

The Role and Impact of Social Capital on the Health and Wellbeing of Children and Adolescents: a systematic review

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1 Introduction

Commissioned by the Glasgow Centre for Population Health (GCPH), this report presents results from a systematic review of the literature on the role and impact of social capital on the health and wellbeing of children and adolescents.

Social capital is a term used to define social resources which can facilitate positive outcomes with respect to a broad range of phenomena. Despite considerable debate about its definition and measurement, there is general agreement that social capital is an 'asset' which has the potential to link and explain factors that influence both health and wellbeing. Our focus in the review is on intra- and inter-familial relationships, that is, interactions within families (family social capital) and between families and their local communities (community social capital) and how these influence the health and wellbeing of children and adolescents.

Cognisant of the Scottish Government's focus on the importance of the early years in establishing positive future trajectories, a review of the literature on the link between social capital and health-related outcomes has the potential to inform local and national policy and practice and the development and evaluation of primary prevention and early intervention programmes. The influence of family and community social capital differs across the life-course and we have been sensitive to this when presenting and discussing the results.

The report is set out as follows: section 2 provides important background information; the aim of the review is presented in section 3; section 4 details the methods used to identify, screen and review appropriate literature; section 5 presents the summarised and synthesised results; and, section 6 discusses implications for policy, practice, education and future research.

2 Background

2.1 Early intervention

Investing in the health and wellbeing of children and young people is essential for the success and sustainability of future generations¹. Research has shown that experiences and exposures to risk and protective factors across the life-course, particularly in the early years, have long-term implications for health and may indeed be part of the root causes of health inequalities in later life.² In recent years there has been a move from reactive to preventative interventions, with examples in Scotland including the Triple P Positive Parenting Programme³, the Family Nurse Partnership Programme⁴, Equally Well (selected test sites)⁵, the Curriculum for Excellence⁶ and interventions such as More Choices More Chances⁷, which aims to reduce the percentage of young people not in education, employment or training.

Endorsing the need for a preventative approach, the Allen review, an independent report presented to the UK Government, defines a 'new approach' for promoting evidence-based early intervention programmes, framing them across three distinct age ranges: 0-5 readiness for primary school (the foundation stage); 5-11 readiness for secondary school; and, 11-18 readiness for life⁸. The importance of family and community relationships and resources in stimulating the physical, emotional and social development of children and young people at key life stages is also emphasised in the World Health Organization (WHO) report, *Early child development: a powerful equalizer*⁹.

2.2 Risk and protective factors

The concept of risk and protective factors (assets) can be helpful in understanding the likelihood of children and young people being able to achieve their full health potential¹⁰. Increasing interest in asset based approaches in recent years has been influenced by the view that the more opportunities children and young people have to experience and accumulate the positive effects of a range of protective factors, the more likely they are to be able to attain and sustain health and wellbeing¹¹. It is believed that the protection provided by health assets, has the potential to offset a range of risk factors, including poverty, loss of a parent, child abuse, parental substance misuse and living in neighbourhoods with high levels of criminality^{12,13}. The strength of evidence on risk and protective factors varies; however, there is sound evidence that warm, affectionate parenting and strong child/carer attachment is protective^{14,15}. More generally, strengthening protective factors at home, in schools and in local communities is thought to make an important contribution to reducing risk for those who are vulnerable, thereby improving their chances of going on to lead healthy and successful lives¹⁶⁻¹⁸.

2.3 Social capital

Social capital has its roots in the work of sociologists such as Durkheim¹⁹; however, its acceptance as a concept which has the potential to further articulate the relationship between health and its broader determinants stems from the work of Pierre Bourdieu²⁰, James Coleman²¹ and Robert Putnam²².

Bourdieu defines social capital in terms of social networks and connections. He argues that an individual's contacts within networks result in an accumulation of exchanges, obligations and shared identities that in turn provide potential support and access to resources²⁰. Coleman promotes the idea that social capital is a resource of social relations between families and communities²¹. Putnam defines social capital as a key characteristic of communities²². In Putnam's definition, social capital extends beyond being a resource to include people's sense of belonging to their community, community cohesion, reciprocity and trust, and positive attitudes to community institutions that include participation in community activities or civic engagement²².

While each of these theorists describes social capital through a different disciplinary lens, the common thread relates to the importance of positive social networks of different types, shapes and sizes in bringing about social, economic and health development among different groups, hierarchies and societies. In the context of the health and wellbeing of children and adolescents, it has been argued that traditional definitions of social capital have been conceptualised within an adult framework that is incomplete in the context of young people's lives, which may differ in their social space and connectedness^{23,24}. For example, the community (or neighbourhood) may be less important than the home and school for children and adolescents, and in recent years young people's social spaces have expanded to and through the Internet, which has the potential to influence both the positive and negative aspects of social capital^{25,26}. Also, developments in the sociology of childhood highlight the importance of children's agency¹, autonomy and involvement in the health process; it is therefore important to acknowledge that they are capable of generating and using social capital in their own right²⁷.

When discussing limitations in using 'adult' definitions of social capital, Morrow argues that Bourdieu's concept of sociability (the ability and disposition to sustain networks) may be particularly relevant for children and young people, as it recognises that these networks are not just bound by neighbourhood and geography²³. Also, Ferguson argues for the utility of Coleman's conceptualisation of social capital, with its explicit focus on the bonds within and between both family and community²⁸. Others have considered how aspects of all of the main

¹ Agency refers to an individual's ability to make their own choices.

perspectives can contribute to the development of new theories of social capital for younger age groups²⁹. Given the current emphasis on life-course approaches to health development, the conceptualisation of social capital should take account of 'need' at different life-stages. For example, it could be argued that bonding social capital might be most important in the earlier years, providing a secure base for later involvement in health-enhancing networks. Agency is also likely to alter with age. A broad and pluralistic approach to defining social capital is therefore likely to be beneficial.

Reflecting on the concerns raised about definitions, this review draws on the work of a broad range of theorists; this includes, but is not limited to, Bourdieu, Coleman and Putnam. However, given the focus on children and adolescents, the concepts of family and community social capital have been used to frame the presentation of the results. The family is considered to have an important role to play in the development and maintenance of bonding forms of capital that support positive developmental trajectories. The family is also thought to play a role in bridging and linking forms of capital that extend the child and their family into the wider social context. When undertaking this review we have also sought to ensure that the role and impact of social environments particularly relevant to children and young people are explored (for example, the school environment).

3 Aim

Located within the context described above, our aim was to undertake a systematic review of the literature on the role and impact of social capital on the health and wellbeing of children and adolescents.

Systematic reviews are a commonly used method of summarising and synthesising the international evidence from individual studies (primary research) to provide a comprehensive overview of a particular health care issue. As such, they can provide a platform for the development of evidence-based recommendations for policy, practice and research.

4 Methods

4.1 Criteria for considering studies for inclusion in the review

4.1.1 Types of studies

In line with the commissioning brief, an integrative approach was adopted which ensured that diverse sources of international evidence were included. Thus, studies were included if they were experimental (randomised controlled trials, controlled trials, quasi-experiments), non-experimental (surveys, cohort studies), qualitative and/or had adopted a mixed methods approach (combining quantitative and qualitative methods).

4.1.2 Type of participants

To be included in the review, studies were required to have focused on pre-school children (0-5 years), school-aged children (5-10 years) and/or adolescents (10-19 years). The WHO definition of 'adolescent' was used to ensure alignment with the worldwide literature³⁰. An initial scoping of the literature revealed inconsistencies in the use of these categories to describe study participants; in particular, some young people over the age of 19 were described as adolescents. We therefore adopted a pragmatic approach such that: samples where the

majority of participants were aged 0-5 years were described as 'pre-school children'; samples where the majority of participants were 10 years and under were described as 'children'; and, samples where the majority of participants were 19 years or younger were included and described as 'adolescents'. Mixed samples were also included and described as such.

