Physical Activity and Children

Review 3:

THE VIEWS OF CHILDREN ON THE BARRIERS AND FACILITATORS TO PARTICIPATION IN PHYSICAL ACTIVITY: A REVIEW OF QUALITATIVE STUDIES

Version 4.0

NICE Public Health Collaborating Centre – Physical Activity
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Executive summary

Introduction

This report presents the findings of a review of qualitative studies of children and young people's views of physical activity, sport and play. It is the second of two background reviews for NICE examining the broader determinants of physical activity for young people. The review contributes to the development of public health programme guidance aimed at promoting physical activity, play and sport for pre-school and school age children in family, pre-school, school and community settings. In line with the scope for this guidance this review covers four core areas which are: adolescent girls (11-18 years old; children aged eight and under, active travel and families and community.

Objectives

The purpose of this review is to understand the views of children (and, where possible, parents and organisers of physical activity) about the barriers and facilitators to participation in physical activity in England for all children and for those in sub populations with differing levels of physical activity. This review will contribute to the guidance by helping to identify:

1. What are the important barriers and facilitators that may inform the development of approaches to increasing physical activity?
2. What are the most appropriate approaches for the selected populations or settings? – to inform the effectiveness review
3. What are possible ways of intervening where no experimental research exists?

Methods

The review focused on four core areas which are: adolescent girls (11-18); children aged 8 and under; active travel; and families and community. The review used evidence from:

- Developed countries (i.e. UK, Europe, USA, Canada, Australia and New Zealand). Relevant international studies were also used where there was insufficient evidence from UK studies.
- Primary studies published from 1990 onwards in English language

peer reviewed journals that used qualitative methodologies to identify or describe the thoughts, feelings and experiences of UK children (and parents carers, where relevant) or organisers of physical activity about children's participation in physical activity. In core areas where there were less than 4 UK studies the reviewers assessed international qualitative studies that met the inclusion criteria

Results

Twenty five studies (23 UK and 2 international studies) were included that reported children and young people's views of physical activity, sport and play. Key barriers for adolescent girls (15 studies) to participation in sport and physical activity were related to social pressure to conform, negative experiences of the school environment, having to perform (display competence) in public and in front of peers and being forced to compete with others. Key facilitators were social and family influences, enjoyment and socialisation, intrinsic and extrinsic rewards and demonstrating competence. For children aged 8 and under (five studies) key barriers were the emphasis on team sports and limited opportunities for extra-curricular activity at primary school level; gender; financial cost of some activities for some parents; personal safety; time issues and some culturally specific barriers. Key facilitators were enjoyment; the positive attitude of parents; and the age of the child. For active travel (three studies), key barriers were fear of traffic; parental restrictions on independent movement; school influence over cycling policy and storage facilities; limited existing facilities; and adult disapproval of children's outside play. Only one study reported any facilitators for walking and cycling. These included providing personal freedom; enjoyment and fun with friends; the opportunity to explore local surroundings. For families and community (two UK studies, two Australian studies) the barriers were related to safety and fear of crime or injury. Children valued opportunities for independent outdoor play and preferred activities that emphasised fun, play and enjoyment rather than skills practice.

SUMMARY EVIDENCE STATEMENTS

1. Adolescent Girls (11-18)

There is evidence from fifteen (two++, six+ and eight-) UK qualitative studies of adolescent girls (Biddle et al., 2005a; Brooks and Magnusson, 2006; Brooks and Magnusson, 2007; Coakley and White, 1992; Cockburn and Clarke 2002; Cox et al., 2006; Finch and White 1998; Flintoff and Scraton, 2001; Jones, 1998; MacPhail et al., 2003b; Mason, 1995; Mitchell, 1997; Mulvihill et al., 2000a; Orme, 1991; Porter et al., 2002b) that the main barriers to being physically active were:

1. social pressure to conform, (e.g. wanting to fit in)
2. negative experience of the school environment (e.g. inappropriate school PE kit and discomfort about sharing showers, changing rooms, etc),
3. negative experiences of sports facilities (e.g. public spaces such as gyms or exercise classes were intimidating to teenage girls)
4. having to perform in public (e.g. being forced to perform a skill in front of peers)
5. fear of forced competition - One study (++) (Brooks and Magnusson, 2006) reported that creating a supportive environment for the delivery of a curricula focused on participation rather than competition and empowering students led to non-active student becoming more active.
6. fear of sexual or racial harassment (e.g. Asian girls described needing escorting by family member to places to participate in sports).

The main facilitators to being physically active were:

7. social and family influences, (e.g. social sanctioning of activities by peers provided opportunities to gain social standing and was likely to encourage continued or increased participation; having active siblings and supportive parents)
8. enjoyment (e.g. enjoyment and fun during sport and physical activity; enjoyment might outweigh the impact of negative peer pressure not to participate)

9. socialisation (e.g. sport provides the opportunity to socialise with a friend and extend friendship networks beyond school)
10. intrinsic and extrinsic rewards (e.g. wanting to participate in sport as a means to achieve a socially desirable body type; receiving praise and encouragement from PE teachers helped with self confidence and a positive self identity)

2. Children aged 8 and under

There is evidence from five (three+ and two-) UK qualitative studies of children aged 8 and under (Boulton, 1992; Griffiths, 1996; Mulvihill et al., 2000a; Mason, 1995; Scott Porter Research and Marketing Ltd, 2002a) that: there were far fewer barriers to physical activity and sport for children 8 and under compared to other age groups. Barriers were:

1. dislike of a focus on team sports (e.g. team sport focus in primary schools)
2. gender and cultural stereotyping about appropriateness of some sports for particular genders by parents and peers (e.g. parent viewing boys more active than girls; some sports were more “appropriate” for boys to play than girls; boys not allowing girls to play “boys games”)
3. costs of participation in organised sports (e.g. cost in terms of time and money in participating)
4. dislike of physical activities becoming less fun and more technical and performance orientated (e.g. girls stopped participating in ballet as it became more technical and less fun orientated)

The main facilitators for children aged 8 and under were:

5. enjoyment (e.g. creative and fun activities; participating in their favourite sports or activities; older children involving younger children)
6. parental and peer support (e.g. physical activity was healthy; girls and boys enjoyed playing sports more if they had started at a younger age

7. and participation in age appropriate activities (e.g. fun based dance activities at younger ages; parent seeing a progression from fun to more structured activity as children became older)

3. Active Travel

There is evidence from three (three-) UK qualitative studies of children and active travel (Barnardo's et al., 2004; Davis and Jones, 1996; Halden Consultancy, 2003) that the main barriers to active travel were;

1. children and parents' fear of traffic (e.g. children feeling unsafe when playing and walking outside, particularly after school)
2. parental restrictions on independent movement (e.g. parental restrictions on a child's range (distance), plus place and destinations)
3. school influence over cycling policy and storage facilities (e.g. absence of any school provision of facilities reflecting a lack of support for cycling)
4. limited play destinations locally (e.g. too far to travel to independently; access dangers due to traffic; play equipment unsuitable)
5. adult disapproval of children playing outside (e.g. children told off for cycling or playing in streets by adults)

Only one study reported any facilitators for walking and cycling. These included:

6. providing personal freedom (e.g. reported that walking and cycling increased their personal freedom and independence)
7. enjoyment and fun with friends (e.g. Older children enjoyed walking to school because they could mix with their friends)
8. the opportunity to explore local surroundings (e.g. gave them the chance to explore local neighbourhoods with their friends and/or alone)

4. Families and community

There is evidence from two (one +, MacPhail et al., 2003a, and one- Bramham, 2003) UK studies and two (both+ Hume et al., 2005; Veitch et al., 2006) international qualitative (both Australian) studies of families and

community that there were barriers to physical activity and sport related to personal safety of children whilst playing outside unsupervised. Common issues were:

1. perceived stranger danger (e.g. both parents and children independently reported fear of strangers)
2. risk of personal accidents (e.g. both parents and children independently reported risk of accidents or getting hurt)
3. intimidation from older children (e.g. both parents and children independently reported the risk of intimidation or bullying by older children; fear of rival gangs for different areas)
4. Poor quality of places to play (e.g. presence of drug taking equipment (like syringes) in play areas; poorly maintained toilets, shaded areas and lighting)

Facilitators were that children:

5. valued opportunities for independent outdoor play (e.g. the chance to play away for adult supervision with friends; parents preferring these places for independent play to be courtyards or cul-de-sacs rather than through roads)
6. preferred activities that emphasised fun, play and enjoyment rather than skills practice (e.g. older children attending athletics club liked playing with friends)

Discussion

This review presents a body of evidence that is suggestive of a number of important themes of barriers and facilitators of physical activity for children and young people. Notwithstanding the limitations of the review a number of possible interventions approaches could be considered for each core area. These approaches could include for example empowerment of children; emphasis on fun and enjoyment; and enhancing positive attitudes of parents to all forms of activity regardless of gender and age.

Conclusions

For children of all ages, enjoyment, friendship groups, social interaction, parental, familial and peer supports are influential. A number of studies reported stereotyping among the parents of pre-school children which was then reproduced also by the children (e.g. stereotyping particular types of activity with gender – i.e. “boys only play football, girls don’t”). A particularly important issue for adolescent girls is that social pressures to conform both facilitate and preclude participation in physical activity, sport and play.

1. Introduction

1.1. Background to the NICE programme on children and physical activity

The National Institute for Health and Clinical Excellence ('NICE' or 'the Institute') has been asked by the Department of Health (DH) to develop guidance on a public health programme aimed at promoting physical activity, play and sport for pre-school and school age children in family, pre-school, school and community settings.

This guidance will provide recommendations for good practice, based on the best available evidence of effectiveness, including cost effectiveness. It is aimed at professionals with public health as part of their remit working within the NHS, local authorities and the wider public, private, voluntary and community sectors. It will also be relevant to parents and professional carers.

The guidance will support implementation of the preventive aspects of national service frameworks (NSFs) and a number of related policy documents[1]. It has been commissioned in response to growing concerns over low levels of physical activity in children and young people, and the potential impact on current and future health.

1.2. Background to this review

The present review of qualitative studies is the second of two background systematic reviews for NICE examining the broad correlates of physical activity for children. These will be used to develop guidance about play and

[1] See Children and Physical Activity scope for full details: http://guidance.nice.org.uk/page.aspx?o=410813

sport for pre-school and school age children in family, pre-school, school and community settings. This qualitative review focuses on results of qualitative studies from the four core areas. These are: adolescent girls (11-18 years old); children aged 8 years and under; active travel; and families and community.

Historically research into determinants of sport and physical activity participation has tended to adopt quantitative methods, which undertake cross-sectional surveys of pre-determined questions on individual's knowledge, attitudes, or beliefs about sport and physical activity. For example the Health Survey for England (Joint Health Surveys Unit, 2004) asks adults about activity in four domains: activity at work, activity at home (e.g. housework, gardening, DIY), walks of 15 minutes or more, and sports and exercise activities. Large studies such as this can successfully assess the direction and strength of trends in participation but are unable to explain how children and adults adopt, maintain or cease to participate in sport and physical activity throughout their lives.

In order to understand why people participate in physical activity an alternative approach is required. This approach needs to be sensitive to the contextual, social, economic and cultural factors which influence participation in physical activity (Holm et al., 2001). Qualitative methods offer a way to gain this in depth insight into individuals' experiences and perceptions of the motives and barriers to participation in sport and physical activity (Thomas et al., 2005) and are recognized as increasingly important in developing the evidence base for public health (Dixon Woods and Fitzpatrick, 2001). Although qualitative research is a blanket term for a wide range of approaches, this type of research typically aims to understand the meaning of individual experience within a social context. The data for qualitative studies often come from repeated interviews or focus groups, are generally more in depth and have fewer participants than quantitative research. Additionally, the inductive nature of qualitative research allows for theory to emerge from the lived experiences of research participants rather than the pre-determined hypotheses testing of quantitative approaches.

Qualitative studies have tried to understand particular participants' perceptions and experiences of sport and physical activity and how these might pertain to participation (or non-participation). It is important to recognise that qualitative research cannot make any claims to a 'universal' or generalisable truth in the same way that quantitative methods can. Instead qualitative research uses rigorous methods to understand the views, motivations, and experiences of the group that participated in the research and from this understanding theory can be developed about why things occur, new questions can be uncovered, and new hypotheses made that can then be tested in quantitative research.

This contributes to the 'behavioural epidemiology' framework proposed by Sallis and Owen (1999) and illustrated in Figure 1.

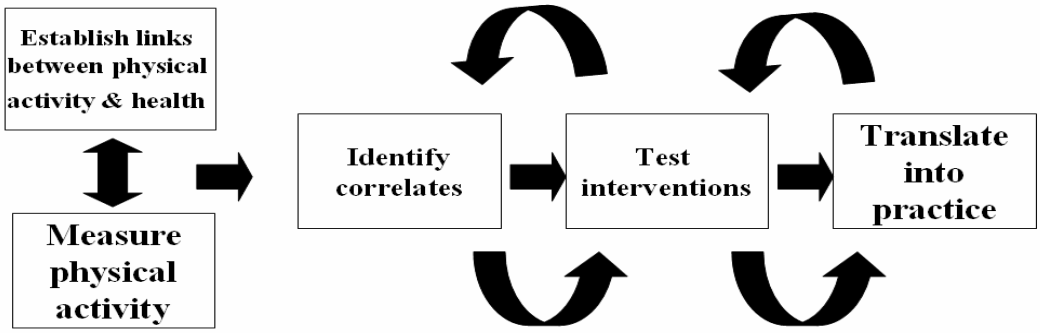

Figure 1 Behavioural epidemiological framework showing the context of correlates in the research process concerning physical activity and health.

In this framework, we have previously assessed the behaviour in question (physical activity) and have established links between physical activity and

health (see Descriptive Epidemiology review undertaken as part of this NICE review process[2]).

The quantitative correlates review identified the key factors that were correlated with physical activity, and described the strength of these associations. This qualitative review adds contextual depth and meaning to these correlates by examining the views and experiences of children captured using qualitative methods. For example the quantitative review identified five categories of correlates of physical activity. We found in the psychological correlates category that motivational correlates included self-efficacy and enjoyment (for adolescent girls). The qualitative review re-examines these correlates by looking at experiences of young adolescent girls and how these correlates might be shaped by circumstances and contexts. These narratives may offer additional key factors that may limit or enhance the opportunity for successful physical activity interventions.

1.3. Purpose of the review

The purpose of this review is to understand the views of children (and, where possible, parents and organisers of physical activity) about the barriers and facilitators to participation in physical activity in England for all children and for those in sub populations with differing levels of physical activity. The review focuses on results of qualitative studies from the four core areas. These are: adolescent girls (11-18 years old); children aged 8 years and under; active travel; and families and community.

Specifically, the following research questions are addressed:

- What are the important barriers and facilitators that may inform the development of approaches to increasing physical activity?

