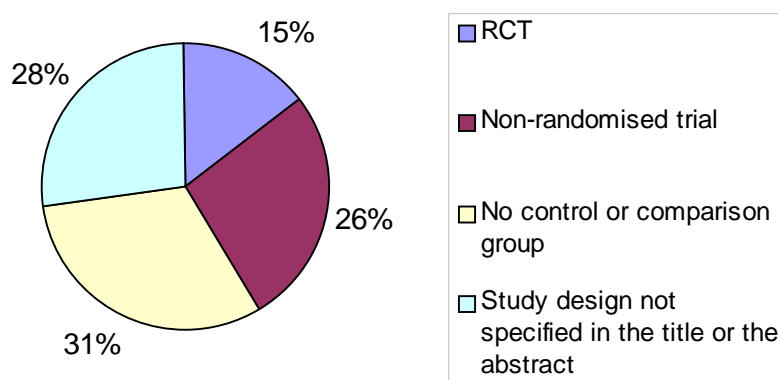
Figure 3.8: Teenage parenting support outcome evaluations by publication date (N = 413)



(b) Evaluation design

A range of different designs have been used to evaluate interventions to support teenage parents (**Figure 3.9**). Nearly half the reports (N=173, 41%) describe studies using RCTs or non-randomised trials. This suggests that there is a large amount of reliable evidence about the effects of interventions to support teenage parents. However, a large number of reports either did not specify the evaluation design used, or described other types of evaluation design, most commonly a one group before-and-after study (N=242, 59%).

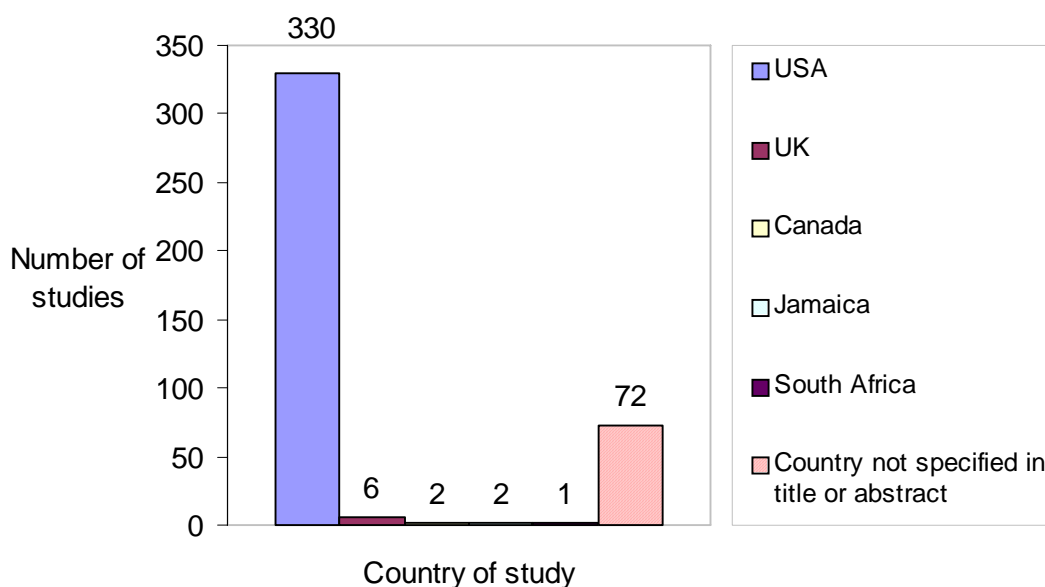
Figure 3.9: Teenage parenting support outcome evaluations by study design (N = 413)



(c) Country

As with the interventions targeting social exclusion to prevent unintended teenage pregnancy, most reports of outcome evaluations for parenting support were conducted in the USA (**Figure 3.10**). There were six reports of UK-based interventions. Information on country was not provided in 17% of study reports.

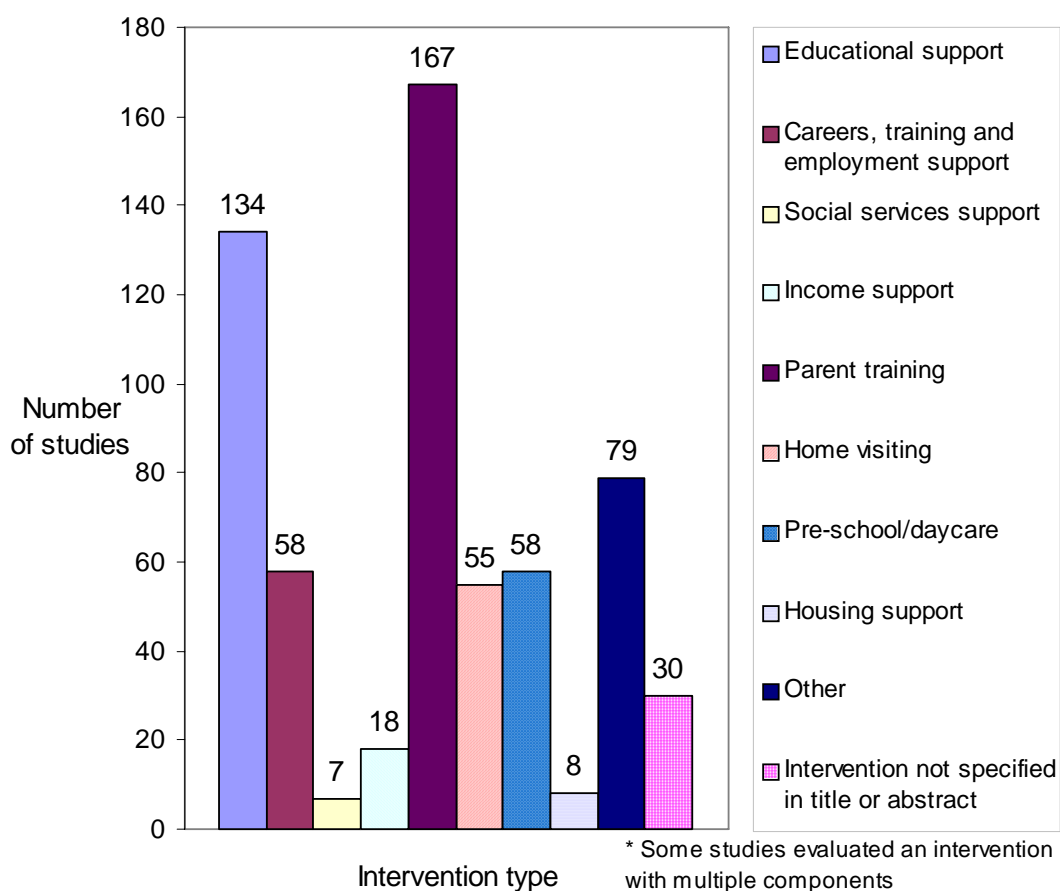
Figure 3.10: Teenage parenting support outcome evaluations by study country (N = 413)



(d) Intervention type

A number of different types of interventions for tackling the social exclusion associated with teenage parenting have been evaluated (**Figure 3.11**).

Figure 3.11: Teenage parenting support outcome evaluations by intervention type (N = 597 interventions, N = 413 studies)*



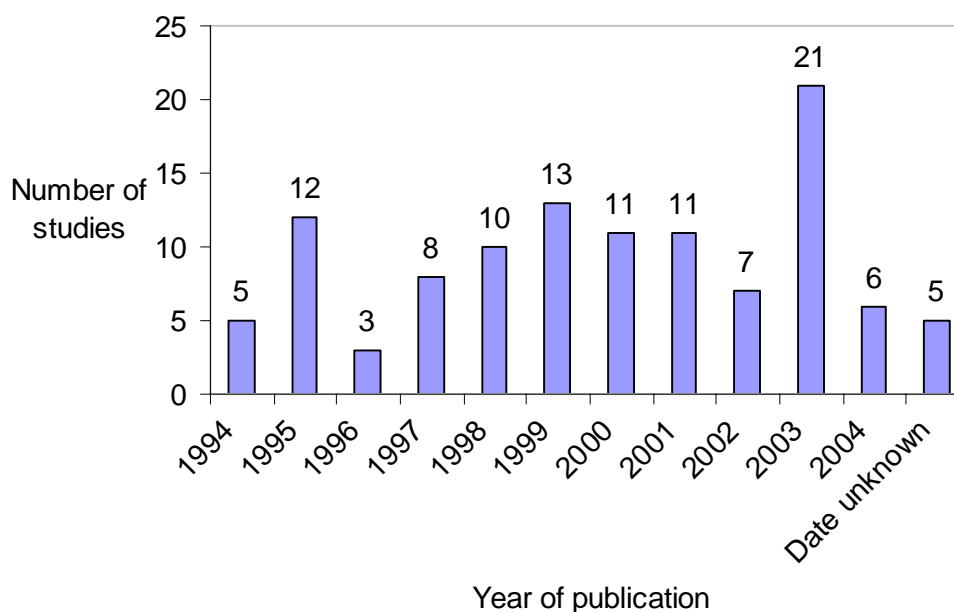
Reports often described studies evaluating multi-component interventions. Parent training interventions were evaluated by the biggest number of studies (N=167, 40%). This type of intervention has been the subject of a recent Cochrane Collaboration systematic review (Coren and Barlow, 2003). A third of reports (N=134, 32%) described studies evaluating interventions with an educational support component, such as programmes which help pregnant or parenting teenagers continue at school or college. Similar proportions of reports described studies measuring the effects of interventions involving preschool daycare (N=58, 14%); careers, training or employment support (N=58, 14%); and home visiting (N=55, 13%). There is therefore a substantial body of research evaluating these types of interventions, although, again, most of this has been carried out in the USA. We found fewer reports describing studies of social service interventions (N=7, 2%); interventions providing income support (N=18, 4%); or housing support interventions (N=8, 2%).

3.3.2 Studies of the views of teenage parents

(a) Publication date

We only included in the map reports published in the last ten years which described studies carried out in the UK. Most of these studies (N=74, 66%) were published between 1999 and 2004 (**Figure 3.12**).

Figure 3.12: Teenage parenting support views studies by publication date (N = 112)

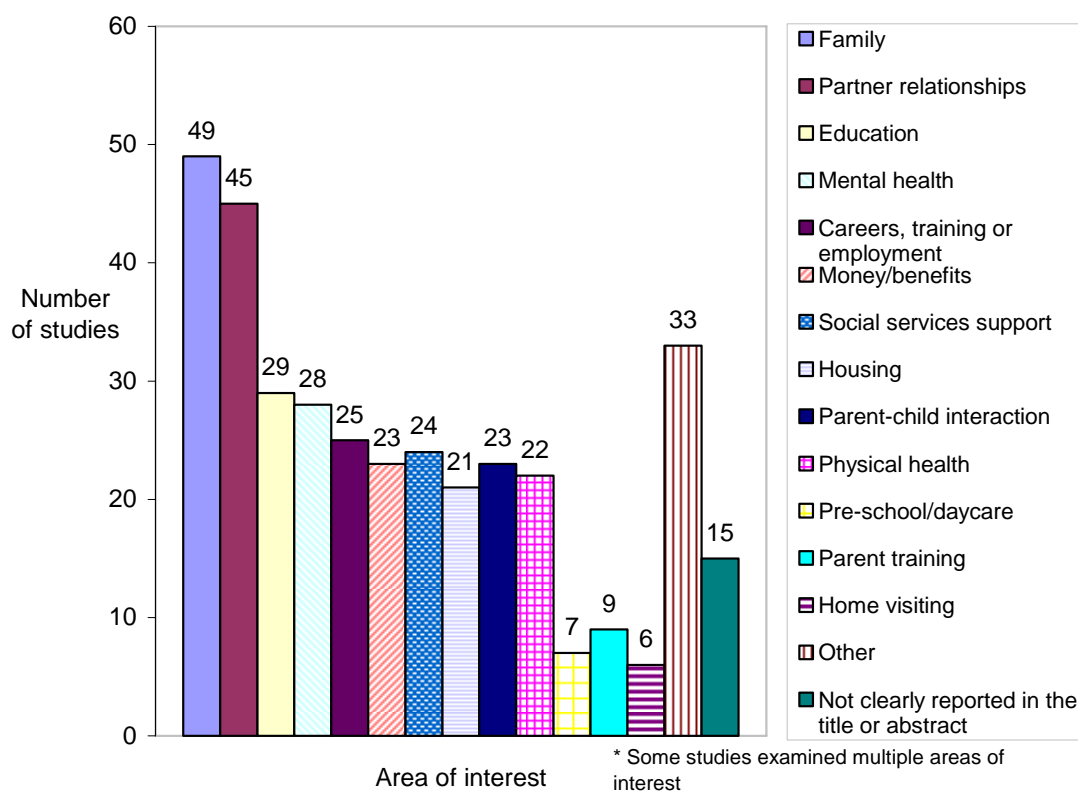


(b) Topic focus

Research examining the views and experiences of teenage parents spanned a wide area, including views about personal, family, or peer group issues, such as health status and relationships, and views about service provision, such as education, employment, or childcare (**Figure 3.13**).

Most reports described young parents' views about their relationships with their families (N=49, 44%) or their partners (N=45, 41%). Fewer reports described studies of such issues as careers, training or employment (N=25, 23%); education (N=29, 26%); housing (N=21, 19%); mental or physical health problems (N=28, 25%; N=22, 20%); income (N=23, 21%); interaction with children (N=23, 21%); and social services support (N=24, 22%). There were only a handful of reports describing young parents' views about daycare (N=7, 6%), parent training (N=9, 8%) and home visiting (N=6, 5%). Thirty-three reports (30%) dealt with other issues or services, such as peer-led interventions provided by teenage parents for other young people.

Figure 3.13: Teenage parenting support views studies and area of interest (N = 359 areas, N = 112 studies)*



3.4 From map to in-depth reviews

The 669 reports included in the map were screened against the criteria for the in-depth review (see **section 2.3**). A total of 419 records were excluded because they did not focus on education and training, employment and careers, financial circumstances, housing or childcare. A further 137 reports of outcome evaluations were excluded because they did not employ a control or comparison group. Thirty-nine reports were not available in the timeframe of the review and could therefore not be assessed. The remaining 74 reports met the inclusion criteria for in-depth review and these reports described a total of 50 separate studies: 15 studies in the pregnancy prevention review and 38 studies in the parent support review. Three studies were common to both reviews (Burnett, 2003; Hughes *et al.*, 1999; Wiggins *et al.*, 2005a). Of these 50 studies, 28 were outcome evaluations and 22 were views studies. Twelve of the outcome evaluations also included process evaluations.

4. RESULTS: PREVENTING UNINTENDED TEENAGE PREGNANCY

This section of the report describes the findings of our review of the research evidence related to the prevention of unintended teenage pregnancy. We discuss the findings from the 10 intervention studies first, followed by those from the five studies of young people's views. The section concludes with a synthesis of both sets of findings.

4.1 Which interventions are effective?

4.1.1 Overview of studies

Our focus in this section is the prevention of unintended teenage pregnancy through interventions to improve young people's education, training, employment and career prospects, or financial circumstances. Ten outcome evaluations met our inclusion criteria; they were published between 1984 and 2003 and evaluated multi-component interventions delivered by more than one type of provider in the USA. The interventions fell into two categories: early childhood interventions aimed at preschool and primary school aged children and their parents; and youth development programmes aimed at fostering social and academic development among young people aged 11 to 18. All the studies worked with samples of young people defined by study authors as at 'high risk' of experiencing teenage pregnancy or other problem behaviours such as criminal activity, drug use, or falling behind in school.

4.1.2 Methodological quality of studies

All the studies employed a control or comparison group, and six used randomisation to allocate individuals or clusters of individuals to these groups. The methodological quality of the studies was variable when judged against the four quality criteria outlined in chapter 2 on page 14. Six studies were deemed to have been soundly evaluated and the findings of these studies were included in the effectiveness synthesis (Allen *et al.*, 1997; Berrueta-Clement *et al.*, 1984; Campbell *et al.*, 2002; Hahn *et al.*, 1994; Hawkins *et al.*, 1999; Philliber *et al.*, 2001). Four studies were deemed not to be of sufficient quality and their findings were excluded from the effectiveness synthesis (East *et al.*, 2003; Grossman and Sipe, 1992; Melchior, 1999; Philliber and Allen, 1992). Detailed information about the quality of all these studies is presented in Appendix A. Summaries of the 'sound' outcome evaluations are presented in Appendix B.

4.1.3 Characteristics of sound studies

Three sound studies evaluated **early childhood interventions** (Berrueta-Clement *et al.*, 1984; Campbell *et al.*, 2002; Hawkins *et al.*, 1999). Two of these evaluated the long-term effects of preschool education and parenting support interventions.

Berrueta-Clement et al. (1984) report the long-term effects of the Perry PreSchool Study, a preschool education and parent training intervention that aimed to improve the intellectual and social development of children from low-income black families. The intervention took place in the late 1960s and early 1970s in Ypsilanti, Michigan, USA. Researchers recruited 123 children aged 3 to 4. Children in the control group received no intervention. All the study participants were black and from low income families, and they were followed up until age 27.

Campbell et al. (2002) report the long-term effects of the Abecedarian Study, a preschool education and parent training intervention that aimed to enhance cognitive skills in early childhood. The intervention took place in the 1970s in North Carolina, USA. Researchers recruited 111 children from 109 families known to social services departments; 98% were African-American and all were from low SES (socio-economic status) families. Children in the control group did not receive an intervention, although they did receive nutritional supplements for the first 15 months of life. Participants' behaviour and knowledge were measured until age 21.

The third early childhood study evaluated the long-term effects of a school-based social skills development intervention for children and their parents.

Hawkins et al. (1999) report the long-term effects of the Seattle Social Development Program, a skills development programme for children aged 6 to 12 and their parents that aimed to reduce health and other problem behaviours in adolescence. The intervention took place in the 1980s in Seattle, USA, and involved 808 children; they came from several different ethnic backgrounds in a disadvantaged area of Seattle, and were followed up to age 19. The children in the control group received no intervention other than standard schooling.

Three sound studies evaluated **youth development programmes** (Allen et al., 1997; Hahn et al., 1994; Philliber et al., 2001). Two studies evaluated interventions based on the principle of 'serve and learn' in which community service is combined with student learning.

Allen et al. (1997) report the effects of the Teen Outreach Program. This intervention includes voluntary service, reflection on this voluntary service, and social development classes, and is aimed at the prevention of teenage pregnancy and the promotion of academic achievement. The study took place in the USA between 1991 and 1995. Researchers recruited 695 students aged 14 to 15 from 25 high schools; most were female (86%), black (67%) and from lone-parent households (54%), and they were followed up at the end of the one year intervention. Young people in the control group received no intervention.

Hahn et al. (1994) report the effects of the Quantum Opportunities Program (QOP). This intervention includes community service, educational support, and social development workshops, and is aimed at improving academic achievement and social skills. The intervention lasted for four school years and took place in the 1980s and 1990s. Researchers recruited 250 US high-school students aged 13 to 17; 76% were black and all were from families on benefits; participants were followed up one year after the end of the programme. Young people in the control group received no intervention.

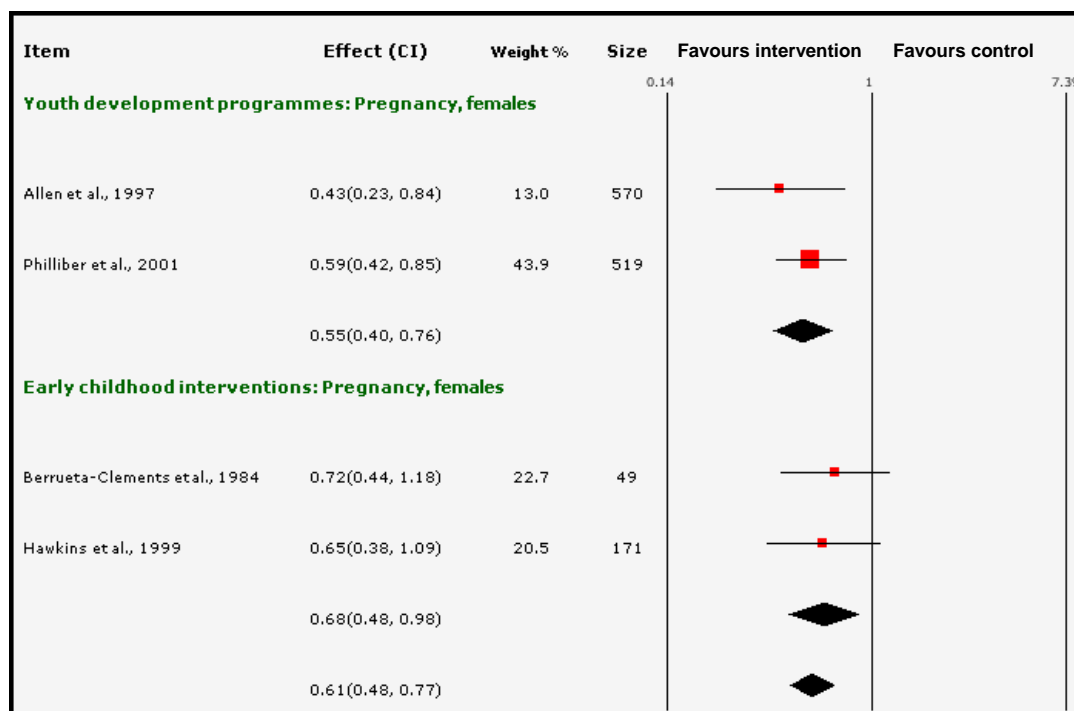
The third youth development study evaluated a long-term comprehensive academic and social development programme.

Philliber *et al.* (2001) report the effects of the Children's Aid Society Carrera-Model Program, a multi-component community-based youth development intervention aimed to reduce pregnancies among socially disadvantaged teenagers. The programme included work experience, careers advice, academic support, sex education, arts workshops, and sports. The study took place in 12 sites in six American cities during the 1990s. Researchers recruited 1,163 participants aged 13 to 15; study participants came from several different ethnic backgrounds and mainly from families with low SES; outcomes were measured after three years. Young people in the control group received no intervention.

4.1.4 Effects on teenage pregnancy and birth rates

We carried out two different random effects meta-analyses of these studies: pregnancy rates reported by young women (Allen *et al.*, 1997; Berrueta-Clements *et al.*, 1984; Hawkins *et al.*, 1999; Philliber *et al.*, 2001) and pregnancy rates reported by young men (Allen *et al.*, 1997; Hawkins *et al.*, 1999; Philliber *et al.*, 2001). Pooling the study findings revealed that early childhood interventions and youth development programmes can reduce teenage pregnancy rates among young women: a statistically significant effect was found. Although the effects for young men were not statistically significant, they were in the same positive direction.