4.1.3 Types of social capital

As discussed, the review included studies that had explicitly and implicitly drawn on the work of a broad range of theorists, including Bourdieu, Coleman and Putnam. We sought to identify indicators of social capital at family and community levels. Studies were included if they sought to explore the role and impact of any of the following:

Family social capital: family structure; quality of parent-child relations; adult's interest in child; parental monitoring; and, extended family exchange and support

Community social capital: social support networks; civic engagement; trust and safety; degree of religiosity; quality of pre-school/school; and, quality of neighbourhood.

If studies focused on any of the above but did not explicitly use the term 'social capital' they were included. For example, studies that focused on the role and impact of 'assets' such as strong parent-child relationships and friendship met this criterion.

4.1.4 Types of outcomes

The outcomes of interest were individual-level psychosocial health and wellbeing. Psychosocial health included: mental health (e.g. depression, anxiety, stress); health risk behaviours (e.g. alcohol use/misuse, smoking, use of illicit drugs, risky sexual behaviour); behavioural issues (e.g. conduct problems, aggression/violence, delinquency); and, developmental issues (e.g. language acquisition).

Psychosocial wellbeing included: emotional wellbeing (e.g. happiness, satisfaction with life); psychological wellbeing (e.g. autonomy, resilience); and, social wellbeing (e.g. the opposite of conduct disorder, delinquency, interpersonal violence and bullying).

Studies were included where outcomes had been reported by the children/adolescents themselves and/or a significant others (e.g. parent, teacher or professional).

4.2 Search methods for identification of studies

4.2.1 Electronic searches

The following electronic databases were searched for published peer-reviewed studies:

Biomedical sciences databases

- Medline (1949-current) searched 3rd April 2012
- Embase (1980-current) searched 1st April 2012
- Cochrane Library (including Cochrane Database of Systematic Reviews, Cochrane Central Register of Controlled Trials and Database of Abstracts of Reviews of Effects) searched 4th April 2012

Social science databases

- Applied Social Sciences Index and Abstracts (ASSIA) (1987-current) searched 3rd April 2012

- PsycINFO (1872-current) searched 3rd April 2012
- Sociological Abstracts (1952-current) searched 4th April 2012

Nursing and allied health databases

- Cumulative Index to Nursing and Allied Health Literature (CINAHL) (1981-current) searched 4th April 2012

Reference lists of articles identified through database searches were examined for further relevant studies. The reference lists of topic-specific reviews were also hand-searched in order to identify potentially relevant citations.

The websites of organisations and research groups focusing on the health and wellbeing of children and adolescents and/or social capital were also searched for peer-reviewed papers and relevant grey literature. These sites included: the Centre for Research on Families and Relationships, the University of Edinburgh; the Department of Health; the Joseph Rowntree Foundation, the MRC Social and Public Health Sciences Unit, the University of Glasgow; the Scottish Government; the World Health Organization; the Social Capital Task Group (Edinburgh). Full details of the organisations are provided in Appendix 1.

4.2.2 Search terms

Initial scoping was undertaken to identify the most appropriate search terms. In line with the recommendations of Shaw *et al.*³¹, the search strategy was developed to include both index terms (i.e. thesaurus and subject headings) and free text keywords. However, given that the individual databases differ in how they index articles³², it was necessary to develop variants of the search strategy to reflect the indexing system of the different databases being used.

To capture literature published within the previous six months, which may be included in databases but still awaiting indexing, a keyword-only search was developed for each database to be applied with six month date delimiters.

Following its initial development, the search strategy was pilot-tested to check both precision and recall. *Precision* refers to the ability of the strategy to return studies that match the inclusion criteria and *recall* refers to the strategy's comprehensiveness³¹. We sought to achieve a balance between precision and recall to ensure that the literature identified was relevant to the review aim. Following the testing of the search strategy, minor modifications were made to each variant of the strategy prior to the final searches being conducted. As an example, the PsycINFO search strategy is presented in Appendix 2.

4.2.3 Search delimiters

While it is possible to trace social capital-relevant literature back to the point when social scientists first showed interest in interpersonal relationships, the mid-1990s represents a point where purposeful empirical endeavours examined the links between social capital and health²⁴. Accordingly, the search was limited to the international literature published between January 1990 and March 2012. Given time constraints, a language filter was applied to limit the papers retrieved to those published in English.

4.2.4 Bibliographic management

All retrieved records were downloaded into *RefWorks*®, stored and categorised by database of origin. Potential duplicates were identified using the *RefWorks*® facility, with each duplicate being double-checked before removal.

4.3 Data collection and analysis

4.3.1 Selection of studies

The literature search was conducted by KMcP. On completion, titles and abstracts of the papers identified were reviewed. Paired reviewers (KMcP and SK; KMcP and EMcG) independently applied the inclusion criteria discussed in section 4.1 to all titles. All papers that appeared to meet the inclusion criteria, or where there was uncertainty (e.g. the abstract was missing or contained insufficient detail), were taken through to the next stage where the full text was reviewed. Disagreements were resolved by consensus and a third reviewer was involved if necessary. Although many of the papers screened could have been rejected on the basis of a number of different exclusion criteria, for the purpose of consistency of reporting the first identified reason for exclusion was noted, and is reported in section 5. Also, a more detailed account of the inclusion and exclusion criteria is presented in Appendix 3.

4.3.2 Data extraction and management

Cognisant of the broad range of study designs included in this review and the types of data to be included, a review-specific data extraction tool was developed. The tool was pilot-tested on eight papers and refined. The final version of the data extraction tool is presented in Appendix 4. Data were extracted from each of the included papers independently by paired reviewers (KMcP and SK; KMcP and EMcG; KMcP and FC). Disagreements were resolved by consensus and a third reviewer was involved if required.

4.3.3 Quality appraisal

It is often difficult to assess the quality of research based on what is reported and, in fact, “what is being judged is the quality of reporting”³³ rather than the research itself. However, there is general agreement that the assessment of quality is essential to ensuring the credibility of systematic review findings and in particular those systematic reviews that report on studies with diverse study designs³⁴.

Drawing on published guidance^{33,35-37} and unpublished quality appraisal tools used previously by members of the review team, a review-specific quality appraisal tool (QAT) was developed (see Appendix 5). The QAT was made up of 11 criteria covering: the extent to which the theoretical framework underpinning the research was explicit; the reporting of the aims and objectives of the study; the appropriateness of the methodological approach vis-à-vis the stated aims; the rigour and reporting of the results; and, the appropriateness of the conclusions drawn. Each item was scored on a three-point scale (0=weak; 1=moderate; 2=strong), giving a possible range of scores from 0 to 22 for each paper.

Each included study was assessed by two independent reviewers and any disparities in the ratings between the two reviewers were resolved through discussion. A third reviewer was involved where necessary. Once agreement was reached each study was awarded a quality rating as shown in Table 1.

Table 1. Study quality ratings.

Quality rating	Criteria
High	Study scored between 16 and 22
Moderate	Study scored between 8 and 15
Low	Study scored between 0 and 7

The quality rating for each study is reported in Tables 8-12, which appear at the end of this report. These ratings are by no means definitive but they offer an explicit and transparent picture of the review team's assessment of each study. The purpose of the quality rating is to facilitate the reader's interpretation of the findings.

4.4 Data analysis and synthesis

The results are presented in narrative form. Descriptive information about each of the included studies is presented in Tables 8-12, located at the end of this report, and included within these descriptions are the aims, context, design, sample and key findings of each study. Meta analysis was not possible due to design issues (the majority of the studies were surveys) and the heterogeneity of outcome measures used. The surprisingly limited volume of qualitative studies and differences in purpose also precluded meta synthesis.