[2] Physical Activity and Children - Review 1: Descriptive epidemiology.

- What are the most appropriate approaches for the selected populations or settings? – to inform the effectiveness review
- What are possible ways of intervening where no experimental research exists?

This is a review of primary studies of non intervention research relating to children's participation in physical activity. In this review the term 'children' is generally used, and includes all pre school and school aged children up to age 18 years. Where necessary, distinctions are made between pre-adolescent (~<11 yrs) and adolescent (~>11 yrs) populations.

2. Methods

2.1. Sources of evidence

The brief for the literature search specified:

- Data from economically developed countries (i.e. UK, Europe, USA, Canada, Australia and New Zealand)
- Primary studies published from 1990 onwards in English language peer reviewed journals that used qualitative methodologies to identify or describe the thoughts, feelings and experiences of UK children (and parents carers, where relevant) or organisers of physical activity about children's participation in physical activity

2.2. Review team

This review has been carried out by a team from the Public Health Collaborating Centre (CC) for Physical Activity[3]. The Collaborating Centre is an alliance between the British Heart Foundation Health Promotion Research Group (University of Oxford) and the British Heart Foundation National Centre for Physical Activity and Health (Loughborough University).

2.3. Literature search

This report provides a summary of evidence on the views of children (and, where possible, parents and organisers of physical activity) about the barriers and facilitators to participation in physical activity, encompassing sport, play and transport, where possible. It draws upon primary research, using the following stages:

- A search strategy was devised and undertaken

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- Assessment of search 'hits' for inclusion
- Data extraction and narrative summary of key characteristics of included studies, highlighting scope of the review, search methodology, inclusion or exclusion criteria, number of studies reviewed and key findings and conclusions
- Consideration of these findings in terms of the context and relevance to the UK

2.4. Search strategy

We developed a pilot electronic search strategy to identify relevant published research, based upon a previous systematic review[4]. Final searching was undertaken by Cardiff University. Searches were limited to articles published in the English language from 1990 to April 2007.

Searches were conducted using the following databases: Medline, Embase, CINAHL, Index to Thesis, SCI and SSCI, PSYCINFO, SIGLE (ends 2005), SPORTS-DISCUSS, TRIS online, CSA: Environmental Sciences and Pollution Management, ERIC.

Search terms included, but were not limited to: 'physical activity', 'exercise', 'sport', 'play', 'walk', 'bicycle', 'bike', 'travel mode', 'trip' 'active travel', 'children', 'adolescent', 'young people', 'youth' 'pre-school', 'findings', 'interview', qualitative, 'data reduction', 'comparative analysis', 'interpretative method'. All search strategies were tailored for each database. Search terms for Medline are presented in Appendix 1.

In addition to electronic searching, and as a check, we also conducted searches of 'grey' literature that would not necessarily be identified through database searches. We contacted by email or visited the websites of

[4] Allender S, Cowburn G, Foster C. (2006). Understanding Participation in Sport and Physical Activity among Children and Adults: A Review of Qualitative Studies. *Health Education Research,* 21:826-35.

organisations involved in the commissioning, undertaking or cataloguing of research on physical activity and young people. This included:

- Play England: http://www.playengland.org.uk/Page.asp
- Sustrans: http://www.sustrans.org.uk/
- Active Living Research: http://www.activelivingresearch.org/
- Institute of Education, University of London: http://eppi.ioe.ac.uk/cms/

We also examined reference lists of selected primary research articles, reviews or book chapters, lists of excluded studies from the Quantitative Correlates review, as well as files of members of the research team, to identify further papers of interest.

2.5. Inclusion and Exclusion criteria

Inclusion criteria were used in two stages, first, to locate all relevant studies and, second, to highlight studies that would be subjected to in-depth analysis. Table 1 shows the stages and inclusion criteria.

Table 1. Inclusion criteria for review stages

	Study included if:
Stage 1 Criteria	1. Published in English between 1990 – April 2007 2. Classified as a qualitative paper 3. Explored children's' (or carers) experiences of physical activity, encompassing sport, play and transport 4. Related specifically to research carried out on children or adolescents (> 18 years old)
Stage 2 Criteria (In-depth analysis)	1. Reported methods and results clearly 2. Study population relevant to UK*

* Some international studies were not included because the area of interest was adequately addressed in the UK literature

In order to reduce potential sources of bias that may result from a selective presentation of the literature, and ensure that only the most reliable sources of

evidence were included in this report, only studies that included details of methods and reported full results were included for in-depth analysis. All possible included studies were assessed independently by two reviewers and any differences resolved by a third reviewer (CF).

2.6. Assessment of relevance and applicability

Some international studies were not included because the area of interest was adequately addressed in the UK literature. In core areas where there were less than 4 UK studies the reviewers assessed international qualitative studies that meet the inclusion criteria for Stage 1 and Stage 2. Two criteria were used to determine relevance and applicability. The study had to be relevant to both the core area and to the UK context. Criteria for assessing a study for relevance to the core area was the aim of the study to examine the views of children and young people from one of the intervention review core areas. Criteria for assessing a study for relevance to the UK were if in the opinion of two out of the three reviewers the study had results that could be applicable to a UK context. The study reported data (i.e. the views of the children) that could be used for supporting or enhancing the implementation of a possible physical activity intervention. This assessment was performed by two reviewers independently and then validated by CF.

2.7. Critical appraisal/quality assessment

All included studies selected for inclusion at stage 2 were assessed for quality using the Methodology checklist: Qualitative studies, from “Methods for the

development of NICE public health guidance", (NICE, 2006, p85). Criterion included:

1. Is a qualitative approach appropriate?
• Does the research seek to understand processes or structures, or illuminate subjective experiences or meanings?
• Could a quantitative approach better have addressed the question?

2. Is the study clear in what it seeks to do?
• Is the purpose of the research discussed – aims/objectives/research question
• Is there adequate reference to the literature?
• Are underpinning values/assumptions/theory discussed?

3. How defensible is the research design?
• Is the design appropriate to the question?
• Are there clear accounts of the criteria used for sampling, data collection, data analysis?
• Is the selection of cases/sampling strategy theoretically justified?
• Is a rationale given for the choice of method?

4. How well was the data collection carried out?
• Were the data collected in a way which addressed the research question?
• Was the data collection and record keeping systematic?

5. Is the role of the researcher clearly described?
• Has the relationship between the researcher and the participants been adequately considered?
• Is there evidence about how the research was explained and presented?

6. Is the context clearly described?
• Are the characteristics of the participants and settings clearly defined?
• Were observations made in a sufficient variety of circumstances?
• Was context bias considered?

7. Were the methods reliable?
• Was data collected by more than one method?
• Is there triangulation, or justification for not triangulating?
• Do the methods investigate what they claim to

8. Is the data analysis sufficiently rigorous?
• Is the procedure explicit – i.e. is it clear how the data was processed to arrive at the results?
• How systematic is the analysis, is the procedure reliable/dependable?
• Is it clear how the themes and concepts were derived from the data?

9. Is the data rich?
• How well are the contexts of the data preserved?
• Has the diversity of perspective and content been explored?
• How well has the detail and depth been preserved?
• Are responses compared and contrasted across groups/sites?

10. Is the analysis reliable?
• Did more than one researcher theme and code transcripts?

• If so, how were differences resolved?
• Did participants feed back on the data if possible and relevant?
• Were negative/ discrepant results addressed?

11. Are the findings credible?
• Is there a clear statement of the findings?
• Are the findings internally coherent?
• Are elements from the original data included?
• Can the data sources be traced?
• Is the reporting clear and coherent?

12. Are the findings relevant?

13. Conclusions
• How clear are the links between data, interpretation and conclusions?
• Are the conclusions plausible and coherent?
• Have alternative explanations been explored and discounted
• Does this enhance understanding of the research topic?
• Are the implications clearly defined?
• Is there adequate discussion of limitations?

14. How clear and coherent is the reporting of ethics?
• Have ethical issues been taken into consideration?
• Are they adequately discussed e.g. do they address consent and anonymity?
• Have the consequences of the research been considered i.e. raising expectations, changing behaviour etc?
• Was the study approved by an ethics committee?

Studies were classified into one of three categories (++, + or -) based on the responses to the above criteria.

++	All or most of the criteria have been fulfilled. Where they have not been fulfilled the conclusions of the study or review are thought **very unlikely** to alter.
+	Some of the criteria have been fulfilled. Those criteria that have not been fulfilled or not adequately described are thought **unlikely** to alter the conclusions.
–	Few or no criteria fulfilled. The conclusions of the study are thought **likely or very likely** to alter.

The final “grade” of each paper reflects “how well the study was conducted” (NICE, 2006, p 90).

For this review any stratification of data by study quality would be misleading because findings are not unique within quality strata, nor are they applicable to a wider population. With this in mind the CC review team were unable to make evidence statements with the traditional NICE stratification of quality. Instead the CC review team have presented the quality assessment (using the NICE method) of studies within each core area in conjunction with their principle themes of barriers and facilitators. Also presented are the quality scores of each study and their breakdown score by the different domains of the NICE Methodology Checklist.

2.8. Data extraction

Data were extracted from all included studies by two reviewers independently. Discrepancies were resolved by a third reviewer (CF). A copy of the data extraction form can be found in Appendix 6.

2.9. Method of synthesis and formulating evidence statements

Data were synthesised primarily using the author's own words in an attempt to convey the intended meaning and to allow for more realistic comparison between studies.

3. Results

3.1 Included studies

Searching produced 50,231 potentially relevant 'hits', of which 145 met initial criteria and 25 were selected for in-depth analysis. Figure 2 provides a breakdown of the selection process. We excluded abstracts of dissertations or reports if they failed to report details of methods or results.

Excluded studies were found to have focused on the impact and role of PE classes and teaching on gender definition, sexual orientation, the role of play as a therapeutic intervention and the perception of risk in different environments.

Figure 2 Flow diagram of article selection process

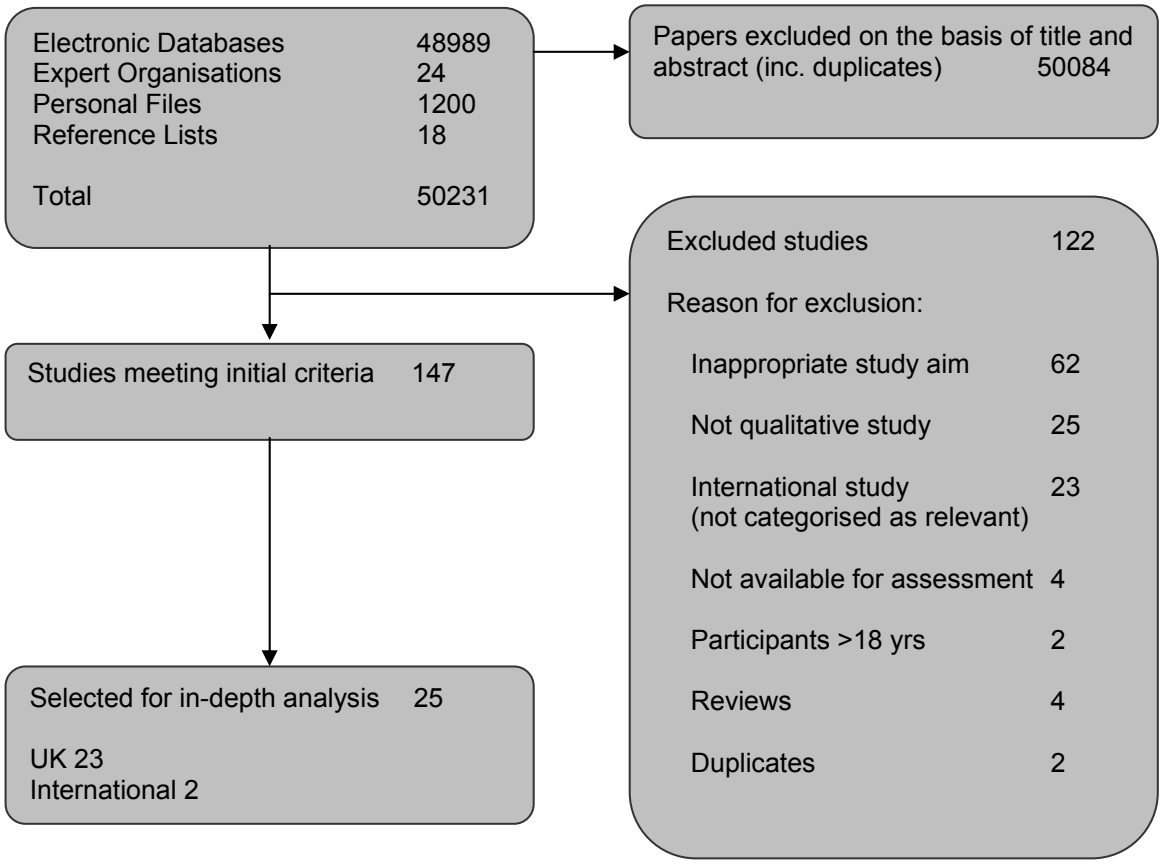

Table 2 shows that 23 included studies were found from the UK with an additional 2 international studies categorised as relevant.

Table 2 Number and first authors of included studies by core area including international studies assessed as relevant

Core Area	Number[$]	Study first author
Adolescent Girls	15	Biddle et al., 2005a Brooks and Magnusson, 2006 Brooks and Magnusson, 2007 Coakley and White, , 1992 Cockburn and Clarke 2002 Finch and White, 1998 Flintoff and Scraton, 2001 Mulvihill et al., 2000a Cox et al., 2006 Jones, 1998 MacPhail et al., 2003b Mason, 1995* Mitchell, 1997 Orme, 1991 Porter 2002b
Children aged 8 and under	5	Boulton, 1992 Griffiths, 1996 Mulvihill et al., 2000a Mason, 1995* Scott Porter Research and Marketing Ltd, 2002a
Active Travel	3	Barnardo's et al., 2004 Davis and Jones, 1996 Halden Consultancy, 2003 (No relevant international studies found)
Family and Community	4	Bramham, 2003 MacPhail et al., 2003a Hume et al., 2005 – International study Veitch et al., 2006 – International study

***** Mason, 1995

[$]Some studies provided data across more than one core area

3.1.1 Adolescent Girls

The review of qualitative studies identified 15 published studies which aim to understand the views of teenage girls about the barriers and facilitators to participation in physical activity (See Appendix 5, Evidence Table 5 – Adolescent Girls (11-18)). No international studies were included in this area as there were sufficient UK studies. The majority of papers provided a stated aim towards understanding the teenage girls' attitudes and experiences and how these might influence decisions or opportunities to participate in sport and physical activity. Other papers explored cultural aspects of participation, key transitions, and the role of teenage magazines.

Information about the participants' activity levels was not reported nor used to stratify the analysis and reporting of results in the majority of cases. In some cases the studies involved only those who were physically active, in others only those that were inactive.