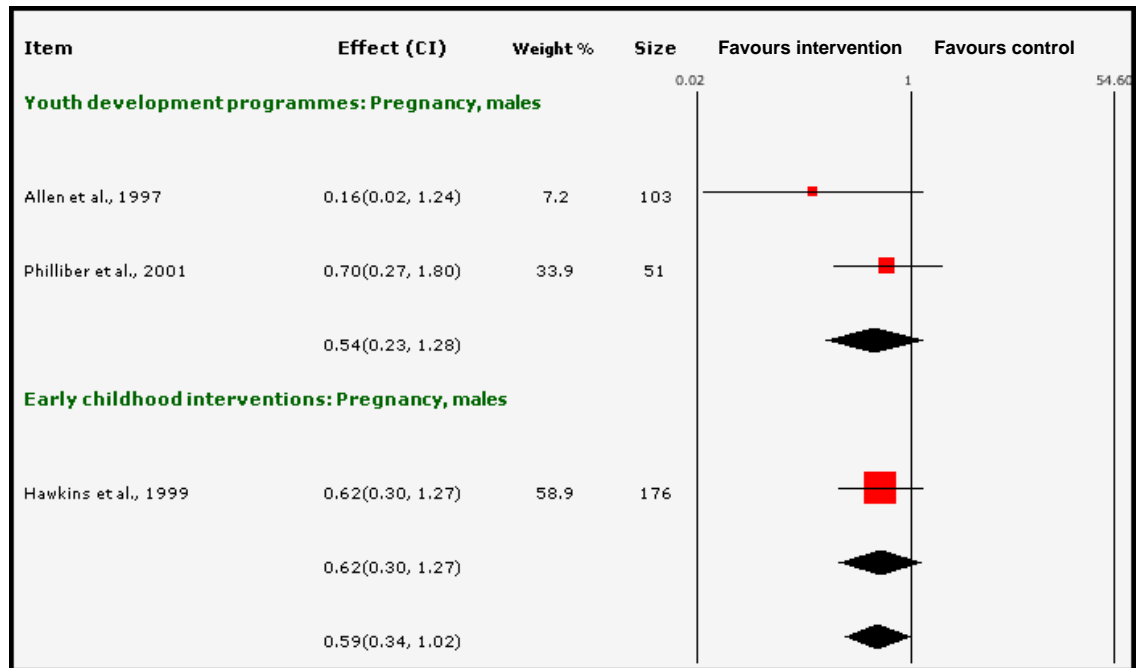
The data presented graphically in Figure 4.1 are based on a total of 1,309 young women in the four sound studies that provided pregnancy data. They show that the number of teenage pregnancies reported by young women who received a high quality early childhood intervention or youth development programme was lower than among women who did not receive an intervention.

Figure 4.1: Random effects meta-analysis of the effect of pregnancy prevention interventions on pregnancy rates reported by young women¹

The combined random effects meta-analysis for these interventions suggests that they reduced by 39% the number of young women who reported teenage pregnancy (RR 0.61; 95% CI 0.48–0.77). The Abecedarian study measured birth rates at age 21 rather than pregnancy rates; results showed a similar effect (Campbell *et al.*, 2002).

While results are promising, it appears that these interventions are less effective for young men. The data presented graphically in Figure 4.2 are based on 701 young men in the three sound studies that provided data on pregnancies reported by young men. They show that the number of teenage pregnancies reported by young men who received an early childhood or youth development programme intervention was lower than among young men who did not receive an intervention, although the result was not quite statistically significant (RR 0.59; 95% CI 0.34–1.02).

¹ All effects are relative risks. On this forest plot, studies are grouped according to two intervention types: youth development programmes and early childhood interventions. For each study, the red square indicates the relative risk of pregnancy and the line through it shows its 95% confidence interval. The black diamond below each set of red squares is the combined relative risk for all studies evaluating the intervention, with the width of the diamond corresponding to the 95% confidence intervals. The bottom diamond indicates the combined relative risk of both intervention types. When the intervention reduces the chance of a teenage pregnancy occurring, the relative risk will be less than 1; black diamonds to the left of and not touching the line of no effect (1) show a statistically significant effect in favour of the intervention ($p < 0.05$). If the test for heterogeneity, indicated by the Q statistic, is larger than the degrees of freedom then there is evidence of heterogeneity between studies. (Q statistic for analysis in figure 4.1 = 1.52, degrees of freedom = 3, $p = 0.679$.)

Figure 4.2: Random effects meta-analysis of the effect of pregnancy prevention interventions on pregnancy rates reported by young men²

Again, the Abecedarian study confirmed this result: there was a positive effect in reducing the number of births, but the result was not statistically significant (Campbell *et al.*, 2002).

The study by Hahn *et al.* (1994) of a young people's development programme measured birth rates among young women and young men together. Results indicated that the intervention reduced by 36% the birth rate among those receiving the intervention, although the result was of borderline statistical significance (95% CI 0.40–1.03).

4.1.5 Effects on other outcomes

In all six sound studies early childhood interventions or youth development programmes had a positive effect on academic achievement; two studies (Berrueta-Clements *et al.*, 1984; Hawkins *et al.*, 1999) also showed improvements in attitudes to school.

These interventions also had positive effects on employment and economic status. Two studies measured participants' employment rates at follow up (Berrueta-Clements *et al.*, 1984; Campbell *et al.*, 2002). In the Perry preschool

² All effects are relative risks. On this forest plot, studies are grouped according to two intervention types: youth development programmes and early childhood interventions. For each study, the red square indicates the relative risk and the line through it shows its confidence interval. The black diamond below each set of red squares is the combined relative risk for all studies evaluating the intervention, with the width of the diamond corresponding to the confidence intervals. The bottom diamond indicates the combined relative risk of both intervention types. When the intervention reduces the chance of having the event, the relative risk will be less than 1; black diamonds to the left of and not touching the line of no effect (1) show a statistically significant effect in favour of the intervention. If the Q statistic is larger than the degrees of freedom there is evidence of heterogeneity. (Q statistic for analysis in figure 4.2 = 1.71, degrees of freedom = 2, p=0.426.)

study, significantly more of the intervention group were employed at age 19 than the control group (Berrueta-Clements *et al.*, 1984). Campbell *et al.* (2002) found that young people who received high-quality preschool education were significantly more likely to be employed in a skilled job. These two studies also measured participants' economic status at follow-up. In the Perry preschool study there was a significant difference in the number of young people who were economically independent at age 19 (Berrueta-Clements *et al.*, 1984). However, in the Abecedarian study, the intervention and control groups did not differ significantly in the degree to which they were economically self-sufficient at age 21 (Campbell *et al.*, 2002). Although it did not directly measure employment or income status, the Carrera-Model project also indicated a greater motivation and preparedness for employment and financial responsibility in the intervention group (Philliber *et al.*, 2001).

These positive effects on other key outcomes are interesting, given the effects on teenage pregnancy found in the meta-analysis. Young people who had received early childhood and youth development interventions did better at school and had better attitudes to school, and were more likely to be employed and financially independent. It is possible that these effects could have reduced their vulnerability to teenage pregnancy.

4.2 What are the views of young people?

4.2.1 Overview of studies

Our focus in this section is on the perspectives and experiences of young people in the UK of the role of education, training, employment and careers, and financial circumstances in unintended teenage pregnancy. Five views studies met our inclusion criteria. They were published between 1999 and 2004, and included 1,483 participants living in England and Scotland: teenage mothers and fathers, young people who had not become parents, young women who had terminated their pregnancies, and older men and women who had become parents as teenagers. Most of the participants were women from a range of different backgrounds. Studies included young offenders, young people excluded from school, looked-after young people, homeless young people, young people with and without educational qualifications, from working class and middle class backgrounds, 'deprived' and 'non-deprived' areas, and from ethnic minority groups.

4.2.2 Methodological quality of studies

Studies used a variety of methods to collect data on young people's views, such as interviews, focus groups, and self-completion questionnaires with fixed and open response options. We assessed the quality of studies against 12 criteria. The quality of reporting in studies was generally good, and the authors of all but one study had taken steps to ensure the reliability and validity of data collection tools. Methodological quality was compromised most often with respect to data analysis, describing participants, and the active involvement of young people in the design and conduct of the study. On balance, we judged all five studies to be of sufficient quality to be entered into the synthesis of young people's views. One study was of high quality (Wiggins *et al.*, 2005a), and four were of medium quality (Arai, 2004; Burnett, 2003; Hooke *et al.*, 2000; Hughes *et al.*, 1999). Detailed

information about the aims, sampling and methodological quality of the views studies included in the synthesis are presented in Appendices C and D.

4.2.3 Recurrent themes across studies

Thematic analysis identified three common themes across these five studies: 'dislike of school', 'poor material circumstances and unhappy childhoods', and 'expectations for the future' (**Figure 4.3**). The content of these themes are described in the three sections below. At the end of each section the key implications derived from this thematic synthesis of young people's views for intervention development and testing are summarised (**Box 4.1**, **Box 4.2** and **Box 4.3**).

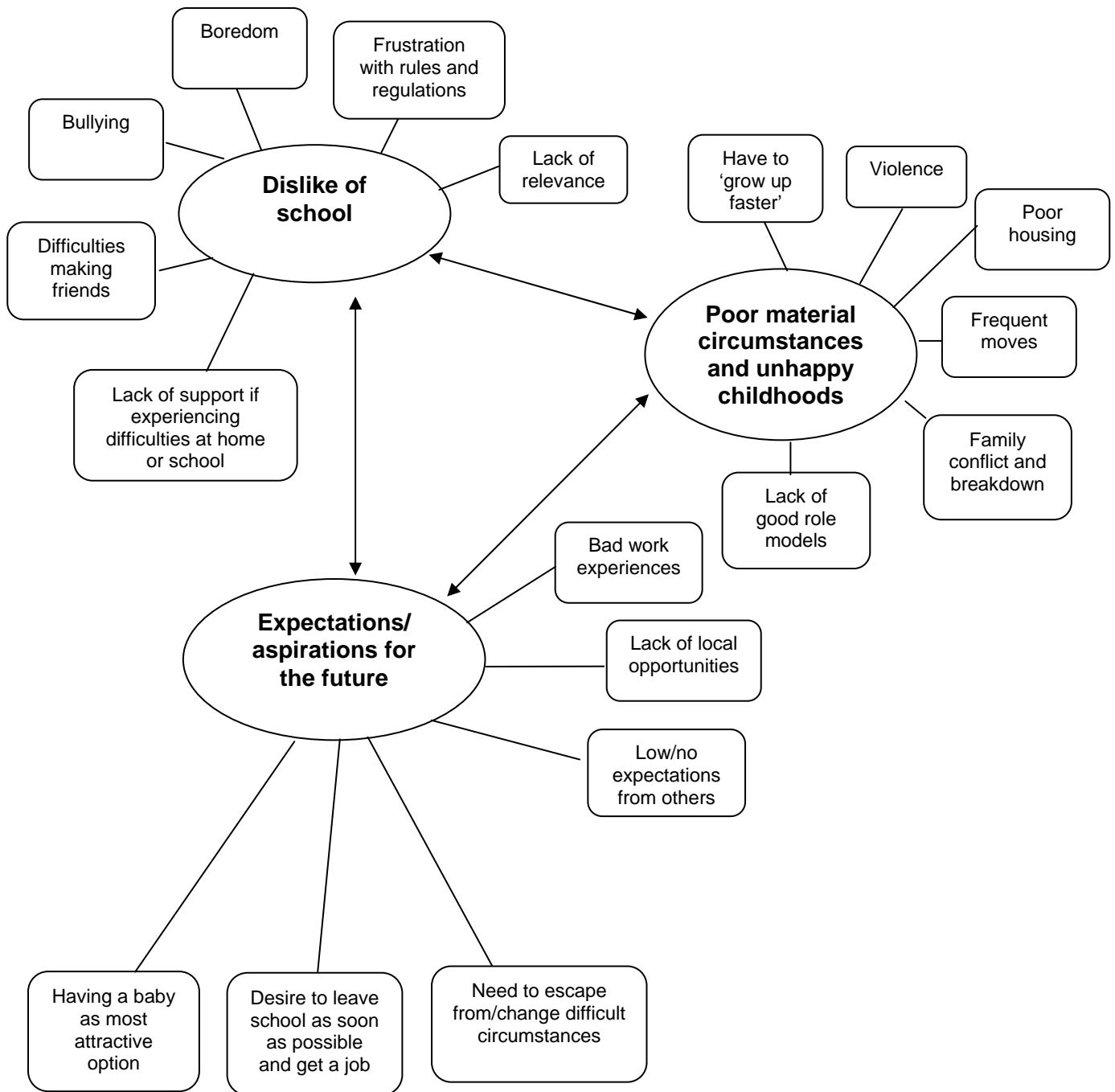
Dislike of school

Dislike of school was a key aspect of young parents' accounts of their lives prior to becoming parents (Arai, 2004; Burnett, 2003; Hughes *et al.*, 1999; Wiggins *et al.*, 2005a). Hughes *et al.* (1999) also found that young people who were not parents, but who were vulnerable to unintended teenage pregnancy (because of their life experiences, sexual activity, and social circumstances), had negative views about school compared to their less vulnerable counterparts. How young people coped with their dislike of school varied, but a common reaction was to simply 'bunk' or 'skive' off. Dislike of school discouraged some young people from going on to further and higher education. Young women sometimes directly linked dislike of school to teenage pregnancy. For example, a teenage mother studied by Hughes *et al.* (1999, p 37) said 'Still be at school? I'd rather have a baby than that. I just didn't like school, it was hard, it was horrible'.

The reasons young people gave for disliking school varied. A major reason was **boredom**. Young people complained school was too repetitive. Sometimes having to go to school made young people feel 'stuck in somewhere' as opposed to being 'out and about just doing things'. Some of the older women who had become teenage parents interviewed by Wiggins *et al.* (2005a, p 28) and some of the young women in the study by Arai (2004) highlighted how schools, and the subjects that were taught, **lacked relevance** for their lives (e.g. 'What on earth is this going to do for me? And why am I learning these things?'). This was especially so for those young women who had difficult or unhappy home lives. For some young women who had caring responsibilities at home, school was simply irrelevant.

Some young people had been frustrated with the **rules and regulations** of schools (e.g. 'You're not allowed to talk. Everything has to be done by such and such a time'; 'There were lots of rules' (Arai, 2004, p 181)). As Wiggins *et al.* (2005a) note, teachers were criticised for either being too strict and unyielding or for letting young people 'run riot' so no learning could take place. Young people highlighted rules and regulations as inappropriate when they conflicted with their views on the best ways for them to learn (e.g. 'You can't sit with your friends, which I found the best way of learning' (Arai, 2004, p 181, 183)). Young people also expressed their dissatisfaction with the more stringent rules and regulations

Figure 4.3: Thematic analysis of young people’s views on the role of education, training, employment and careers, and financial circumstances in unintended teenage pregnancy



that were imposed upon them to stop them 'bunking off' (e.g. 'For every lesson we had to like have a sign card but it didn't really work' (Burnett, 2003, p 19)).

Although the social aspects of schools sometimes compensated for the 'boredom' of school, for some young people **bullying** and/or **few or no friends at school** also spoilt their school experiences. Bullying by both peers and teachers was experienced and young people reported stopping going to school as a result (e.g. 'I got bullied so I just didn't bother going' (Burnett, 2003, p 19)). The young women studied by Arai (2004) and Wiggins *et al.* (2005a) reported several incidents in which teachers had made them feel humiliated. One young woman was excluded from school when she had attacked a teacher with a chair because he had 'said that he expected to see me on the street corner...or behind a till at Sainsbury's' (Arai, 2004, p 182). This picture was the same for young men.

Young people also reported feeling that they were offered **little, no, or inappropriate support if they were experiencing difficulties at home or school** (e.g. 'There was no, like, are you OK?...Have you got any problems...It was just why aren't you doing it [school work]?' (Burnett, 2003, p 19)). Some described how this was a factor in falling behind with school work or dropping out of school altogether. Some young people talked about the importance of 'good' and 'supportive' adults in or out of school to help them when they were falling behind at school. One young woman in the study by Burnett (2003) highlighted the importance of 'somebody who cared' for young people who were going through the care system.

Box 4.1 Implications for interventions to improve young people's experiences of school

- Involve young people in making decisions about the curriculum, rules and regulations, design and layout of the school, and other aspects of school culture.
- Provide support for young people starting at new schools (e.g. peer-led support or guidance counsellors).
- Equip young people with the skills to form positive relationships with other young people.
- Equip young people with the skills to resolve conflicts.
- Introduce anti-bullying strategies.
- Implement training for secondary school teachers (e.g. conflict resolution).
- Implement learning support interventions (e.g. professional one-to-one support, support 'catching up', examination preparation).
- Foster greater parental involvement during secondary school (e.g. home-school support).

Poor material circumstances and unhappy childhoods

Studies of young people's views suggest that young parents see unhappiness, rather than poverty per se, to be the most significant aspect of their childhood experiences in relation to unintended teenage pregnancy. Researchers in four studies encountered young women whose early pregnancies had been preceded by severely adverse childhood circumstances which led to profound unhappiness (Arai, 2004; Burnett, 2003; Hughes *et al.*, 1999; Wiggins *et al.*, 2005a). Common

experiences among young mothers and young fathers were **family conflict and breakdown**, sometimes caused by **violence** or ill-health, which could lead to time spent **living in care**.

Young mothers also described unsettled childhoods because of **frequent house moves**. Several women had also been unhappy with their **depressing housing conditions**: lack of space and poor or inadequate furnishings. The teenage fathers in the study by Wiggins *et al.* (2005a) reported that their own fathers had been violent or abusive and that they lacked suitable male **role models** at home. For example one man reported his father asking him whether he 'wanted to learn to punch' after he had witnessed domestic violence (Wiggins *et al.*, 2005a, p 44). The adverse circumstances in which these teenage parents were growing up can be seen as an 'accelerated life course' in which young people have had to '**grow up faster**' in order to cope with life (Arai, 2004, p 190). Some young women reported having no confidence, low self-esteem, and high levels of insecurity and anxiety as a result of their difficult early childhood experiences (e.g. 'At home and as a child as well, you want to feel secure and comfortable. I never did feel that' (Arai, 2004, p 190)). Similarly, the young men whose lives had been marked by unhappiness from a young age, usually had very low self-esteem and were uncertain about their ability to shape their own lives.

Some young women made direct connections between these early childhood experiences and their teenage pregnancies. The desire for loving and secure relationships meant that some women wanted to start their own family as soon as possible; a baby was an opportunity to give and receive love and affection (e.g. 'I just wanted, basically, love'; 'I want a huge family...my children will always have somebody to be with' (Wiggins *et al.*, 2005a, p 15)) or to build bridges with their families. Other young women had wanted a 'change' from severe adverse circumstances that had blighted their lives up to that point, and saw pregnancy at an early age as a means of changing their circumstances.

Not all teenage mothers had grown up unhappy. For instance, a teenage mother who took part in focus group discussions had come from 'a large cohesive nuclear family where pregnancy at a young age was common; she was in a stable relationship with a young man with similarly positive experiences of family life and they had planned the pregnancy' (Wiggins *et al.*, 2005a, p 15)). Arai also concluded that not *all* the young mothers had experienced personal adversity during their childhoods. Some had wanted their babies young and were looking forward to still being young when their children were older.

Box 4.2: Implications for interventions to tackle poor material circumstances and unhappy childhoods

- Implement interventions to prevent domestic violence.
- Provide support for children and young people experiencing family breakdown and conflict (e.g. counselling services).
- Provide parent training in conflict resolution.
- Improve the continuity and quality of care for looked after children and young people (e.g. social work support, increasing the number of long-term and high-quality placements).
- Implement housing interventions (e.g. investment in new housing and housing repairs; support for homeless families; legal protection).

Expectations/aspirations for the future

Teenage parents' expectations before they became pregnant were usually to leave full-time education as soon as possible, get a job and start a family (Arai, 2003; Hughes *et al.*, 1999; Wiggins *et al.*, 2005a). Wiggins *et al.* found significantly different aspirations among teenage mothers and women who became mothers later in life. Those mothers who had their first child as a teenager had wanted to **leave school as soon as possible and get a job**. Those who became pregnant later in life expected, from a young age, to go to university and to travel. A focus group made up of six teenage young offenders who were already fathers highlighted how restricted expectations for the future also characterised teenage fathers' lives (Hughes *et al.*, 1999). Of the young people classified as vulnerable to early parenting by Hughes and colleagues, those who had long-term plans for the future and a more positive outlook on life were typically more certain that they did not want to start a family until their mid-twenties (e.g. 'I just want to go around the world and experience things' (Hughes *et al.*, 1999, p 10)). Young people who were not parents reported that activities outside school, such as sports, music and arts, improved self-esteem and motivated them and their friends. Hughes and colleagues concluded that that these out-of-school activities 'contributed strongly to a sense of self-worth and a generally more positive outlook on life' (p 11).

For other young women **having a baby was the most attractive option**. The desire to have a baby and leave home strongly outweighed any desire to join the workforce for many of the young women, normally because their expectations of work were relatively low (Hughes *et al.*, 1999). Burnett (2003) interviewed several women who had expected to start a family at a young age. These women saw having a baby as the best route to future happiness. Focus group discussion also revealed that many of the teenage mothers found having a baby a desirable choice at the time because they believed that few, if any, alternative opportunities existed (Wiggins *et al.*, 2005a).

There were several reasons why some young people viewed having a baby as a more attractive option than entering the workforce or further education and training. Some mentioned **bad experiences of work** at a young age (Arai, 2004; Burnett, 2003; Wiggins *et al.*, 2005a). These women's experiences of work had normally been of poorly paid, temporary jobs that they disliked. For instance, Arai (2004, p 178) interviewed a teenage mother who had been earning £50 for a 40-hour week as a trainee hairdresser before she became pregnant.

Young parents also described how they were not able to envisage other options apart from early motherhood (Arai, 2003; Hughes *et al.*, 1999; Wiggins *et al.*, 2005a). A young mother explained to Hughes *et al.* (1999, p 37) how, at school, she was woefully unaware of all her options for the future and how she could she achieve these: 'There are so many jobs out there that I didn't even know existed... I probably could have done something but I just didn't even think of these high paid jobs I could have done'. The **low expectations that their parents and peers held for them** compounded these problems (Arai, 2004; Hughes *et al.*, 1999; Wiggins *et al.*, 2005a). For example, the low expectations of other people appeared to reinforce young fathers' own lack of ambition and further de-motivate them (Hughes *et al.*, 1999).

Box 4.3: Implications for interventions to broaden young people's expectations/aspirations for the future

- Improve work experience opportunities.
- Protect against bad experiences of work (e.g. minimum wage, better regulation).
- Ensure that young people are involved in an active way in their career development.
- Provide out-of-school activities to improve self-esteem and positive outlook.
- Create more employment opportunities in disadvantaged communities.
- Raise awareness of opportunities (e.g. media campaigns, school-based projects, community projects, parent education about opportunities).

4.3 Do interventions match young people's views?

Implications for interventions or intervention needs derived from young people's views fell into three broad categories: interventions to improve young people's experiences of school, to broaden their future expectations and aspirations, and to tackle poor material circumstances and unhappy childhoods. Intervention needs were entered into a matrix alongside the evaluated interventions from the effectiveness synthesis (see Table 4.1). We then examined the matrix to identify effective interventions which matched young people's needs, those which matched their needs but had yet to be rigorously evaluated, and gaps in intervention development.

Table 4.1: Pregnancy prevention cross-study synthesis matrix

Need	Matching sound evaluations
<i>Interventions targeting education</i>	
Involve young people in decision-making about the curriculum, rules and regulations, and design and layout of the school, and other aspects of school culture	None identified
Support young people starting at new schools	None identified
Equip young people with the skills to form positive relationships with other young people	Allen <i>et al.</i> , 1997; Hawkins <i>et al.</i> , 1999
Equip young people with the skills to resolve conflicts	Hawkins <i>et al.</i> , 1999
Introduce anti-bullying strategies	None identified
Secondary school teacher interventions	None identified
Learning support interventions	Hahn <i>et al.</i> , 1994; Philliber <i>et al.</i> , 2001
Greater parental involvement during secondary school	Hawkins <i>et al.</i> , 1999
<i>Interventions targeting training, employment, careers and income</i>	
Improving work experience opportunities	Allen <i>et al.</i> , 1997; Hahn <i>et al.</i> , 1994; Philliber <i>et al.</i> , 2001
Protection against bad experiences of work (e.g. minimum wage, better regulation, legislation etc.)	None identified
Active involvement in careers development	Allen <i>et al.</i> , 1997; Hahn <i>et al.</i> , 1994; Philliber <i>et al.</i> , 2001
Activities out-of-school to improve self-esteem and positive outlook	Hahn <i>et al.</i> , 1994; Philliber <i>et al.</i> , 2001
Create more employment opportunities in disadvantaged communities	None identified
Raise awareness of training, employment and careers opportunities	Allen <i>et al.</i> , 1997; Hahn <i>et al.</i> , 1994; Philliber <i>et al.</i> , 2001

Table 4.1: Pregnancy prevention cross-study synthesis matrix (cont.)