In what follows, studies included in the review are grouped by outcome and the type of social capital of interest. The results are initially summarised and then synthesised at the end of each of the main sections. When synthesising the results we adopted an analytical approach similar to that originally described by Ramirez *et al.*³⁸ where the results are grouped into three categories: results that show a positive association between social capital and health and wellbeing (i.e. where social capital was associated with better outcomes and the results were statistically significant); results that show a negative association between social capital and health and wellbeing (i.e. where social capital was associated with poorer outcomes and the results were statistically significant); results where no association between social capital and health and wellbeing was identified (no statistically significant results). Also, we highlight where differences in the association between social capital and the outcomes are evident in sub-groups of children/adolescents and where findings are inconclusive.

Individual studies report on a number of different elements of social capital and, in many instances, a number of different outcomes. Therefore, each study may investigate a number of different associations between social capital and health and wellbeing.

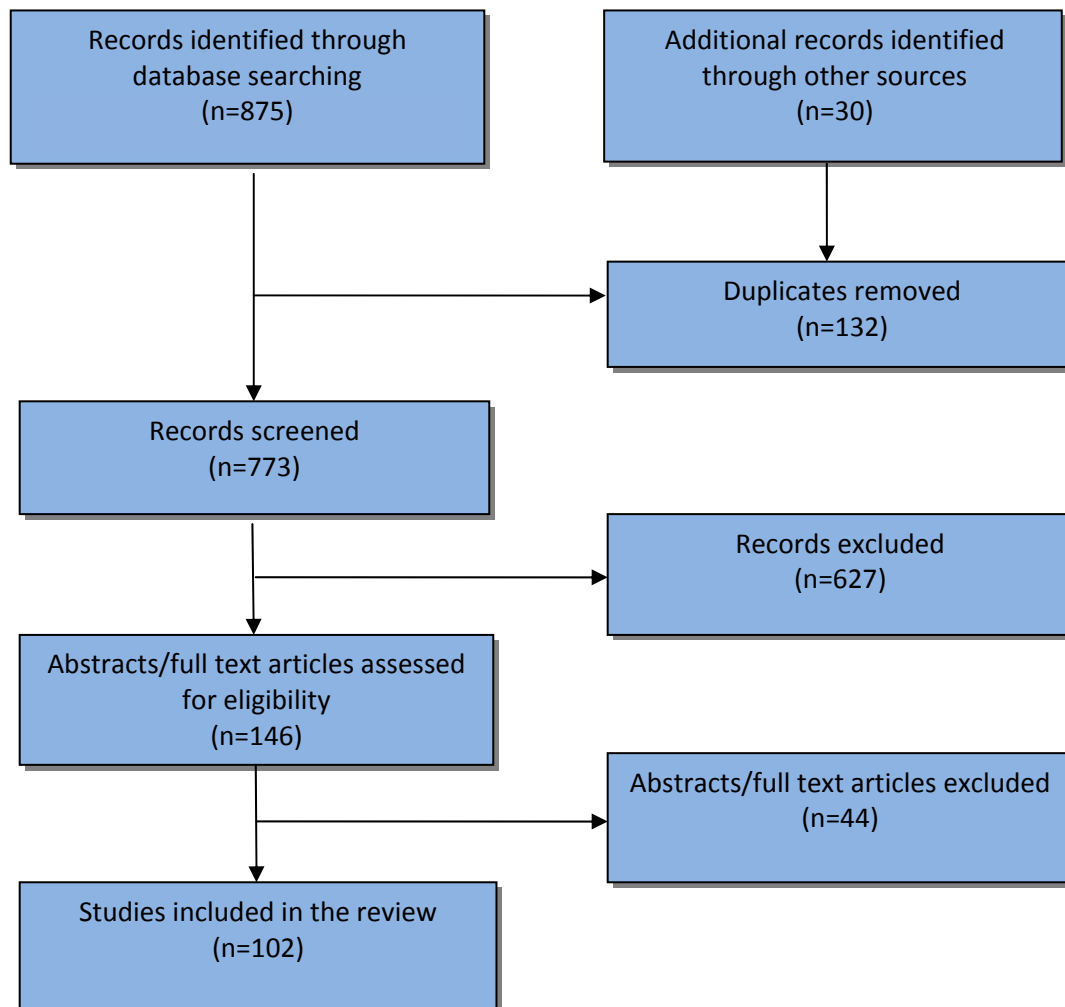
5 Results

5.1 Searches and inclusion/exclusion of papers

As indicated in Figure 1, the database and website searches identified 905 bibliographic records of which 132 were duplicates; 773 were therefore eligible for the next stage of the screening process. Following screening 627 were excluded, with 146 moving to the next stage where full text articles were reviewed. Following this process a total of 102 papers were included in the review. The primary reasons for papers being excluded were that they

either did not fit with: the definition of child/adolescent (n=389); or the definition of family or community social capital (n=73); or the definition of health and wellbeing (n=115); or the study design criteria (n=92).

Figure 1. Search results and selection of papers.



5.2 Description of the included studies

5.2.1 Study design

As can be seen in Tables 8-12, the majority of the 102 included studies were surveys (85%, n=87) but also included were: 10 cohort studies; two qualitative studies; one randomised controlled trial; one controlled trial and one quasi-experiment. Although the majority (89%, n=91) of the survey studies were cross-sectional, many drew their data from larger, prospective longitudinal studies such as the WHO Health Behaviour in School-aged Children (HBSC) project.

5.2.2 Sample sizes

There was considerable variation in the sample size reported across the different studies and many poorly articulated the conversion of the number of recruited participants into the final sample size (see Tables 8-12). In addition, neither of the qualitative studies^{39,40} provided specific details about their sample size. As a way of standardising the reporting across the studies, we report on the maximum number of child/adolescent participants included in the analysis.

5.2.3 Setting

The majority of the included studies were conducted in North America: 52 in the USA and seven in Canada. Eleven studies were conducted in the UK and four in mainland European countries (Greece, Italy and Switzerland (two studies)), four in the Netherlands and two in Sweden. Three studies were conducted in Australia, two in China, two in both Japan and Brazil and one each in Taiwan and Vietnam. The remaining single-country studies were conducted in El Salvador, Ethiopia, Israel, Kuwait, Lebanon and Serbia. Five studies collected data across a number of different countries (see Tables 8-12).

5.2.4 Timing of data collection

Thirty-nine studies did not state when the data they were reporting on was collected. As can be seen in Tables 8-12, five studies began, and in many instances completed, their data collection during the 1980s, 27 began their data collection in the 1990s, the remaining 31 studies undertook their data collection after 2000. In a number of instances there was a considerable time lag between data collection and publication of the results.

5.2.5 Participants

5.2.5.1 Age

In the context of this review, the participants are the pre-school children, school-aged children and adolescents whose health has been reported on. Seventy-four studies reported on adolescent (10-23 years) outcomes, five reported on children's (5-11 years) outcomes and five reported on pre-school children's (3-5 years) outcomes. Thirteen studies included children and adolescents (4-18 years) and the remaining five looked across a range of ages (see Tables 8-12).

5.2.5.2 Gender

Twenty-two studies did not give explicit details of the number of female or male children/adolescents being reported on. In the remaining studies the percentage of female participants, or percentage of females being reported on, ranged from 0% to 100%; only one study had an all-female sample⁴¹ and one had an all-male⁴² sample. In the studies where sex was explicitly stated there was a relatively even split of females to males.