The majority of studies recruited via one or more schools. A number of participants were drawn from larger sample quantitative surveys (Biddle 2005a; Flintoff and Scraton, 2001; Jones, 1998; Mason, 1995).

In most cases data were collected through focus group discussions or one-to-one interviews. One study used the Nominal Group Technique to collect data (Flintoff and Scraton, 2001).

3.1.2 Children aged 8 and under

Five published UK based studies were found relating to children aged 8 or under (See Appendix 5 Evidence Table 6 – Children aged 8 and under). No international studies were included in this area as there were sufficient UK studies. Two of these studies (Mason, 1995; Mulvihill et al., 2000a) reported the views of children and their parents or carers, although Mason (1995) presents most data on the views of teachers rather than children, one study

(Scott Porter Research and Marketing Ltd, 2002a) focused on the views of parents of children under 5 with the remaining two studies (Boulton, 1992; Griffiths, 1996) presenting views of children alone.

The three studies reporting the views of children and/or parents/carers (Mason, 1995; Mulvihill et al., 2000a; Scott Porter Research and Marketing Ltd, 2002a) aimed to examine the perceptions of, and motivations for, and barriers to involvement in physical activity or sport. One study (Boulton, 1992) investigated some of the reasons for mixed/single sex and/or age games in a school playground and another study (Griffiths, 1996) explored girls' experiences of two different styles of dance class.

A range of different recruitment settings were used. Two studies recruited children from within a school setting with Boulton (1992) studying children from one school and Mason (1995) recruiting children and teachers from several different geographical and school catchment areas. Mulvihill et al (2000a) used schools, youth clubs and a shopping centre to recruit their participants, Scott Porter Research and Marketing (2002a) aimed to recruit an ethnically and socially mixed group of participants and Griffiths (1996) used friendship groups to select her small sample.

A range of methods of data collection were employed. Boulton (1992) and Griffiths (1996) used interviews and observations, Mason (1995) and Scott Porter Research and Marketing Ltd (2002a) used individual interviews and Mulvihill et al (2000a) used paired interviews for children and focus groups for parents.

3.1.3 Active Travel

The review of qualitative studies identified three UK based published studies related to children's perspectives on active travel (See Appendix 5 Evidence Table 7 – Active Travel). No relevant studies reporting the views of parents or

carers were identified. No studies from the wider international literature were considered by the reviewers to be suitable for inclusion in this review.
One study (Davis and Jones, 1996) aimed to explore children's ideas about interconnections between transport, local environmental issues and health. Another study (Halden Consultancy, 2003) undertook an investigation into how children viewed sustainable transport. The other study (Barnardo's et al., 2004) examined how the lives of children were affected by traffic in their neighbourhoods. Each study involved older primary and younger secondary school aged children. Davis and Jones (1996) recruited children from four schools in different types of catchment area in a central England city, the Halden Consultancy study (2003) was located in Scotland and the Barnardo's study recruited children from a wider geographical area and a range of settings, including a youth charity, family centres and one school (Barnardo's et al., 2004). All of these studies used focus group discussions to collect data.

3.1.4 Family and Community

The review of qualitative studies identified two UK studies for inclusion (See Appendix 5 Evidence Table 8 – Family and Community (Bramham, 2003; MacPhail et al., 2003a). In addition, two international studies (both from Australia) were also included (Hume et al., 2005; Veitch et al., 2006).

Three of these studies reported the views of children aged between 9 and 15 years old. Of these, one of the UK studies aimed to explore the nature, purpose and experiences of children's physical education involvement both in and out of school (Bramham, 2003). The other UK study (MacPhail et al., 2003a) explored children's involvement in an athletics club. One Australian study explored children's perceptions of their home and neighbourhood environments (Hume et al., 2005). The final study investigated parents' perceptions of their primary school aged child's active free-play (Veitch et al., 2006).

Participants were recruited from a school setting in three studies (Bramham, 2003; Hume et al., 2005; Veitch et al., 2006) and while attending an athletics club (MacPhail et al., 2003a). Data was collected using focus groups and individual interviews (Bramham, 2003), individual interviews (Veitch et al., 2006), a mix of methods including individual interviews, focus groups and participant observation (MacPhail et al., 2003a) and by map drawing (Hume et al., 2005).

3.2 Study Quality Assessment

The overall quality of the majority of studies was not high, see Table 3.

Each study's overall quality score is presented in the Evidence Tables – Appendix 5. A breakdown of each study's quality score across the different components of the NICE Methodology is presented in Appendix 6.

Common reasons why studies were rated poorly were because of ambiguity about: methods for participant recruitment; the role of the researcher in the research process; the epistemological and theoretical underpinnings of the approach taken to the research; and a lack of triangulation of methods. Low scores were due to inadequate information in reporting many aspects of the study. As a consequence, it was difficult to assess the reliability of reported findings.

Table 3 Quality assessment, number and first authors of included studies by core area*

	Quality assessment		
Core Area	**++**	**+**	**-**
Adolescent Girls	Brooks and Magnusson, 2006 Brooks and Magnusson, 2007	Biddle 2005a Coakley and White, 1992 Cockburn and Clarke 2002 Finch and White 1998 Flintoff and Scraton, 2001 Mulvihill et al., 2000a	Cox et al., 2006 Jones, 1998 MacPhail et al., 2003b Mason, 1995 Mitchell, 1997 Orme, 1991 Porter 2002b
Children aged 8 and under		Boulton, 1992 Griffiths, 1996 Mulvihill et al., 2000a	Mason, 1995 Scott Porter Research and Marketing Ltd 2002a
Active Travel			Barnardo's et al., 2004 Davis and Jones, 1996 Halden Consultancy, 2003
Family and Community		MacPhail et al., 2003a Hume et al., 2005$^{\$}$ Veitch et al., 2006$^{\$}$	Bramham, 2003

* including international studies assessed as relevant
$ International study

4.0 Findings and Discussion

4.1 Adolescent Girls (11-18)

EVIDENCE STATEMENT

There is evidence from fifteen (two++, six+ and eight-) UK qualitative studies of adolescent girls (Biddle et al., 2005a; Brooks and Magnusson, 2006; Brooks and Magnusson, 2007; Coakley and White, 1992; Cockburn and Clarke 2002; Cox et al., 2006; Finch and White 1998; Flintoff and Scraton, 2001; Jones, 1998; MacPhail et al., 2003b; Mason, 1995; Mitchell, 1997; Mulvihill et al., 2000a; Orme, 1991; Porter et al., 2002b) that the main barriers to being physically active were:

1. social pressure to conform, (e.g. wanting to fit in)
2. negative experience of the school environment (e.g. inappropriate school PE kit and discomfort about sharing showers, changing rooms, etc),
3. negative experiences of sports facilities (e.g. public spaces such as gyms or exercise classes were intimidating to teenage girls)
4. having to perform in public (e.g. being forced to perform a skill in front of peers)
5. fear of forced competition - One study (++) (Brooks and Magnusson, 2006) reported that creating a supportive environment for the delivery of a curricula focused on participation rather than competition and empowering students led to non-active student becoming more active.
6. fear of sexual or racial harassment (e.g. Asian girls described needing escorting by family member to places to participate in sports).

The main facilitators to being physically active were:

7. social and family influences, (e.g. social sanctioning of activities by peers provided opportunities to gain social standing and was likely to

encourage continued or increased participation; having active siblings and supportive parents)

8. enjoyment (e.g. enjoyment and fun during sport and physical activity; enjoyment might outweigh the impact of negative peer pressure not to participate)
9. socialisation (e.g. sport provides the opportunity to socialise with a friend and extend friendship networks beyond school)
10. intrinsic and extrinsic rewards (e.g. wanting to participate in sport as a means to achieve a socially desirable body type; receiving praise and encouragement from PE teachers helped with self confidence and a positive self identity)

4.1.1 Findings from studies

Barriers

The main barriers to participation in sport and physical activity identified by participants in the studies reviewed related to social pressure to conform, negative experiences of the school environment, having to perform (display competence) in public and in front of peers and being forced to compete with others.

A number of studies found that peer and social influences on what is desirable would override any perceived health or other benefits of being active (Biddle et al., 2005a; Cox et al., 2006; Mason, 1995; Orme, 1991). In particular boyfriends had a negative impact on participation (Coakley and White, 1992) and activities that were seen as babyish or "too girlie" were particularly likely to be viewed negatively by peers (Brooks and Magnusson, 2007). Other studies noted that barriers to teenage girls' participation were feeling self conscious (Cox et al., 2006; Porter 2002) and concern about fitting in (Finch and White, 1998). Cockburn and Clarke (2002) drew the conclusion that a number of the qualities encouraged in PE and sport (independence/ assertiveness/ strength etc.) run counter to the 'socially acceptable' identity for teenage girls.

Negative experiences of the school and other related environments were common barriers to participation. A number of studies identified problems with inappropriate school PE kit and discomfort about sharing showers, changing rooms, etc. (Coakley and White, 1992; Finch and White, 1998; Mason, 1995; Orme, 1991; Porter 2002). Other studies identified reluctance among teenage girls to perform physical skills in public: particularly in front of peers and more specifically in front of boys (Cockburn and Clarke 2002). Two papers reported that poor teaching and classes without aim or purpose were seen by teenage girls as barriers to participation (Mason, 1995; Mulvihill et al., 2000). Other environmental barriers identified in the review included unwelcoming facilities (changing rooms, quality of sports halls) (Cox et al., 2006), a lack of opportunities to be active (Coakley and White, 1992), bad weather and a lack of appropriate equipment (Mason, 1995).

Cox et al (2006) identified that the transition from primary to secondary school was associated with sport becoming less fun and more competitive. Being forced into competition was a major barrier reported in many of the studies reviewed (Biddle 2005a; Mason, 1995). This was particularly true when girls were forced to compete with boys during PE class (Biddle et al., 2005a; Finch and White, 1998; Mulvihill et al., 2000). Competition against peers was viewed as a barrier to participation (Brooks and Magnusson, 2007) as was competition in traditionally organised team sports (Brooks and Magnusson, 2007).

Teenage girls described having to demonstrate skills in sport and physical activity as a barrier to participation. In particular not being able to perform skills that the children perceive they should be able to perform was a problem (Coakley and White, 1992; Orme, 1991). A lack of confidence and a perceived lack of physical ability led to those who were less skilled avoiding those activities they felt they could not do (Coakley and White, 1992; Finch and White, 1998; Mason, 1995). A further barrier was not being taken seriously by teachers (Finch and White, 1998).

There were a number of other barriers identified through the review. A number of studies noted that as teenage girls aged, their own changing identity led them to express a reduction the relevance of sport and physical activity. Coakley and White (1992) reported that teenage girls felt sport was irrelevant or at best a low priority in preparing them for adult roles. This is consistent with a number of studies which identified competing priorities that become more important to the teenage girls than sport and physical activity (Biddle et al., 2005a; Cox et al., 2006; Finch and White, 1998; Mitchell, 1997).

Brooks and Magnusson (2007) found that public spaces such as gyms or exercise classes were intimidating to teenage girls. Jones (1998) found that racial and sexual harassment were commonplace for Asian girls and that as a result Asian girls needed to be escorted by family members with subsequent consequences for participation. Parental fears were perceived by children as hampering opportunities to be active.

Facilitators

Social and family influences, enjoyment and socialisation, intrinsic and extrinsic rewards and demonstrating competence were shown to be facilitators of sport and physical activity participation among teenage girls.

Many girls participated in physical activity and sport in order to conform to socially desirable body types (Biddle et al., 2005a; Finch and White, 1998; Mulvihill et al., 2000; Orme, 1991; Porter 2002b). The social sanctioning of activities by peers provided opportunities to gain social standing and was likely to encourage continued or increased participation (Brooks and Magnusson, 2007; Cox et al., 2006; Mason, 1995).

This review suggests that family was a very important facilitator for teenage girls participating in sport and physical activity. A number of studies reported that girls with active siblings or parents were more likely to be active (Biddle et al., 2005a; Cox et al., 2006; Mason, 1995). Coakley and White (1992) noted that girls felt money and parental support were also important factors.

Not surprisingly enjoyment and fun during sport and physical activity facilitated participation (Mason, 1995; Mulvihill et al., 2000). For many teenagers having a friend present was important to younger secondary school girls (Biddle et al., 2005a; Coakley and White, 1992; Finch and White, 1998). Physical activity was seen as an opportunity for socialising with existing friends and family and for extending their friendship networks beyond the realm of school to other adolescents and the broader community (Brooks and Magnusson, 2007). Biddle et al., (2005a) found that enjoyment overcomes much of the problems caused by peer pressure.

A number of studies identified both extrinsic and intrinsic awards that facilitate participation among teenage girls. In particular receiving praise and appreciation from the PE teacher played a significant role for the young people in terms of enhancing their physical self-confidence, as well as negating the construction of inadequate physical identities (Brooks and Magnusson, 2006). Other studies noted the importance of general encouragement from teachers, family and coaches (MacPhail et al., 2003; Mason, 1995). Brooks and Magnusson (2007) found that teenage girls were more interested in activities that promote emotional well being (Brooks and Magnusson, 2007). In addition teenage girls valued physical activity when it constituted a “private solo recreational space” (Brooks and Magnusson, 2007).

While being unable to demonstrate competence and skills was recognised as a barrier by many studies, the inverse was also true. Brooks and Magnusson (2006) found that through engaging in new activities girls were able to display previously hidden physical abilities and Coakley and White (1992) found that girls saw physical activity as an opportunity to demonstrate equality with boys (Coakley and White, 1992). Learning new skills and winning certificates and recognition was also an important facilitator (Finch and White, 1998).
Not being in competition with their friends was discussed as an important aspect of participation in sports and physical activity. Two studies found that participants valued the opportunity to undertake a range of activities of their

own choosing and to express preferences that were acted upon by teachers (Brooks and Magnusson, 2006; Mason, 1995)

Physical activity was generally associated with good health (Mason, 1995). A number of teenage girls reported using sport to 'discount' other unhealthy behaviours (such as smoking) (Finch and White, 1998). Some teens felt modified sports were enjoyed by younger teens (Mason, 1995) while others suggested greater sports club provision and access to opportunities was important (MacPhail et al., 2003).

4.1.2 Discussion

Our review identified fifteen papers which reported qualitative studies of the barriers to and motivations for participation in sport and physical activity among teenage girls. A number of themes were common for both barriers and facilitators. Thus the main influences on teenage girls' participation were; peer, social and familial influences; experiences at school; competition in sport; and, issues around identity.

The main barriers were peer and social pressures to conform to 'cool' stereotypes/ identities which did not include physical activity. Negative experience in school PE and particularly discomfort around PE uniform, changing rooms and in particular showers would reduce young girls' participation. Transitions from young to middle adolescence represented shifts in identities that did not support participation in sport and physical activity. Having to demonstrate skills in front of peers also had a negative influence on participation, for fear of messing up or being humiliated.