<i>Interventions to prevent unhappy childhoods</i>	
Interventions to prevent domestic violence	None identified
Support for children and young people experiencing family breakdown and conflict (e.g. counselling services)	Allen <i>et al.</i> , 1997; Hahn <i>et al.</i> , 1994; Philliber <i>et al.</i> , 2001
Training parents in conflict resolution	Hawkins <i>et al.</i> , 1999
Improving the continuity and quality of care for looked after children and young people	None identified
Housing interventions (e.g. investment in new housing and housing repairs)	None identified

4.3.1 Interventions to improve young people's experiences of school

All six soundly evaluated interventions were effective at reducing teenage pregnancy rates among young women, and some of these interventions were also a close match for four intervention needs derived from the studies of young people's views in the area of school experiences.

The Seattle Social Development Program (Hawkins *et al.*, 1999) was an early childhood intervention that included a school-based component to **teach children conflict resolution skills**. Parents who had been offered workshops in child behaviour management skills also taught conflict resolution skills at home. The intervention group reported fewer violent delinquent acts, a stronger attachment to school, and less school misbehaviour. Another component of this intervention attempted to foster **greater parental involvement during secondary school** by providing training for parents to provide academic support for their children at home. Parents were encouraged to discuss their children's learning with teachers, to develop their reading and mathematics skills, and to create a home environment supportive of learning. Young people who completed the programme in full had a stronger attachment to school and higher academic achievement.

The Quantum Opportunities Program (QOP) (Hahn *et al.* 1994) and the Children's Aid Society Carrera Program (Philliber *et al.* 2001) were both youth development programmes which provided **learning support interventions**. The QOP included several 'educational activities', such as additional tutoring and computer-based instruction. On all measures of academic achievement the intervention group reported significantly better outcomes than the control group. This suggests that the intervention was effective in tackling some of the problems associated with a dislike of school. The programme included an educational support component alongside a work-related component, family life and sex education, and individual sports. Young women's verbal competency improved after three years in the programme; young men in the intervention group reported an improvement in their schoolwork; and both men's and women's aspirations for further education were significantly improved.

The implication of these matches for policy and practice in the UK is that interventions which include academic support, parental involvement, and conflict resolution skills could provide effective and appropriate ways to reduce unintended teenage pregnancy and birth rates for young women. The two early childhood interventions included in the effectiveness synthesis were also effective in improving learning throughout primary and secondary school and preventing the need for learning support by enhancing children's cognitive skills before school entry (Berrueta-Clement *et al.*, 1984; Campbell *et al.*, 2002). It is not clear whether these strategies would be effective for young men.

Two soundly evaluated interventions can be considered, at least indirectly, to have attempted to **equip young people with the skills to form positive relationships with other young people**. The Seattle Social Development Program, an early childhood intervention evaluated by Hawkins *et al.* (1999), promoted social and emotional development at school, using teachers trained in interactive and co-operative learning. Teachers provided classroom-based skill development, and also trained parents to encourage skill development at home. The Teen Outreach Program used 'programme facilitators' to help students to

establish autonomy in the context of positive relationships with peers through voluntary service (Allen *et al.*, 1997).

We did not identify any outcome evaluations, either methodologically sound or otherwise, which had tested whether teenage pregnancy rates could be reduced by **involving young people in making decisions about what happens in their school, providing support for young people starting at new schools, implementing anti-bullying strategies, or training teachers in pastoral care or conflict resolution**. These represent research gaps for intervention development and testing.

4.3.2 Interventions to broaden young people's expectations/aspirations for the future

There were three soundly evaluated youth development programmes that were effective in reducing teenage pregnancy rates. These were a close match for four intervention needs derived from young people's views about their expectations and aspirations for the future. All the interventions had multiple components and attempted to **improve young people's work experience opportunities, actively involve them in their career development, and raise their awareness of career opportunities**. These interventions targeted the gaps in the provision of training, employment and careers development.

Two of the studies evaluated interventions based on the principle of 'serve and learn': the Teen Outreach Program and the QOP (Allen *et al.*, 1997; Hahn *et al.*, 1994). In contrast to traditional voluntarism, work experience, or community service, these programmes offered a structured, hands-on involvement in community service and opportunities to process these experiences of work through formal and informal group discussions, diaries, written reports and group presentations. As well as offering high-quality experiences of community work, the interventions also raised awareness of the opportunities available to young people in the future, and they actively involved teenagers in thinking about their futures. The third study evaluated a comprehensive academic and social development programme (Philliber *et al.*, 2001). One of the Carrera-Model programme's five components was an incentivised 'Job Club', which included structured and supervised work experience opportunities, and careers advice; it also encouraged young people to think about their future careers and discuss opportunities through group work.

Two of the three studies included the provision of **out-of-school activities to improve young people's self-esteem and positive outlook** (Hahn *et al.*, 1994; Philliber *et al.*, 2001). The interventions evaluated in these studies – the Carrera-Model Program and the QOP – included team sports and arts projects for young people after school and during school holidays.

The Carrera-model project evaluation also measured outcomes related to work experience and financial responsibility (Philliber *et al.*, 2001). In both cases there was a statistically significant difference in favour of the intervention group. Nearly twice as many young people in the intervention group (59%) had a bank account compared to the control group (32%), and young people in the intervention group also had significantly more work experience. All three soundly evaluated youth development interventions showed statistically significant improvements in young people's educational performance. For instance, Teen Outreach students were

less likely than control students to fall behind at school or be excluded, and the graduation rate of QOP students was higher than that of QOP controls.

As is often the case with complex social interventions, detailed process data are needed to say with any great confidence that these programmes did, in fact, trigger a 'chain of events' for young women which began with better work experience and careers advice, leading in turn to more optimism and ambition which resulted in fewer pregnancies and births. Nonetheless, these interventions do offer promising approaches in the UK policy context.

No studies were identified which evaluated interventions that specifically offered **protection against 'bad' experiences of work or created more employment opportunities in disadvantaged communities**. Based on young people's views, these would be appropriate interventions to increase young people's optimism and expectations for the future and to reduce unintended teenage pregnancy. Evaluative research into the effectiveness of these interventions is needed.

4.3.3 Interventions to tackle poor material circumstances and prevent unhappy childhoods

Three soundly evaluated interventions (Allen *et al.*, 1997; Hahn *et al.*, 1994; Philliber *et al.*, 2001) offered some **support for children and young people experiencing family breakdown and conflict**, and all were effective in reducing teenage pregnancy rates for female participants. All three were youth development interventions that included additional counselling and guidance services to supplement the core components of educational and employment support and voluntary activities. However, these services were not the main focus of the interventions and it is unclear how many young people received them.

One of the early childhood interventions included **parent training in conflict resolution** (Hawkins *et al.*, 1999). Parenting skills workshops aimed to reduce family conflict and improve family relationships. The intervention was effective in reducing teenage pregnancy before the age of 19. However, no measures of family conflict, family relationships, or other indicators of children's happiness were reported, so it is not possible to tell whether this intervention did, in fact, reduce conflicts at home and the number of unhappy children. Rigorous research in the UK is needed into the effects on primary-school-aged children of social development interventions that promote parental conflict resolution.

No interventions in our effectiveness synthesis aimed to **prevent domestic violence, improve the continuity and quality of care for children and young people who are in care, or improve young people's housing**. The research we looked at that explores young people's views suggests that all these are areas for future research into interventions that might help to increase young people's optimism and expectations for the future, and therefore promote a reduction in unintended teenage pregnancy.

5. RESULTS: SUPPORTING TEENAGE PARENTS

This section of the report describes the findings of our review of the research evidence related to supporting teenage parents. We discuss the findings from intervention studies first, followed by those from the studies of young parents' views. The section concludes with a synthesis of both sets of findings.

5.1 Which interventions are effective?

5.1.1 Overview of studies

Our focus in this section is the support of teenage parents through interventions to improve young parents' education, training, employment or career prospects, financial circumstances, housing, or childcare arrangements. Eighteen outcome evaluations met our inclusion criteria; they were published between 1966 and 2005 and described multi-component interventions delivered by more than one type of provider. Seventeen were carried out in the USA, and one was a UK study (Wiggins *et al.*, 2005b). The interventions fell into four categories: those linked to teenage parents' welfare benefits using sanctions or bonuses; strategies focused on teenage parents' education, training, employment or career prospects; holistic interventions to improve teenagers' social and emotional wellbeing; and daycare programmes.

5.1.2 Methodological quality of studies

All the studies employed a control or comparison group and six used randomisation to allocate individuals or clusters of individuals to these groups. The methodological quality of the studies was variable when judged against four quality criteria. Reviewers deemed ten studies to have been soundly evaluated and the findings of these studies were included in the effectiveness synthesis (Aber *et al.*, 1998; Bos and Fellerath, 1997; Campbell *et al.*, 1986; Cave *et al.*, 1993; Field *et al.*, 1982; Gathron, 1990; Polit *et al.*, 1987; Quint *et al.*, 1997; Solomon and Liefeld, 1998; Wiggins *et al.*, 2005b). Eight studies were deemed not to be of sufficient quality and their findings were excluded from the effectiveness synthesis (Aries and Klerman, 1981; Bennett and Bardon, 1977; Fuscaldo *et al.*, 1998; Goodman and Gill, 1966; Hill and Bragg, 1985; Kappelman *et al.*, 1974; Miller, 1992; Miller and Dyk, 1991). Detailed information about the quality of all these studies is presented in Table 4.1. Summaries of the 'sound' outcome evaluations are presented in Appendix F.

5.1.3 Characteristics of sound studies

Two sound studies evaluated programmes which used **welfare sanctions or bonuses** (Aber *et al.*, 1998; Bos and Fellerath, 1997). In one of these studies, mothers' benefits were reduced if they did not attend school (Aber *et al.*, 1998). In the other study, teenage parents' benefit entitlement could increase or decrease depending on their school attendance (Bos and Fellerath, 1997).

Aber et al. (1998) report the effects of the Teenage Parent Welfare Demonstration, a comprehensive programme of parenting support for teenage women linked to cash benefits that aimed to reduce teenage childbearing and help teenage parents find employment. Women who did not regularly attend the project had their benefits reduced. The intervention took place in early 1990s in the USA. Researchers recruited 5,297 teenage mothers with an average age of 18 and predominantly from ethnic minorities. Women in the control group received usual welfare services only. Participants were followed up for six and a half years after the start of the intervention.

Bos and Fellerath (1997) report the effects of the Learning, Earning and Parenting Program (LEAP), an educational programme for pregnant or parenting teenagers. Cash benefits increased if LEAP students complied with the programme and completed their secondary education, but were reduced if they did not. Researchers recruited 9,685 teenage parents in Ohio, USA in the 1980s and early 1990s. Teenagers in the control group received usual welfare services only. Participants were, on average, aged 17½, nearly all female (98.4%) and mostly from ethnic minorities. They were followed up for four years after the start of the intervention.

Four sound studies evaluated **education and career development programmes** (Cave et al., 1993; Field et al., 1982; Gathron, 1990; Quint et al., 1997). Three of these studies evaluated interventions that used multiple strategies to improve learning and preparedness for work (Cave et al., 1993; Gathron, 1990; Quint et al., 1997). The other study evaluated a programme of professional nursery assistant training for teenage mothers at the daycare centre their children attended (Field et al., 1982).

Cave et al. (1993) report the effects on teenage mothers of Jobstart, a multi-component education and employment intervention aiming to increase the rate of employment and earnings for young people who have dropped out of school. The intervention took place between 1985 and 1988 in the USA. Researchers recruited 2,312 participants aged 17 to 21, mostly from ethnic minorities, and including 508 teenage mothers. Teenage mothers in the control group did not receive an intervention. They were followed up four years after the start of the intervention.

Field et al. (1982) report the effects of daycare provision and a professional training intervention aiming to improve rates of employment and school attendance among teenage mothers. The intervention took place in the late 1970s in Miami, USA. Researchers recruited 120 black teenage mothers aged 13 to 19, from families with low socio-economic status. Teenage mothers in the control group did not receive an intervention. Participants were followed up for two years after the start of the intervention.

Gathron (1990) reports the effects of a multi-component education, employment and social support intervention aiming to reduce the negative outcomes associated with teenage parenting, such as school dropout, unemployment and low self-esteem. The study took place at two rural schools in the USA in the 1980s. Researchers recruited 66 pregnant African-American teenagers aged 16–18 and 8–28 weeks pregnant. Teenage mothers in the control school did not receive an intervention. Outcomes were measured after 25 months.

Quint et al. (1997) report the effects of New Chance, a multi-component education and training programme for teenage mothers who had dropped out of school that aimed to help them find employment. Researchers recruited a total of 2,322 young mothers at 16 different sites in the USA in 1989. Teenage mothers in the comparison sites did not receive an intervention. Participants were, on average, 19 years old at the start of the study, were from disadvantaged communities, and the majority were from ethnic minorities. They were followed up for three and a half years after the start of the intervention.

Three sound studies evaluated **holistic support programmes** for pregnant teenagers and teenage parents that aimed to improve teenagers' social and emotional wellbeing (Polit et al., 1987; Solomon and Liefeld, 1998; Wiggins et al., 2005b). These studies evaluated interventions that provided multi-agency support for teenage parents, including education, employment, housing, health and social services.

Polit et al. (1987) report the effects of Project Redirection, a comprehensive programme for disadvantaged pregnant teenagers and teenage mothers aiming to improve educational, employment, family planning, and other health outcomes. Researchers recruited 789 pregnant or parenting teenagers at eight different sites in the USA in 1980. Teenage mothers in the comparison sites did not receive an intervention. Participants were aged 17 or younger, did not have a high-school diploma, were from low-income families receiving welfare benefits, and 90% were from ethnic minorities. Outcomes were measured after two years.

Solomon and Liefeld (1998) report the effects of the Family Growth Centre, a comprehensive parenting support intervention that aimed to reduce school dropout rates and repeat pregnancies among teenage mothers. Researchers recruited 88 teenage mothers in Chicago, USA in 1991. Teenage mothers in the control group did not receive an intervention. Most participants were aged 16 to 17 at the start of the intervention, and were from ethnic minorities; 87% received welfare benefits. They were followed up for three years after the start of the intervention.

Wiggins et al. (2005b) report the effects of Sure Start Plus, a comprehensive programme of support for pregnant teenagers and teenage parents that aimed to reduce the risk of long-term social exclusion associated with teenage pregnancy and parenting. The intervention took place in the UK from 2002 to 2004. Researchers recruited 1,167 pregnant teenagers and young parents, including 86 teenage fathers. Teenage mothers in the control group did not receive an intervention. Participants were aged 13 to 21 and were mainly white (89%). Outcomes were measured after the intervention had been in operation for two and a half years.

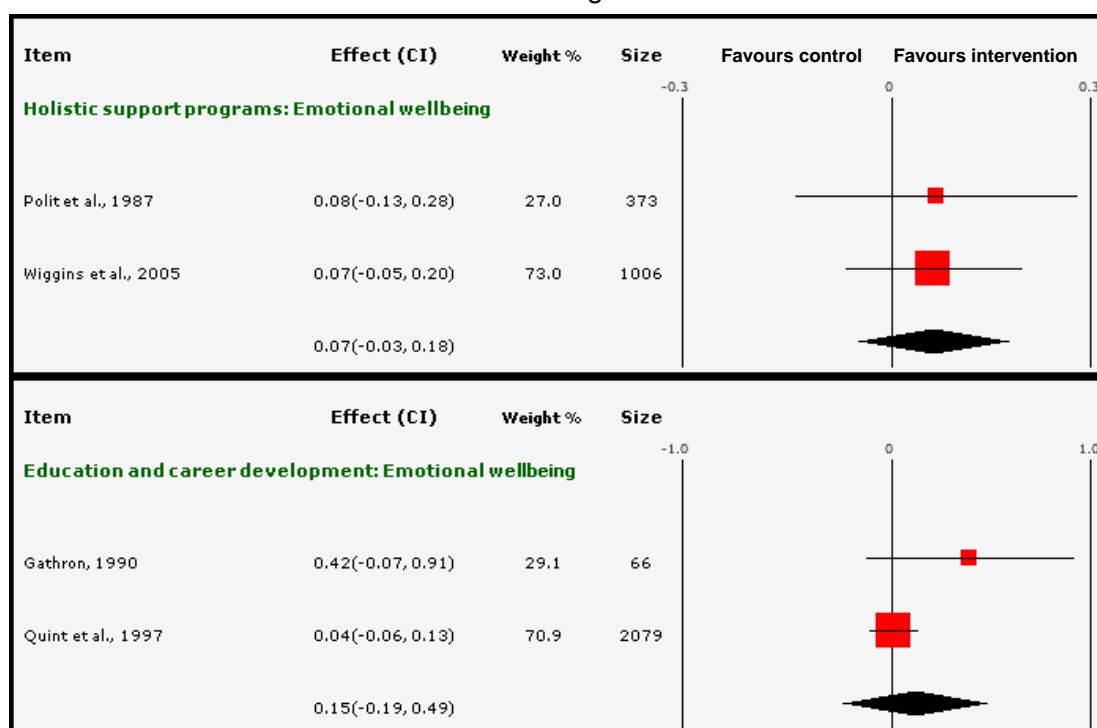
The final study reports the effects of a **daycare programme**. **Campbell et al. (1986)** describe the effects on a sub-group of teenage mothers of the Abecedarian Project, an early childhood education intervention aiming to enhance children's early cognitive skills. The intervention took place in the 1970s in North Carolina, USA. Researchers recruited 109 mothers known to social services departments, including 34 African-American teenage mothers aged 13 to 17, most of whom were single parents (90%). Children in the control group did not receive an intervention. They were followed up for 15 years.

5.1.4 Effects on priority outcomes

As noted earlier, our Advisory Group identified three main outcomes of interest: teenage mothers' emotional wellbeing (comprised of measures of self-esteem, depression, self-concept or locus of control); their participation in education, training or employment; and repeat pregnancy rates. Meta-analysis was carried out for each of these outcomes to assess the impact of each type of intervention. The one study that evaluated the provision of daycare was not combined in meta-analysis, but we report narratively on its findings.

Four studies examined either the effect on teenage mothers' **emotional wellbeing** of education and career development or holistic support programmes (Figure 5.1). The effects of education and career development interventions and holistic support programmes on emotional wellbeing were not statistically significant. Although the effects associated with these programmes are in a positive direction there is not enough evidence yet to establish whether these effects are real or simply down to chance. More studies are needed.

Figure 5.1: Random effects meta-analysis of the effect of parent support interventions on mothers' emotional wellbeing³



³ All effects are standardised mean differences. On this forest plot, studies are grouped according to two intervention types: education and career development and holistic support interventions. For each study, the red square indicates the effect size and the line through it shows its 95% confidence interval. The black diamond below each set of red squares shows the combined effect size for all studies evaluating the intervention, with the width of the diamond corresponding to the confidence intervals. When the intervention fosters greater emotional wellbeing, the standardised mean difference will be greater than zero; black diamonds to the right of the line of no effect (0) with confidence intervals that do not touch the line show a statistically significant effect in favour of the intervention. If the Q statistic is larger than the degrees of freedom there is evidence of heterogeneity between studies. Q statistics: holistic support programmes (Q=2.23 df=1 p=0.136); education and career development (Q=0.00133 df=1 p=0.971)

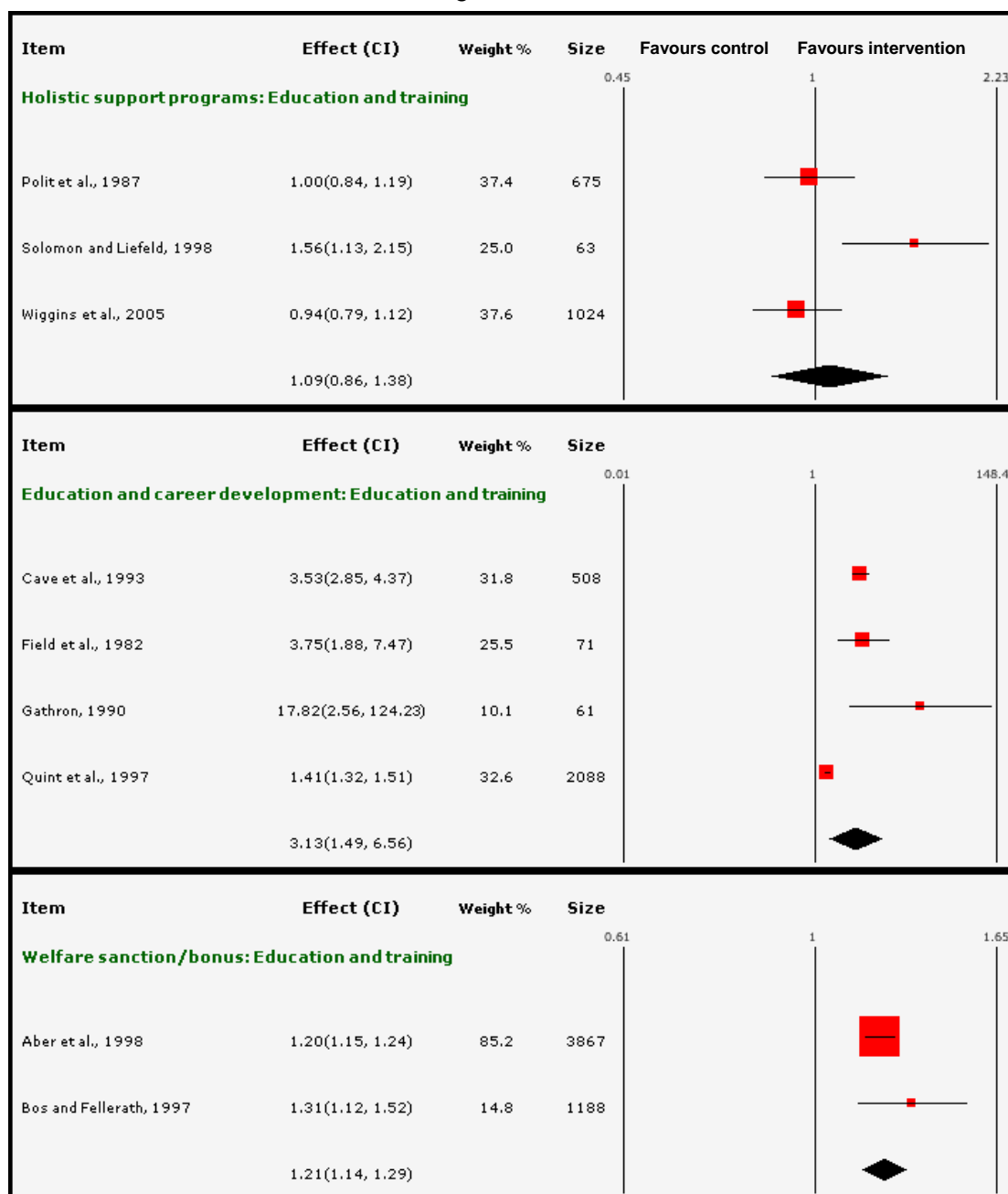
The meta-analysis of intervention effects on teenage mothers' **participation in education or training** showed mixed results. Significant statistical heterogeneity existed in the studies of different interventions, indicating that they should be analysed separately. The data presented graphically in Figure 5.2 are based on a total of 9,598 teenage parents in nine sound studies.