5.2.5.3 Ethnicity/Race

Studies differed in their reporting of the ethnic, racial and/or national background of participants. Fifty studies either failed to report on the ethnicity/race/nationality of the children/adolescents or it was not possible to extract this information in a meaningful way. Sixteen studies described the majority group in their study as

Black, African American or Non-Hispanic Black; these are grouped together and reported under the single category 'Black' in Tables 8-12. Twenty-five studies described the majority group in their study as White, Caucasian, Non-Hispanic White or Non-Hispanic Caucasian; these are grouped together and reported under the single category 'White' in Tables 8-12. Four studies described their majority group as Hispanic or Latina/Latino; these are grouped together and reported under the single category 'Hispanic' in Tables 8-12. The remaining seven studies referred to the majority group of participants as American Indian, Canadian Aboriginal, Dutch, Kuwaitis, Mainland Chinese, Southeast Asian-American and Swiss.

5.2.6 Social capital

As can be seen in Tables 8-12, 14 studies reported on the role and impact of family social capital and 40 reported on the role and impact of community social capital. Forty-eight studies reported on both family and community social capital. The indicators of family and community social capital adopted by each study are reported in Appendices 6 and 7.

Many of the studies reported on a number of different elements of family and/or community social capital and across a range of different health and wellbeing outcomes. Indeed, the total number of associations between social capital and health and wellbeing investigated across the 102 studies was 454 (see section 4.4 for more details).

5.2.7 Quality appraisal

The quality appraisal rating assigned to each study (see section 4.3.3 for more details) is noted in Tables 8-12. In total, three studies were rated as being 'low quality', 30 were rated as being 'moderate quality' and 69 were rated as being 'high quality'.

5.3 Outcomes

5.3.1 Mental health and problem behaviours

Fifty-five studies reported on the role and impact of social capital on mental health and problem behaviour outcomes^{39,42-95}.

The outcomes were classified into four categories:

1. Self-esteem and self-worth
2. Internalising behaviours which includes thoughts, feelings, emotions and behaviours that the child/adolescent directs inwards (e.g. depression and anxiety)
3. Externalising behaviours which includes the outward expression of feeling and emotions (e.g. aggression, violence, conduct disorders and disobedience)
4. Composite measures of mental health and problem behaviours, where researchers have measured both internalising and externalising behaviours on a single scale.

Nineteen of the studies reported on two or more of these categories.

5.3.1.1 Self-esteem and self-worth

Self-esteem and self-worth refer to the opinions or feelings that each person has about him- or herself; someone with higher levels of self-esteem/worth will tend to view him- or herself more positively^{43,47,54,58,60,62,67,69,93,95}. As can be seen in Table 8, ten studies explored the role and impact of social capital on self-esteem or self-worth. Seven of these studies were surveys, including cross-sectional and longitudinal designs. Eight of the studies had adolescent-only samples (11-20 years) and two were mixed samples of children and adolescents (7-15 years).

Four studies assessed the role of family social capital and all four were conducted with samples of adolescents. Across all of these studies there was evidence demonstrating the role of intra-familial relationships in the promotion of positive self-esteem/worth. Adolescent-parent relationships characterised by positive communication⁴⁷, nurturance⁹⁵ and low levels of conflict⁹³ were associated with higher self-esteem/worth. Moreover, positive parent-adolescent relationships predicted better self-esteem in the longer-term⁴⁷. Families considered by their members to be cohesive⁹³ and families where there was evidence of adult interest in the adolescent⁹³ were also protective. In contrast, parental monitoring and control was associated with poorer self-esteem/worth^{67,95}.

Consistent with the findings in relation to family social capital, the seven studies assessing the role and impact of community social capital point to the protective role of child and adolescent relationships that extend beyond the family boundaries. Children and adolescents who have a higher quantity and/or quality support networks, which include both adults⁶⁰ and their peers^{67,95}, and children/adolescents whose parent(s) has good social support⁶², were more likely to report higher self-worth/esteem.

Three studies assessed the role and impact of school quality and all reported that adolescents' assessments of their school had a role to play in relation to self-esteem/worth, at least in some groups. Feeling safe at⁴⁷, and engaged with⁹⁵, school were associated with positive self-esteem/worth. However, there was some evidence of differential impact across sub-groups of adolescents with one study showing school quality to be associated with self-esteem/worth only in adolescents from urban communities⁶⁷.

Likewise, a role was identified for participation in religious services, but the impact differed across sub-groups of adolescents. Increased attendance at religious services was protective for male adolescents⁴⁷ and weekly attendance at religious services was protective for those that identified as Catholic; however, weekly church attendance was associated with poorer self-esteem/worth in adolescents who identified as belonging to the Church of Scotland (Protestant)⁴³. The authors hypothesise that differences across religious groups may be related to normative behaviours (e.g. church attendance may be more accepted in some groups than others) but there was no data available to test this hypothesis.

In summary, children and adolescents appear to accrue benefit to their self-esteem/worth if they are in a family where the relationship with their parent(s) is positive. Conversely, parental monitoring/control appears to be linked with lower self-esteem/worth which may be associated with an adolescents' loss of autonomy of aspects of their own lives. Children and adolescents supported more broadly by higher quality/quantity of social support networks also benefit in terms of their self-esteem/worth.

5.3.1.2 Internalising behaviours

Internalising behaviours refer to thoughts, feelings, emotions and behaviours that the child/adolescent directs inwards. Thirty-one studies explored the role and impact of social capital on internalising behaviours (see Table 8) and the specific outcomes measured included: depressive symptoms, anxiety and social anxiety, moods, emotions and composite scores on assessments that measure a range of these behaviours (referred to by some

authors as 'over-controlled behaviours')^{39,43,44,46,48,50-52,54,55,57,58,60,62,64,65,67,69,72,75,81-83,86,87,89,91-94}. Also included here are studies that report on suicide/suicidal ideation and self-harm.

Twenty-four of the studies were conducted as cross-sectional or longitudinal surveys and the remainder were a variety of other designs including a qualitative study. All 31 studies had mixed-sex samples. One study reported on the internalising behaviours of pre-school children, three reported on school-aged children's outcomes, six studies reported outcomes for mixed samples of children and adolescents, and the remaining 21 studies reported on outcomes for adolescents.

Only two studies explored the role of family structure and neither found evidence of it playing a role in relation to internalising behaviours^{44,67}. Seven studies assessed the role of the quality of the parent-child relationship and there was evidence to suggest that parent-child relationships assessed as positive were associated with decreased levels of internalising behaviours in the children/adolescents^{52,86,93}. Analyses of sub-groups identified the potential for the quality of the parent-child relationship to have a differential impact in some groups of children/adolescents. Notably, children and adolescents from neighbourhoods assessed as high in violence accrued no protective benefit from the parent-child relationship but their counterparts from low violence communities did⁷² and adolescents from rural communities benefited from good relations with their parent(s) in a way not afforded to adolescents from urban communities⁶⁷.

Further supporting the positive impact that family relationships can have, intra-familial relationships characterised by justice and trust⁵⁵, cohesive families⁹³ and families that frequently eat meals together⁶⁵ were protective in the context of internalising behaviours. In contrast, reports of parental monitoring in two separate studies were inconsistent; one reported a positive impact on adolescents' internalising behaviours⁹³ and the other reported a negative impact⁶⁷.

Of the 11 studies assessing social support networks eight reported, at least some, protective impact in the context of child/adolescent internalising behaviours. Children and adolescents who had wider social networks (i.e. a higher number of friendships)⁸² and higher quality social networks (e.g. friendships low in hostility)^{46,91} reported fewer internalising behaviours than children/adolescents with smaller or poorer quality social networks. There was also evidence to suggest that social support networks may provide differential benefits to different sub-groups of children. For example, pre-school children living in affluent neighbourhoods had fewer reported internalising behaviours if their parent(s) reported knowing their neighbours, on the other hand, in impoverished neighbourhoods, parents knowing their neighbours was associated with increased internalising behaviours in their pre-school children⁵⁰. Moreover, adolescents from rural communities reported fewer internalising behaviours if they had higher levels of peer support but adolescents from urban communities accrued no benefit through peer support⁶⁷.