The main facilitators to participation was pressure to conform to socially desirable body types, family and peer support and accessibility to sports and physical activity which were fun and enjoyable. Children receiving positive encouragement and high quality teaching were both important facilitators of participation. Some girls saw physical activity as a chance to demonstrate

skills especially in a non-competitive environment as opposed to a time of possible humiliation.

One theme found from the qualitative studies for facilitators and barriers to physical activity was consistent with the findings of the review of quantitative correlates, the impact of family and peer support (Biddle et al., 2007). Although it is not possible to conclude which type of support is more important (parental, sibling, family, peers) these findings do add value the importance of encouraging a supportive view of activity within an adolescent girl's home and peer group.

Two studies were identified that provided some information on possible interventions for teenage girls. Brooks and Magnusson (2006) reported an apparently very successful programme that shifted participants from inactive to active within the school setting. It should be stressed that this study purposively sampled students who had made this transition and so only involved those people who had had a positive change either in response to the change in the PE programme or as a result of some other stimulus. Cox et al (2006) specifically asked teenage girls how to increase the likelihood of their being active. The findings support the broader findings of this review in that girls would like; more time to devote to sport and PA; support from friends and family; and wider choice of activities.

4.2 Children aged 8 and under

EVIDENCE STATEMENT

There is evidence from five (three+ and two-) UK qualitative studies of children aged 8 and under (Boulton, 1992; Griffiths, 1996; Mulvihill et al., 2000a; Mason, 1995; Scott Porter Research and Marketing Ltd, 2002a) that there were far fewer barriers to physical activity and sport for children 8 and under compared to other age groups. Barriers were:

1. dislike of a focus on team sports (e.g. team sport focus in primary schools)

2. gender and cultural stereotyping about appropriateness of some sports for particular genders by parents and peers (e.g. parent viewing boys more active than girls; some sports were more “appropriate” for boys to play than girls; boys not allowing girls to play “boys games”)
3. costs of participation in organised sports (e.g. cost in terms of time and money in participating)
4. dislike of physical activities becoming less fun and more technical and performance orientated (e.g. girls stopped participating in ballet as it became more technical and less fun orientated)

The main facilitators for children aged 8 and under were:

5. enjoyment (e.g. creative and fun activities; participating in their favourite sports or activities; older children involving younger children)
6. parental and peer support (e.g. physical activity was healthy; girls and boys enjoyed playing sports more if they had started at a younger age
7. and participation in age appropriate activities (e.g. fun based dance activities at younger ages; parent seeing a progression from fun to more structured activity as children became older)

4.2.1 Findings from studies

Barriers

Few barriers to being active in this age group were identified. They focused on the emphasis on team sports and limited opportunities for extra-curricular activity at primary school level, gender, financial cost of some activities for some parents, personal safety, time issues and some culturally specific barriers.

The traditional emphasis on team sports was thought by primary school teachers to alienate some children from all sport (Mason, 1995). This study also reported a lack of specialised staff and facilities limiting options for extra-curricular sport, alongside lower expectations that primary aged children should have access to this type of activity and practical considerations about getting children home safely.

Mulvihill et al (2000a) reported that parents cited few barriers to being active in this young age group, except cost for some. Boys in this study perceived girls to be less skilful and less interested in sport and activity.

Gender issues were also illuminated by Scott Porter Research and Marketing Ltd (2002a). Parents of children aged under 5 commonly viewed boys as naturally more active than girls and gender stereotyping of activities was evident even at an early age. This study also reported barriers of time, financial cost and concerns about personal safety. In addition, some culturally specific barriers relating to facilities, opportunities and the value of activity in young children were also reported.

Boulton (1992) offered several reasons why girls and younger boys were excluded from playground football games - lack of skill, lack of knowledge about the rules/game and risk of injury. Girls reported being excluded by boys because the boys were scared to let them join in, in case they proved to be more skilful players.

Griffiths (1996) reported a gradual loss of interest in ballet as the focus of classes changed to technical aspects of ballet, leading to less opportunity for free expression and fun.

Facilitators

Common themes for encouraging activity in young children were found to be enjoyment, the attitude of parents and the age of the child.

All the five studies found that young children enjoyed being active. Mulvihill et al (2000a) found that young children (and their parents) thought activity was beneficial for health. They held positive views of school physical education and children were considered to be generally active. Girls reported especially enjoying dancing and boys highlighted football as their favoured activity. Griffiths (1996) found that participants enjoyed their early involvement in both ballet and creative dance classes. The girls were motivated by previously positive experiences of ballet reported to them by mothers, sisters and/or

peers, by their costumes and by taking part in performances. Girls took part in creative dance classes either because their friends were also attending classes or because of a negative experience of ballet. In particular, girls enjoyed creative dance because it was fun and involved playing games and making up stories. Performances were also a highlight and, unlike ballet, the emphasis was on sharing the act of dancing rather than doing it 'correctly'.

Primary school teachers in Mason's (1995) study felt that there were few differences between boys and girls at this age in strength and agility and generally offered mixed classes and taught the same skills and sports. They reported that offering a wide range of different activities, allowing performance at child's own level and enabling progress to take place to match the child's own developmental pace and experiencing any kind of success encouraged participation. Teachers also believed that influences outside school (such as parents, the local neighbourhood, peers and friends, TV and the media) alongside the individual child's preferences had an important impact on activity.

The attitude of parents was also found to be an important influence by Scott Porter Research and Marketing Ltd (2002a). Some parents saw activity as a natural and important part of development which required encouragement. Other parents viewed activity as a natural part of a younger child's day. Parents understood the physical, health and social benefits of being active but some relied on others to provide that opportunity rather than being involved in active play themselves. With increasing age, children were thought to move from natural activity in play towards the development of sport/team involvement.

Boulton (1992) found evidence that playground activity in his youngest participants (aged 8 years) was influenced by older children. Young boys reported mixed feelings about older boys joining in their games of football. Some were pleased and encouraged by the presence of an older boy but others reported feeling unable to stop older boys from taking over the game. Younger children of both sexes were allowed to join in 'girls' games like

skipping to help them learn how to play (and to entertain the older girls with their lack of skill).

4.4.2 Discussion of findings

Our review identified five UK studies reporting barriers and facilitators to being active in children aged 8 and under. Similar themes emerged as important facilitators from this review as the review of quantitative correlates, (Biddle et al., 2007), parental and peer support, access to facilities and concerns with safety. Children and parents/carers were found to hold broadly positive views of the importance and value of day to day activity. Despite some barriers related to opportunities to be active outside school, cost in both time and financial terms, personal safety concerns and other issues, children were generally believed to be engaged and motivated to be active. Enjoyment and fun appear to be key factors in this engagement. The emergence of gender related attitudes which appear to negatively impact on girls' activity levels in the future is of concern.

4.3 Active Travel

'Active travel' is concerned with walking and cycling for a functional purpose such as travelling to school, to visit friends or to go to the shops, so that physical activity is an incidental outcome and not the primary objective.

EVIDENCE STATEMENT

There is evidence from three (three-) UK qualitative studies of children and active travel (Barnardo's et al., 2004; Davis and Jones, 1996; Halden Consultancy, 2003) that the main barriers to active travel were;

1. children and parents' fear of traffic (e.g. children feeling unsafe when playing and walking outside, particularly after school)
2. parental restrictions on independent movement (e.g. parental restrictions on a child's range (distance), plus place and destinations)

3. school influence over cycling policy and storage facilities (e.g. absence of any school provision of facilities reflecting a lack of support for cycling)
4. limited play destinations locally (e.g. too far to travel to independently; access dangers due to traffic; play equipment unsuitable)
5. adult disapproval of children playing outside (e.g. children told off for cycling or playing in streets by adults)

Only one study reported any facilitators for walking and cycling. These included:

6. providing personal freedom (e.g. reported that walking and cycling increased their personal freedom and independence)
7. enjoyment and fun with friends (e.g. Older children enjoyed walking to school because they could mix with their friends)
8. the opportunity to explore local surroundings (e.g. gave them the chance to explore local neighbourhoods with their friends and/or alone)

4.3.1 Findings from studies

Barriers

The main barriers identified by participants in the reviewed studies related to fear of traffic, parental restrictions on independent movement, school influence over cycling policy and storage facilities, limited existing facilities and adult disapproval of children's outside play (on streets – as part of active travel or playing).

Two of the studies reported children's concern and fear about traffic. The Barnardo's study found that children felt unsafe when playing and walking outside (Barnardo's et al., 2004). Two key issues affecting their safety were speeding and bad driving. Davis and Jones (1996) found that fear of traffic restricted the ability of children to play, especially after school (age or gender not specified). The ability to walk in safety also limited children's ability to travel around their local areas. Parents restricted range from home, often to the end of the street, or else to specific locations such as local shops. Cycle

use was very much restricted by traffic danger and also by fear of bicycle theft. Traffic was reported to be a key determinant of children's independent mobility. In the Halden Consultancy study, younger children reported also limitations being placed on their walking and cycling by parents, due to safety and also timing/convenience issues. School also exerted some influence over cycling policy and storage facilities (Halden Consultancy, 2003).

Davis and Jones (1996) reported that age and gender emerge as significant influences in structuring children's use of their local environments, with younger children (aged 9-11 years) reporting more restrictions on their freedom of movement than those who were older (aged 13-14 years). Girls (and in particular teenage girls) highlighted barriers to independent mobility and reported being given curfew times or restricted as to where, when and with whom they went out. These restrictions were explained partly in terms of legitimate parental fears about violence and sexual assault but also by what they viewed as unwanted stereotyping of girls by both male peers and adults. One study (Halden Consultancy, 2003) reported reduced levels of interest in cycling amongst older girls due to peer pressure.

Some children reported feeling unable to travel to use existing play facilities because, for example, parks were situated next to a busy main road with crossings in the wrong place. The children highlighted other problems with existing facilities. These were feeling isolated in parks located too far away from other people and existing play equipment not meeting their needs. Children considered themselves to be expert on their local neighbourhood but had never been consulted about the design or location of facilities (Barnardo’s et al., 2004). Davis and Jones (1996) found that safe play space was at a premium and children (especially boys) wanted more grassy areas. The lack of things to do after school was also commented on by boys and girls and 'staying in' or 'hanging out in the street' represented the major choices young people could make. Lack of available places to participate in organised physical activity led to boredom and feelings of being trapped. There was frustration that the opportunities for girls to participate in physical activity were few, especially as peer and cultural pressures added further restrictions.

In addition, some children felt they were considered a nuisance by adults and had been told off for playing outside or cycling.

Facilitators

Only one study (Halden Consultancy, 2003) identified any facilitators to walking and cycling. Both primary and secondary school pupils reported positive attitudes towards these activities, recognising health and environmental benefits. Younger children reported that walking and cycling increased their personal freedom and independence, gave them the chance to explore local neighbourhoods with their friends and/or alone. Older children enjoyed walking to school because they could mix with their friends and 'get fresh air/wake up' before school.

4.3.2 Discussion of findings

Our findings are based on only three UK studies reporting any relevance to active travel. A small number of studies from the UK and the international literature were considered and excluded from the review because their main focus was on children's risk perception rather than on barriers or facilitators to participation in physical activity.

Only one of the studies reported any facilitators. The children reported more independence when walking and cycling, as they could mix with their friends and have fun.

Several common themes related to barriers were identified. These were children's fear of traffic and restrictions on independent mobility due to parental concern about traffic but also about personal safety issues, particularly for younger children and for girls. Cycle storage facilities and school cycling policy was also reported as influencing cycling to/from school. Two of the included studies also included important information on accessing play facilities outside school hours. The limited information from these studies suggests that interventions to reduce fear of traffic and improve road safety, to create safe and easily accessible play areas for a wide age range of children

and to facilitate the development of safer neighbourhoods may be of value in encouraging active travel. This theme was also reported by the quantitative review (Biddle et al., 2007) as a small negative association for young people.

4.4 Families and community

EVIDENCE STATEMENT

There is evidence from two (one +, MacPhail et al., 2003a, and one- Bramham, 2003) UK studies and two (both+ Hume et al., 2005; Veitch et al., 2006) international qualitative (both Australian) studies of families and community that there were barriers to physical activity and sport related to personal safety of children whilst playing outside unsupervised. Common issues were:

1. perceived stranger danger (e.g. both parents and children independently reported fear of strangers)
2. risk of personal accidents (e.g. both parents and children independently reported risk of accidents or getting hurt)
3. intimidation from older children (e.g. both parents and children independently reported the risk of intimidation or bullying by older children; fear of rival gangs for different areas)
4. Poor quality of places to play (e.g. presence of drug taking equipment (like syringes) in play areas; poorly maintained toilets, shaded areas and lighting)

Facilitators were that children:

5. valued opportunities for independent outdoor play (e.g. the chance to play away for adult supervision with friends; parents preferring these places for independent play to be courtyards or cul-de-sacs rather tha through roads)
6. preferred activities that emphasised fun, play and enjoyment rather than skills practice (e.g. older children attending athletics club liked playing with friends)

4.4.1 Findings from studies

Barriers

Some of the barriers previously identified by parents of younger children in relation to outside play opportunities were also articulated by parent participants of older children (Veitch et al., 2006). Their main concerns related to personal safety of their children whilst playing outside unsupervised. Common issues were perceived stranger danger, risk of personal accidents, intimidation from older children and presence of drug taking equipment like syringes in play areas. Parents in this study confirmed findings from Davis and Jones (1996) – see Section 3.4.1 – that older children were given a greater level of independence to go without adult supervision than younger ones. Parents also voiced concerns over facilities at parks and playgrounds, holding a view that some were difficult to access for children (for example, because of crossing busy roads), that there was less of interest provided for older children alongside the need for improved toilets, shade and lighting. Hume et al (2005) reported similar findings from their child participants who raised issues about equipment, facilities and play areas. Bramham (2003) reported that access to local facilities may be restricted because of tensions caused by friendship cliques taking over neighbourhood areas.

Facilitators

Hume et al (2005) found that children valued unsupervised opportunities for social interaction with friends and for outside play. Veitch et al (2006) noted parents were more willing to allow primary aged children to play independently in courtyards and cul-de-sacs rather than on through roads. The teenage boys in Bramham's (2003) study stressed the importance to them of developing skills and accessing organised sporting opportunities. In the context of an athletics club, MacPhail et al (2003a) reported that participants enjoyed trying out various activities, with an emphasis on fun, play and enjoyment rather than skills practice. Some children enjoyed the opportunity for competition, especially older participants and boys. In this study, children emphasised the importance of friendship groups to prompt or maintain attendance.

4.4.2 Discussion of findings

Our review identified two UK and two international studies exploring play and activity opportunities outside of a school setting. Common themes echo those reported in previous sections: an emphasis on fun and enjoyment, the importance of friendship groups in promoting and maintaining involvement in activity, the value given by children to unsupervised play and the concerns shared by parents and children about playing outside safely.