Figure 5.2 shows that programmes using either welfare sanctions and bonuses or education and career development programmes significantly improve the participation of teenage parents in education, training or employment. Holistic support programmes do not appear to have this effect.

Interventions using welfare sanctions or bonuses, evaluated in two high quality studies with 5,055 participants, showed a statistically significant increase in the number of teenage parents in education or training (RR 1.21, 95% CI 1.14–1.29). These interventions increased the likelihood of teenage mothers being in education or training by 21% relative to the control group.

Education and career development interventions, evaluated in four high quality studies with 2,724 participants, also increased the number of teenage parents in education or training (RR 3.13, 95% CI 1.49–6.56). Intervention participants were 213% more likely than control participants to be in further education or training. Although sanctions and incentives are effective in promoting participation in education and employment, high-quality programmes simply focusing on young mothers' education and career development without sanctions appear to be even more effective.

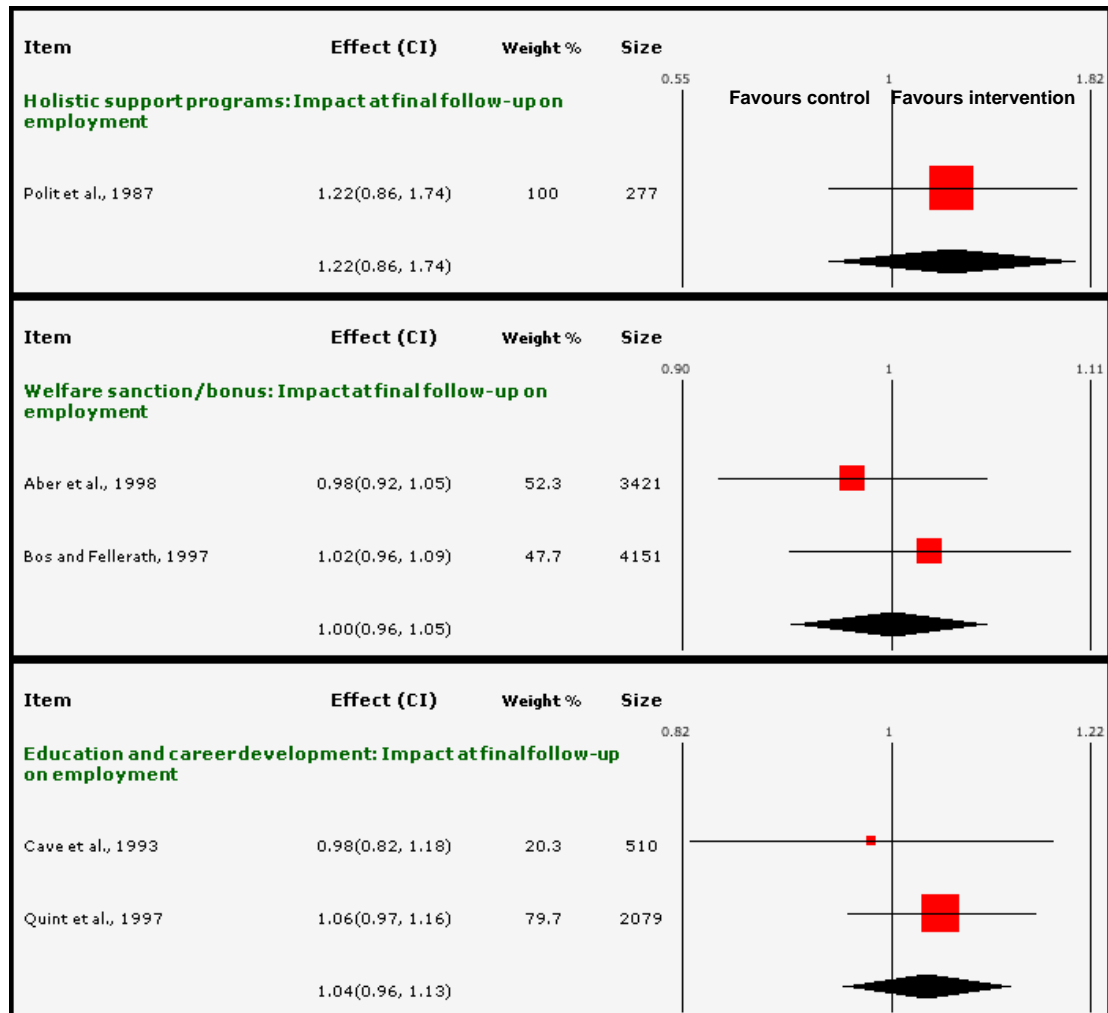
The study evaluating the provision of daycare showed a promising effect (RR 3.46, 95% CI 0.84–14.29), although the sample size was quite small, resulting in low statistical power to detect the true effect and a wide 95% CI that includes the null effect of 1.

Figure 5.2: Random effects meta-analysis of the effect of parent support interventions on education and training⁴

⁴ All effects are relative risks. On this forest plot, studies are grouped according to three intervention types: welfare sanctions/bonuses, education and career development and holistic support interventions. For each study, the red square indicates the relative risk and the line through it shows its 95% confidence interval. The black diamond below each set of red squares shows the combined relative risk for all studies evaluating the intervention, with the width of the diamond corresponding to the confidence intervals. When the intervention increases the chance of participation in education and training, the relative risk will be greater than 1; black diamonds to the right of and not touching the line of no effect (1) show a statistically significant effect in favour of the intervention. If the Q statistic is larger than the degrees of freedom there is evidence of heterogeneity. Q statistics: welfare sanctions (Q=1.24 df=1 p=0.267); education and career development (Q=78.1 df=3 p=1.11E⁻¹⁶); holistic support: Q=7.35 df=2 p=0.0254).

Further meta-analysis of the data on long-term impact showed that these promising short-term effects on participation in education and training did not necessarily translate into better rates of employment. Young mothers in the intervention and control groups for all types of intervention had very similar rates of employment at long-term follow-up (see Figure 5.3).

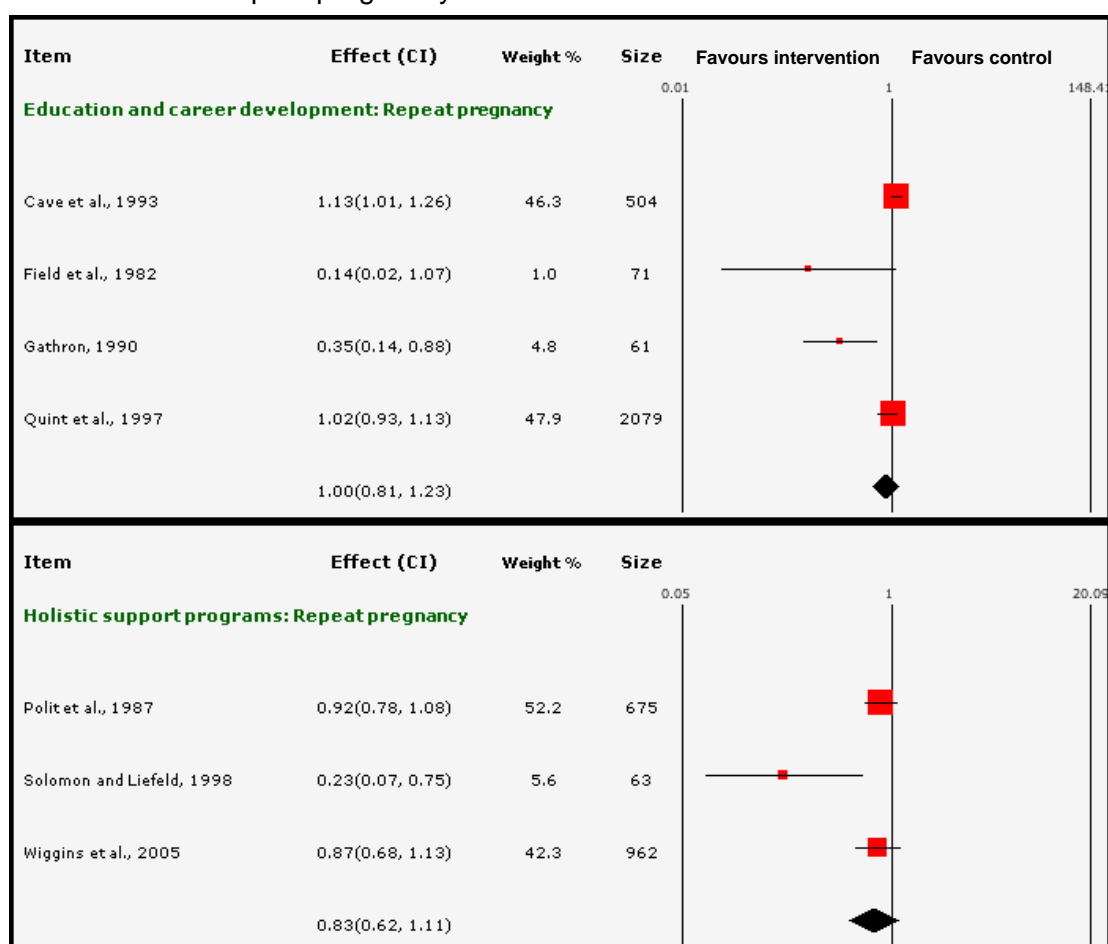
Figure 5.3: Random effects meta-analysis of the effect of parent support interventions on employment⁵



⁵ All effects are relative risks. On this forest plot, studies are grouped according to three intervention types: welfare sanctions/bonuses, education and career development and holistic support interventions. For each study, the red square indicates the relative risk and the line through it shows its 95% confidence interval. The black diamond below each set of red squares shows the combined relative risk for all studies evaluating the intervention, with the width of the diamond corresponding to the confidence intervals. The bottom diamond indicates the combined effect of both intervention types. When the intervention increases the chance of employment, the relative risk will be greater than 1; black diamonds to the right of and not touching the line of no effect (1) show a statistically significant effect in favour of the intervention. If the Q statistic is larger than the degrees of freedom there is evidence of heterogeneity. Q statistics: welfare sanctions (Q=0.668 df=1 p=0.414); education and career development (Q=0.49, df=1, p=0.484).

The meta-analysis of the effect of different types of intervention on **repeat pregnancy rates** showed no statistically significant results. There was significant statistical heterogeneity in the different groups of studies, indicating that they should be analysed separately. The data presented graphically in Figure 5.4 are based on a total of 4,415 teenage parents in seven sound studies that measured repeat pregnancies.

Figure 5.4: Random effects meta-analysis of the effect of parent support interventions on repeat pregnancy⁶



⁶ All effects are relative risks. On this forest plot, studies are grouped according to two intervention types: holistic support programmes and education and career development interventions. For each study, the red square indicates the relative risk of repeat pregnancy and the line through it shows its 95% confidence interval. The black diamond below each set of red squares shows the combined relative risk for all studies evaluating the intervention, with the width of the diamond corresponding to the confidence intervals. When the intervention reduces the chance of repeat pregnancy, the relative risk will be less than 1; black diamonds to the left of the line of no effect (1) show a statistically significant effect in favour of the intervention. If the Q statistic is larger than the degrees of freedom there is evidence of heterogeneity. Q statistics: holistic support programmes (Q=5.16 df=2 p=0.0758); education and career development (Q=11 df=3 p=0.0115).

Education and career development and holistic support programmes appear to reduce repeat pregnancy rates, but this trend is not statistically significant. The daycare intervention also showed a promising effect but the effect was not statistically significant. The studies of programmes using welfare sanctions and bonuses also included data on participants' fertility, but these could not be entered into a meta-analysis since different measures were used. However, narrative analysis indicated that neither study appeared to have an effect on reducing further pregnancies.

5.1.5 Effects on other outcomes

The two studies of interventions that used **welfare sanctions or bonuses** to foster participation in education, training and employment measured a wide range of outcomes (Aber *et al.*, 1998; Bos and Fellerath, 1997). These data can provide insights into why an intervention was effective, or not. Both studies measured the educational attainment of study participants. Neither programme improved young mothers' qualifications nor had any long-term effects on their participation in the workforce.

Two of the four sound studies that evaluated **education and career development programmes** also measured educational attainment (Cave *et al.*, 1993; Quint *et al.*, 1997). In both cases, overall attainment improved in the intervention groups. However, Quint *et al.* (1997) noted that a focus on basic educational courses did not improve employment prospects, and Cave *et al.* (1993) noted that only sites that had a clear organisational focus on employment were able to improve the long-term self-sufficiency of teenage mothers by providing more of them with a job and higher earnings.

5.2 What are the views of young people?

5.2.1 Overview of studies

Our focus in this section is on the perspectives and experiences of young parents in the UK related to education and training, employment and careers, financial circumstances, and housing and childcare arrangements. Twenty views studies published between 1995 and 2004 met our inclusion criteria. In total, data were collected from 2,061 young women and 110 young men. Studies included the views of looked-after young people and care leavers, homeless young parents, young parents with and without educational qualifications, those from deprived and non-deprived areas, and young parents from ethnic minority groups.

5.2.2 Methodological quality of studies

Studies used a variety of methods to collect data on young people's views, such as interviews, focus groups, and video diaries. We assessed the quality of studies against 12 criteria. Six studies were excluded because they met fewer than seven of the criteria and were considered to be of low methodological quality (Baker and Knott, 2003; Barrel, 2000; Harrington, 2003; Mayfield Housing Association, 2003; Rae, 2001; Selman *et al.*, 2001). Four studies were judged to be high quality (Allen *et al.* 1998; Hosie and Dawson, 2005; Walters and East, 2001; Wiggins *et*

al., 2005a). The other 10 studies were considered to be of medium quality (Belling, 2003; Burnett, 2003; Chase *et al.*, 2003; Corlyon and McGuire, 1999; Evans, 2003; Gibbin, 2003; Hall *et al.*, 2003; Hughes *et al.*, 1999; Speak, 1995; Speak *et al.*, 1997). All 14 medium and high quality studies were included in the synthesis of young parents' views. Even in high and medium quality studies, methodological quality was often compromised with respect to data analysis, describing participants, and the active involvement of young people in the design and conduct of the study. Detailed information about the aims, sampling and methodological quality of the studies included in the synthesis are presented in Appendices G and H.

5.2.3 Recurrent themes across studies

Housing, income and childcare were the areas examined in the greatest number of studies of young parents' views (Table 5.1).

Table 5.1: Areas examined in studies of young parents' views (N=14)

	Housing	Income	Childcare	Education	Employment
Allen <i>et al.</i> (1998)	✓	✓	x	x	✓
Belling (2003)	x	x	x	✓	x
Burnett (2003)	✓	✓	✓	✓	✓
Chase <i>et al.</i> (2003)	✓	✓	✓	✓	x
Corlyon and McGuire (1999)	✓	✓	✓	✓	x
Evans (2003)	✓	✓	✓	x	x
Gibbin (2003)	✓	✓	✓	x	x
Hall <i>et al.</i> (2003)	✓	✓	✓	✓	✓
Hosie and Dawson (2005)	x	x	✓	✓	x
Hughes <i>et al.</i> (1999)	✓	✓	x	x	x
Speak (1995)	✓	✓	✓	x	✓
Speak <i>et al.</i> (1997)	✓	✓	x	x	✓
Walters and East (2001)	✓	x	x	x	x
Wiggins <i>et al.</i> (2005a)	✓	✓	✓	✓	✓

Five recurrent themes emerged:

- 'diverse needs and preferences but lack of choice'
- 'struggles against negative stereotypes of teenage mothers'
- 'heavy reliance on families'
- 'continuity of problems existing prior to parenthood' (dislike of school, low expectations, poverty, violence, unhappiness)
- 'wider costs and benefits of education and employment'

We discuss and illustrate these themes in more detail later in section 5.3 below. First we describe the young parents' views in each of the five areas listed in table 5.1.

Housing

Young parents reported four different housing situations: (1) living with family; (2) living in supported accommodation (e.g. children's homes; mother and baby units); (3) homelessness and temporary accommodation; and (4) living independently. Because they had diverse needs and preferences with regard to housing, each housing situation was associated with both advantages and disadvantages.

Those young mothers who did not want to live independently felt more secure living with their families in the homes in which they grew up. Others were clear that a reliance on family to provide housing was a short-term practical solution until they could get independent housing (Allen *et al.*, 1998). Living at home with supportive families was an advantage for young fathers as they had somewhere safe to bring their children on days when they were responsible for them (Speak *et al.*, 1997). However, some young mothers felt that they were 'getting in the way' or 'stressing their parents out', and both young mothers and fathers mentioned overcrowding as a problem. Some women also reported feeling resentful if they perceived that other family members were judging their parenting skills (Evans, 2003; Wiggins *et al.*, 2005a).

Young parents who could not rely on their families because they were in or leaving care reported mixed experiences of living in supported accommodation. This type of housing was rated highly when staff acted as advocates for young parents, taught them new skills such as cooking or managing money, helped out with their children, or were generally supportive and 'there' for them when needed (Chase *et al.*, 2003; Corlyon and McGuire, 1999). Disadvantages of supported accommodation identified by young mothers were: a lack of 'homeliness' (e.g. bars on windows, bland décor); restrictions on space (e.g. lounge shut at eleven o'clock); and rules and regulations that were perceived to be excessive or disingenuous (e.g. young women believed that staff had replaced double futons with single beds to discourage boyfriends from staying over, rather than for the stated safety reasons). Accommodation solely for young mothers was reported to get 'a bit bitchy sometimes' (Corlyon and McGuire, 1999, p 166).

Living independently was the goal for many young mothers, but it was not always a positive experience. Compared to housing association homes, local authority housing and private lets were particularly problematic (Burnett, 2003; Speak, 1995; Hughes *et al.*, 1999). There were four major problems: the poor condition of the home; living in 'rough' estates or areas with high levels of poverty, crime, drug use and vandalism; isolation and loneliness; and relationship breakdown and domestic violence. Young mothers worried about the effect of their neighbourhood on their children. Isolation and loneliness were consequences of young parents being housed some distance from family and friends. Such concerns meant that some young mothers had to give up independent living. The need to live independently was associated by young mothers with wanting to feel 'settled' (Burnett, 2003, p 15), and proving themselves as parents ('It's important for me to have...my own place so that I can prove to people what I can do' (Chase *et al.*, 2003, p 70)). On the other hand, young mothers who had experienced periods of independent living with abusive and violent partners challenged the idea that

feeling settled necessarily results from securing an independent home (e.g. 'Some people put that settled is in a home, with a partner. But the times I've felt settled haven't always been like that' (Walters and East, 2001, p 174)).

Some young parents reported feeling 'degraded' by the process of securing independent housing, that they were 'moving backwards instead of forwards', and that their lives were 'on hold' (Burnett, 2003, p 16; Hall *et al.*, 2003; Speak, 1995). They attributed this to discrimination in the housing services (hostility and verbal abuse) because of their age, and they often felt pushed around from one agency to another. There were many examples of young people's diverse housing needs not being met by the housing support on offer (e.g. fathers housed in hostels which meant that they could not take their children there; a mother re-housed for her own safety who felt less safe because she had been moved away from her support network).

One young woman in the study by Chase *et al.* (2003, p 68) recommended that all young mothers should wait in temporary accommodation, as long as it was good temporary accommodation, because 'I don't think the government should be allowed to put these young teenage mothers into flats, in the middle of a bad estate where it is damp and there are broken windows...that's where they start having a bad life'. Based on the young mothers in their study, Walters and East (2001) challenge conventional wisdom that homelessness is the cause of a family's problems and that speedy re-housing above other types of interventions is the absolute priority. The young women in their study recommended that 'reality workers', who have been through similar circumstances, be employed to work with them. They put getting housed as the fifth and sixth stage of their reality workshop model; earlier stages were getting help with health care, childcare, education, and benefits, and undertaking group work to make sense of the past.

Money and benefits

Most teenage parents reported struggling with money (Burnett, 2003; Chase *et al.*, 2003; Corlyon and McGuire, 1999; Evans, 2003; Gibbin, 2003; Hall *et al.*, 2003; Hughes *et al.*, 1999; Speak, 1995; Speak *et al.*, 1997; Wiggins *et al.*, 2005a). Women's income expectations were not high. In one study, everyday items were considered to be personal treats (Hall *et al.*, 2003). Another study of young mothers in Newcastle found they usually only wanted about £10 more a week to help 'make ends meet' (Speak, 1995). Most budgeted well with their money, although this often meant compromising on nutritional or safety needs for themselves and their children (Hall *et al.*, 2003; Speak, 1995).

Despite their modest expectations and ability to 'make do', it was apparent that women relied heavily on their families when they were short of money, even when their families were themselves seriously 'stretched' (Allen *et al.*, 1998; Evans, 2003; Hughes *et al.*, 1999; Speak, 1995; Wiggins *et al.*, 2005a). It was not unusual for young women to borrow cash in emergencies, or 'cadge' free meals. In the study by Evans, women reported that their families provided them with baby equipment and nappies, while Allen and colleagues found that most teenage mothers relied on their families to put a roof over their head at some point. This family support masks the true extent of teenage parents' poverty.

There was anger about the stereotype of young mothers 'sponging' off benefits and much dissatisfaction with the benefits system (Burnett, 2003; Evans, 2003; Hall *et al.*, 2003; Speak, 1995). Teenage women were poorly informed about

benefits before, during and after pregnancy (Allen *et al.*, 1998). Over half did not know whether they would be entitled to benefits when they became pregnant. Young mothers were usually keen to work and enjoyed the money it brought in but were often resigned to the 'benefits trap'. Young mothers often disliked the staff and the bureaucracy (e.g. '...They just treat us like idiots, they don't take us seriously' (Evans *et al.*, 2003, p 15); 'You get sent around in circles most of the time' (Evans *et al.*, 2003, p 15); 'You have to fill in too many forms' (Hall *et al.*, 2003, p 21)). Speak's study found that teenage mothers were equally frustrated by having to 'beg' for the Social Fund grants and loans ('You have to fight for everything, every single penny, makes you feel like a criminal...' (Speak, 1995, p 31)). Being refused often resulted in mothers relying on more expensive forms of credits such as loan sharks.

Fathers were usually willing to provide some financial help (Evans, 2003; Gibbin, 2003; Speak *et al.*, 1997; Wiggins *et al.* 2005a). Allen found that 92% were contributing some money and several were determined to do as much as they could to support both mother and baby (e.g. 'All our money is pooled. Everything is shared'; 'Every fortnight. She gets everything.' (Allen *et al.*, 1998, p 132)). Although they did not usually mind paying some 'maintenance', some fathers were worried that if they were 'caught' by the Child Support Agency they would be worse off in work than on benefits (Speak *et al.*, 1997). Some of these men provided small amounts of money or bought toys and clothes as a way around this. Another disincentive to work was young fathers' perception that assuming the breadwinning role in the family would mean working long hours and not being able to devote enough time to the family. In other cases, poverty meant that fathers could not provide for their children, which they found distressing.

Childcare

Young women in these studies had different preferences for childcare. Most relied on their families to care for their children, a choice sometimes driven by cost (Evans, 2003; Gibbin, 2003; Hall *et al.*, 2003; Speak, 1995; Wiggins *et al.*, 2005a). In the study by Hall *et al.* (2003), 44% of young mothers would have chosen nursery care had cost not been a barrier. Some young women preferred to choose childminders, when they knew and trusted the childminders to provide reliable high quality care (Chase *et al.*, 2003). However, some young mothers found it difficult 'letting go' of their role as parent to a family member or a childminder (Burnett, 2003; Chase *et al.*, 2003; Corlyon and McGuire, 1999). Young mothers also expressed a desire to have their children close to them, for example in workplace childcare (Hosie and Dawson, 2005).