There was evidence to suggest that schools with higher quality environments offered children and adolescents protection in relation to internalising behaviours and there was substantial evidence in support of the positive effect of the neighbourhood the children/adolescents lived in. Neighbourhoods assessed as being high in cohesion⁷², low in hazards⁴⁴ and high in other indicators of social capital were associated with lower internalising behaviours. Only one study reported a negative association between neighbourhood quality and internalising behaviours; adolescents who perceived that adults in their neighbourhood imposed too many constraints on them reported higher internalising behaviours⁶⁷. While control over adolescent behaviour (e.g. antisocial behaviour) may improve the quality of the neighbourhood in the eyes of adult residents this may not be perceived as such by adolescent residents.

In summary, children and adolescents seem to gain some protection against internalising behaviours, such as depression and suicidal ideation, when the relationships between them and other family members are positive and when they have wider and higher quality networks that extend beyond the family; either directly with their peers or indirectly through their parents' networks. Moreover, children and adolescents living in

neighbourhoods that are assessed, by them and others, as being higher quality have better mental health outcomes. It is, however, important to note that for some sub-groups of children there is a differential effect of the role of social support networks. Specifically, mothers from impoverished communities who report knowing more of their neighbours reported poorer outcomes for their children. Although there is no data to support this, the authors suggest that mothers coping less well with adversities in their neighbourhood are more likely to turn to their neighbours for help and support and this reduced coping, in turn, translates to poorer outcomes for their children⁵⁰.

5.3.1.3 Externalising behaviours

Externalising behaviours refer to behaviours that the child/adolescent directs outward at other people and/or objects. Twenty-four studies (see Table 8) explored the role and impact of social capital on externalising behaviours and the specific outcomes measured included: aggression; anger; violence; lying; conduct and oppositional defiant disorder symptoms; and composite scores on assessments that measure a range of externalising behaviours (referred to by some authors as 'under-controlled behaviours')^{42-45,50-55,57,59,60,65,69-72,75,77,85,86,88,91}.

Twenty-one of the studies were conducted as either cross-sectional or longitudinal surveys. One study had an all-male sample⁴², the rest were mixed-sex samples. One study was conducted with a sample of pre-school children (3-4.5 years), two with school-aged children (6-7 years), three with a mixed sample of children and adolescents (7-15 years) and 18 with adolescents (10-20 years) only.

Only two studies, both with adolescent samples, assessed the role and impact of family structure on externalising behaviours and only one of these found an association; living in a one-parent household was predictive of increased oppositional defiant disorder symptoms (e.g. has a short temper, argues, has few friends)⁴⁴. There was support for the protective role of parent-child relationships such that positive relationships between parents and their adolescent/child were associated with less reporting of externalising behaviours^{52,72,86}. In one study this was further investigated by splitting the sample into adolescents living in one- or two-parent households and the results showed the parent-adolescent relationship was protective only for those from a one-parent household⁷⁷.

Perhaps surprisingly given the nature of externalising behaviours, only one study investigated the role of parental monitoring and it failed to find any association between this and externalising behaviours⁸⁵. However, in further support of the role of positive relationships between children/adolescents and other members of their family, there was evidence to suggest that families where feelings of trust and justice were high⁵⁵ and families that were more cohesive (e.g. more frequently ate meals together)⁶⁵ were protective against externalising behaviours. In contrast another study found that adolescents living in high-risk neighbourhoods reported increased suppression of anger when extended family support was higher⁸⁸.

The evidence showing the role of social support networks in the context of externalising behaviour was mixed, with some studies reporting a protective relationship and others reporting a risk relationship. For pre-school children living in high poverty areas, having a parent who had more social support from neighbours was associated with increased externalising behaviours⁵⁰. For adolescents, increased quantity and quality of social networks was associated with increased lying and disobedient behaviours in one study⁵⁴ and increased reporting of fighting in another⁴². That said a number of studies reported that social support networks offered adolescents protection against some externalising behaviours^{53,77,91}.

The quality of a child/adolescent's school and neighbourhood was also identified as playing a role in externalising behaviours and where a role was identified, this was protective for a number of externalising behaviours.

Thus, in the context of externalising behaviours it appears that family social capital offers the most consistent protective role for children and adolescents. A number of risk factors were identified and in many of the studies community social capital was protective for only some externalising behaviours but not others. As with internalising behaviours, mothers from impoverished neighbourhoods who reported knowing more of their neighbours reported poorer outcomes for their children and, as noted above, this may be related to the mother's ability to cope with negative environmental factors⁵⁰.

5.3.1.4 Composite internalising and externalising behaviours

As can be seen in Table 8, 13 studies explored the role and impact of social capital on internalising and externalising problem behaviours combined as a single outcome^{56,61,63,66,68,73,74,76,78-80,84,90}. These studies did not differentiate between behaviours that were inwardly directed from those that were outwardly directed. In most studies internalising and externalising behaviours were measured using a single assessment such as the difficulties scores derived from the Strengths and Difficulties Questionnaire⁹⁶. The studies reported on mixed-sex samples across the different age groups and the majority of the studies were cross-sectional surveys.

Five studies assessed the role of family structure and different patterns of impact were identified. Living in a two-parent family was protective against internalising/externalising problems^{66,90}. The identified negative associations related to parental working and the findings differed across the age ranges. In studies with child-only samples, reports of internalising/externalising problems are higher when the mother⁷⁸ and father⁷⁹ are working part-time rather than full-time hours. However, the effect of maternal working hours was extinguished in a study with an older sample⁸⁰.

Across the six studies assessing the role of the parent-child relationship there was strong evidence to suggest that relationships perceived as being positive were protective against internalising/externalising problems across all age ranges^{63,73,80,90}. There was, however, inconsistent reporting of the impact of parental monitoring and control; one study reported a negative impact of control for adolescents⁷³ and another reported a positive impact of monitoring for a mixed sample of children and adolescents⁸⁰. Higher levels of total family social capital were also associated with better child/adolescent outcomes^{56,61}.

In the three studies assessing the role and impact of social support networks, there was evidence to suggest that children/adolescents benefited directly and indirectly from social support networks; directly, through their own networks^{76,90}, and indirectly, through their parents' networks⁶⁸. Moreover, there was evidence to suggest that attendance at religious services^{80,90}; attending a school with a higher quality environment⁸⁰ and living in a less dangerous neighbourhood⁵⁶ were all protective against general internalising/externalising problems.

In the context of general internalising and externalising behaviours it appears that positive relationships with the family are associated with better outcomes. Higher quantity and quality of relationships outwith the family are also associated with fewer internalising/externalising problems. Children and adolescents also seem to benefit from the structural support that comes in the form of higher quality schools and neighbourhoods.

5.3.1.5 Mental health and problem behaviours – synthesis

The pattern of impact of the various elements of family and community social capital on mental health and problem behaviour outcomes are presented in evidence Table 2. The 55 included studies investigated 172 associations between the various mental health and problem behaviours and the elements of family and community social capital: 84 of these associations were positive, showing higher levels of social capital to be associated with better child/adolescent outcomes; seven were negative, showing higher levels of social capital

to be associated with poorer outcomes; and, in 51 cases no association was identified between social capital and the outcome.

Table 2. Evidence table showing the pattern of investigated associations between social capital and mental health and problem behaviours.