5. General Discussion

This review has summarised the evidence on the views of children (and, where possible, parents and organisers of physical activity) about the barriers and facilitators to participation in physical activity, encompassing sport, play and transport, where possible. It is drawn upon UK primary research, and international studies where only limited UK data was available.

5.1 Limitations of review

This type of physical activity research does suffer similar methodological challenges reported in the Quantitative correlates review (Biddle et al., 2007), i.e. the measurement of physical activity, reliance on cross sectional rather than prospective data and validation of the particular themes. The overall quality of the qualitative studies was not high mainly due to poor reporting of particular details used in assessing the quality criteria. Particular emphasis should be placed on a lack of detail of how participants were recruited for these studies and a lack of detail on describing the socio-demographic profiles.

Although we did find over 20 studies few reported a theoretical framework for their study. An absence of such frameworks limits the use of these studies in deriving a theoretical framework for understanding young peoples' reasons for participation and non-participation in physical activity, sport and play.

5.2 Comparison with previous reviews

This review did have a number of similar key findings to the previous quantitative review (Biddle et al., 2007). Although these reviews cannot be directly compared, due to the difference sources of data, parallel themes appear to be:

- the importance of parental and peer support for and against participation in physical activity and sport. This support is mediated by age, gender and cultural values.

- that opportunities for informal and unsupervised play and active travel are restricted by parental and child concerns for safety

This review also found that such barriers and facilitators of physical activity, sport and play for children and young people do not remain fixed or static but rather change in importance and influence as a child becomes older.

This review draws similar but broader conclusions to an earlier review (also conducted by the review team) (Allender et al., 2006). However the Allender review only reported on the findings of nine studies for children and young people. The studies focused on primarily on adolescent girls/young women and younger children (aged 5-15 years old). Table 4 summarises the main findings from Allender et al., (2006).

Table 4 Summary of main findings from Allender et al., (2006), p829

Age Group	Motivations	Barriers
Young children	Experimentation Unusual activities Parental support Safe environment	Competitive sports Highly structured activities
Teenagers and young women	Body shape Weight management New social networks Family support Peer support	Negative experiences at school Peer pressure Identify conflict PE uniforms Boy's dominance in class Competitive classes Lack of teacher support

5.3 Possible intervention approaches

This review presents a body of evidence that is suggestive of a number of important themes of barriers and facilitators of physical activity for children and young people. The review is not able to pin point how these themes could be tackled as part of an intervention but the review does offer a reason why interventions should consider these themes. Notwithstanding the limitations of the review a number of possible interventions approaches could be considered for each core area.

Adolescent girls

There was one study in particular that provides a number of useful insights into possibilities for intervening. Brooks and Magnusson (2006) examined the lived experience of 'PE' adverse teens who, following a change in the structure of PE, became active in class. The changes involved the whole PE department plus any students on placement and received support from the head and deputy head. Additional resources were provided to employ a part time dance teacher in response to requests from students and the development of the new PE programme involved consultation with the year 8 group in response to critique from the students. Explicit attempts were made to change both the form of provision (types of activities and extent of choice) and the culture (e.g. staff approaches to competitiveness) of PE. In particular involving the students in design of PE kit and activities; investment in updating equipment and decorating sports venues, improvements in the change rooms; allowing students to choose what they wore to classes; a reward system for participation; and a shift in teaching focus from attaining excellence to achieving broad participation

Their focus group discussion with 25 girls aged 14-15 who had become more active following the change investigated their perceptions and experiences of PE before and after the implementation of the modified PE programme. Most notably girls moved from seeing their bodies as marginalised in PE to perceiving their bodies as performing and active in PE. The new PE resulted in increased self confidence to participate both in PE and in the broader community. Prior to the changes the girls felt PE was a method of the school exerting control over their bodies, particularly in relation to the use of showers, the inflexibility over PE uniform and the lack of control over the type of activities. After the change girls valued having control over what aspects of the PE uniform they wore, felt that the new uniform made them feel physically more comfortable and freed them from concerns over displaying their bodies.

A recurring theme throughout the data presented from this study was the positive impact of incentives for self-improvement as opposed to negative

sanctions for losing. The reward system, combined with supportive encouragement from the teachers, served to encourage a view that achievement in physical activity was attainable, even by those who previously believed that they lacked skills and ability. Instead of being located on the periphery of the lesson as a mass of relatively invisible non-participants they became, through the positive attention of the teachers, individuals with abilities and development needs. Being made to feel 'good enough' as opposed to 'less than' was not only an important confidence builder for the girls but also a protective factor against non-participation and thereby developing an invisible and passive identity within the classroom.

The previously physically marginalized students also perceived that a culture shift had occurred within the school teams. This shift consisted of change towards a more cooperative and supportive atmosphere; one that no longer adopted a victim blaming approach. In particular, some of the informal and more stigmatizing behaviours such as, 'being picked last', had been replaced by more inclusive practices. The girls also appeared to be unconcerned about negative sanctions in relation to sports performance from their male peers, requesting more 'intermixed sports'. A final striking feature of the accounts from the student was the way that confidence in their newfound physical identities had created future expectations of continued participation in physical activity as a profession.

A second study (Cox et al., 2006) explicitly asked participants what would increase their participation in sport. The girls identified freeing up their spare time for sport; support from friends and family; sports clubs and classes for beginners or existing friendship groups; a wider choice and better advertising of facilities; making sport more fun and less competitive; cheaper, more accessible facilities; an improved image for sport; and women only facilities.

Children aged 8 and under

Common themes emerged from this small number of UK based studies which hint at possible options for intervention. Most noticeably is the common view that children in this young age group are naturally interested and engaged in

being active on a regular basis. Interventions which harness and maintain this early enthusiasm are necessary. Gender issues appear to emerge during these early years so interventions aiming to sensitively challenge stereotypical attitudes in parents and children might be a useful approach. Emphasis on enabling young children to develop skills in line with their own developmental stage and offering broad opportunities to experience a wide range of activities which are fun and enjoyable would appear to be a worthwhile option.

Active travel

Little specific information is provided by these studies into appropriate mechanisms for intervention into improving active travel. Fear of traffic and restrictions placed on independent movement as a result of parental concern about traffic and personal safety suggest that the following types of intervention may warrant investigation:

- improving road safety (for example, by reducing traffic speeds and providing appropriate safe crossing points)
- creating interesting places in which a range of ages of children can play which can be reached safely by unaccompanied children who are walking or cycling
- improving perceptions and actual safety of neighbourhood areas

It may also be valuable to involve children in developing possible intervention strategies.

Families and communities

Some key themes arise from the included studies which suggest possible options for intervention. Children value opportunities for independent outside play and parents are more likely to accede with older children and where safe, traffic free places to play exist. Children also highlight the importance of friendship groups in prompting and maintaining interest in being active, along with an emphasis on fun, play and enjoyment. Interventions addressing these

issues and reassuring parents of their child's personal safety may be worth pursuing.

6. Conclusions

This review has found evidence to support a number of key barriers and facilitators of physical activity, sport and play for children and young people. For children of all ages enjoyment, friendship groups, social interaction, parental, familial and peer supports are influential. A number of studies reported (a "gender discourse") examples of gender stereotyping among the parents of pre-school children. This stereotyping was reproduced also by the children (e.g. stereotyping particular types of activity with gender – "you can't play football because you're a girl"). Particularly important for adolescent girls that social pressures to conform both facilitate and preclude participation in physical activity, sport and play.

6.1 Summary of evidence statements

Adolescent Girls (11-18)

There is evidence from fifteen (two++, six+ and eight-) UK qualitative studies of adolescent girls (Biddle et al., 2005a; Brooks and Magnusson, 2006; Brooks and Magnusson, 2007; Coakley and White, 1992; Cockburn and Clarke 2002; Cox et al., 2006; Finch and White 1998; Flintoff and Scraton, 2001; Jones, 1998; MacPhail et al., 2003b; Mason, 1995; Mitchell, 1997; Mulvihill et al., 2000a; Orme, 1991; Porter et al., 2002b) that the main barriers to being physically active were:

1. social pressure to conform, (e.g. wanting to fit in)
2. negative experience of the school environment (e.g. inappropriate school PE kit and discomfort about sharing showers, changing rooms, etc),
3. negative experiences of sports facilities (e.g. public spaces such as gyms or exercise classes were intimidating to teenage girls)
4. having to perform in public (e.g. being forced to perform a skill in front of peers)

5. fear of forced competition - One study (++) (Brooks and Magnusson, 2006) reported that creating a supportive environment for the delivery of a curricula focused on participation rather than competition and empowering students led to non-active student becoming more active.
6. fear of sexual or racial harassment (e.g. Asian girls described needing escorting by family member to places to participate in sports).

The main facilitators to being physically active were:

7. social and family influences, (e.g. social sanctioning of activities by peers provided opportunities to gain social standing and was likely to encourage continued or increased participation; having active siblings and supportive parents)
8. enjoyment (e.g. enjoyment and fun during sport and physical activity; enjoyment might outweigh the impact of negative peer pressure not to participate)
9. socialisation (e.g. sport provides the opportunity to socialise with a friend and extend friendship networks beyond school)
10. intrinsic and extrinsic rewards (e.g. wanting to participate in sport as a means to achieve a socially desirable body type; receiving praise and encouragement from PE teachers helped with self confidence and a positive self identity)

Children aged 8 and under

There is evidence from five (three+ and two-) UK qualitative studies of children aged 8 and under (Boulton, 1992; Griffiths, 1996; Mulvihill et al., 2000a; Mason, 1995; Scott Porter Research and Marketing Ltd, 2002a) that: there were far fewer barriers to physical activity and sport for children 8 and under compared to other age groups. Barriers were:

1. dislike of a focus on team sports (e.g. team sport focus in primary schools)
2. gender and cultural stereotyping about appropriateness of some sports for particular genders by parents and peers (e.g. parent

viewing boys more active than girls; some sports were more "appropriate" for boys to play than girls; boys not allowing girls to play "boys games")

3. costs of participation in organised sports (e.g. cost in terms of time and money in participating)
4. dislike of physical activities becoming less fun and more technical and performance orientated (e.g. girls stopped participating in ballet as it became more technical and less fun orientated)

The main facilitators for children aged 8 and under were:

5. enjoyment (e.g. creative and fun activities; participating in their favourite sports or activities; older children involving younger children)
6. parental and peer support (e.g. physical activity was healthy; girls and boys enjoyed playing sports more if they had started at a younger age
7. and participation in age appropriate activities (e.g. fun based dance activities at younger ages; parent seeing a progression from fun to more structured activity as children became older)

Active Travel

There is evidence from three (three-) UK qualitative studies of children and active travel (Barnardo's et al., 2004; Davis and Jones, 1996; Halden Consultancy, 2003) that the main barriers to active travel were;

1. children and parents' fear of traffic (e.g. children feeling unsafe when playing and walking outside, particularly after school)
2. parental restrictions on independent movement (e.g. parental restrictions on a child's range (distance), plus place and destinations)
3. school influence over cycling policy and storage facilities (e.g. absence of any school provision of facilities reflecting a lack of support for cycling)

4. limited play destinations locally (e.g. too far to travel to independently; access dangers due to traffic; play equipment unsuitable)
5. adult disapproval of children playing outside (e.g. children told off for cycling or playing in streets by adults)

Only one study reported any facilitators for walking and cycling. These included:

6. providing personal freedom (e.g. reported that walking and cycling increased their personal freedom and independence)
7. enjoyment and fun with friends (e.g. Older children enjoyed walking to school because they could mix with their friends)
8. the opportunity to explore local surroundings (e.g. gave them the chance to explore local neighbourhoods with their friends and/or alone)

Families and community

There is evidence from two (one +, MacPhail et al., 2003a, and one- Bramham, 2003) UK studies and two (both+ Hume et al., 2005; Veitch et al., 2006) international qualitative (both Australian) studies of families and community that there were barriers to physical activity and sport related to personal safety of children whilst playing outside unsupervised. Common issues were:

1. perceived stranger danger (e.g. both parents and children independently reported fear of strangers)
2. risk of personal accidents (e.g. both parents and children independently reported risk of accidents or getting hurt)
3. intimidation from older children (e.g. both parents and children independently reported the risk of intimidation or bullying by older children; fear of rival gangs for different areas)
4. Poor quality of places to play (e.g. presence of drug taking equipment (like syringes) in play areas; poorly maintained toilets, shaded areas and lighting)

Facilitators were that children:

5. valued opportunities for independent outdoor play (e.g. the chance to play away for adult supervision with friends; parents preferring these places for independent play to be courtyards or cul-de-sacs rather than through roads)
6. preferred activities that emphasised fun, play and enjoyment rather than skills practice (e.g. older children attending athletics club liked playing with friends)

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Appendices

Appendix 1 Glossary

Discourse
e.g. gender discourse

Parker (1992) describes four levels of discourse as used in discourse analysis:

1. The general domain of all statements - the broad possibility of all communication, text or talk

2. Regulated individualizable utterances and texts

3. Regulated practices operating within particular rules and structures

4. A system of statements that constructs an object

Parker I (1992) Discourse Dynamics: Critical Analysis for Social and Individual Psychology. Routledge: London.

Appendix 2 Search terms for Medline

1. (physical adj5 (fit$4 or train$3 or activ$3 or endur$4)).tw.
2. (exercis$3 adj5 (fit$4 or train$3 or activ$3 or endur$4)).tw.
3. (leisure adj5 (centre$1 or center$1 or facilit$)).tw.
4. (fitness adj5 (centre$1 or center$1 or facilit$)).tw.
5. ((promot$ or uptak$ or encourag$ or increas$ or start$ or adher$ or sustain$ or maintain$) adj5 gym$).tw.
6. ((promot$ or uptak$ or encourag$ or increas$ or start$ or adher$ or sustain$ or maintain$) adj5 physical activit$).tw.
7. ((promot$ or uptak$ or encourag$ or increas$ or start$ or adher$ or sustain$ or maintain$) adj5 (circuits or aqua$)).tw.
8. ((promot$ or uptak$ or encourag$ or increas$ or start$ or adher$ or sustain$ or maintain$) adj5 exercis$).tw.
9. ((promot$ or uptak$ or encourag$ or increas$ or start$ or adher$ or sustain$ or maintain$) adj5 (keep fit or fitness class$ or yoga)).tw.
10. ((decreas$ or reduc$ or discourag$) adj5 (sedentary or deskbound)).tw.
11. ((promot$ or uptak$ or encourag$ or increas$ or start$ or adher$ or maintain$ or sustain$) adj5 sport$3).tw.
12. ((promot$ or uptak$ or encourag$ or increas$ or start$ or adher$ or maintain$ or sustain$) adj5 walk$3).tw.
13. ((promot$ or uptak$ or encourag$ or increas$ or start$ or adher$ or maintain$ or sustain$) adj5 running).tw.
14. ((promot$ or uptak$ or encourag$ or increas$ or start$ or adher$ or maintain$ or sustain$) adj5 jogging).tw.
15. ((promot$ or uptak$ or encourag$ or increas$ or start$ or adher$ or maintain$ or sustain$) adj5 (cycl$ or bicycl$3)).tw.
16. (bike$1 or biking).tw.
17. ((promot$ or uptak$ or encourag$ or increas$ or start$ or adher$ or maintain$ or sustain$) adj5 (swim$1 or swimming)).tw.
18. (exercis$3 adj5 aerobic$1).tw.
19. rollerblading.tw.
20. rollerskating.tw.
21. skating.tw.
22. exertion$1.tw.
23. travel mode$1.tw.
24. trip$1.tw.
25. active travel$1.tw.
26. active transportation.tw.
27. multimodal transportation.tw.
28. recreation$1.tw.
29. stair$.tw.
30. pilates.tw.
31. play$.tw.
32. nurser$.tw.
33. exp Exertion/
34. Physical fitness/
35. exp “physical education and training”/
36. exp dancing/
37. exp sports/
38. exp yoga
39. recreation/ or exp fitness centers/
40. exercise therapy/ or “play and playthings”/
41. or/1-40
42. child$.tw.
43. kid$1.tw.
44. infant$1.tw.
45. adolesc$.tw.
46. youth$1.tw.