Young mothers described a need to be made aware of and given information about the various childcare options open to them in their local area (Chase *et al.*, 2003; Gibbin, 2003). Not all women had a family member they could rely on or a childminder they could afford and trust (Chase *et al.*, 2003, Evans, 2003). Many commented that they were actually financially worse off working (Speak, 1995; Wiggins *et al.*, 2005a). Where young women felt that they had little choice over childcare that they felt comfortable with, they prioritised the child's needs over their own education or career and deferred returning to education or work (Hosie and Dawson, 2005).

Education and training

Some young women were pessimistic about returning to education and achieving academic success, even if they now wished they had done better at school (Burnett, 2003). One explained, 'I wanted to go to college...get good grades...I should have tried to do that before I had a child because now I've to wait a little bit longer' (Burnett, 2003, p 22). Belling (2003) reports that some young women felt that they were encouraged to go to school or college too soon 'before they had got themselves sorted out' (p 22). Other authors described similar findings. Women had talked about wanting a 'gap year' before they returned to education (Hosie and Dawson, 2005); they were not going to 'rush' back before they were ready (Chase *et al.*, 2003). Hall and colleagues found that 52% of young parents in their sample did not plan to return to education, training, or work for at least two years.

Some young mothers returned to education with a greater level of commitment to defy negative expectations of them (Burnett, 2003; Hosie and Dawson, 2005; Wiggins *et al.*, 2005a). As one put it, 'It's made me want to do more with my life...I'm making sure that I do my education and get a good job so that I can support her for the rest of her life' (Wiggins *et al.*, 2005a, p 10). Schools had low expectations for some mothers, and this made young women even more determined to prove them wrong (e.g. 'I don't really think they expected me to come back...that actually made me more determined to go back' (Hosie and Dawson, 2005, p 98)). There were also wider benefits to returning to school than just learning and qualifications alone. One positive benefit of returning to school was having time to oneself (e.g. 'Even though it's not my own free time to go and let my hair down or whatever it's still nice to just socialise without her' (Burnett, 2003, p 22).

Pregnant and parenting teenagers identified positives and negatives of different learning environments. Returning to their own schools was popular when they had good friendships and good relationships with teachers which made them feel 'normal' (Hosie and Dawson, 2005). Problems such as 'dirty looks' and the fear of people 'saying something' meant that specialist units were a popular choice for some young women who felt stigmatised and 'couldn't cope at school' (Chase *et al.*, 2003; Hosie and Dawson, 2005). Schools' reactions to the news of a pupil's pregnancy differed greatly (Hosie and Dawson, 2005). Young women with good attendance and good relationships with other pupils and teachers were able to tell the school themselves straightaway that they were pregnant, and got a supportive response.

Specialist schooling was especially popular with women who had been poor attendees or excluded prior to pregnancy. They could drop subjects they did not like and receive extra support. However, some found that the subjects taught were not challenging enough ('for dunce people') and that other girls did not want to learn (Corlyon and McGuire, 1999, p 176). Home tutoring allowed for more personal attention, but women could not always do the subjects they wanted, and it was sometimes inconvenient to learn at home (Chase *et al.*, 2003; Corlyon and McGuire, 1999).

Acceptable, reliable childcare made it easier for women to return to education (Burnett, 2003; Corlyon and McGuire, 1999; Hall, *et al.*, 1998; Hosie and Dawson, 2005; Wiggins *et al.*, 2005a). Difficulties with childcare frustrated young mothers who were keen to learn: 'I wanna be a social worker...I can't see how I can do

that. My reading and writing is OK and that but it's going to college and will they finish by the time they [the children] are due to get out...' (Burnett, 2003, p 22). Anxieties over leaving children with someone else also prevented some women from going back to school. Specialist schooling with on-site childcare was popular with young mothers who did not want to be far away from their children (Hosie and Dawson, 2005).

Employment and careers

Young mothers had different aspirations (Allen *et al.*, 1998; Burnett, 2003; Hall *et al.*, 2003; Wiggins *et al.*, 2005a). Some were on a determined career track (e.g. nursing, midwifery, social work). Others were optimistic about their future after time out from work (e.g. 'I had a place at university for a teaching course. Then I had the baby, but I may go back and do it', 'I'm planning on doing an Open University course when he's older' (Allen *et al.*, 1998, p 28)). Other mothers were pessimistic about their careers. For some, unintended pregnancies at a young age had 'ruined' their career plans (e.g. 'I wanted to go into art and design and I lost incentive. I was hoping to go on to university' (Allen *et al.*, 1998, p 28)). Lack of qualifications mean low paid and often unsatisfying jobs, but some young mothers worked out of necessity; they had 'no choice'. However, as well as the money, there were additional, wider benefits. Working also gave women a sense of accomplishment, confidence and some much needed social contact (e.g. 'I like to be out and about meeting people' (Wiggins *et al.*, 2005a, p 34)).

Reliable, appropriate and affordable childcare was necessary for women to undertake paid work. Women with children less than a year old normally had to rely on informal childcare (Speak, 1995; Wiggins *et al.*, 2005a). This was not always problem-free ('Mother-in-law...said your time has come now to go back to work, and he'll be fine with us, like. But I didn't want to leave him. I wanted him to myself. It was too early to go back to work' (Wiggins *et al.*, 2005a, p 35)). Some young women did not have a family member who could look after their child if they worked. Other women did not work because of ill health or complex family problems.

Like the young mothers, young fathers had different aspirations. As one young father put it, 'Well I just thought got to stick it now, just knuckle down and get on with it, we're going to need the money' (Speak *et al.*, 1997, p 31). Fatherhood was more likely to have this effect when fathers and mothers were cohabiting or intended to cohabit. However, the jobs of young fathers usually did little to improve their quality of life or self-esteem. Other fathers preferred to spend time with their children instead of working.

5.3 Do interventions match young parents' views?

Implications for interventions, or 'intervention needs', derived from young parents' views were grouped within our five recurrent themes and entered into a matrix. The different types of intervention from the effectiveness synthesis were also entered into the matrix (see Table 5.2). We then examined the matrix to identify effective interventions which addressed young parents' needs, those which conflicted with their needs, and gaps in intervention development and research.

Table 5.2: Parenting support cross-study synthesis matrix

Theme	Soundly evaluated interventions		
	Matches	Mismatches	Gaps in research
<p>Struggle against negative stereotypes of teenage mothers</p> <p><i>Implication for interventions</i></p> <ul style="list-style-type: none"> • Anti-discriminatory policy and practice • Services which are ‘young parent friendly’ and inclusive of fathers as well as mothers • Advocates to help young parents negotiate services 	<p>Making services ‘young parent friendly’</p> <p>Holistic support programmes (Polit <i>et al.</i>, 1987; Solomon and Liefeld, 1998; Wiggins <i>et al.</i>, 2005b)</p> <p>Advocates to help young parents negotiate services</p> <p>Holistic support programmes (Polit <i>et al.</i>, 1987; Solomon and Liefeld, 1998; Wiggins <i>et al.</i>, 2005b)</p>	<p>May exacerbate negative stereotypes</p> <p>Welfare sanctions or bonuses (Aber <i>et al.</i> 1998; Bos and Fellerath, 1997)</p>	<p>Anti-discriminatory policy and practice (e.g. staff training, school policies to promote inclusion of teenage mothers)</p>
<p>Diversity of needs and preferences but lack of choice</p> <p>Implications for interventions</p> <ul style="list-style-type: none"> • Improve access to relevant and tailored information and advice about existing choices • Co-ordinated agency support which matches young parents’ needs • Creation of viable choices 	<p>Improve access to relevant and tailored information and advice about existing choices</p> <p>Holistic support programmes (Polit <i>et al.</i>, 1987; Solomon and Liefeld, 1998; Wiggins <i>et al.</i>, 2005b)</p> <p>Co-ordinated agency support which matches young parents’ needs</p> <p>Holistic support programmes (Polit <i>et al.</i>, 1987; Solomon and Liefeld, 1998; Wiggins <i>et al.</i>, 2005b)</p>	<p>Do not acknowledge or cater for diversity of needs</p> <p>Education and career development programmes (Cave <i>et al.</i>, 1993; Field <i>et al.</i>, 1982; Gathron, 1990; Quint <i>et al.</i>, 1997)</p> <p>Interventions which take away choice</p> <p>Welfare sanctions and bonuses (Aber <i>et al.</i>, 1998; Bos and Fellerath, 1997)</p>	<p>Creation of viable choices (e.g. raising the standard of temporary accommodation, local authority housing and private lets; new educational and employment opportunities for young people; acceptable, affordable and reliable childcare provision)</p>

Table 5.2: Parenting support cross-study synthesis matrix (cont.)

Heavy reliance on families	Improve access to relevant and tailored information and advice about existing choices	None identified	Creation of viable choices (e.g. raising the standard of temporary accommodation, local authority housing and private lets; safe inexpensive forms of credit; raise benefits by the modest amount young mothers suggest)
<p><i>Implication for interventions</i></p> <ul style="list-style-type: none"> • Improve access to relevant and tailored information and advice about existing choices • Acceptable, affordable and reliable childcare provision • Creation of viable choices 	<p>Holistic support programmes (e.g. Polit <i>et al.</i>, 1987; Wiggins <i>et al.</i>, 2005b)</p> <p>Interventions which reduce reliance on families for childcare</p> <p>Welfare sanctions or bonuses (e.g. Aber <i>et al.</i>, 1998; Bos and Fellerath, 1997)</p> <p>Education and career development programmes (e.g. Cave <i>et al.</i>, 1993, Field <i>et al.</i>, 1982; Quint <i>et al.</i>, 1997)</p> <p>Daycare programmes (Campbell <i>et al.</i>, 1986)</p>		
Wider costs and benefits of education and employment	Individualised plans which can consider wider costs and benefits	Ignores the wider costs and undermines the benefits of education and employment	<p>Interventions which offer a choice of learning environments (e.g. mainstream education or specialist education)</p> <p>Interventions which support flexibility about timing of return to education and employment (e.g. 'gap year'/'time-out')</p>
<p><i>Implication for interventions</i></p> <ul style="list-style-type: none"> • Individualised plans which can take into account wider costs and benefits • Interventions which offer a choice of learning environments • Interventions which support flexibility about timing of return to education and employment 	<p>Holistic support programmes (e.g. Polit <i>et al.</i>, 1987; Wiggins <i>et al.</i>, 2005b)</p>	<p>Welfare sanctions or bonuses (e.g. Aber <i>et al.</i>, 1998; Bos and Fellerath, 1997)</p>	

Table 5.2: Parenting support cross-study synthesis matrix (cont.)

Continuity of problems existing prior to parenthood	Supporting young people with long-standing problems and promoting resilience	None identified	Interventions to reduce dislike of school (e.g. learning support, anti-bullying strategies)
<p><i>Implication for interventions</i></p> <ul style="list-style-type: none"> • Interventions to reduce dislike of school • Interventions to improve expectations • Reality workers to support young people with long-standing problems and to promote resilience • Interventions to improve relationships • Interventions to reduce domestic violence • Creation of new educational and employment opportunities for young people 	<p>Holistic support programmes (e.g. Polit <i>et al.</i>, 1987; Wiggins <i>et al.</i>, 2005b)</p> <p>Raise the employment and career aspirations of young parents</p> <p>Education and career development programmes (e.g. Cave <i>et al.</i>, 1993, Gathron, 1990; Quint <i>et al.</i>, 1997)</p> <p>Interventions to reduce violence and improve relationships</p> <p>Holistic support programmes (Wiggins <i>et al.</i>, 2005b)</p>		<p>Creation of new employment opportunities for young mother and fathers</p> <p>Reality workers</p>

5.3.1 Struggles against negative stereotypes of teenage mothers

Young mothers expected, but were very angry about, the common negative stereotypes of teenage mothers as a homogenous and socially problematic group (e.g. 'Just 'cause we're young. They don't treat you like proper families.' (Speak *et al.*, 1995, p 20)). Many were 'proud and passionate' parents who were keen to emphasise their parenting skills despite difficult circumstances (Wiggins *et al.*, 2005a, p 10). They believed that age does not matter for good parenting and could see advantages to being a young parent. Some young women talked about how they were motivated to prove these stereotypes wrong. For others, negative stereotypes simply represented an additional struggle as they tried to negotiate the different aspects of their lives. Similarly, young fathers included in the studies were often proud and passionate parents who wanted to be involved in their children's lives (Chase *et al.*, 2003; Hughes *et al.*, 1999; Speak *et al.*, 1997). However, these fathers often reported feelings of being excluded from, and ignored and alienated by, a range of services ('Like I didn't count, didn't exist' (Speak *et al.*, 1997, p 22)).

This theme suggests that services need to explicitly address the discriminatory aspects of their responses to young parents. This could involve staff training and anti-discrimination policies as well as trying to make services more accessible and relevant to young parents. Advocates could also be used to support young parents in approaching services. The **holistic support programmes** for teenage parents, such as Sure Start Plus in the UK (Wiggins *et al.*, 2005b) and Project Redirection in the USA (Polit *et al.*, 1987), did try to work with professionals to make services more accessible and relevant to teenage parents (Polit *et al.*, 1987; Solomon and Liefeld, 1998; Wiggins *et al.*, 2005b). In these programmes, advisors or case managers may have acted as advocates to help young parents approach services. However it is not yet clear whether the programmes themselves are effective. Neither the education and career development programmes nor the daycare programmes aimed to tackle the negative stereotypes of teenage mothers. In fact, the interventions that used **welfare sanctions and bonuses** and took a punitive approach potentially exacerbated negative perceptions of teenage parents. There are also clear research gaps here for the development and testing of anti-discriminatory policy and practice (e.g. staff training, school policies to promote inclusion of teenage mothers).

5.3.2 Diverse needs and preferences but lack of choice

A strong theme to emerge in many of the studies related to the diversity of needs and preferences among teenage parents. Diverse needs were apparent with respect to housing, childcare and getting back into education and employment. The implications for interventions suggested by this include: improving access to relevant and tailored information and advice about existing choices; co-ordinated professional support which matches young parents' needs; and the creation of more choices.

Holistic support interventions appear to be the only intervention type which acknowledge diversity and promote choice. These types of interventions do this via their focus on providing one-to-one support: they can provide information and advice about existing choices and help to co-ordinate across services better to match young parents' needs. They do not, however, necessarily create the range

of choices required to meet all these needs (e.g. good quality temporary accommodation, local authority housing and private lets). The **education and career development programmes** did not cater for diversity as they generally only offered young mothers one option for continuing their education and they did not cater for those young parents who did not want to rush back into education and employment. **Welfare sanctions and bonuses** take away choice because participation in education or employment is mandatory.

5.3.3 Heavy reliance on family

Young parents described a variety of ways in which they relied on their family to 'fill the gaps' in existing service provision. They relied on them for a 'roof over their head', to look after their children, lend them money, and feed them. Although some young people were happy with this arrangement and had enjoyed better relationships with their families since having a child, many young parents felt that things were not working out well and their families were 'stretched' to support them. The **holistic support programmes** may have helped to reduce reliance on already stretched families as they used advisors to provide information and advice on accessing services where families had been routinely stepping in to help, such as housing, childcare and income support.

The other types of intervention provided support with childcare, easing young parents' reliance on informal childcare at home so they could return to education, training or work. Both the programmes using welfare bonuses and sanctions and those that provided substantial educational and careers support improved young parents' attendance at school and college. These interventions had multiple components, only one of which was support with childcare, so it is difficult to understand the *relative importance* of childcare. However, there is much other research evidence pointing to the critical importance of appropriately provided daycare in enabling young mothers to continue with education or employment or participate in training programmes. This evidence includes two of the intervention studies described in this report (Campbell *et al.*, 1986; Field *et al.*, 1982), other trials of daycare (Toroyan *et al.*, 2003; Zoritch *et al.*, 1998), and qualitative research on parents' experiences (Daycare Trust, 2004).

5.3.4 Wider costs and benefits of education and employment

Some young parents described how they did not want to be rushed back into education or employment. Programmes that use **welfare sanctions and bonuses** ignore the costs of rushing young parents back into education and employment and undermine the benefits of allowing them the flexibility to find something they enjoy and value. This may explain why these approaches, which involve punitive sanctions for non-attendances, have less success in encouraging young people back into education or training.

Holistic support programmes offer individualised plans and a wide range of services which can consider wider costs and benefits. Clear gaps for intervention development and testing are interventions that offer a choice of learning environments (e.g. mainstream education or specialist education) and those that support flexibility in the timing of return to education and employment (e.g. 'gap year'/'time-out').

5.3.5 Continuity of problems existing prior to parenthood

As described in chapter 4, prior to becoming teenage parents many young people's lives were characterised by a dislike of school, low expectations for the future, and poor material circumstances and unhappy childhoods. For many young parents, having a baby was a positive transforming process that gave meaning and direction to their lives. However, problems existing prior to parenthood did not go away.

The **education and career development programmes** appear to be highly relevant to raising the employment aspirations of young parents. These programmes provided young mothers with one-to-one support and advice, professional training and/or work experience, and were effective in increasing the number of young mothers in education and training in the short-term. For instance, the study by Gathron (1990) evaluated an intervention that included mentoring, job shadowing, and careers advice. However, these programmes do not directly address other difficulties, such as problems with learning and bullying, and this may explain the absence of long-term effects. Furthermore, none of the education and career development programmes targeted young fathers. This is a clear research gap.

Those young parents who had unhappy childhoods, lived in care, and/or experienced periods of homelessness, wanted the support of trusted adults and those who had been through similar experiences. The 'case managers' or 'advisors' used in the **holistic support programmes** could be seen to build on these needs and promote resilience. Some of these programmes also included peer support components. However it is not clear to what extent these peer support elements match the idea of the 'reality workers' suggested by the young women studied by Walters and East (2001). These workers would be employed to work with young women and would offer support in stages (e.g. practical help with issues such as health care and childcare, therapeutic work to make sense of the past, getting housed, becoming trained as a reality worker).

Relationship breakdown and partner violence continued to be a problem for young mothers. Supportive and involved fathers can play an important role in women's lives. However, many young women felt that the fathers of their children were 'bloody useless' (Speak, 1995, p 54). Some women felt that the men in the lives were immature: when 'young men have chaotic or changeable lives their relationship with their children is often chaotic and changeable too' (Gibbin, 2003, p 9). Only one of the holistic support programmes, Sure Start Plus (UK), addressed the issue of domestic violence and aimed to improve the parenting and relationship skills of young fathers (Wiggins *et al.*, 2005b). This is another clear research gap. The evaluation of this intervention suggested some promising effects in reducing domestic violence and promoting the prenatal involvement of fathers.

6. DISCUSSION

6.1 Principal findings

6.1.1 Preventing unintended teenage pregnancy

A national policy in England was set in 1999 to reduce by 50 per cent the rate of unintended conceptions among under 18-year-olds by the year 2010 (Social Exclusion Unit (SEU), 1999), but there is concern that this target will not be met (Office for National Statistics, 2005). Our review found that for young people in the UK, happiness, enjoying school, and ambition can all help to delay early parenthood. When young people have grown up in unhappy and poor material circumstances, do not enjoy school, and are despondent about their future they are more likely to 'gamble the odds' when they have sex or to choose to try for a baby. Our review found that early childhood interventions and youth development programmes, which promote healthy relationships and engagement with learning and ambition, can lower teenage pregnancy rates by 39 per cent. These findings contrast with those from a recent systematic review of more traditional strategies such as sex education and contraceptive services. DiCenso *et al.* (2002) found no evidence that these interventions reduce the number of pregnancies among young women. In other words, knowledge and understanding about sex and access to good sexual health and contraceptive services may be important, but there is no evidence that they are sufficient on their own to lower the rate of teenage pregnancy.

Our review findings add to a growing body of research which aims to improve understanding of the links between social disadvantage and teenage pregnancy. This is a notoriously difficult area to study, given multiple and overlapping risk factors at the level of individuals, communities and geographical areas (Bynner *et al.*, 2004; SEU, 1999; Wellings *et al.*, 2002). While knowledge of the factors explaining the association between social exclusion and teenage pregnancy would benefit policy-makers, some pointers from the research evidence are clear. Teenage pregnancy rates follow indices of social polarisation with the highest rates in the most unequal societies (McLeod, 2001; SEU, 1999), and access to post-16 education and training (Bonell *et al.*, 2003) and protection from violence (Wiggins *et al.*, 2005a) are crucial. Bonell *et al.* (2005) found that teenagers were more likely to have protected and unprotected sex if they disliked school; dislike of school had an independent effect on sexual health outcomes. Our review was able to unpack what it is about school that young people dislike (e.g. bullying, loneliness, lack of relevance). This provides a basis for developing new interventions for tackling dislike of school, for example the whole-school approach currently being evaluated by Bond and colleagues in Australia (Bond *et al.*, 2004). Our review findings also add weight to the evidence from cross-country analyses which suggest that teenagers from countries which offer more opportunities and a reasonable expectation of getting an education and finding a job will be more strongly motivated to avoid early parenthood (UNICEF, 2001, p 13). These are also the circumstances which lower the social exclusion associated with teenage parenthood and promote the chances of it being experienced positively (Wiggins *et al.*, 2005a).

6.1.2 Supporting teenage parents

In 1999 the UK Government set itself a specific target of having 60% of young mothers in education, training, or employment by 2010. Our review found evidence from the USA that programmes which target teenage parents and encourage them to go back to school or college and also provide help with childcare are successful in encouraging young mothers who returned to education and training quickly after having a baby. Education and career development programmes reported a massive 213 per cent increase in the number of young mothers back into education and training. However, these programmes do not address the wider costs and benefits of education and employment that young parents in the UK have identified. For instance, some young parents want a 'gap year' before they go back to education or work and many young parents wanted reliable, affordable, and trustworthy childcare to be in place before they went back to education or employment. These factors may explain why interventions that succeed in encouraging young parents to return to education do not necessarily lead to greater happiness or better employment prospects in the long-term.

Unsurprisingly, the disadvantages experienced by many young parents before pregnancy continue after having a baby. Studies included in our review show that the stigma of early parenthood and a lack of appropriate support services work against teenage parents. Their views about housing, childcare, education, work, and money clearly demonstrate what a diverse group they are: the *only* thing they have in common is that they are all teenage parents. Holistic support programmes using personal advisors and individualised development plans appear to be an appropriate strategy for supporting teenage parents in this respect, but our review found no evidence that these interventions improve happiness, lead to better employment prospects, or reduce subsequent pregnancies. Holistic support programmes do not directly tackle the structural issues identified by young parents such as lack of appropriate housing or childcare. This may explain why these community-level interventions are popular but not effective.

Positively intervening in the lives of young parents is a challenging task. Recent systematic reviews of more traditional strategies such as home visiting and parent training programmes have also shown few significant effects for teenage parents (Ciliska *et al.*, 2001; Coren and Barlow, 2003; Kendrick *et al.*, 2000). Our review findings contribute to the debate about whether it is teenage parenting itself that leads to adverse outcomes or the social exclusion associated with it (Lawlor and Shaw, 2002; Wiggins *et al.*, 2005a). The picture revealed by our review is that the lives of many teenage parents are characterised by discrimination, inappropriate service provision and continuity of problems such as relationship breakdown, violence, bullying and unhappiness. Just prior to completing our review, we identified a new synthesis of qualitative studies of young mothers in the UK (McDermott and Graham, 2005). This synthesis had a different aim to ours and used different methods, but its key findings are remarkably similar. These authors found that young mothers have to rely on their own personal resources and those of their families to survive because of their socially disadvantaged position, both in terms of their material circumstances and their position 'outside the boundaries of "normal" motherhood' (p 59). Our review goes one stage further than McDermott and Graham's in suggesting ways in which policy-makers can intervene in these circumstances.