Association	Family structure	Parent-child relations	Adult interest	Parental monitoring	Extended family support	Composite/Other family social capital	Social support networks	Civic engagement	Trust & safety	Religiosity	Quality of school	Quality of neighbourhood	Composite/Other community social capital	Total
Number of investigated associations	10	25	3	9	6	10	33	9	5	9	13	28	12	172
Positive	3	16	2	3	2	9	17	2	2	4	6	13	5	84
Negative	1			4			1					1		6
None	5	2	1	2	3	1	7	7	2	2	3	10	6	51
Sub-group differences		4			1		4			3	4	3		19
Inconclusive results	1	3					4		1			1	1	11

Across these studies there is evidence to support the role of positive parent-child relationships in the promotion of better child/adolescent outcomes. Children and adolescents whose relationships with their parent(s) are characterised by, for example, positive communication⁴⁷, feelings of nurturance⁹⁵, support⁸⁶, and low levels of conflict and other negative characteristics have fewer reported mental health and behavioural problems. Indeed, there was no evidence to suggest that positive parent-child relationships are detrimental to children or adolescents' mental health and/or behaviours. Moreover, other measures of family social capital support this positive association in that children and adolescents from families rated as being more cohesive⁹³, where members report feeling there are high levels of justice and trust⁵⁵, and those that report spending more time together⁶⁵ have better mental health and behavioural outcomes.

There was inconsistent reporting of the association between parental monitoring and mental health and behavioural problem outcomes, with almost equal numbers of the associations being reported as positive^{80,93} and negative^{67,73,95} and no trend was identified that could explain this pattern. The only elements of family social capital that were negatively associated with mental health and behavioural problems, and which placed the child/adolescent at risk, were family structure and parental monitoring. Moreover, only a small number of sub-group differences were identified.

In the context of community social capital, children and adolescents benefit from social support networks, with just over half of the investigated associations being positive. Children and adolescents appear to accrue direct benefit from having wider social support networks of peers⁸² and non-familial adults⁶⁰, which may be acquired by participation in recreational clubs/groups^{53,90}, and they benefit from having higher quality social support networks^{48,54,91}. Furthermore, in most cases, but especially in the case of younger children, they appear to accrue indirect benefit from their parent(s) having wider and higher quality social support networks^{46,62}.

There was little evidence to suggest that civic engagement was particularly beneficial in the context of mental health and behaviour problems. However, there was some evidence that more frequent attendance at religious services^{43,77,80}, attending a school assessed as having a higher quality environment (e.g. feeling it is a safe place to be)^{45-47,94,95}, and living in a neighbourhood assessed as higher quality (e.g. having fewer hazards and higher levels of informal social control)^{44,46,57} were all associated with better mental health and fewer problem behaviours.

Very few negative associations, where higher levels of community social capital are related to poorer outcomes, were identified. However, a number of investigated associations identified sub-group differences and some of these differences do suggest that certain sub-groups of children and adolescents are disadvantaged by higher levels of community social capital. For example, pre-school children living in impoverished neighbourhoods have poorer outcomes if their mother knows more of their neighbours, this is in contrast to children from affluent neighbourhoods where increased maternal neighbour support is beneficial⁵⁰. As noted above, the authors hypothesise that in impoverished neighbourhoods the association between maternal social networks and poorer health outcomes may not be a direct one, but rather an association mediated by factors such as lower levels of maternal coping.

5.3.2 Health promoting behaviours

Health promoting behaviours include actions taken that promote better health outcomes (e.g. eating five portions of fruit or vegetables every day) and attitudes, thoughts or beliefs that promote better outcomes (e.g. a positive attitude toward one's body). Fourteen studies reported on the role and impact of social capital on health promoting behaviour outcomes^{40,65,85,89,97-106}. These outcomes were classified into four categories:

1. nutritional health
2. physical activity
3. weight status and body image
4. dental health.

Four of the studies reported on two different health promoting behaviours.

5.3.2.1 Nutritional health

Three of the included studies explored the association between indicators of family and community social capital and nutritional health (see Table 9)^{89,99,100}. All three were cross-sectional surveys with mixed-sex samples of adolescents (11-16 years).

Two of the studies explored the role and impact of family social capital and showed that positive relationships between family members, in the form of positive communication⁸⁹ and engagement in joint activities⁹⁹ were associated with better nutritional outcomes.

All three studies included indices of community social capital and the pattern of results suggested that social capital acquired in the context of the community had a positive impact on adolescents' nutritional health. In particular, indicators of social capital that point to adolescents expanding the quantity and quality of their social networks seem most important; being a member of recreational clubs^{99,100}, having peer and adult role models⁸⁹ and being active citizens in the local neighbourhood^{89,99} (but not school) were all associated with better nutritional health outcomes.

5.3.2.2 Physical activity

Nine studies reported on the role and impact of social capital in relation to physical activity or inactivity (see Table 9); eight were cross-sectional surveys^{85,89,99-104} and one was a qualitative study⁴⁰. Seven of the studies reported on adolescent physical activity and two reported on data collected jointly about both children and adolescents, and all nine studies had mixed-sex samples. Only one study failed to find an association between social capital and physical activity⁸⁵.

Four of the studies explored associations between family social capital and physical activity^{40,85,89,99}. The elements of family social capital identified as having a positive impact on physical activity were those that point to the positive or supportive elements of the relationship between young people and members of their family. Positive relationships with parents⁸⁹ and extended family members⁴⁰ and adult interest in the child/adolescent's activities⁴⁰ (e.g. adult family members going to watch the child play sport) were all associated with more positive outcomes. It is interesting to contrast the beneficial impact of positive family relationships with the finding of no association between parental monitoring and control and physical activity^{85,99}.

Eight studies reported on the association between community social capital and physical activity^{85,89,99-104}. Like family social capital, the elements of community social capital most likely to play a role in determining physical activity outcomes were those most directly associated with children and adolescents' relationships with other people. There was evidence to suggest that children and adolescents who have access to higher quantity/quality social support networks are more likely to be physically active and/or less likely to be sedentary⁹⁹⁻¹⁰¹. Moreover, many of the indicators of quality of neighbourhood were, at least in part, concerned with social cohesion, or perceptions of the bonds that exist within communities, and three of the studies linked social cohesion to positive physical activity outcomes¹⁰¹⁻¹⁰³. In addition, adolescents with a peer or adult mentor and those involved in school and neighbourhood civic decision-making also accrued benefit^{89,99}.

Only one study found social capital had a negative impact on physical activity outcomes; here, higher state-level mutual aid (i.e. the extent to which people living in the US state perceive that their neighbours support each other) and social trust were associated with increased likelihood of adolescents not meeting physical activity guidelines¹⁰⁴. However, the authors caution that, in the context of health, social capital measured at a more local level (e.g. neighbourhood) may be more theoretically valid. Indeed, the balance of the evidence in relation to physical activity outcomes suggests that, at both the family and community level, children and adolescents who have wider social networks and positive relationships with others are more likely to be physically active and less likely to be sedentary.

5.3.2.3 Weight status and body image

Four studies reported on the association between social capital and weight status and/or perceptions of body image (see Table 9)^{65,104-106}. All four were cross-sectional surveys conducted with mixed-sex adolescent groups ranging in age from ten through to 17 years.

Two studies reported on family social capital and highlighted the protective effects of adolescent interactions with other members of their family. For example, adolescents who had a father figure in the household, who had good communication with their father figure, and who were in families that frequently ate together (suggesting higher levels of family cohesion) had better weight and/or body image outcomes^{65,105}.

Three studies explored community social capital and they reported mixed results. In general, there was a pattern suggesting that higher quality school and neighbourhood environments offered some protection to adolescents in terms of their weight and body image behaviours^{105,106}. That said there was evidence to suggest that community social capital may have a differential impact across different group of adolescents; two studies showed different effects in younger and older groups of adolescents^{104,106}.

5.3.2.4 Dental health

As can be seen in Table 9, two studies explored the association between social capital and dental health^{97,98}. Both studies were conducted as cross-sectional surveys combined with clinical dental examinations to assess the number of decayed, missing and filled teeth in each of the participants. Neither study explored the role of family social capital but both included indicators designed to capture community social capital.

The findings point to elements of community social capital, playing a role in the management of good dental health in both pre-school children⁹⁷ and adolescents⁹⁸. Specifically, pre-school children and adolescents from communities characterised as high in social cohesion and trust⁹⁷ and where residents were empowered to take action to encourage positive outcomes⁹⁸ had better dental health outcomes. There was no evidence to support the role of social support networks⁹⁷.