47. youngster$1.tw.
48. toddler$1.tw.
49. teen$.tw.
50. girl$1.tw.
51. boy$1.tw.
52. young$.tw.
53. under 18$1.tw.
54. or/42-53
55. adolescent/
56. child/ or infant/
57. child, preschool/
58. or/42-57
59. findings.af.
60. interview$.af.
61. qualitative.af.
62. data reduction.af.
63. comparative analys$.af.
64. interpretative method$.af.
65. document analys$.af.
66. ethnograph$.af.
67. phenomenol$.af.
68. (grounded adj (theor$ or study or studies or research or analys?s)).af.
69. (emic or etic or hermeneutic$ or heuristic$ or semiotic$).af. or (data adj1 saturat$).tw. or participant observ$.tw.
70. (social construct$ or postmodern$ or post-structural$ or post structural$ or poststructural$ or post modern$ or post-modern$ or feminis$ or interpret$).af.
71. (action research or cooperative inquir$ or co operative inquir$ or co-operative inquir$).af.
72. (humanistic or existential or experiential or paradigm$).af.
73. (field adj (study or studies or research)).tw.
74. biographical method.tw.
75. theoretical sampl$.af.
76. ((purpos$ adj4 sampl$) or (focus adj group$)).af.
77. (account or accounts or unstructured or open-ended or open ended or text$ or narrative$).mp.
78. (life world or life-world or conversation analys?s or personal experience$ or theoretical saturation).mp.
79. lived experience$.af.
80. life experience$.af.
81. cluster sampl$.af.
82. (theme$ or thematic).af.
83. categor$.af.
84. observational method$.af.
85. field stud$.af.
86. content analysis.af.
87. ((discourse$ or discurs$) adj3 analys?s).af.
88. (constant adj (comparative or comparison)).af.
89. questionnaire:.ti,ab.
90. observation:.ti,ab.
91. focus group$.ti,ab.
92. narration.ti,ab.
93. interview$.ti,ab.
94. attitude:.ti,ab.
95. Questionnaires/
96. observation/
97. focus groups/ or narration/
98. Interviews/
99. qualitative research/
100. nursing research/
101. exp attitude/
102. or/59-101

103. 102 and 58 and 41
104. limit 104 to yr="1990 - 2007"
105. limit 105 to english language

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Appendix 5 Evidence Tables

Table 5 Evidence Table – Adolescent Girls (11-18)

Reference	Aims of research	Participants	Design	Findings	Quality score
Biddle et al., 2005a	To investigate further the girls' attitudes towards sport and physical activity and to examine in greater depth issues leading to higher or lower participation levels.	One hundred and eighty two 11-16 year old girls drawn from a larger questionnaire study of 366 Scottish girls from schools selected to reflect the large urban, other urban, remotes small town and accessible rural areas of Scotland.	Semi structured focus groups	• The influence of school on the girls' sport and activity levels depended on the location, size of school and the facilities on offer. • Some girls (especially older girls) did not generally participate out of school hours and some only participated when this was obligatory, for example, in school PE classes. 'Being forced' impacted negatively on their participation. • Many girls were extrinsically motivated by their desires to conform to desirable body types but any potentially beneficial effects on body image may have been masked by stronger peer and social influences on what is perceived to be desirable. • Although self-consciousness seemed to affect participation, girls whose main motivation to participate was enjoyment were less likely to feel self-conscious when taking part. • The importance of having a friend present was most evident with younger secondary school girls, particularly for girls who reported feeling self conscious. • There was little alternative fitness-related activity for those who did not like competitive sport until they reached 16 years of age. Organised activities outside school were exclusively for boys or that boys dominated the areas, preventing girls from accessing them. The girls perceived the competitiveness of activities to increase when boys were present and they did not like this competitiveness and perceived seriousness. • Girls with brothers and sisters who were physically active were more likely to participate in sport and physical activity. • Girls perceived the time taken up by sport as significantly competing with other activities.	+

Table 5 Evidence Table – Adolescent Girls (11-18) *cont'd*

Reference	Aims of research	Participants	Design	Findings	Quality score
Brooks and Magnusson 2006	To explore the lived experiences of adolescent girls and boys who defined themselves as previously being 'PE adverse' but who had in the preceding year become actively involved in a range of physical activities provided by the school	Thirty-one students from Year 9 (25 girls and 6 boys aged 14–15 years) who had made the transition from non-participation in PE to active participation Participants all defined themselves as having been previously either actively resistant to participation in PE lessons or having had an intense dislike of school PE, even if they attended lessons.	Narrative focus-group interviews	• Prior to change PE was perceived as exerting control over participants bodies (rules over use of showers, inflexible adherence to PE uniform, lack of choice over activities) in ways they found stressful. • The focus on competitive success made most respondents feel that they were physically marginal individuals and a 'risk' during team events. Having a physically 'marginal body' was perceived as being detrimental to emotional health. • The new PE resulted in respondents achieving a physical identity which was a dramatic and celebratory experience. Girls spoke of increased self-confidence, a belief that achievement in activity was attainable and gaining the psychological resources to participate in community-based activities. Confidence created future expectations of continued participation. • Positive incentives for participation, such as environmental changes and rewards system (as opposed to negative sanctions for losing) and supportive encouragement from the teachers helped participation. Girls valued having control over what they wore and felt freer from concerns over displaying their bodies. • Receiving praise from the PE teacher enhanced their physical self-confidence. Being made to feel 'good enough' as opposed to 'less than' was an important confidence builder for the girls and a protective factor against non-participation. • Undertaking a range of activities of their own choosing and expressing preferences was appreciated. New activities enabled participants to display previously hidden abilities. • A culture shift (towards more cooperation and support) also occurred in school teams. Some of the more stigmatizing behaviours were replaced by more inclusive practices.	++

Table 5 Evidence Table – Adolescent Girls (11-18) *cont'd*

Reference	Aims of research	Participants	Design	Findings	Quality score
Brooks and Magnusson 2007	To explore how active adolescent women relate to and experience physical activity as a leisure pursuit, including the forms of activity and the key characteristics of physical activity that were defined by the young women as leisure and to examine adolescent women's experiences and perceptions in terms of the relationship between physical activity and health and well-being.	The focus groups were selected from two settings. One cohort , (two focus groups of 11 participants with young women) was recruited through a postal invitation, sent to 13–16-year-old young people who were on the list of patients of a medium-size general medical practice in a small city in England. The second cohort (5 mixed gender groups, consisting of 31 young people - 25 of which were girls) was recruited through a local secondary school, where the young people in one school year group (Year group 9, age range 14–15) were given an invitation letter by their teacher.	In depth semi-structured interviews.	• Physical activity was uses as a strategy for individual expression and space and for enjoyable engagement with peers. It provided opportunities for socialising with existing friends and family and also for extending friendship networks by creating new supportive social networks based on shared interests. • A clear distinction between school-based physical education and activity outside of school was made. • Those activities in which individuals felt they had control were seen as most enjoyable. • A positive aspect of participation was being physically challenged by demanding activities. Many participants reported feeling less tired and increased physical and psychological energy levels. Greater interest in participation was prompted by activities that enhanced emotional well-being. • Active young women disliked the competitiveness in traditionally organised team-based sports, although they undertook them if they provided opportunities for fun, relaxation, and social support. Not being in competition with their friends was discussed as an important aspect of their continued participation. • Physical activity provided a private solo recreational space. For some, this dominated their leisure choices, because other forms of public activity spaces such as gyms or exercise classes were intimidating, the province of active adults and spaces where the adolescents' competence and body might be highly visible and open to censure. • Having a sport/activity that was different from their school friends gave a valued individuality. • Peers were a significant influence on the activity taken. Activities that were seen as babyish or "too girlie" were viewed negatively. Activities valued by peers and which increased social standing where likely to be continued.	++

Table 5 Evidence Table – Adolescent Girls (11-18) *cont'd*

Reference	Aims of research	Participants	Design	Findings	Quality score
Coakley and White, 1992	To investigate the problematic nature of participation/not in sport; the decision making processes underlying sport involvement and the ways in which sport participation decisions are related to young peoples' lives, social & personal identity	34 men, 26 women aged 13-23 (23 aged 18 or younger), from predominantly working class families living in an industrialised area SE of London. Half of participants were recruited from their active involvement in a sports promotion campaign, others identified by teachers/program organisers as drop-outs or non-participants. 85% white; 15% Black/Asian; 75% working class.	In-depth semi structured interviews	• Participation influenced by transition from adolescence to adulthood with children reluctant to participate in activities seen as childish or to develop skills they believed they should have already mastered. • Activities which prepared them for adult roles or which helped them to be independent/autonomous where preferred. • Young women more likely than men to view sports participation as irrelevant or low priority for their coming adult role, although some saw it as a way to demonstrate equality. • Participation also based on concern about personal competence. Less skilled avoided those activities they believed they couldn't do, skilled realised that continued participation meant change to coaching/teaching role. • Gender powerful influence - women less likely to define themselves as sportspeople even when active - used narrow definitions of participation, not to do with them, influenced from school experiences of girls/sport not being a priority. • Girls who participated were given conditional permission, unlike most boys. Money & parental support also important. • Significant others (not just family) important, esp. for girls who wanted same sex friends to participate with. Boyfriends influenced girls' participation more than vice versa. • Comments about inappropriate school opportunities, restrictions of kit/showers etc. Not all were negative experiences. • Class issues only re money/identity with certain activities. • Few challenges to existing gender dynamics.	+

Table 5 Evidence Table – Adolescent Girls (11-18) *cont'd*

Reference	Aims of research	Participants	Design	Findings	Quality score
Cockburn and Clarke 2002	To explore the cultural & sub-cultural aspects of teenage girls' and young women's lives which influence their involvement in sport and physical education; to investigate constraints & complications involved in their identity formation as physically active teenagers	Purposive sample of six Year nine girls from five state run schools in Hampshire & Cambridgeshire	Focus groups and in-depth interviews – some individual, some paired.	• Qualities encouraged in physical education and sport (independence/ assertiveness/ strength/physical skill/to be active and enjoy sport) run precisely counter to socially sanctioned identity – the acceptable way to be a teenage girl; especially important in adolescence when major identity formation takes place. • Girls opt out of participation altogether; accept stereotype of 'tomboy' or compromise – participate then 'change back' to acceptable feminine image. • PE structures (kit/performing in public/in front of boys etc) reinforce perceived problems	+

Table 5 Evidence Table – Adolescent Girls (11-18) *cont'd*

Reference	Aims of research	Participants	Design	Findings	Quality score
Cox et al., 2006	To explore; the influence of key transitions in young women's lives upon levels of sports and physical activity; the influence of the environment upon levels of sports and physical activity; and, the influence of social and psychological factors upon levels of sports and physical.	A screening questionnaire was devised to identify 15-19 year-old young women who 'always', 'sometimes', or 'never' participated in sport and physical activity. Two focus group discussions were held with three 15 year old girls from South East and 3 19 year old girls from South East to develop questions and test specificity of language to be used in subsequent phases. Following this, 75 young women were individually interviewed: 35 in the South East and 40 in the West Midlands aged 15-19 (ranging from 'always' to 'never' participates). Black people are under-represented. No first year university students in the South East sample.	In depth individual and focus group interviews - 7 group interviews with 5-6 women in each group and 21 individual interviews.	• Girls who participate in sport lived with at least some active family members • Family was important in determining participation but not as influential as their peers • Young women who 'never' participate generally had positive early memories of sport and physical activity. • The move to secondary school was associated with sport becoming less fun and more competitive. Young women in this group reported doing less sport as they got older because sport was no longer compulsory, they had less time because of other commitments, felt self-conscious or were part of social groups who did not participate in sport. Also disliked feeling intimidated and self-conscious. • Less positive of the facilities and opportunities to get involved in sport, thought facilities unwelcoming. Generally unaware of the opportunities available for them to get involved in sport. They often found sport too much hassle, due to prioritising other commitments and lengthy joining procedures. • Divide between the image of sport and the image of other hobbies noted • Negative perception of their sporting ability made them less likely to get involved • Freeing up more of their spare time to do sport; support from friends and family; sports clubs and classes for beginners or existing friendship groups, to reduce feelings of embarrassment and intimidation; provision of a wider choice of facilities, and better advertising of the existing facilities; Making sport more fun, with less emphasis upon competition; Making facilities cheaper, easier to access; Motivating families to participate in sport; Changing the image of sport; women only facilities would help increase participation.	-

Table 5 Evidence Table – Adolescent Girls (11-18) *cont'd*

Reference	Aims of research	Participants	Design	Findings	Quality score
Finch and White 1998	To investigate the beliefs, perceptions, attitudes & behaviour towards physical activity of young women aged 16-24	Seven focus groups (58 participants), split by aged 16-18, 19-21, 22-24 and mothers, plus in-depth interviews, mostly single, some mothers, range of employment, smokers, no information on ethnicity. Took place in 4 mixed north/south locations and participants were recruited through doorstep/shopping precinct interviewers. The majority were inactive though some active/vigorously active participants.	Focus groups	• Time of transition - giving up activity or taking it up. • Barriers for activity are time, cost (transient lives - not yet settled), prefer to do other things, rebellious esp. against authoritative messages, lack of confidence, concern about fitting in, not having the right equipment/clothes, being unskilled, health issues seen as long term impact and of less relevance to them. • Men of similar age considered to be more active - expected and 'allowed' of them, more opportunity for team sports. Have to organise self, buddy seen as important. • Physical activity viewed as sport or team rather than lifestyle activity. • Smokers either used physical activity to compensate or as a reason not to be active e.g. breathless, reminder of health issues etc. • For active people: enjoyed activity, felt good, weight control	+