6.2 Strengths and limitations of the review

The strengths of our review are three-fold. Firstly, it fills an important research gap by studying teenage pregnancy and parenting within the context of social exclusion. When we mapped the literature in this area, we found that researchers had been studying interventions targeting the social disadvantage associated with teenage pregnancy since the 1960s, long before recent policy interest in this area. However, we found no previous syntheses of research in this area, indicating the originality and timeliness of our systematic review. Secondly, unlike most systematic reviews in public health, we included qualitative evidence alongside quantitative evidence so that we could establish not only 'what works' but also determine appropriate and promising intervention strategies. Our review has created a unique opportunity for young people's own views and experiences to inform the development of policies about them. Thirdly, we used an Advisory Group throughout the review process to ensure that our review would be relevant to policy-makers, practitioners and researchers. We hope that this will mean that more people are able to engage with the review and use its findings.

There are four potential limitations of the methods used in our review. Firstly, the fact that relatively few non-English studies were identified suggests that our searches may have been subject to an English language bias. Secondly, we have had to rely heavily on findings from intervention studies conducted in the USA. There are important differences in social and political context between the UK and the USA, including substantially higher rates of teenage pregnancy in the USA (Darroch et al., 2001) and a greater 'problematization' of teenage pregnancy in the USA because of associated welfare expenditure (Bonell, 2004). Thirdly, in the mapping stage of the review, we used 'report' rather than 'study' as the unit of analysis and coded reports on information presented in titles and abstract only. This may have introduced some distortion into the map. For instance, some studies might be represented in more than one report. We may, therefore, have overestimated the total amount of research. Methodological testing to evaluate the accuracy of mapping on titles and abstracts versus on full reports is currently underway. Fourthly, when we identified gaps for intervention development and testing in the cross-study synthesis we relied on our pool of interventions that had been soundly evaluated. Other interventions better matching young people's needs may already have been developed but since these would not have yet been rigorously evaluated we were not able to look at them. To identify gaps we were reliant on author descriptions of the interventions under study. Often these were very sketchy, making it difficult to get a feel for what had really happened in the intervention.

As with any systematic review, although we used exhaustive methods to search for studies, we cannot be certain that we identified *all* relevant studies. It is not clear whether our findings were affected by publication bias. Studies with positive findings are more likely to be published and published studies are easier to find. We did have some success identifying unpublished studies but these were studies that had only just been completed. We invite readers to contact us if they know of relevant published or unpublished studies we have missed. We were also limited by the quality of the existing primary research. For instance, our review set out to investigate the prevention of *unintended* teenage pregnancies. However, many studies did not distinguish between intended and unintended pregnancy. Another limitation with the primary research was the US bias. Only one soundly evaluated intervention in the UK was identified (Wiggins *et al.*, 2005b). Outcome

evaluations that use a control or comparison group minimise the likelihood that the effects of the intervention will be confused by the effect of biases. Random allocation to groups is the best way to minimise bias. Randomised controlled trials of interventions which target the social disadvantage associated with teenage pregnancy and parenting need to be carried out in the UK so we can have greater confidence in 'what works'. However, up-to-date studies of young people's views did help us generalise the findings of interventions in the USA to the current British context. Just like other areas of public health, research teams need to carry out economic evaluations within their trials to determine whether the benefit of the intervention outweighs the cost of implementing it. Examining cost-benefit is a challenging area and costs were inconsistently reported in the trials included in this review.

Most qualitative research in this area focuses on young parents. Relatively few studies provided insights into the role of education and training, employment and careers, and financial circumstances in the lives of young people who had not experienced teenage pregnancy. Perhaps more worryingly, many qualitative and other types of studies of young people's views had methodological problems, limiting the confidence that can be placed in their findings. Finally, teenage fathers, and young men in general, were under-represented in this literature. Those that were included were a highly selective group of young fathers who wanted to be part of their children's lives. This raises many questions about those young fathers who were not included in the studies.

7. RECOMMENDATIONS

7.1 Recommendations for policy

(a) Preventing unintended teenage pregnancy

Policy-makers should consider investing in early childhood interventions and youth development programmes as routes to lowering teenage pregnancy rates in the UK. These types of programmes reduced teenage pregnancy rates in the US. Early childhood interventions were aimed at preschool and primary aged children and their parents and aimed to promote academic and social skills. Youth development programmes aimed to foster social and academic skills among young people aged 11 to 18 and combined school-based activities with activities in the community (e.g. volunteering, work experience). These interventions should complement, rather than replace, high quality sex education and contraception services, and should be accompanied by sound evaluation of their impact.

The above programmes should be tailored to the needs of young people in the UK in order to improve their enjoyment of school, raise their expectations and ambitions for the future, and prevent unhappy childhoods. They need to combine intervention components at the structural level with those at the individual level. Based on young people's views the following would appear to be appropriate components to include within early childhood interventions and youth development programmes:

- learning support for children or young people who fall behind in school
- skill development to help children and young people form positive relationships with each other
- skill development to help children and young people resolve conflicts
- greater parental involvement in secondary school to encourage young people's ambition
- work experience opportunities, volunteering, and out of school activities to foster success and ambition
- support for children and young people experiencing family breakdown and conflict
- Parent training in conflict resolution

Policy-makers should also continue to implement wider measures to tackle social disadvantage and poverty among young people as a route to lowering teenage pregnancy rates.

b) Supporting teenage parents

To encourage young parents back into education, training, and employment, policy-makers should favour education and career development programmes that provide support for childcare rather than welfare sanctions and bonuses. Although the latter are effective in promoting participation in education and employment, the evidence from trials suggests that education and career development programmes which do not involve sanctions are even more effective. Evidence from studies of young people's views suggests that welfare sanctions and bonuses that are linked to participation in education and training may not be appropriate. These types of programmes take away choice and ignore the wider costs and benefits for young parents of going back into education and training. However, there is no evidence that either welfare sanctions and bonuses or education and career development programmes lead to better employment rates for young parents in the long-term.

Holistic support interventions such as Sure Start Plus are considered to be appropriate by young parents in the UK. However, it is not yet clear whether these interventions are effective in fostering social inclusion among young parents. Policy-makers should consider further development and evaluation of these types of programmes. Based on young parents' views in the UK the following would appear to be appropriate components to include within these holistic support programmes:

- tailored information and advice about existing choices for education and training, employment and careers, childcare, money and benefits and housing
- individualised plans for returning to education and employment which consider the wider costs and benefits of such a return
- specialised services for young parents
- advocates to help young parents approach services and/or co-ordinate cross-agency support to better match young parents' needs
- childcare provision
- interventions to reduce domestic violence and improve relationships

Policy-makers should also continue to tackle social disadvantage and poverty among young people as a route to fostering the long-term social inclusion of young parents. It is not age per se which is problematic for most young people, but the challenge of trying to parent in adverse social and material circumstances. In line with this, policy-makers should also consider steps to counter the discrimination by professionals and the public experienced by young parents .

7.2 Recommendations for promising interventions

The following strategies for **preventing unintended teenage pregnancies** are derived from young people's views, but they have not yet been developed or

tested for their effects on teenage pregnancy rates. We recommend them for development and testing in the UK:

- interventions to help children and young people to make the transition to a new school
- anti-bullying strategies
- training for teachers to help them form positive relationships with young people and to resolve conflicts
- involving young people in making decisions about the organisation of the school
- protecting young people from bad experiences of work (e.g. low wages)
- creation of more employment opportunities in disadvantaged communities
- interventions to prevent domestic violence
- improvement of the quality and continuity of care for young people leaving care
- interventions to improve housing
- mentoring schemes for young men

The following strategies for **supporting young parents and fostering their long-term social inclusion** are derived from young parents' views, but have not yet been developed or tested for their effects on outcomes or indicators of social exclusion. We recommend them for development and testing in the UK:

- anti-discrimination policy and practice for schools and other professional services
- 'reality' workers (people who have been through similar experiences) to support young parents
- creation of viable choices for young parents in housing, education and training, employment and careers, money and benefits and childcare through the following:
 - raising the standard of temporary accommodation, local authority housing, and private lets
 - new employment opportunities
 - acceptable, affordable and reliable childcare provision
 - safe, inexpensive forms of credit
 - increase benefit according to the modest suggestions of young mothers'
 - choice of learning environments
 - flexibility in timing of return to education and employment

Research is also needed to explore the perspectives and experiences of young men and young fathers and to evaluate the effectiveness of interventions developed for them. Studies need to include young men from diverse backgrounds and include young fathers who want to be involved with their children and those who do not. This should help policy-makers understand what

can be done to prevent unintended teenage pregnancies and help support fathers.

7.3 Recommendations for researchers

When possible, researchers should use randomised controlled trials (RCTs) with integral process evaluations to evaluate interventions aimed at preventing unintended teenage pregnancy and supporting teenage parents.

Researchers need to describe the content, setting and length of the interventions that they are evaluating, as well as the characteristics of the young people studied, in order for effective use of the research to be made. Evaluations of pregnancy prevention interventions should use a measure of rate of unintended pregnancy. A measure of unintended and unplanned pregnancy has been tested and is available (Barrett *et al.*, 2004).

Research examining young people's perspectives and experiences should involve young people in the design of the research to ensure that the right questions are asked in the appropriate way (e.g. use of piloting, using young people to carry out data collection). ***Researchers also need to report more clearly on their methods, including details of how the data were analysed and the characteristics of the young people studied.***

Researchers should only evaluate interventions that are underpinned by evidence that they are promising. Promising interventions could be those which are rooted in the views of young people, those which have been developed using theory, or, in the context of the UK, those interventions which have been shown to work elsewhere.

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Appendix A: Methodological quality of pregnancy prevention outcome evaluations (N=10)

Study	Allen <i>et al.</i> (1997)	Berrueta-Clement <i>et al.</i> (1984)	Campbell <i>et al.</i> (2002)	East <i>et al.</i> (2003)	Grossman and Sipe (1992)	Hahn <i>et al.</i> (1994)	Hawkins <i>et al.</i> (1999)	Melchior (1999)	Philliber and Allen (1992)	Philliber <i>et al.</i> (2001)	TOTAL
Quality criteria											
Impact of the intervention reported for all outcomes	✓	✓	✓	✓	✓	✓	✓	✓	x	✓	9
Equivalent study groups at baseline	x	x	✓	x	✓	✓	✓	x	x	✓	5
Pre-intervention data reported	✓	✓	✓	x	x	x	x	x	x	x	3
Post-intervention data reported	✓	✓	✓	✓	x	x	✓	✓	x	✓	7
Final Judgement by reviewers											
Sound			✓								1
Sound despite...	✓ ^a	✓ ^a				✓ ^b	✓ ^c			✓ ^c	5
Not sound				✓	✓			✓	✓		4

^a Groups were not equivalent but authors had adjusted for this in their analysis

^b Additional data provided by study authors

^c Only data on change in outcome reported, but socio-demographic data provided by authors suggested baseline equivalence of intervention and control groups

Appendix B: Summaries of soundly evaluated pregnancy prevention interventions

The following summaries are based on reviewers' appraisal of the authors' descriptions of their own studies.

Allen et al., 1997 (sound despite discrepancies)

A youth development intervention known as Teen Outreach, studied by Philliber and Allen, aimed to prevent teenage pregnancies and promote academic achievement. This study recruited 695 students from 25 high schools in the USA between 1991 and 1995. The young people were randomly allocated to an intervention or control group by the researchers. The intervention group attended the Teen Outreach Program. This programme is based on the principle of 'serve and learn' and involved three compulsory elements: voluntary service; reflection on this voluntary service through discussion groups; and social development classes. Schoolteachers, who facilitated class discussions, and adult volunteers, who supervised the student's community service, delivered this programme. The programme lasted for, on average, one school-year, and the Teen Outreach students were involved in nearly 50 hours of voluntary service a year. Students in the control group received no intervention. The study participants were normally aged 14–15 at the start of the study. Outcomes were measured at the end of the intervention. The majority of participants in the study were female (86%), black (67%), and not from two-parent households (54%).

Berrueta-Clement et al., 1984 (sound despite discrepancies)

A preschool education intervention known as the Perry Preschool Project, studied by Berrueta-Clement and colleagues, aimed to improve intellectual and social development of children from low-income black families. This report focuses on the long-term effects of the intervention. Researchers recruited 123 children aged 3–4 in Ypsilanti, Michigan (USA), matched these children according to their socio-demographic characteristics and randomly allocated them to intervention or control conditions. Children in the intervention group attended the Perry preschool for two years, where they received two and a half hours of preschool education for five days a week during term-time. Teachers also made home visits to parents of children in the intervention group for one afternoon every fortnight. Children and parents in the control group received no intervention. All the study participants were black and from families with low SES. The study followed up these participants at age 19 to assess the long-term effects of participation versus non-participation in the programme.

Campbell et al., 2002 (sound)

An early childhood education intervention known as the Abecedarian Project, studied by Campbell and colleagues, aimed to enhance cognitive skills in early childhood. This report focuses on the long-term effects of the intervention. In 1972, researchers recruited 111 children from 109 families in North Carolina known to social services departments and considered to be 'high risk'. The researchers matched pairs of children according to socio-demographic characteristics and randomly allocated them into an intervention or control group within six weeks of the children's birth. Once again, at age 5, the researchers matched children according to socio-demographic characteristics and randomly allocated them into an intervention or control group. Therefore, children in study were eligible for either, both or neither of these different interventions and the study had four different conditions. The early years intervention was provided for children aged 0–4. Teachers provided full-time preschool education based on a 'systematic curriculum', which emphasised the development of skills in cognition, language and adaptive behaviour. Children in the early years control group did not receive an educational intervention, although they did receive nutritional supplements for the first 15 months of life. The school-age intervention was provided for children aged 5–8.

Families were assigned a home-school resource teacher for the child's first three years at school. The teacher visited the family home every week and used 'individualised' curricula to encourage parental involvement in the child's learning. Children in the school-age control group did not receive an educational intervention. Participants were mixed sex, 98% African-American and from families with low SES. The researchers measured behaviour and knowledge until the age of 21.

Hahn *et al.*, 1994 (sound despite discrepancies)

A community-based youth development intervention known as the Quantum Opportunities Program (QOP), studied by Hahn and colleagues, aimed to improve academic achievement and social skills. Five sites in different cities in the USA recruited 50 participants each and randomly allocated them to an intervention or control group. The intervention group entered the QOP for four years, usually from age 13 to 17. The programme had three main components: educational support, including mentoring and homework support; community service; and social development workshops, including sex education and careers advice. The programme guaranteed 250 hours of educational support, 250 hours of community service, and 250 hours of social development activities during those four school years. The control group received no intervention. The participants were mixed sex, 76% were black, and 100% were from families who were receiving benefits. Questionnaires were issued one year after the end of the programme when the participants were aged 18.

Hawkins *et al.*, 1999 (sound despite discrepancies)

A multi-component early childhood education intervention known as the Seattle Social Development Project, studied by Hawkins and colleagues, aimed to reduce poor health and other problem outcomes in adolescence. The researchers used a cohort of children aged 10 who had already received the first four years of the programme and a matched cohort who had not in order to allocate 808 children to different conditions. Children in the 'full' intervention group received a skills development programme, provided by trained teachers, from age 6 to 12. Parents were offered skills workshops during this period. Children in the 'late' intervention group received a skills development programme, provided by trained teachers, from age 10 to 12 only, and their parents were only offered one 5-session workshop during this time. The control group received no educational intervention other than standard public elementary schooling. Participants were mixed sex; 44% were white, 26% were African-American, 24% were Asian-American; and all were from a disadvantaged area of Seattle (USA). Interviews were carried out when the participants were aged 19 to assess the long-term outcomes of the interventions.

Philliber *et al.*, 2001 (sound despite discrepancies)

A multi-component community-based youth development intervention known as the Children's Aid Society Carrera-Model Program, studied by Philliber and colleagues, aimed to reduce pregnancies among socially disadvantaged teenagers. Twelve sites in six cities in the USA recruited approximately 100 young people each and randomly allocated them to an intervention or control group. The intervention included five different components: 'Job Club', which included work experience and careers advice; academic support, which included homework support and preparation for exams and higher education; sex education workshops; arts workshops; and sports. The programme operated outside of school five days a week during term-time and was supplemented by additional support during the summer holidays. The control group received no intervention. The study measures the outcomes of the programme after three years at which point 70% of young people in the intervention group were still involved with the programme. The other 30% of intervention group students did not remain in the analysis. Questionnaires were used to measure outcomes. The 1,163 study participants were aged 13 to 15, of mixed sex, mixed ethnic origin, and mainly from families with low SES. One in five of the young people came from families that had been affected by substance abuse, serious illness, domestic violence, or prison.

Appendix C: Details of high and medium quality pregnancy prevention views studies: methodology (N=5)

Study	Study design summary	Sampling and recruitment	Data collection methods	Reliability and validity of data collection methods	Data analysis methods	Reliability and validity of data analysis methods
Arai (2004)	Semi-structured interviews with 15 women who were teenage mothers	<p>Sampling: Women who had their first child aged 15–20 from three different areas in England (Inner London, Greater Manchester, and Northumberland)</p> <p>Recruitment: Two methods were used to identify participants:</p> <ol style="list-style-type: none"> 1. Leaflets describing study and requesting participants were distributed in local community sites and GP's surgeries 2. Personal contacts were used as 'gatekeepers' to recruit women <p>Incentive: Study participants were given £10 expenses for taking part in the study</p> <p>Consent: All study participants gave consent</p>	<p>Fourteen women were interviewed in their own homes. One woman was interviewed by telephone. Interviews lasted 45–60 minutes and used a semi-structured schedule based on a 'life course perspective'</p> <p>Interview topics included:</p> <ul style="list-style-type: none"> • Sex, relationships and teenage pregnancy • Neighbourhood, family, peer group, and individual explanations 	<p>Reliability: Used a 'life course perspective' to structure the interview and cited other studies that had used this approach</p> <p>Validity: Researcher made some attempts to ensure validity:</p> <ol style="list-style-type: none"> 1. Guaranteed confidentiality 2. Established a rapport with young women and displayed sensitivity 	<p>The researcher transcribed interview data, read and re-read this data and carried out a 'thematic analysis' to identify common 'themes' within the 4 domains of interest: neighbourhood, family, peer group, and individual factors. The data was eventually structured into 12 different 'themes' across these four domains</p> <p>The researcher also counts cases and presents numerical data in the analysis</p>	<p>Reliability: Key texts on 'thematic analysis' cited</p> <p>Validity: Not stated</p>

Appendix C: Details of high and medium quality pregnancy prevention views studies: methodology (N=5)

Study	Study design summary	Sampling and recruitment	Data collection methods	Reliability and validity of data collection methods	Data analysis methods	Reliability and validity of data analysis methods
Burnett (2003)	Semi-structured interviews and focus groups were used to understand the experiences of 17 women who had their first child aged 19 or younger	Teenage mothers in Suffolk were contacted through supported accommodation agencies and teenage parent support groups Consent: All study participants gave consent	Seven women were interviewed by the researcher using a 'narrative' structure to explore the causes and consequences of teenage pregnancy The other 10 women were split into two focus groups to discuss the causes and consequences of teenage pregnancy	Reliability: The 'narrative approach' used in the interviews was based on standard procedures and research methods textbooks are cited by the researcher Validity: 'Narrative approach' used to establish a valid explanation by encouraging interviewees to 'tell their story'	Narrative analysis of interview and focus group transcripts to distinguish common stories relevant to the research question	Reliability: Not stated Validity: Not stated

Study	Study design summary	Sampling and recruitment	Data collection methods	Reliability and validity of data collection methods	Data analysis methods	Reliability and validity of data analysis methods
Hooke et al. (2000)	Illustrated vignette and open-ended self-completion questionnaire issued to 129 secondary school pupils in Scotland	Two secondary schools were contacted and all third year pupils were surveyed Consent: Unclear who gave consent	An illustrated vignette describing a hypothetical teenage pregnancy and self-completion questionnaire with ten open-ended questions The first six questions related directly to the vignette. The remaining four questions were more general questions about sexual behaviour relating to teenage pregnancy	Reliability: A structured questionnaire was used Validity: Illustrated vignette and questionnaire developed in consultation with local young people and practitioners	The content of all the answers was analysed and categorised into the different issues raised For all issues raised by 10% or more of the whole sample, responses were analysed for gender differences using chi-square tests	Reliability: A second independent researcher also analysed and categorised content of responses. A high degree of reliability was consistently found Validity: Not stated

Study	Study design summary	Sampling and recruitment	Data collection methods	Reliability and validity of data collection methods	Data analysis methods	Reliability and validity of data analysis methods
Hughes <i>et al.</i> (1999)	Semi-structured individual and paired interviews and 'mini' focus groups were used to understand the factors which influence young people's sexual behaviour and to explore attitudes towards teenage pregnancy and parenthood	<p>Sampling: 'Purposive' sample of young people across nine sites in three English regions (London, Birmingham and north-east England). The sample included:</p> <ul style="list-style-type: none"> • Vulnerable and/or sexually active young people • Teenage parents • Looked after children • Homeless young people • Young people who have been excluded from school • Young offenders who are fathers <p>Recruitment: The researchers used local contacts in those areas to recruit young people into the sample</p> <p>Consent: Not stated</p>	<p>12 'mini-group' discussions (6 participants each) for 16–25-year-olds. Young people from the same age group and region and with similar risk status and sexual history were grouped together</p> <p>Semi-structured individual or paired interviews were used to collect data from 12-15 year olds</p>	<p>Reliability: Detail guides were used for interviews and group discussions</p> <p>Validity: Data collection methods were selected according to participant's circumstances. The researchers present a careful rationale for why mini-group discussions are likely to encourage the most valid responses from 16–25-year-olds and why interviews are more appropriate for 12–15-year-olds to discuss their sexual behaviour and attitudes</p>	<p>Not clearly stated. Differences of views explored both within and between different groups of young people</p>	<p>Reliability: Not stated</p> <p>Validity: Not clearly stated. Researchers report some 'negative cases' and 'exceptions'</p>

Study	Study design summary	Sampling and recruitment	Data collection methods	Reliability and validity of data collection methods	Data analysis methods	Reliability and validity of data analysis methods
Wiggins et al. (2005a)	Questionnaires issued to mothers and interviews with women who were pregnant while teenagers, teenage fathers, and the children of teenage mothers	<p>Sampling: Mothers (teenage and non-teenage), women pregnant while teenagers, teenage fathers and the children of teenage mothers were identified in Derby, Reading, Tunbridge Wells, Stoke, Reading and Inner London</p> <p>Incentive: Women who completed the questionnaire were given a £5 gift voucher</p> <p>Consent: All study participants gave consent</p>	<p><i>Self-completion questionnaires</i></p> <ul style="list-style-type: none"> • Trial datasets N=1196 • ‘New’ questionnaires N=459 <p><i>One-to-one, semi-structured interviews</i></p> <ul style="list-style-type: none"> • Women who become pregnant while teenagers N=54 • Teenage fathers N=13 • Children of teenage mothers N=19 	<p>Reliability: Structured, age-specific questionnaires and interview schedules used</p> <p>Validity: Focus groups with discussions with teenage mothers to determine topic and develop the study focus</p>	<p>‘Two-tiered approach’ to data analysis</p> <ul style="list-style-type: none"> • Statistical analysis of trial and ‘new’ questionnaire data • Thematic analysis of interview data 	<p>Reliability: Two members of the research team read and coded each interview transcript to establish consistency</p> <p>Validity: Focus groups and discussions with teenage mothers to focus the analysis and discuss findings</p>

Appendix D: Details of high and medium quality pregnancy prevention views studies: aims, sample, and quality (N=5)

Key

Quality of study reporting

A: Aims and objectives clearly reported
 B: Adequate description of context of research
 C: Adequate description of sample and sampling methods
 D: Adequate description of data collection methods
 E: Adequate description of data analysis methods

There was good or some attempt to establish the:

F: Reliability of data collection tools
 G: Validity of data collection tools
 H: Reliability of data analysis
 I: Validity of data analysis