5.3.2.5 Health promoting behaviours – synthesis

The pattern of impact of the various elements of family and community social capital on health promoting behaviour outcomes is presented in evidence Table 3. The 14 included studies investigated 48 associations between the various health promoting behaviours and the elements of family and community social capital: 27 of these associations were positive, showing higher levels of social capital to be associated with better child/adolescent outcomes; two were negative, showing higher levels of social capital to be associated with poorer outcomes; and in 15 cases no association was identified between social capital and the outcome.

Table 3. Evidence table showing the pattern of investigated associations between social capital and health promoting behaviours.

Association	Family structure	Parent-child relations	Adult interest	Parental monitoring	Extended family support	Composite/Other family social capital	Social support networks	Civic engagement	Trust & safety	Religiosity	Quality of school	Quality of neighbourhood	Composite/Other community social capital	Total
Number of investigated associations	1	3	2	4	2	3	7	6	4		5	9	2	48
Positive	1	3	1		1	2	5	5	1		1	5	2	27
Negative									1			1		2
None			1	3	1	1	2	1			4	2		15
Sub-group differences									2			1		3
Inconclusive results				1										1

Of particular note is the beneficial impact of positive relationships within the family. Across the various behaviours, children and adolescents are reported as having better outcomes if there is a father figure present in the home¹⁰⁵ and if communication between the young person and adults in the family is rated as being

positive^{40,89,105}. Moreover, young people in families that more frequently engage in activities together, including frequent family mealtimes, have better reported outcomes^{65,99}. Adults showing interest in the young person's activities also promoted positive behaviours but more negative parental monitoring, or control, did not. Indeed, across the 14 studies there was no evidence to suggest parental monitoring and control had any role to play.

Although the mechanisms for understanding these associations are not explicitly assessed in the studies, one might surmise that families regularly engaging in joint activities create more opportunities for the development of positive relationships and modelling of positive behaviours. Moreover, it appears that, in the context of health promoting behaviours, positive adult encouragement, perhaps mediated through positive communication, may be more important than parental monitoring or control behaviours.

Similarly to family social capital, the studies exploring the role and impact of community social capital on child and adolescent health promoting behaviours tended to show a positive impact. This was particularly true when the indicator was an assessment of the young person's, or their parents', relationships with others. Indicators of wider social support networks, including participation in recreational clubs⁹⁹⁻¹⁰¹ and having a peer or adult mentor⁸⁹, were associated with better outcomes.

Although there was little evidence to suggest that school quality has a role to play in terms of health promoting behaviours, the quality of the neighbourhood the children/adolescents lived in did. The majority of studies that identified the quality of neighbourhood as having a role to play in promoting health behaviours employed measures that assessed the bonds that exist between people living in the neighbourhood (i.e. social cohesion). Across these studies children and adolescents from neighbourhoods assessed as being higher quality, and thus more cohesive, were generally reported as having better outcomes^{97,101-103,106}. Moreover, children and adolescents who were active citizens, engaging in civic decision-making, or who lived in a neighbourhood characterised as being high in empowerment had better outcomes^{89,98,99}.

There were only two reported negative associations between community social capital and health promoting behaviours but there was some evidence to suggest that community social capital, or elements of it, may have a differential impact in different groups of adolescents (e.g. younger versus older adolescents)^{104,106}.

5.3.3 Health risk behaviours

Health risk behaviours are those behaviours and actions that increase the likelihood of ill health or decrease the likelihood of the individual maintaining optimal health. Thirty-four studies (see Table 10) reported on the role and impact of social capital on health risk behaviour outcomes^{41,65,69,81,85,86,91,95,99,100,107-130}. These outcomes were classified into five categories:

1. Tobacco use
2. Alcohol use
3. Drug use
4. Sexual health
5. Composite risk behaviours, which include composite measures across a range of risk behaviours.

Twenty-two studies reported on one health risk behaviour and 12 studies reported on two or more health risk behaviours.

5.3.3.1 Tobacco use

Eleven studies investigated the role and impact of social capital on tobacco use (see Table 10)^{65,85,95,99,100,107,110,117,124,126,127}. All 11 studies were conducted as surveys with mixed-sex, adolescent samples (11-19 years), ten were cross-sectional and one longitudinal.

Seven studies explored the role of family social capital in the context of adolescent tobacco use and, in the main, the findings suggested that social capital within the family was protective against smoking and tobacco use. Parent-adolescent relationships characterised as high in closeness, trust and nurturance were associated with less frequent, or non-use, of tobacco^{95,110,127}. Two studies assessed the quality of the parent-adolescent relationship in terms of communication; one¹⁰⁷ found positive communication between parent(s) and adolescent to be protective but the other reported communication as a risk factor¹²⁷. However, in the latter study parent-adolescent closeness diluted the risk associated with communication, such that relationships that were high in closeness and positive communication protected the adolescent against tobacco use.

Further supporting the protective role of positive intra-family relationships, two studies reported that adolescents from families that engaged in more joint family activities were less likely to use tobacco^{65,99}. On the other hand, there was little evidence to suggest that parental monitoring had much effect on tobacco use, with only one out of five studies finding an association¹²⁷.

Nine studies explored the role and impact of community social capital on tobacco use. While there was inconsistency in the pattern of impact across the six studies assessing social support networks, this may be accounted for, in part, by the type of assessment. Two studies assessed social support networks in terms of adolescents' interactions with their friends/peers and both of these studies reported a negative impact such that increased peer connectedness and frequency of contact with friends were associated with higher risk of tobacco use^{95,127}. In contrast, two of the studies assessing participation in recreational clubs/groups, an indicator of wider social networks, found that increased participation was protective against tobacco use^{100,107}. However, there was evidence to suggest that different types of groups/clubs may have differential impact; school-based groups/clubs had no role, youth clubs were identified as a risk factor and religious groups/clubs offered protection^{99,100}.

Civic engagement, religious attendance and having peer/adult mentors also provided some insight into the reach of an adolescent's networks. One study found all three played a protective role but this was not replicated across other studies¹⁰⁷. Only one study assessed neighbourhood quality and found no effect¹²⁷. However, there was evidence to suggest that adolescents who attended a school perceived to have a high quality environment were offered some protection against tobacco use^{95,124,126}.

Social capital amassed through an adolescent's interactions with other people is protective against tobacco use in some circumstances and creates a risk factor in others. In particular, positive relationships between the adolescent and other family members seem to be associated with reduced likelihood of the adolescent using tobacco. However, relationships that extend out of the family into the adolescent's social sphere may in some instances create opportunities for risk behaviours. In particular, it appears that adolescents with broader social networks involving peers may be at higher risk of using tobacco. In contrast, the infrastructural support of the school environment appears to offer protection to adolescents in the context of tobacco use.

5.3.3.2 Alcohol use

Fourteen studies assessed the role and impact of social capital on alcohol use and all included mixed-sex samples of adolescents (see Table 10)^{65,81,85,86,91,95,99,100,109,110,112,117,119,124}. Thirteen of the studies were conducted as surveys and one was a cohort study. Twelve of the studies were cross-sectional and two were longitudinal.

Eight studies explored the association between family social capital indicators and alcohol use and the majority of these pointed to the quality of the parent-adolescent relationship playing a role in adolescent alcohol use. More positive relationships were associated with less risky behaviours, including abstinence, lower frequency of alcohol use and lower frequency of binge drinking^{86,95,110,112,119}. Moreover, adolescents who reported that their families engaged in more joint activities (e.g. more frequent family mealtimes), another indicator of positive intra-familial relationships, were protected in terms of alcohol use^{65,117}.