Table 5 Evidence Table – Adolescent Girls (11-18) *cont'd*

Reference	Aims of research	Participants	Design	Findings	Quality score
Flintoff and Scraton, 2001	To investigate young women's' apparent rejection of school based physical activity and yet explain their increasing activity involvement outside school	Fifteen year old women from 4 case study schools recruited from a larger study. Participants chosen by PE teachers who were asked to select volunteers across the range of pupils they taught. Process resulted in participants who were mainly white, mesomorphic and able-bodied, although from different class backgrounds. In depth individual and focus group interviews - 7 group interviews with 5-6 women in each group and 21 individual interviews.	Nominal Group Technique where participants work in the presence of each other but write ideas independently rather than stating them verbally.	• Participants saw positive impacts on their lives from physical activity - self-esteem, energy levels, general health and fitness and socialising with friends. • They also enjoyed learning new skills and being taken seriously as having the potential to learn new skills and to gain certificates/competition. • School-based PE was seen as a break from academic work and disappointing because it failed to teach new skills. • Some enjoyed choice now offered in school PE but problem of mixed classes, being dominated by boys, not being taken seriously by PE teachers, dislike of inappropriate clothing, boys behaviour went unchallenged. • Most were involved in physical activity outside school and were very committed to it - they were being selective at dropping in to activity which fitted into their lives. • Fewer were involved in sport outside school - fell between gap of school-based and women's club sport.	+

Table 5 Evidence Table – Adolescent Girls (11-18) *cont'd*

Reference	Aims of research	Participants	Design	Findings	Quality score
Jones, 1998	None stated	Forty-eight girls were drawn from a larger questionnaire study of Year 7 (11/12 year olds) and Year 9 (13/14 year-olds). The participants were from a single large comprehensive girl's school in a major UK city. 49.5 per cent were of Asian origin. Two focus groups were composed of Asian girls and two of non-Asian girls; the rest were mixed groups.	Individual interviews with children at home. For the older children interviewers were encourages to ask to interview children alone.	• Among Asian girls racial and sexual harassment were commonplace. • Non-Asian girls were much more likely to travel with peers and to explain accompanied travel in terms of wanting to be with friends. Asian girls were much more likely to be accompanied by relatives. • Non-Asian girls also felt inhibited by their own and parental fears, although this was a less common view. They also noted that each new reported attack on a girl closed down further their access to valued activities. • Asian girls were very conscious of this lack of independent mobility and explained it partly in cultural terms. Most of their families were Muslim and the girls saw this as one reason for their parents' attitudes. • Asian girls themselves had an ambivalent attitude to independent travel. They accepted that there were dangers in the local environment and recognised that the constraints were sometimes justified. On the other hand, they fretted at not being able to visit friends when they wanted to or 'hang out' in a group.	-

Table 5 Evidence Table – Adolescent Girls (11-18) *cont'd*

Reference	Aims of research	Participants	Design	Findings	Quality score
MacPhail et al., 2003b	To listen to what young sports leaders had to say about facilitating all young people's participation in sport.	A total of 608 people aged between 14 and 18 years participated in the workshops, 279 males and 329 females. All participants were in full-time education. Each of the young people was selected to attend the workshops by the PE staff at their respective schools. All were registered with the Youth Sport Trust as Ecclesiastical Insurance TOP Link participants and most were involved in a sport-related course of study at school, such as GCSE physical education or Community Sports Leader Award courses.	Focus groups	• Teachers, coaches, parents and role models play a key part in assisting with youth sport • Structures and processes that need to be in place to make young people's participation in sport possible include school and club provision, mechanisms to progress between school and clubs, the provision of organized events (like a festival) and promotion, facilities, equipment, funding and transport. Young people identified several attractors: • social aspects (the need for friendly competition, making friends and meeting people) • encouragement (from teachers, family and coaches and giving positive feedback and reinforcement) • inclusivity (for all abilities, disabled sport participation, more ownership by involving children in organization and leadership).	-

Table 5 Evidence Table – Adolescent Girls (11-18) *cont'd*

Reference	Aims of research	Participants	Design	Findings	Quality score
Mason, 1995	To explore the factors which affect children's participation in sport and physical activity and their behaviour, attitudes and perceptions of sport	An interview study involving 40 children (20 boys and 20 girls) aged 6-15. Participants were drawn from a larger quantitative survey. Schools were selected to represent diversity of the region and catchment area. Children were identified by interviewers using households located near to the participating schools via quota sampling.	Paired interviews with children plus focus groups for parents.	• Physique limited performance in some sports. • Ability (i.e. hand-eye coordination) was also a limiting factor. Children recognised that activity was good for their health. • All the children who been encouraged early on in their lives by their parents/ grandparents/ siblings, were still participating • Mini versions of sports were enjoyed by some children although older, more able children did not like these sports • Complicated rules were a deterrent to enjoying a game. • Poor teaching could leave children frustrated. • Children did not like doing sport in bad weather. • Some of the girls did not like games lessons due to showers and changing facilities. • Some children preferred a choice of sports while others preferred a prescriptive programme. • Only the most able players were likely to be involved in extra-curricular sports. • Liking and respecting teachers had a positive impact. Negative teachers had a negative impact. • Encouragement from parents was important. • Children from wealthier families have more opportunities than poorer families For poorer children lack of equipment, money for transport reduced their chance to be active. • The children were strongly affected by peers. If peers were supportive, they were encouraged and vice versa. • The choice of sports on offer was gendered. Health benefits were an attraction to sport for girls. • Children enjoy sports that are 'fun', that provide opportunities to participate and achieve, and that are social, team based and provide good exercise. They dislike being pressured to participate, when they are not good at the sport in question or if it involves physical contact.	-

Table 5 Evidence Table – Adolescent Girls (11-18) *cont'd*

Reference	Aims of research	Participants	Design	Findings	Quality score
Mitchell, 1997	To assess the role currently played by teenage magazines in shaping attitudes of young women towards physical activity and also; 2 To explore the potential for using magazines to increase participation in sport and activity.	Participants were year 10 (aged 14/15) girls from a South London school in a relatively poor area, which had a broad ethnic mix and below average academic record. Participants were recruited during a Year 10 assembly and asked to attend focus groups in friendship groups. Due to high take up, those involved in the school musical were later eliminated from taking part.	16 interviews as follow up to quantitative survey.	• Few of the participants took part in regular organised sport; others took part in some form of activity occasionally. • Two main barriers were highlighted: conflicting interests and lack of motivation (i.e. 'can't be bothered'). • Some were hampered by lack of ability but others preferred to do other things - spend time with friends, chatting, watching TV, homework and shopping. • Some believed they were adequately fit.	-

Table 5 Evidence Table – Adolescent Girls (11-18) *cont'd*

Reference	Aims of research	Participants	Design	Findings	Quality score
Mulvihill et al., 2000a	To investigate the perceptions of, and motivations for, and barriers to involvement in physical activity in children aged 5-15 and parents of similar aged children	Mixed geographical settings, primary and secondary age, greater proportion of less active people and older girls (13-15) and also lower socio-economic groups. In total 163 children and 52 parents interviewed. Participants were recruited via purposive sampling using teachers to identify participants, plus youth clubs and a shopping centre for out of school settings.	15 paired interviews.	• Younger children thought activity was beneficial for health, positive view of school physical education and were generally active. • Older young women were increasingly likely to prefer to take inactive choice, reported unsupportive teaching at school, concern over playing sport with boys or their skills. • Girls of all ages especially enjoyed dance. • For those who were active enjoyment, wellbeing and weight control (esp. for girls) were important.	+

Table 5 Evidence Table – Adolescent Girls (11-18) *cont'd*

Reference	Aims of research	Participants	Design	Findings	Quality score
Orme, 1991	To investigate exercise participation in adolescent girls	Sixteen semi-structured interviews of girls aged 14 in Avon.	Sixteen individual interviews as follow up to quantitative survey.	• Traditional school sports were seen as boring • New activities or boys activities seen as more interesting. Individual competence along with concerns about body image, self consciousness, boyfriends and peers were all seen as important. • Priority given to non-active leisure • There was concern over clothing in physical education.	-
Porter 2002b	To explore issues and attitudes towards participation in physical activity amongst teenage girls	15 'friendship pair' interviews were conducted with (no number stated) teenage girls in total. Participants were inactive and / or disliked physical activity (i.e. only doing the minimum amount of PE at school); split by ABC1 and C2DE social groups; residing in a spread of urban and rural locations; even spread of girls in S1, S2, S3/4.	Fifteen paired interviews.	• Understanding of activity has shifted from natural part of early childhood to either be seen as a hobby or unavoidable activity in school, or for weight control. • View that you need to be sporty/skilled. • Self-conscious, not important or expected to be active, influence of the girls' peer group very strong. • Barriers of embarrassing clothing etc. described	-

Table 6 Evidence Table – Children aged 8 and under

Reference	Aims of research	Participants	Design	Findings	Quality score
Boulton, 1992	To explore some of the reasons why children engage in some playground activities in mixed sex and/or age groups but show a clear preference for participating in other playground activities in single sex and/or age groups; to examine how children feel when they are/are not permitted to play with other sex and other age peers	No formal sample. Various children from 8 middle schools (from two urban areas) aged either 8 or 11 were interviewed during playground observations	Individual or group interview	• For older boys, three common reasons why girls and younger boys were excluded from football - lack of skill, lack of knowledge about the rules/game and risk of injury. • Some girls were allowed to join in but only if they had a degree of skill. • Other girls thought boys were scared to let them join in, in case they showed the boys up. • Boys rarely joined in 'girls games' like skipping although girls weren't averse to letting them (or younger ones) play - to give them a good laugh and/or help them to learn how to play. • Older boys were responsible for mixed age games - younger boys sometimes pleased to have an older boy playing with them - older boys enjoy being skilful - also element of bullying if they didn't let them join in - 'he nicks the ball' . • Some evidence of fair play during mixed age play.	+

Table 6 Evidence Table – Children aged 8 and under *cont'd*

Reference	Aims of research	Participants	Design	Findings	Quality score
Griffiths, 1996	To examine the contrast between ballet and creative dance classes and to explore attitudes, feelings and aspirations	Six girls aged between 5-7, all white, middle class	Case study based on observations of classes and performances and interviews	Ballet • Participants either liked the way ballet dancers danced or had been encouraged to take up ballet by mothers/sisters who had previously also done ballet, or because their friends did it. • Most of the girls enjoyed their early experiences, how they looked and what they had to wear (focus on traditional pink, proper ballet wear), looked up with awe to older, more proficient dancers but gradually lost interest as the focus changed to technical aspects of ballet, lack of opportunity for free expression. Performances were infrequent but very polished and a highlight for the girls. Creative dance • Participants had less general experience of this compared to ballet but started to attend classes for similar reasons to ballet - their friends were going, or to escape from ballet. • Girls talked about fun and enjoyment of classes, playing games and making up stories. The teacher joined in but there were no other obvious 'stars', could wear what they want apart from having to have bare feet, no exams. Performances were frequent and less polished than ballet - emphasis on the act of dance making rather than polish.	+

Table 6 Evidence Table – Children aged 8 and under *cont'd*

Reference	Aims of research	Participants	Design	Findings	Quality score
Mason, 1995	To explore the factors which affect children's participation in sport and physical activity and their behaviour, attitudes and perceptions of sport	Wider study involved 40 children (20 boys and 20 girls) aged 6-15 plus 20 PE teachers. Data extracted here tries to focus on 5 primary teachers and 9 children aged 6-8 BUT study not reported clearly by age/status of teacher so difficult to be sure.	Individual interviews - with teachers at school and with children at home.	Teachers reported: • traditional emphasis on team sports alienates some children from all sport • offering a wide range encourages participation,. Some teachers thought better facilities were required. Lack of specialised staff and facilities limited options for extra-curricular sport though mixed with lower expectations that primary aged children should have this and concern about getting children home safely if they stay on. • Encourage participation by allowing performance at own level and to progress at own pace. Success of any kind is thought to be motivating. Offering individual vs team sports contributes to this but practical difficulties limit opportunities. • Teachers aim to give further information about outside opportunities (eg clubs) to more able young children. • Primary teachers often felt there were few differences between boys and girls PE - generally offered mixed classes and taught the same skills and sports, little difference at this age in strength and agility. • Outside school influences were thought to be: parents, local area, peers and friends, TV and the media, other people - coaches, role models, children's individuality	-

Table 6 Evidence Table – Children aged 8 and under *cont'd*

Reference	Aims of research	Participants	Design	Findings	Quality score
Mulvihill et al 2000a	To investigate the perceptions of, and motivations for, and barriers to involvement in physical activity in children aged 5-15 and parents of similar aged children	Mixed geographical settings, primary and secondary age, greater proportion of less active people and older girls (13-15) and also lower socio-economic groups. Total of 163 children plus 52 parents interviewed	Paired interviews with children plus focus groups for parents	• Younger children thought activity was beneficial for health, positive view of school physical education and were generally active. • Parents of this age group agreed and few barriers were cited, except cost for some. • Older young men were likely to continue to report being involved in sport and activity and enjoyed organised activities. • Older young women were increasingly likely to prefer to take inactive choice, reported unsupportive teaching at school, concern over playing sport with boys or their skills. • Girls of all ages esp. enjoyed dance, boys football. • Boys perceived girls to be less skilful and less interested in sport and activity. • Parents of young people had much less influence over activity choices. For those who were active - enjoyment, wellbeing and weight control (esp. for girls) important.	+

Table 6 Evidence Table – Children aged 8 and under *cont'd*

Reference	Aims of research	Participants	Design	Findings	Quality score
Scott Porter Research and Marketing Ltd 2002a	To explore issues associated with physical activity amongst parents and carers of children under 5.	52 interviews: 20 with native Scots, 6 Pakistani, 6 Chinese, 6 Black-African, 6 Bangladeshi and 2 African-Caribbean. Range of social class and rural/urban locations, experienced vs. first time parents, lone or 2 parent families etc.	52 face-to-face in depth interviews	• Attitudes towards child's activity influenced by age of child and attitude of parent. • Some parents saw activity as a natural and important part of development and sought opportunities to encourage it - tended to be more active themselves, others as natural so no need to stimulate it. • With increasing age, children seen to move from natural activity towards play towards development of sport/team involvement. • Parents could see physical, health and social benefits to being active but some relied on others to provide that opportunity rather than being involved in active play themselves. • Barriers of time, money, safety raised. • Boys seen as naturally more active than girls, gender stereotyping of activities even at an early age seen. • Some cultural barriers identified for Chinese/Asian parents - especially if influenced by first generation. Less acute in secondary generation unless influence of others (e.g. parents was still strong). Concern about facilities or opportunities for some minority groups.	-