Quality of methods for research with young people

J: Used appropriate data collection methods for helping young people to express their views
 K: Used appropriate methods for ensuring the data analysis was grounded in the views of young people
 L: Actively involved young people in the design and conduct of the study

Study	Aims and methods	Sample characteristics	Quality
Arai (2004)	To explore the factors present at neighbourhood, family, peer group, and individual levels that influence teenage reproductive behaviour Cross-sectional study using semi-structured interviews with teenage mothers in England	Location: England (Inner London, Greater Manchester and Northumberland) Sample number: 15 Gender: Female Age range: Not stated Socio-economic status: <ul style="list-style-type: none"> Family background: 7 women from two-parent families, 5 from one-parent families, 3 from the looked after children system Marital status: 1 married, 14 not married Housing status: 2 women living hostels Ethnicity: <ul style="list-style-type: none"> 13 white 1 'black mixed' 1 Asian Other information provided by authors: None	Evidence level: MEDIUM (9/12) Quality criteria met: A, B, C, D, E, F, G, H, J Quality criteria not met: I, K, L

Appendix D: Details of high and medium quality pregnancy prevention views studies: aims, sample, and quality (N=5)

Study	Aims and methods	Sample characteristics	Quality
Burnett (2003)	To examine young women's experiences of pregnancy and parenthood, and subsequent experiences of professionals and agencies in Suffolk Cross-sectional study using semi-structured interviews and focus groups to collect data	Location: Suffolk, England Sample number: 17 Gender: Female Age range: 15–27 Socio-economic status: Not stated Ethnicity: Not stated Other information provided by authors: None	Evidence level: MEDIUM (7/12) Quality criteria met: A, B, D, E, F, G, J, Quality criteria not met: C, H, I, K, L
Hooke et al. (2000)	To explore gender differences in Scottish teenagers' views about sexual relationships and sexual responsibility Cross-sectional study using an illustrated vignette describing a hypothetical teenage pregnancy and a self-completion questionnaire with ten open-ended questions	Location: Ayrshire, Scotland Sample number: 129 Gender: Mixed Age range: 14–15 Socio-economic status: Not stated Ethnicity: Not stated Other information provided by authors: None	Evidence level: MEDIUM (9/12) Quality criteria met: A, B, D, E, F, G, H, J, L Quality criteria not met: C, I, K
Hughes et al. (1999)	To explore the factors which influence young people's sexual behaviour and their attitudes towards pregnancy and parenthood Cross-sectional survey using discussion groups and semi-structured interviews to collect data	Location: England (London, Birmingham and north-east England) Sample number: Not clearly stated (approx. 60) Gender: Mixed Age range: 15–25 Socio-economic status: Not stated Ethnicity: Not stated Other information provided by authors: The sample included teenage mothers and fathers, looked-after young people, homeless young people, young people who had been excluded from school, and young offenders who were fathers	Evidence level: MEDIUM (7/12) Quality criteria met: A, B, C, D, F, G, J Quality criteria not met: E, H, I, K, L

Study	Aims and methods	Sample characteristics	Quality
Wiggins et al. (2005a)	<p>To explore the link between teenage parenthood and social exclusion</p> <p>Prospective study using quantitative and qualitative data: secondary analysis of data from two earlier trials of motherhood (teenage parents and non-teenage mothers), 'new' questionnaires for women who took part in these studies (teenage parents and non-teenage mothers), and one-to-one semi-structured interviews with women who were pregnant while teenagers, teenage fathers, and the children of teenage mothers</p>	<p>Location: Derby, Reading, Tunbridge Wells, Stoke, Reading and Inner London (England)</p> <p>Sample number: 1,262</p> <p>Gender: Mixed (13 teenage fathers interviewed)</p> <p>Age range:</p> <p><i>Questionnaires</i></p> <ul style="list-style-type: none"> • Mothers who participated in the earlier studies: 16–44 • Mothers who completed the 'new' questionnaires: 22–50 <p><i>Interviews</i></p> <ul style="list-style-type: none"> • Women who were pregnant while teenagers: 23–50 • Teenage fathers: 22–50 • Children of teenage mothers: 13–33 <p>Socio-economic status:</p> <p><i>Teenage mothers</i></p> <ul style="list-style-type: none"> • 2/3 living in social housing • 1/4 lone-parent status • 1/4 paid employment • 1/3 had no educational qualification <p><i>Teenage fathers</i></p> <ul style="list-style-type: none"> • 12/13 'working class' <p><i>Children of teenage parents</i></p> <ul style="list-style-type: none"> • 17/19 'working class' <p>Ethnicity:</p> <ul style="list-style-type: none"> • Approx. 70% white British • Eight other different ethnic groups included interview data 	<p>Evidence level: High (12/12)</p> <p>Quality criteria met: A, B, C, D, E, F, G, H, I, J, K, L</p> <p>Quality criteria not met: None</p>

Appendix E: Methodological quality of parenting support outcome evaluations (N=18)

Study	Aber <i>et al.</i> (1998)	Aries and Klerman (1981)	Bennett and Bardon (1977)	Bos and Fellerath 1997	Campbell <i>et al.</i> (1986)	Cave <i>et al.</i> (1993)	Field <i>et al.</i> (1982)	Fuscaldo <i>et al.</i> (1998)	Gathron (1990)	Goodman and Gill (1966)
Quality criteria										
Impact of the intervention reported for all outcomes	✓	✓	✓	✓	✓	✓	✓	✓	x	✓
Equivalent study groups at baseline	✓	x	x	✓	✓	✓	✓	x	✓	x
Pre-intervention data reported	✓	✓	x	✓	✓	✓	✓	x	✓	x
Post-intervention data reported	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Final judgement by reviewers										
Sound	✓			✓	✓	✓	✓			
Sound despite...									✓ ^a	
Not sound		✓	✓					✓		✓

^a Author did not report the impact of the intervention for all outcomes but justified this selective reporting.

APPENDIX F: Methodological quality of parenting support outcome evaluations (N=18) (cont.)

Study	Hill and Bragg (1985)	Kappleman <i>et al.</i> (1974)	Miller (1992)	Miller and Dyk (1991)	Polit <i>et al.</i> (1987)	Quint <i>et al.</i> (1997)	Solomon and Liefeld (1998)	Wiggins <i>et al.</i> (2005b)	TOTAL
Quality criteria									
Impact of the intervention reported for all outcomes	✓	x	x	✓	✓	✓	✓	✓	15
Equivalent study groups at baseline	x	x	x	x	x	✓	x	x	7
Pre-intervention data reported	✓	x	✓	x	✓	✓	✓	x	12
Post-intervention data reported	✓	x	x	✓	✓	✓	✓	✓	15
Final judgement by reviewers									
Sound						✓			6
Sound despite...					✓ ^b		✓ ^b	✓ ^b	4
Not sound	✓	✓	✓	✓					8

^b Groups were not equivalent but authors had either adjusted for this in their analysis or the differences were judged not to have biased the findings.

Appendix F: Summaries of soundly evaluated parenting support interventions

The following summaries are based on the reviewers' appraisal of the authors' descriptions of their own studies.

Aber et al., 1998 (sound)

A comprehensive programme of parenting support for teenage women that was linked to their cash benefits known as the Teenage Parent Welfare Demonstration Program, studied by Aber and colleagues, aimed to reduce welfare payments to teenage parents by reducing teenage childbearing and helping teenage parents into employment. Between 1987 and 1990 researchers enrolled all new teenage mothers who were claiming benefits at three sites in the USA (Chicago, Camden and Newark). In total, 5,297 teenagers were recruited and randomly allocated to an intervention or control group. Women assigned to the intervention group received a multi-component programme of support. Case management and comprehensive services, including education, training, parent training, and support with childcare, were provided for teenage parents in the intervention group. Participation in the programme was mandatory and welfare sanctions were used to reduce the welfare payments to women who did not take part. The project lasted for four years. Women in the control group received normal welfare services only. The mothers in the study were, on average, aged 18, and 'highly disadvantaged', and the majority were from ethnic minorities (75.5% black and 17.0% Hispanic). The effects of the programme on behaviour, service use and health were measured 30 months after enrolment (Maynard *et al.*, 1993) and six and a half years after enrolment (Kisker *et al.*, 1998).

Bos and Fellerath, 1997 (sound)

An educational programme for pregnant or parenting teenagers which is linked to their cash benefits known as the Learning, Earning and Parenting Program (LEAP), studied by Bos and Fellerath, aimed to reduce welfare payments to teenage parents by encouraging programme participants to complete their secondary education. Between 1989 and 1991 researchers enrolled all the pregnant or parenting teenagers who were eligible for LEAP in 12 counties in Ohio, USA. In total, 9,685 teenagers were randomly allocated to the intervention or control group. Young people assigned to the intervention group were assessed and monitored by case managers. Case managers also provided assistance with services such as childcare and transportation. Participation in the programme was mandatory and an incentive structure was used to encourage school attendance. Cash benefits increased if LEAP students were enrolled in school and maintained a high level of attendance, *but cash benefits were reduced for those who did not comply with the programme*. The difference between being sanctioned and receiving a bonus was 58% of the welfare grant. Teenagers in the control group received normal welfare services only. The teenage parents in the study were, on average, aged 17½, were nearly all female (98.4%), and the majority were from ethnic minorities (57% black and 3% Hispanic). At the start of the programme only 55% of participants were enrolled in school. The effects on behaviour, service use and health were measured over four years for the teenagers who were enrolled in the programme between Aug 1990 and September 1991 (Year 2).

Campbell et al., 1986 (sound)

An early childhood education intervention known as the Abecedarian Project, studied by Campbell and colleagues, aimed to enhance cognitive skills in early childhood. This report focuses on the effects of the early years intervention on a sub-group of teenage mothers and their children. In 1972, researchers recruited 111 children from 109 families in North Carolina

known to social services departments and considered to be 'high risk'. The researchers matched pairs of children according to socio-demographic characteristics and randomly allocated them into an intervention or control group within six weeks of their birth. The early years intervention was provided for children aged 0–4. Teachers provided full-time preschool education. Children in the early years control group did not receive an educational intervention. A subgroup of 34 mothers aged 17 years old or younger at the start of the study were used to assess the effects of this preschool intervention on the subsequent lives of teenage mothers. Teenage mothers were aged 13–17, African-American, and the majority were single parents (90%). The researchers measured the behaviour, knowledge, service use, and health of the teenage mothers 4½, 8 and 15 years after the start of the intervention.

Cave et al., 1993 (sound)

A multi-component education and employment intervention known as Jobstart, studied by Cave and colleagues, aimed to increase the rate of employment and earnings for young people who have dropped out of school. The research sample consisted of 2,312 participants at 13 different Jobstart sites between 1985 and 1988. Participants were randomly allocated to the intervention or control group. Researchers analysed the data for a subgroup of teenage mothers as well as the general study population. Teenage mothers in the intervention group received educational support, occupational training and work experience, job placement assistance, and support services, including transport, childcare and counselling. A standard curriculum was used to deliver the Jobstart programme. Jobstart sites were required to offer at least 200 hours of educational support and at least 500 hours occupational training and work experience. The average length of stay in the programme was seven months, with 16% of the intervention group still active after one year and nearly 10% still active after 18 months. Teenage mothers in the control group did not receive an intervention. Teenage mothers in the study were aged 17 to 21, defined as 'economically disadvantaged', and the majority were from ethnic minorities (44.3% black, 43.6% Hispanic, and 3.2% other minorities). The participants had already dropped out of school, had a reading age below USA Grade 8 level and were entitled to state-funded training, employment, and support under terms and conditions of entry into the Jobstart programme. The researchers measured behaviour, service use and health outcomes for the teenage parents one year, two years and four years after the start of the intervention.

Field et al., 1982 (sound)

A daycare and professional training intervention, studied by Field and colleagues, aimed to improve rates of employment and school attendance among teenage mothers. Researchers recruited 120 teenage mothers from a hospital in Miami, USA, and randomly allocated them to three different conditions for six months. One group of 40 teenage mothers received paid professional childcare training at a nursery, which provided daycare for their children. Another group of 40 teenage mothers received a fortnightly home-visiting intervention to improve their parenting skills. The final group of 40 teenage mothers allocated to the control group did not receive an intervention. The programme lasted for six months. Approximately four hours professional training took place each day. Teenage mothers were black, aged 13–19, and from families with low socio-economic status. 90% lived at home with their families. The researchers measured behaviour, knowledge and health outcomes for the teenage mothers and their children four months, eight months, one year and two years after the intervention.

Gathron, 1990 (sound despite discrepancies)

A multi-component education, employment, and social support intervention, studied by Gathron, aimed to reduce the negative outcomes associated with teenage parenting (e.g. school dropout, unemployment and low self-esteem). The author analysed data on 66 pregnant adolescents from two rural USA high schools. Students at one school received the intervention, which consisted of four components. Firstly, guidance and counselling was

provided to groups of students for two hours a week in their natural environment, either at school or in the community. These group discussions covered covered topics such as life experiences, goal setting and goal attainment. Secondly, an 'environmental transposition' component involved additional two-hour weekly group discussions about the same topics but at a university campus, outside the students' natural environment. Thirdly, students in the intervention group were exposed to African-American role models. This component included job shadowing as well exposure to their role models' lifestyle outside work. Fourthly, a weekly two-hour social support group session was used to exchange ideas and elevate young people's level of awareness regarding educational opportunities, careers and child care services. The intervention lasted for 12 weeks. The second high school was similar in terms of social and demographic data and students at this school formed a control group. Participants were female, African-American, aged 16–18 and in their eighth to twenty-eighth week of pregnancy. A self-completion questionnaire and a psychological test were issued to students after 25 months to assess the effects of the intervention on attitudes, behaviour, self-esteem, and health.

Polit *et al.*, 1987 (sound despite discrepancies)

A comprehensive programme for disadvantaged pregnant teenagers and teenage mothers known as Project Redirection, evaluated by Polit and colleagues, aimed to improve educational, employment, family planning and other health outcomes among teenage parents. Researchers recruited 789 pregnant or parenting teenagers at eight different sites in the USA in 1980. The intervention was implemented at four sites. The other four sites were used as a comparison group. Young women at the intervention sites were offered a wide range of services, including medical care, vocational training, and parent skills training. Three strategies were used to promote the delivery of these services. Firstly, women from the local community were recruited to work as volunteers and provide support and a positive role model for younger women at the project. Secondly, these volunteers and staff at the project sites developed Individualised Participant Plans (IPPs). Thirdly, peer support groups allowed the young women to support each other, engage in mutual problem solving, and discuss their goals. Participants could remain at the project for up to two years but on average women participated in the project for 11½ months, and none were still active after two years. Young women at the four comparison sites received no intervention. Participants in the study were pregnant teenagers or teenage mother aged 17 or younger, did not have a high-school diploma, were from low-income families receiving welfare benefits, and 90% were from ethnic minorities. Interviews and tests were carried out one and two years after the start of the intervention to assess the effects of the intervention on attitudes, intentions, behaviour, knowledge, and health.

Quint *et al.*, 1997 (sound)

A multi-component education and training programme for teenage mothers who had dropped out of school known as New Chance, studied by Quint and colleagues, aimed to help young mothers find employment. Researchers recruited a total of 2,322 young mothers at 16 different sites in the USA in 1989 and randomly allocated them to an intervention or control group. Young mothers in the intervention group received an intensive education and training intervention that was supplemented by other services such as health care and free childcare. Initially, case management, educational support and skills training were provided at the project site by project staff. The second phase of the intervention included work experience, professional training and job placement assistance. Young mothers were allowed to stay in the programme for 18 months. Young women at the four comparison sites received no intervention. Participants were on average 19 years old at the start of the study and most had their first child at 16. Mothers who were recruited were from disadvantaged communities and the majority were from ethnic minorities (52.4% black, 22.8% Hispanic, and 2.3% other). The

mothers in the study were interviewed 18 months and 42 months after the start of the study to measure the effects of the intervention on their behaviour, service use, and health status.

Solomon and Liefeld, 1998 (sound despite discrepancies)

A comprehensive parenting support intervention known as the Family Growth Centre, studied by Solomon and Liefeld, aimed to reduce school dropout rates and repeat pregnancies among teenage mothers. Researchers recruited 88 teenage mothers from a prenatal hospital clinic and newborn nursery in Chicago, USA, in 1991. Teenage mothers and children were assigned to an intervention and a control group according to their postal codes. Infants assigned to the intervention group attended a nursery and their mothers received parent training. For six months after birth, social workers also made home-visits, provided support for the rest of the mother's 'nuclear family', and offered general social support, parenting advice, and crisis intervention. Teenage mothers in the intervention group were also offered services at the Family Growth Centre, including parenting classes and short-term and emergency daycare, transport, recreational activities, and referral services to assist mothers with housing, schooling, health care, and childcare services. Mothers in the control group received no intervention. Participants were usually aged 16 to 17 at the start of the intervention, the majority were from ethnic minorities, and 87% were receiving welfare benefits. Interviews and observations were carried out at the mothers' homes one year, 18 months, two years and three years after the start of the intervention to assess the effects of the intervention on behaviour and health outcomes.

Wiggins *et al.*, 2005b (sound despite discrepancies)

A comprehensive programme of support for pregnant teenagers and teenage parents known as Sure Start Plus, studied by Wiggins and colleagues, aimed to reduce the risk of long-term social exclusion associated with teenage pregnancy and parenting. Specifically, the project aimed to reduce social exclusion through improving the participants' social and emotional wellbeing, strengthening families and communities, and improving the learning and health of young people and their children. Researchers recruited 1,167 pregnant teenagers and young parents from a total of 70 different local authority areas in the UK. A total of 20 Sure Start Plus sites were in operation and these sites covered 35 of 70 the local authority areas under study. All pregnant teenagers and teenage parents could use the services if they lived in these areas. The other 35 areas were matched on socio-demographic characteristics and used as a comparison group. The programme offered intensive support to help them with issues such as housing, health care, education, childcare as well as parenting skills and health promotion workshops. The programmes were delivered in different ways at different sites but all the programmes supported young people through one-to-one advice and advocacy from a Sure Start Plus advisor. Young people could also access group activities such as parenting skills. Professionals working at Sure Start Plus sites were also involved in modifying mainstream services to make them user-friendly for young people. Young women in the comparison areas received no intervention. Participants in the study were between 13 and 21 and were mainly white (89%). Data were collected from 1,081 young women who were pregnant or parenting. A further 86 young fathers were also included in the study. Questionnaires were used to assess the effects of the intervention on young people's attitudes, behaviour, knowledge, access to services, and health.

Appendix G: Details of high and medium quality parenting support views studies: methodology (N=14)

Study	Study design summary	Sampling and recruitment	Data collection methods	Reliability and validity of data collection methods	Data analysis methods	Reliability and validity of data analysis methods
Allen et al. (1998)	Structured interviews with 84 teenage mothers and 24 fathers	<p>Sampling: Lists were generated of all women having a first baby when aged 16 to 19 over a period of several months in 1995 in hospitals in Hackney, Leeds and Solihull. Access to fathers was gained through the women who took part in the study</p> <p>Recruitment: The hospital approached the women and letters were sent inviting women to take part</p> <p>Incentive: Study participants were given a £10 voucher for taking part in the study</p> <p>Consent: Not stated</p>	Structured questionnaires were used which included open and closed questions	<p>Reliability: Trained interviewers carried out the interviews using a structured questionnaire</p> <p>Validity: The questionnaire was based on previous tools used in studies of sexual health and pregnancy among teenagers/older women conducted by the first author</p>	Pre-coded answers were analysed using descriptive statistics ‘Coding frames’ were developed from the responses to open-ended questions. Verbatim quotes were extracted from the questionnaires and selected for inclusion in the report in a ‘rigorous manner’	<p>Reliability: Authors established a quantitative framework for the analysis</p> <p>Validity: Not stated</p>

Appendix G: Details of high and medium quality parenting support views studies: methodology (N=14)

Study	Study design summary	Sampling and recruitment	Data collection methods	Reliability and validity of data collection methods	Data analysis methods	Reliability and validity of data analysis methods
Belling (2003)	Interviews with 13 young mothers known to staff at the Young Parents Project	<p>Sampling: Project staff provided details of 50-55 young mothers known to them through the Young Parents Project. Evaluators chose a purposeful sample taking into account the age range, ethnicity, different kinds of accommodation, and family backgrounds of the young parents</p> <p>Recruitment: Evaluators attended one of the project's drop-in sessions and invited those who turned up to participate in the evaluation. Letters and telephone calls used to contact 11 less frequent or non-attending users</p> <p>Consent: Unclear who gave consent</p>	<p>Interviews included open and closed questions</p> <p>One participant completed a written diary reflecting on six drop-in sessions</p> <p>One participant made a video diary</p>	<p>Reliability: <i>Interview schedule</i></p> <ul style="list-style-type: none"> • 5 closed responses • 12 ratings of agreement or disagreement • 1 open-ended question <p>Validity: Project staff were involved in designing the evaluation and the written and video diaries were based on a pilot study</p>	<p>Pre-coded answers were analysed using descriptive statistics</p> <p>The open questions and diaries were analysed thematically</p>	<p>Reliability: Not stated</p> <p>Validity: Not stated</p>

Study	Study design summary	Sampling and recruitment	Data collection methods	Reliability and validity of data collection methods	Data analysis methods	Reliability and validity of data analysis methods
Burnett (2003)	Semi-structured interviews and focus groups were used to understand the experiences of 17 women who had their first child aged 19 or younger	<p>Teenage mothers in Suffolk were contacted through supported accommodation agencies and teenage parent support groups</p> <p>Consent: All study participants gave consent</p>	<p>7 women were interviewed by the researcher using a 'narrative' structure to explore the causes and consequences of teenage pregnancy</p> <p>The other 10 women were split into 2 focus groups to discuss the causes and consequences of teenage pregnancy</p>	<p>Reliability: The 'narrative approach' used in the interviews was based on standard procedures and research methods textbooks are cited by the researcher</p> <p>Validity: 'Narrative approach' used to establish a valid explanation by encouraging interviewees to 'tell their story'</p>	Narrative analysis of interview and focus group transcripts to distinguish common stories relevant to the research question	<p>Reliability: Not stated</p> <p>Validity: Not stated</p>
Chase et al. (2003)	Semi-structured interviews with 63 young people who were either teenage parents or expectant teenage parents (47 women, 16 men) who had lived in care or recently left care	<p>Sampling: Data was collected in four contrasting sites across local authority sites in England</p> <p>Recruitment: 'Key workers' were identified to approach young people and ask if they would like to take part in the research</p> <p>Consent: All study participants gave consent</p>	<p>Semi-structured interviews focusing on four main themes:</p> <ul style="list-style-type: none"> • reactions to the pregnancy and decision making • contraception, sexual health and relationships • who/what had or had not helped them from when they had become pregnant • their care history 	<p>Reliability: A structured questionnaire was used. The interview schedule was pre-tested which provided guidance on how to order the questions</p> <p>Validity: Pre-test determined the key question areas. Researchers made initial site visits to familiarise themselves with services</p>	Thematic analysis of responses	<p>Reliability: Not stated</p> <p>Validity: Not stated</p>

Study	Study design summary	Sampling and recruitment	Data collection methods	Reliability and validity of data collection methods	Data analysis methods	Reliability and validity of data analysis methods
Corlyon and McGuire (1999)	Semi-structured individual and group interviews with 30 pregnant teenagers and teenage parents (29 women, 1 man) who had lived in care or left care	<p>Sampling: Young people who had been in or had recently left public care and who were or were about to be parents were selected from 11 different local authorities in the UK</p> <p>Recruitment: 'Gatekeepers' identified in each local authority recruited participants</p> <p>Consent: All study participants gave consent</p>	Semi-structured individual and group interviews	<p>Reliability: An interview schedule was used</p> <p>Validity: The aim was to make the interviews more akin to a conversation than a structured and formal interview</p>	Thematic analysis of interview data	<p>Reliability: In-depth interviews and group discussions were tape-recorded, fully transcribed and analysed</p> <p>Validity: Not stated</p>
Evans et al. (2003)	Interviews with nine teenage mothers and one teenage father to examine their needs	<p>Teenage parents in West Sussex were recruited by advertising the project at various meetings and venues for teenage parents. There was a problem with recruiting teenage fathers</p> <p>Consent: Unclear who gave consent</p>	<p>Semi-structured interviews based on six basic needs of teenage parents which the researcher had identified:</p> <ul style="list-style-type: none"> • education/employment • housing • finances • health • childcare • social inclusion and relationships 	<p>Reliability: A structured questionnaire was used</p> <p>Validity: The interview schedule was constructed after a pilot interview with one teenage mother</p>	<p>Data was analysed according to the six pre-defined themes</p> <p>The researcher also counted cases and present numerical data in the analysis</p>	<p>Reliability: Not stated</p> <p>Validity: Not stated</p>

Appendix G: Details of high and medium quality parenting support views studies: methodology (N=14)

Study	Study design summary	Sampling and recruitment	Data collection methods	Reliability and validity of data collection methods	Data analysis methods	Reliability and validity of data analysis methods
Gibbin (2003)	Semi-structured interviews with 33 teenage parents (6 males) to explore their needs and experiences of services	Teenage parents in Hartlepool were recruited using flyers and posters to advertise the project Consent: All study participants gave consent	Volunteer interviewers carried out semi-structured one-to-one and group interviews	Reliability: A structured questionnaire was used Validity: Volunteer interviewers were local young people who received training and used an informal approach. Interviews carried out at 'neutral' sites and interviews were 'as long or short as required'	Thematic analysis of the interviews data	Reliability: Not stated Validity: Researchers allowed the data to drive the format of the report and the services and themes discussed
Hall et al. (2003)	Semi-structured interviews and focus groups with 80 pregnant teenagers and teenage parents in Leicester	Teenage parents in Leicester were identified through peer researchers' own contacts, referrals from local agencies, and by approaching them in the street Incentive: Study participants were given a voucher for taking part in the study Consent: Unclear who gave consent	Semi-structured interviews with 50 pregnant teenagers and teenage parents carried out by the peer researchers 6 focus groups involving 30 pregnant teenagers and teenage parents were also carried out by the peer researchers	Reliability: Use of structured questionnaires and focus group schedules. Peer researchers underwent training Validity: Questionnaire and focus groups were designed and carried out by young parents	Pre-coded answers were analysed using descriptive statistics Thematic analysis of the open-ended questions and focus group data	Reliability: Not stated Validity: Not stated

Study	Study design summary	Sampling and recruitment	Data collection methods	Reliability and validity of data collection methods	Data analysis methods	Reliability and validity of data analysis methods
Hosie and Dawson (2005)	Semi-structured interviews with 93 with pregnant teenagers and teenage mothers	<p>Sampling: Data collected in 10 Local Education Authorities</p> <p>Recruitment: 'Gatekeepers' were identified in each local education authorities to recruit participants</p> <p>Incentive: Study participants given a voucher for taking part</p> <p>Consent: All study participants gave consent</p>	<p>Interviews were semi-structured and were constructed around four main themes:</p> <ul style="list-style-type: none"> • education; • pregnancy; • motherhood; • family and relationship background <p>Each interview lasted 30 to 80 minutes, averaging at 50</p>	<p>Reliability: A structured questionnaire was used</p> <p>Validity: An advisory group, existing research (Selman <i>et al.</i>, 2001) and pilot interviews were used to inform the research design. All of the young women were interviewed in a setting that they were comfortable with (often at home or in school)</p>	<p>Thematic analysis of the interview data</p> <p>The researcher also counted cases. They present numerical data in the analysis.</p>	<p>Reliability: Interviews tape-recorded, data transcribed and coding checked by two reviewers</p> <p>Validity: An advisory group, existing research (Selman <i>et al.</i>, 2001) and pilot interviews were used to develop themes for the analysis</p>

Study	Study design summary	Sampling and recruitment	Data collection methods	Reliability and validity of data collection methods	Data analysis methods	Reliability and validity of data analysis methods
Hughes et al. (1999)	Semi-structured individual and paired interviews and 'mini' focus groups were used to understand the factors which influence young people's sexual behaviour and to explore attitudes towards teenage pregnancy and parenthood	<p>Sampling: 'Purposive' sample of young people across nine sites in three English regions (London, Birmingham and north-east England). The sample included:</p> <ul style="list-style-type: none"> • Vulnerable and/or sexually active young people • Teenage parents • Looked after children • Homeless young people • Young people who have been excluded from school • Young offenders who are fathers <p>Recruitment: The researchers used local contacts in those areas to recruit young people into the sample</p> <p>Consent: Not stated</p>	<p>Twelve 'mini' group discussions (six participants each) for 16–25-year-olds. Young people from the same age group and region with similar risk status and sexual history were grouped together</p> <p>Semi-structured individual or paired interviews were used to collect data from 12–15-year-olds</p>	<p>Reliability: Detail guides were used for interviews and group discussions</p> <p>Validity: Data collection methods were selected according to participant's circumstances. The researchers construct a careful rationale for why mini-group discussions are likely to encourage the most valid responses from 16–25-year-olds and why interviews are more appropriate for 12–15-year-olds to discuss their sexual behaviour and attitudes</p>	Not clearly stated. Differences of views explored both within and between different groups of young people	<p>Reliability: Not stated</p> <p>Validity: Not clearly stated. Researchers report some 'negative cases' and 'exceptions'</p>

Study	Study design summary	Sampling and recruitment	Data collection methods	Reliability and validity of data collection methods	Data analysis methods	Reliability and validity of data analysis methods
Speak (1995)	Semi-structured interviews and group discussions with 40 young single mothers aged between 16 and 24	<p>Sampling: Young single mothers who gave birth to their first child before the age of 20, have never been married, are not cohabiting, and are either living independently or trying to set up an independent home were identified in Newcastle</p> <p>Two rural areas were also used to explore interesting contrasts: Castle Morpeth and Blyth Valley</p> <p>Recruitment: Health visitors referred mothers directly to the researchers. All mothers referred were approached by researchers but they note that less than one in five referrals got to the interview stage</p> <p>Consent: Not stated</p>	<p>In-depth interviews with young mothers. The first part used a structured questionnaire and lasted approx one hour. The second part consisted of a period of open discussion that sometimes included other women, friends and family or support workers</p> <p>15 'guided' group discussions with groups of mothers meeting at day centres</p>	<p>Reliability: Use of a structured schedule for interviews and 'guided' group discussions</p> <p>Validity: The presence of friends/mothers/support workers may have increased or decreased validity. Researchers were non-judgemental and there was flexibility built into the study to allow young mothers to express their views</p>	Themes are summarised and put in the context of other research and/or national statistics	<p>Reliability: Not stated</p> <p>Validity: Flexibility was built into the study depending on what the young women were saying. The authors describe how, because women revealed how turbulent their lives could be during the first few years, the study developed into a wider investigation into the continued difficulties in maintaining independent living</p>

Study	Study design summary	Sampling and recruitment	Data collection methods	Reliability and validity of data collection methods	Data analysis methods	Reliability and validity of data analysis methods
Speak et al. (1997)	Semi-structured interviews and group discussions with 40 young single fathers aged between 16 and 24	<p>Sampling: Fathers who were similar to those of the children of the teenage mothers in the earlier study (Speak, 1995). Non-resident fathers from disadvantaged, inner-city areas who wanted to maintain a relationship with child were identified in Tyne and Wear</p> <p>Recruitment: Identified through a number of sources such as men's groups, youth and community workers, youth centres and job clubs</p> <p>Consent: Not stated</p>	<p>Two interviews were conducted</p> <p>The first one focused on their perceptions and aspirations as fathers, to identify the involvement they wanted.</p> <p>The focus of the second interview (typically 3 to 4 weeks later) was on what the men saw as barriers to their desired involvement</p>	<p>Reliability: Not stated</p> <p>Validity: The authors were keen to avoid pre-judging the level of involvement young men should have. The men were interviewed in locations of their choice, typically in the community centres or the youth centres where the first contact was made</p>	Thematic analysis using a 'conceptual framework'	<p>Reliability: Not stated</p> <p>Validity: Researchers allowed the data to drive the framework of the report and for men's voices to be heard</p>

Study	Study design summary	Sampling and recruitment	Data collection methods	Reliability and validity of data collection methods	Data analysis methods	Reliability and validity of data analysis methods
Walters and East (2001)	Small focus groups with three homeless young parents known to the researcher	Three mothers recruited from researcher's caseload of homeless families in a city in central England Consent: All study participants gave consent	Four focus groups which were held on a weekly basis – participants shared and develop their views through conversation with each other	Reliability: Continued attendance by all three women over four sessions all facilitated by researcher and co-author. Important points were recorded and reflected on the following week Validity: A small group and co-operative discussion allowed the women to explore issues and not feel prohibited. Themes emerged over time in language understood by everyone involved.	Narrative analysis of the focus group data	Reliability: Reflective diary kept by the researchers Validity: Participants involved in data analysis

Study	Study design summary	Sampling and recruitment	Data collection methods	Reliability and validity of data collection methods	Data analysis methods	Reliability and validity of data analysis methods
Wiggins et al. (2005a)	Questionnaires issued to mothers (14–21% teenage mothers) and interviews with women who were pregnant while teenagers, teenage fathers, and the children of teenage mothers	<p>Sampling: Mothers (teenage and non-teenage), women who were pregnant while teenagers, teenage fathers, and the children of teenage mothers were identified in Derby, Reading, Tunbridge Wells, Stoke, and Inner London</p> <p>Incentive: Women who completed the questionnaire were given a £5 gift voucher</p> <p>Consent: All study participants gave consent</p>	<p><i>Self-completion questionnaires</i></p> <ul style="list-style-type: none"> • 1,196 trial datasets • 459 'new' questionnaires <p><i>One-to-one, semi-structured interviews</i></p> <ul style="list-style-type: none"> • 54 women who become pregnant while teenagers • 13 teenage fathers • 19 children of teenage mothers 	<p>Reliability: Structured, age-specific questionnaires and interview schedules used</p> <p>Validity: Focus groups including discussions with teenage mothers to determine topic and develop the study focus</p>	<p><i>'Two tiered approach' to data analysis</i></p> <ul style="list-style-type: none"> • Statistical analysis of trial and 'new' questionnaire data • Thematic analysis of interview data 	<p>Reliability: Two members of the research team read and coded each interview transcript to establish consistency</p> <p>Validity: Focus groups with discussions with teenage mothers to focus the analysis and discuss findings</p>

Appendix H: Details of high and medium quality parenting support views studies: aims, sample, and quality (N=14)

Key

Quality of study reporting

- A: Aims and objectives clearly reported
 B: Adequate description of context of research
 C: Adequate description of sample and sampling methods
 D: Adequate description of data collection methods
 E: Adequate description of data analysis methods

There was good or some attempt to establish the:

- F: Reliability of data collection tools
 G: Validity of data collection tools
 H: Reliability of data analysis
 I: Validity of data analysis

Quality of methods for research with young people

- J: Used appropriate data collection methods for helping young people to express their views
 K: Used appropriate methods for ensuring the data analysis was grounded in the views of young people
 L: Actively involved young people in the design and conduct of the study

Study	Aims and methods	Sample characteristics	Quality
Allen et al. (1998)	<p>To understand the processes by which teenage parents make decisions about becoming pregnant, continuing with their pregnancy, and their housing and living arrangements</p> <p>Cross-sectional study using structured interviews to collect qualitative and quantitative data.</p>	<p>Location: England (Hackney, Leeds and Solihull)</p> <p>Sample number: 108</p> <p>Gender: Mixed (24 fathers interviewed)</p> <p>Age range: <i>Teenage mothers</i></p> <ul style="list-style-type: none"> • 16–20 <p><i>Fathers</i></p> <ul style="list-style-type: none"> • Not stated <p>Socio-economic status: <i>Teenage mothers</i></p> <ul style="list-style-type: none"> • 50% single • 31% unemployed at time of pregnancy • 71% unemployed by time of interview (12 months after birth) <p><i>Fathers</i></p> <ul style="list-style-type: none"> • 25% unemployed <p>Ethnicity:</p> <ul style="list-style-type: none"> • Approx. 85% white British 	<p>Evidence level: HIGH (11/12)</p> <p>Quality criteria met: A, B, C, D, E, F, G, H, J, K, L</p> <p>Quality criteria not met: I</p>

Study	Aims and methods	Sample characteristics	Quality
		<ul style="list-style-type: none"> • 7 other ethnic groups included interview data <p>Other information provided by authors: <i>Teenage mothers</i></p> <ul style="list-style-type: none"> • 33% no qualifications <p><i>Fathers</i></p> <ul style="list-style-type: none"> • 25% left school before 16 • 33% no qualifications 	
Belling (2003)	<p>To explore the views of users of the Young Parents Project</p> <p>Cross sectional study using interviews and diaries to collect qualitative and quantitative data</p>	<p>Location: London, England</p> <p>Sample number: 13</p> <p>Gender: Female</p> <p>Age range: 15-21</p> <p>Socio-economic status: Not stated</p> <p>Ethnicity:</p> <ul style="list-style-type: none"> • 38% Black or mixed race • 38% White • 8% Asian • 16% not stated <p>Other information provided by authors: <i>Level of service use</i></p> <ul style="list-style-type: none"> • Frequent users: 9 • Less frequent users: 3 • Non-attender: 1 	<p>Evidence level: MEDIUM (9/12)</p> <p>Quality criteria met: A, B, C, D, E, F, G, J, K</p> <p>Quality criteria not met: H, I, L</p>
Burnett (2003)	<p>To examine young women's experiences of pregnancy and parenthood, and subsequent experiences of professionals and agencies in Suffolk</p> <p>Cross-sectional study using semi-structured interviews and focus groups to collect data</p>	<p>Location: Suffolk, England</p> <p>Sample number: 17</p> <p>Gender: Female</p> <p>Age range: 15–27</p> <p>Socio-economic status: Not stated</p> <p>Ethnicity: Not stated</p> <p>Other information provided by authors: None</p>	<p>Evidence level: MEDIUM (7/12)</p> <p>Quality criteria met: A, B, D, E, F, G, J,</p> <p>Quality criteria not met: C, H, I, K, L</p>

Study	Aims and methods	Sample characteristics	Quality
Chase et al. (2003)	<p>To understand the factors leading to early pregnancy among young people who are looked after and recent care leavers, map service provision and inform policy and practice</p> <p>Cross-sectional study using semi-structured interviews to collect data</p>	<p>Location: England</p> <p>Sample number: 63</p> <p>Gender: Mixed (16 fathers interviewed)</p> <p>Age range: 15–23</p> <p>Socio-economic status:</p> <ul style="list-style-type: none"> • 33/47 young women in receipt of income support future. • 7/16 young men in receipt of income support <p>Ethnicity:</p> <ul style="list-style-type: none"> • 49/63 White • 14/63 Black, African or mixed race <p>Other information provided by authors: Wide variation in care histories</p>	<p>Evidence level: MEDIUM (9/12)</p> <p>Quality criteria met: A, B, C, D, F, G, J, K, L</p> <p>Quality criteria not met: E, H, I,</p>
Corlyon and McGuire (1999)	<p>To explore the factors associated with young people in public care, pregnancy, and parenthood, and to offer a contribution to the wider debate around adolescent parenting</p> <p>Cross sectional study using semi-structured one-to-one interviews and group discussions</p>	<p>Location: England</p> <p>Sample number: 40</p> <p>Gender: Female</p> <p>Age range: Not stated</p> <p>Socio-economic status: Not stated</p> <p>Ethnicity:</p> <ul style="list-style-type: none"> • 23/30 White • 6/30 Black or mixed race • 1/30 African <p>Other information provided by authors: In terms of their care history they fell into two distinct groups: those who had first been looked after in childhood and had not returned to their family of origin (just over one third of the sample) and those who had first been looked after in adolescence</p>	<p>Evidence level: MEDIUM (9/12)</p> <p>Quality criteria met: A, B, C, D, F, G, H, J, K</p> <p>Quality criteria not met: E, I, L</p>

Study	Aims and methods	Sample characteristics	Quality
Evans (2003)	To collect and analyse data on the needs of teenage parents in order to improve and develop services Cross-sectional study using semi-structured interviews to collect data	Location: West Sussex, England Sample number: 10 Gender: Mixed (1 father interviewed) Age range: 15–22 Socio-economic status: <ul style="list-style-type: none"> • 7 participants were solely dependent on benefit • 2 were partially dependent on benefit • 1 was not eligible for benefit Ethnicity: 100% white Other information provided by authors: None	Evidence level: MEDIUM (7/12) Quality criteria met: A, B, C, D, F, G, J Quality criteria not met: E, H, I, K, L
Gibbin (2003)	The study aims to understand needs of teenage parents in Hartlepool and their experiences of services Cross-sectional study using semi-structured interviews to collect data	Location: Hartlepool, England Sample number: 33 Gender: Mixed (6 fathers interviewed) Age range: Not stated Socio-economic status: Not stated Ethnicity: Not stated Other information provided by authors: None	Evidence level: MEDIUM (8/12) Quality criteria met: A, B, D, F, G, I, J, K Quality criteria not met: C, E, H, L
Hall et al. (2003)	To gain an insights into the lives and experiences of pregnant teenagers and young parents. To inform future training for workers supporting young parents and services for young parents Cross-sectional study carried out by peer researchers using semi-structured interviews and focus groups	Location: Leicester, England Sample number: 80 Gender: Mixed (4 fathers interviewed) Age range: 15–20 Socio-economic status: <ul style="list-style-type: none"> • 30% were dependent on benefits Ethnicity: Not stated Other information provided by authors: <i>Teenage mothers</i> <ul style="list-style-type: none"> • 60% left school at or before 16 • 40% respondents had qualifications 	Evidence level: MEDIUM (9/12) Quality criteria met: A, B, C, D, F, G, J, K, L Quality criteria not met: E, H, I

Study	Aims and methods	Sample characteristics	Quality
Hosie and Dawson (2005)	<p>To explore the educational experience of pregnant young women and young mothers of school age to identify what factors, and forms of provision, determine both academic and broader success in returning to or continuing with education</p> <p>Cross-sectional survey using semi-structured interviews to collect data</p>	<p>Location: England</p> <p>Sample number: 93</p> <p>Gender: Female</p> <p>Age range: 13–19</p> <p>Socio-economic status: Not stated</p> <p>Ethnicity:</p> <ul style="list-style-type: none"> • Approx. 80% white British • 5 other different ethnic groups included interview data <p>Other information provided by authors:</p> <ul style="list-style-type: none"> • 28 pregnant women of statutory school age • 35 young mothers of statutory school age • 30 post-statutory mothers (16–19) who were pregnant or parents at statutory-school age 	<p>Evidence level: HIGH (12/12)</p> <p>Quality criteria met: A, B, C, D, E, F, G, H, I, J, K, L,</p> <p>Quality criteria not met:</p>
Hughes et al. (1999)	<p>To explore the factors which influence young people’s sexual behaviour and their attitudes towards pregnancy and parenthood</p> <p>Cross-sectional survey using discussion groups and semi-structured interviews to collect data</p>	<p>Location: England (London, Birmingham and north-east England)</p> <p>Sample number: Not clearly stated (approx. 30 teenage parents, including 6 teenage fathers)</p> <p>Gender: Mixed</p> <p>Age range: 15–25</p> <p>Socio-economic status: Not stated</p> <p>Ethnicity: Not stated</p> <p>Other information provided by authors: The sample included teenage mothers and fathers, looked-after young people, homeless young people, young people who had been excluded from school and young offenders who were fathers</p>	<p>Evidence level: MEDIUM (7/12)</p> <p>Quality criteria met: A, B, C, D, F, G, J</p> <p>Quality criteria not met: E, H, I, K, L</p>

Study	Aims and methods	Sample characteristics	Quality
Speak (1995)	To investigate the barriers to independent living, as experienced by a young, single, never-married mother, setting up her first independent home, without the financial or practical assistance of a partner Cross-sectional study using in-depth interviews and group discussions	Location: England (Newcastle, Castle Morpeth and Blythe Valley) Sample number: 30 Gender: Female Age range: 16–24 Socio-economic status: Working class Ethnicity: Not stated Other information provided by authors: 31 out of 40 living in their own homes at time of interview; 5 living with their families; 2 living in supported accommodation, and one living with friends	Evidence level: MEDIUM (8/12) Quality criteria met: A, B, C, F, G, I, K, L Quality criteria not met: D, E, H, J
Speak et al. (1997)	To investigate the concerns, perceptions and aspirations of young single non-residential fathers and highlight factors which might help or hinder their involvement with their children Cross-section study involving interviews with teenage fathers	Location: Tyne and Wear, England Sample number: 40 Gender: Male Age range: 16–24 Socio-economic status: Working class Ethnicity: Not stated Other information provided by authors: Most of the fathers still lived with their families and only had contact with children on a weekly or monthly basis	Evidence level: MEDIUM (7/12) Quality criteria met: A, B, C, G, I, K, L Quality criteria not met: D, E, F, H, J

Appendix H: Details of high and medium quality parenting support views studies: aims, sample, and quality (N=14)

Study	Aims and methods	Sample characteristics	Quality
Walters and East (2001)	To explore the experience of repeated homelessness in the lives of young women An action research study using a small discussion group	Location: Central England Sample number: 3 Gender: Female Age range: 17–20 Socio-economic status: Not stated Ethnicity: Not stated Other information provided by authors: All were living in different types of temporary accommodation, such as hostels for homeless families, at the time of the study	Evidence level: HIGH (11/12) Quality criteria met: A, B, D, E, F, G, H, I, J, K, L Quality criteria not met: C

Study	Aims and methods	Sample characteristics	Quality
Wiggins et al. (2005a)	<p>To explore the link between teenage parenthood and social exclusion</p> <p>Prospective study using quantitative and qualitative data: secondary analysis of data from two earlier trials of motherhood (teenage parents and non-teenage mothers), 'new' questionnaires for women who took part in these studies (teenage parents and non-teenage mothers) and one-to-one semi-structured interviews with women who were pregnant while teenagers, teenage fathers and the children of teenage mothers</p>	<p>Location: Derby, Reading, Tunbridge Wells, Stoke, Reading and Inner London</p> <p>Sample number: 1,262</p> <p>Gender: Mixed (13 teenage fathers interviewed)</p> <p>Age range:</p> <p><i>Questionnaires</i></p> <ul style="list-style-type: none"> • Mothers who participated in the earlier studies: 16–44 • Mothers who completed the 'new' questionnaires: 22–50 <p><i>Interviews</i></p> <ul style="list-style-type: none"> • Women who were pregnant while teenagers: 23–50 • Teenage fathers: 22–50 • Children of teenage mothers: 13–33 <p>Socio-economic status:</p> <p><i>Teenage mothers</i></p> <ul style="list-style-type: none"> • 2/3 living in social housing • 1/4 lone-parent status • 1/4 paid employment • 1/3 had no educational qualification <p><i>Teenage fathers</i></p> <ul style="list-style-type: none"> • 12/13 'working class' <p><i>Children of teenage mothers</i></p> <ul style="list-style-type: none"> • 17/19 'working class' <p>Ethnicity:</p> <ul style="list-style-type: none"> • Approx. 70% white British • 8 other ethnic groups included interview data 	<p>Evidence level: HIGH (12/12)</p> <p>Quality criteria met: A, B, C, D, E, F, G, H, I, J, K, L,</p> <p>Quality criteria not met:</p>

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