Table 7 Evidence Table – Active Travel

Reference	Aims of research	Participants	Design	Findings	Quality score
Barnardo's et al., 2004	To examine how the lives of children are affected by traffic in their neighbourhoods	7 focus groups (154 children) aged between 7-14	Focus groups using a 'range of creative qualitative methodologies'	• Children have deep-seated and genuine fears about traffic. • They feel unsafe when playing and walking outside. This lack of freedom makes socialising hard and means they have fewer places to play. • Two main issues affecting their safety are speeding and bad driving. • Children feel they are a nuisance and have been told off for playing outside. • Where there is open space to play some children do not feel able to use it: parks next to main road with crossings in the wrong place, feel isolated in parks too far away from other people, • The children were experts on the local neighbourhood but no child in the sample had been consulted about what should be in local parks.	-

Table 7 Evidence Table – Active Travel *cont'd*

Reference	Aims of research	Participants	Design	Findings	Quality score
Davis and Jones, 1996	The primary aim was to explore children's ideas about transport, health and local environmental issues and to understand how far, in their view, these issues were interconnected.	Study was undertaken in four Birmingham schools, one primary and one secondary in inner suburban areas, and one primary and one secondary in outer suburbs. All schools in areas with above average population density, older housing, narrow streets, high traffic levels, lower car ownership. Unemployment higher and income lower than average in inner suburban areas. Clustering of Black Asians in outer suburban area and in outer suburban areas nearly half of all children received free school meals. All year 9 secondary school students took part in the study. In the inner primary school all Year 6 took part but in the outer primary school Year 5 children were involved. In all 492 children and young people took part in the study.	Questionnaire study with focus group sub-study involving focus groups of six to eight children involving 138 participants. All but eight of the groups were mixed gender groups	• The 9-11 year olds reported more restrictions on their freedom of movement than the 13-14 year-olds, but teenage girls highlighted particular barriers to independent mobility. They explained these as legitimate parental fears about violence and sexual assault but also as unwanted stereotyping of girls by both male peers and adults. • Fear of traffic restricted the ability of children to play, especially after school. Safe play space was at a premium and children wanted more grass areas, especially boys. • The ability to walk in safety also limited children's ability to travel around their local areas. • Parents restricted range from home, often to the end of the street, or else to specific locations. • Cycle use was very much restricted by traffic danger and by fear of bicycle theft. • Girls were often given curfew times or restricted as to where and when they went out. • The lack of things to do after school was commented on by boys and girls and 'staying in' or 'hanging out in the street' represented the major choices young people could make • There was frustration that the opportunities for girls to participate in physical activity were few, especially as peer and cultural pressures added further restrictions. • Lack of available places to participate in organised physical activity led to boredom and feelings of being trapped.	-

Table 7 Evidence Table – Active Travel *cont'd*

Reference	Aims of research	Participants	Design	Findings	Quality score
Halden Consultancy 2003	An investigation into how children and young people view sustainability in relation to their personal transport, including to school and leisure facilities.	A total of 22 groups were held across the 12 primary and secondary schools in Scotland	Focus groups	• Primary school children were generally enthusiastic about walking and cycling • Children recognised the health and environmental benefits, gave them personal freedom, independence, ability to explore their surroundings alone and with friends, and also provide fun. • Some demand for making more specific journeys by bike, especially for boys. • Limitations were parental choice related to safety and timing/ convenience and also school influence over cycling policy and storage facilities, both in urban and remote rural locations. • For older children, attitudes to walking were also generally favourable, and also good levels of understanding of health and environmental benefits. • The ability to mix with friends was important, especially for girls. Getting fresh air and 'waking up' before school was also important. • Less cycling reported by secondary school pupils and attitudes less positive, especially with increasing age.	-

Table 8 Evidence Table – Family and Community

Reference	Aims of research	Participants	Design	Findings	Quality score
Bramham, 2003	To explore the nature, purpose and experiences of children's physical education involvement both in and out of school	Six discussion groups were conducted by two male researchers in four schools and 22 follow up individual interviews.	Discussion groups and individual interviews	• All boys' discussion groups stressed the significance of developing skills, of playing organised sport and could articulate wider discourses about physical activity, fitness and health. • Time constraints undermine the possibility of sustained learning and a positive educational experience. • PE lessons may be taken by a teacher who is not a PE specialist or who does not specialise in that particular activity. Such staff perceived to be unable, or to lack commitment, to teach skills for a chosen activity. • Competition permeates all forms of physical activity. There is incomprehension and resentment against individuals who do not engage seriously and are seen to spoil PE lessons. • Access to local facilities may be restricted because of tensions amongst local youth groups who 'take over' and cause disturbances - it becomes not worth going. For some boys, bullying and its threat are never far away.	-

Table 8 Evidence Table – Family and Community *cont'd*

Reference	Aims of research	Participants	Design	Findings	Quality score
MacPhail et al., 2003a	To investigate the peculiarities of junior sport participation, including the social and cultural aspects in one athletics club	2 introductory groups for children aged 9-15 run weekly at an athletics club in the Midlands. In common with most attendees of clubs, majority of participants were in higher social class, most were white, none had disabilities, mixed gender.	Multi-method approach using naturalistic observation, field notes, semi-structured group and individual interviews	• Participants were firmly in sampling stage - trying out various activities, emphasis on fun, play and enjoyment not necessarily skills practice; • opportunity for competition but not compulsory - older participants and boys more likely to want and enjoy competition • recognition of contribution to health and fitness (and enjoyment and prowess of other sports - e.g. athletics contributing to football speed etc.) • importance of friendship groups - either to prompt attendance or to maintain attendance by making new friends at the club	+

Table 8 Evidence Table – Family and Community Relevant International Studies

Reference	Aims of research	Participants	Design	Findings	Quality score
Hume et al., 2005	To qualitatively explore children's perceptions of their home and neighbourhood environments	147 children selected from 3 local primary schools, emphasis on schools in areas of low socio-economic status. All children had opportunity to take part in map drawing, 44 were randomly selected to do photographic mapping	Map drawing and photographic mapping, children also asked to explain photos	Important themes • home, food items/locations, school • opportunities for social interaction • opportunities for activity and sedentary pursuits (equipment, facilities, play areas) and green space and outside areas (at home and wider)	+
Veitch et al., 2006	To investigate where children play and why, by exploring parents' perceptions of the individual, social and physical environmental influences on their child's active free-play	78 parents from 5 primary schools representing a spread of socio-economic area	Individual interviews	Main themes • Safety (strangers, teenagers, syringes, traffic and personal accidents) • Level of independence to go without adult supervision (older children had more than younger ones) • Children's variation in preference for outside play, social aspects (to play with other children, friends, teenagers and gangs) • Facilities at parks and playgrounds (less interesting stuff for older children, toilets, shade, lighting, general provision of open space, roads to cross to access) • Environmental/urban design (courtyards and cul-de-sacs preferred for independent play vs. through roads)	+

Appendix 6 Data extraction form

Name of reviewer	
Date of data extraction	
Citation	
Re-verification of study eligibility	
Specific setting	
Focus of study	
Stated objectives	
Participant characteristics	
Recruitment procedures	
Study design	
Theoretical framework	
Results and analysis	
Analysis overflow	
Authors conclusions	
Future research	
References	
Reviewers notes (1)	
Quality assessment (1)	
Reviewers notes (2)	
Quality assessment (2)	
NICE checklist completed?	
NICE quality assessment score	

Appendix 7 Breakdown of study quality scores

Epistemology	1. Is a qualitative approach appropriate?			2. Is the study clear in what it seeks to do?	
	Appropriate	Inappropriate	Not sure	Clear	Unclear
Barnardo's 2000	√			√	
Biddle 2005	√			√	
Boulton 1992	√			√	
Bramham 2003	√				√
Brooks 2006	√			√	
Brooks 2007	√			√	
Coakley 1992	√			√	
Cockburn 2002	√			√	
Cox 2006	√			√	
Davis 1996	√			√	
Flintoff 2001	√			√	
Finch 1998	√			√	
Griffiths 1996	√			√	
Halden 2003	√			√	
Hume 2005	√			√	
Jones 1998	√				√
MacPhail 2003	√			√	
Mason 1995	√				√
Mitchell 1997	√			√	
Mulvihill 2000a	√			√	
Orme 1991	√			√	
Scott Porter 2002a	√			√	
Scott Porter 2002b	√			√	
Veitch 2006	√			√	

Appendix 7 Breakdown of study quality scores cont'd

	3. How defensible is the research design?			**4. How well was the data collection carried out?**		
	Defensible	Indefensible	Not sure	Appropriately	Inappropriately	Not sure
Barnardo's 2000	√					√
Biddle 2005	√					√
Boulton 1992		√				√
Bramham 2003			√			√
Brooks 2006	√			√		
Brooks 2007	√			√		
Coakley 1992	√			√		
Cockburn 2002	√			√		
Cox 2006	√			√		
Davis 1996			√			√
Flintoff 2001	√			√		
Finch 1998	√			√		
Griffiths 1996	√					√
Halden 2003			√			√
Hume 2005	√					√
Jones 1998	√			√		
MacPhail 2003	√			√		
Mason 1995			√			√
Mitchell 1997	√			√		
Mulvihill 2000a	√			√		
Orme 1991			√			√
Scott Porter 2002a	√					√
Scott Porter 2002b	√					√
Veitch 2006	√			√		

Appendix 7 Breakdown of study quality scores cont'd

Validity	**5. Is the role of the researcher clearly described?**			**6. Is the context clearly described?**		
	Clear	Unclear	Not sure	Clear	Unclear	Not sure
Barnardo's 2000		√			√	
Biddle 2005		√		√		
Boulton 1992		√		√		
Bramham 2003	√					√
Brooks 2006	√			√		
Brooks 2007	√			√		
Coakley 1992		√		√		
Cockburn 2002	√			√		
Cox 2006		√			√	
Davis 1996		√				√
Flintoff 2001			√	√		
Finch 1998		√		√		
Griffiths 1996	√					√
Halden 2003			√	√		
Hume 2005		√		√		
Jones 1998		√		√		
MacPhail 2003	√			√		
Mason 1995		√			√	
Mitchell 1997			√	√		
Mulvihill 2000a			√	√		
Orme 1991		√		√		
Scott Porter 2002a			√	√		
Scott Porter 2002b			√	√		
Veitch 2006		√		√		

Appendix 7 Breakdown of study quality scores cont'd

Validity/Analysis	7. Were the methods reliable?			8. Is the data analysis sufficiently rigorous?		
	Reliable	Unreliable	Not sure	Rigorous	Not rigorous	Not sure
Barnardo's 2000			√		√	
Biddle 2005		√				√
Boulton 1992			√			√
Bramham 2003		√			√	
Brooks 2006	√			√		
Brooks 2007	√			√		
Coakley 1992			√		√	
Cockburn 2002	√				√	
Cox 2006		√			√	
Davis 1996			√		√	
Flintoff 2001			√			√
Finch 1998			√			√
Griffiths 1996			√		√	
Hume 2005			√		√	
Halden 2003			√			√
Jones 1998			√			√
MacPhail 2003			√			√
Mason 1995		√				√
Mitchell 1997			√		√	
Mulvihill 2000a			√			√
Orme 1991			√			√
Scott Porter 2002a			√			√
Scott Porter 2002b			√			√
Veitch 2006			√			√

Appendix 7 Breakdown of study quality scores cont'd

Analysis	9. Is the data rich?			10. Is the analysis reliable?		
	Rich	Poor	Not sure	Reliable	Unreliable	Not sure
Barnardo's 2000		√				√
Biddle 2005	√					√
Boulton 1992	√					√
Bramham 2003		√			√	
Brooks 2006	√			√		
Brooks 2007	√			√		
Coakley 1992	√					√
Cockburn 2002	√					√
Cox 2006		√			√	
Davis 1996	√				√	
Flintoff 2001	√				√	
Finch 1998	√					√
Griffiths 1996	√					√
Halden 2003		√				√
Hume 2005	√				√	
Jones 1998	√					√
MacPhail 2003	√					√
Mason 1995		√				√
Mitchell 1997		√				√
Mulvihill 2000a	√					√
Orme 1991			√			√
Scott Porter 2002a	√					√
Scott Porter 2002b	√					√
Veitch 2006	√			√		

Appendix 7 Breakdown of study quality scores cont'd

Analysis	11. Are the findings credible?			12. Are the findings relevant?		
	Credible	Not credible	Not sure	Relevant	Irrelevant	Not sure
Barnardo's 2000			√	√		
Biddle 2005	√			√		
Boulton 1992			√	√		
Bramham 2003		√				√
Brooks 2006	√			√		
Brooks 2007	√			√		
Coakley 1992	√			√		
Cockburn 2002			√	√		
Cox 2006	√			√		
Davis 1996			√	√		
Flintoff 2001	√			√		
Finch 1998	√			√		
Griffiths 1996	√			√		
Halden 2003	√			√		
Hume 2005	√					√
Jones 1998	√					√
MacPhail 2003	√			√		
Mason 1995			√			√
Mitchell 1997			√	√		
Mulvihill 2000a	√			√		
Orme 1991	√			√		
Scott Porter 2002a	√			√		
Scott Porter 2002b	√			√		
Veitch 2006	√			√		

Appendix 7 Breakdown of study quality scores cont'd

	13. Conclusions			14. Ethics		
	Adequate	Inadequate	Not sure	Appropriate	Inappropriate	Not sure
Barnardo's 2000			√			√
Biddle 2005	√					√
Boulton 1992	√					√
Bramham 2003		√				√
Brooks 2006	√			√		
Brooks 2007	√			√		
Coakley 1992	√					√
Cockburn 2002			√			√
Cox 2006	√					√
Davis 1996			√			√
Flintoff 2001			√			√
Finch 1998	√					√
Griffiths 1996	√					√
Halden 2003			√			√
Hume 2005			√	√		
Jones 1998		√				√
MacPhail 2003	√					√
Mason 1995		√				√
Mitchell 1997	√					√
Mulvihill 2000a	√					√
Orme 1991		√				√
Scott Porter 2002a	√					√
Scott Porter 2002b	√					√
Veitch 2006	√			√		

Appendix 7 Breakdown of study quality scores cont'd

	Overall assessment		
Relevant?	**Yes**	**No**	**Score**
Barnardo's 2000	√		-
Biddle 2005	√		+
Boulton 1992	√		+
Bramham 2003	√		-
Brooks 2006	√		++
Brooks 2007	√		++
Coakley 1992	√		+
Cockburn 2002	√		+
Cox 2006	√		-
Davis 1996	√		-
Flintoff 2001	√		+
Finch 1998	√		+
Griffiths 1996	√		+
Halden 2003	√		-
Hume 2005	√		+
Jones 1998	√		-
MacPhail 2003	√		+
Mason 1995		√	-
Mitchell 1997	√		-
Mulvihill 2000a	√		+
Orme 1991	√		-
Scott Porter 2002a	√		-
Scott Porter 2002b	√		-
Veitch 2006	√		+