While the weight of evidence suggests that positive relationships between adolescents and their parent(s) were protective against risky alcohol behaviours, the pattern of association is less clear for parental monitoring and control. Two of the four studies^{85,95} reported that (perceived) parental monitoring or control was unrelated to alcohol use, another found it was protective for male but not female adolescents¹¹⁰ and the final study reported that having a controlling father was associated with increased risk⁹⁹. Moreover, linked to parental monitoring, both male and female adolescents who reported that they had more negotiated unsupervised time with their peers were at increased risk of reporting alcohol use¹¹⁰.

There was also evidence to suggest that the relationships between family members may have a differential impact across different groups of adolescents. There were conflicting results about the impact on male and female adolescents; one study reported that a positive parent-adolescent relationship was protective for male adolescents only¹¹⁰ and another reported it was protective for female adolescents only⁸⁶. Moreover, when broader family relationships were explored in the context of ethnicity a different pattern of risk and protection was evident across different ethnic groups (see Eitle *et al.*¹¹² in Table 10).

Half of the six studies exploring the role of social support networks in adolescents' alcohol use failed to identify any association. The three studies identifying a role found some protective and some risk relationships: one study reported that poorer quality peer relationships were associated with alcohol consumption cross-sectionally but the relationship did not hold across time⁹¹; another found adolescents with high levels of peer connectedness were at increased risk; and, the third study found that, while in general recreational club membership was protective, membership of some club types was associated with increased odds of drunkenness (e.g. youth or sports clubs) and membership of other club types was associated with decreased odds (e.g. cultural or religious clubs)¹⁰⁰. Moreover, adolescents who reported they had peer role models, but not adult role models, were more likely to report abstinence¹¹⁹.

There was some evidence to suggest that adolescents who engaged in active citizenship activities^{99,109,119} and who had higher levels of trust in others^{109,124} engaged in fewer alcohol risk behaviours. Three studies showed frequency of attendance at religious services was associated with more positive behaviours but there was no consistent evidence showing a role for religious identity or personal importance of religion^{81,109,119}.

None of the studies explored the association between alcohol use and the quality of neighbourhood, but five explored the role of school factors. In two of these studies positive school attributes (e.g. cohesion) were protective against alcohol use^{95,99} and in a third, school cohesion was protective for female adolescents but presented as a risk factor for males⁸⁶.

In the context of alcohol use, the protective effects of family and community social capital are mixed. It appears that family social capital offers the most consistent effect with positive relationships between young people and their parent(s) being protective. Moreover, parental monitoring and control appear to have little protective value and in some instances are associated with increased risk.

The evidence for the role and impact of community social capital is inconsistent. Social support networks appear to have a limited and inconsistent impact on adolescent alcohol use. That said, adolescents who participate in active citizenship and/or participate more frequently in religious services do appear to accrue some protection.

5.3.3.3 Drug use

Nine studies sought to explore the role and impact of social capital on drug use and all were conducted as cross-sectional surveys with mixed-sex samples of adolescents (11-19 years) (see Table 10)^{65,81,85,86,95,109,110,117,119}.

Six studies included indicators of family social capital. Across these a clear pattern emerged in relation to the role of the family relationships. Adolescents who perceived that they had a positive relationship with their parent(s) were less likely to report drug use^{86,95,110,119} as were adolescents from families that spent more time together (e.g. more frequent family mealtimes)⁶⁵. Further emphasising the protective role of the positive element of family relationships, no role was identified for parental monitoring and control behaviours^{85,95,110} which are often assessed as a negative element of the relationship. However, adolescents who were afforded negotiated unsupervised time with their peers (i.e. had some unmonitored time) reported more frequent marijuana use than peers without this time¹¹⁰.

In the seven studies assessing community social capital, there was limited and inconsistent evidence available about the role of adolescents' social support networks. One study assessing participation in recreational clubs/groups, an indicator of wider social networks, reported a protective role¹¹⁹, however, another study assessing peer connectedness identified it as a risk⁹⁵. In contrast, adolescents who reported they had a peer mentor, but not an adult mentor, had increased odds of reporting not using drugs¹¹⁹.

Four studies explored the association between religiosity and drug use. In all four, adolescents who reported more frequent attendance at religious services were less likely to report drug use, or they reported less frequent drug use^{81,109,117,119}. There were, however, inconsistent findings in relation to the role of religious identity and the personal importance of religion^{81,109}. None of the nine studies explored the role of neighbourhood quality but there was some evidence to suggest that higher quality school environments offered some protection to students in relation to drug use^{86,95}, and one study reported that this was particularly important for female students⁸⁶.

In summary, family relationships characterised by trust, support and nurturance appear to provide adolescents with assets that protect against drug use or frequent drug use. In contrast, parental monitoring and control has little effect in this domain although an indicator of a more *laissez faire* approach to monitoring, negotiated unsupervised time with peers, does seem to be associated with increased risk. In the context of community social capital, adolescents accrue more protection from drug use from structural sources, religion and school, than they do from their relationships with others.

5.3.3.4 Sexual health

Fifteen studies (see Table 10) explored the role and impact of social capital on sexual health outcomes; 14 were conducted as cross-sectional surveys^{41,65,86,108,110,111,113-116,118,120,121,125} and one was a longitudinal survey¹²⁹. All apart from one study⁴¹, which had an entirely female sample, reported on mixed-sex samples of adolescents (11-19 years).

Of the 13 studies that explored the role and impact of family social capital on adolescents' sexual health, three reported on family structure. Across these studies, there was evidence to suggest that living with at least one biological parent was an important protective factor^{115,116,129}; moreover, it appears that the presence or absence of a father may be more important for some adolescents than others (e.g. younger adolescents)^{115,129}.

The evidence relating to the role and impact of the parent-adolescent relationship suggests that positive relationships are protective across a range of sexual health outcomes. Although the role of the positive relationship indicators differed across the various studies, there was no evidence that the *quality* of the parent-adolescent relationship (e.g. trust, ease of communication, support and connectedness) has a negative effect on

sexual health. Indeed, there is evidence to suggest it may be associated with delay in sexual debut^{110,114} and the implementation of more positive sexual behaviours, such as contraception use^{110,116,120}. Conversely, in the only study to evaluate the *quantity* of parent-adolescent conversations about sex, adolescents reporting more frequent conversations were more likely to report having had sex¹²¹. The authors hypothesised that, in this instance, the increased frequency of parent-adolescent conversations about sex may have been necessitated by the adolescent's sexual behaviour rather than increased frequency of conversations increasing the likelihood of the adolescent having had sex.

There was evidence to suggest that parental monitoring can have a positive impact on sexual health. Across the five studies assessing this, higher parental monitoring was associated with increased likelihood of the adolescent reporting sexual abstinence^{121,125,129}. However, if they did report that they were sexually active, adolescents with higher levels of parental monitoring reported more positive sexual behaviour, such as condom use^{110,129}. Moreover, negotiated unsupervised time with peers was associated with increased risk of having had, or intending to have, sex but it was also associated with increased likelihood of using contraception¹¹⁰.

As with family social capital, different elements of community social capital had a differential impact on different sexual health outcomes. At a general level, studies assessing the quality and quantity of adolescents' social networks reported little association with sexual health behaviours^{108,120}. However, in some studies protective effects were noted for some sub-groups of adolescents^{113,114} and for others social networks were associated with sexual risk taking^{113,115}. Notably, White males with more adult friends¹¹³ and older males involved in sports clubs¹¹⁵ reported more sexual risk taking. However, linked to social support, three studies reported that adolescents who had a peer and/or adult mentor were less likely to engage in sexual risk behaviours^{108,114,118} and another reported that peer role models were protective for adolescents from one-parent households¹²⁰.

There was evidence to suggest that civic engagement and religious attendance offered some protection, such that more frequent attendance at religious services was associated with more positive sexual health behaviours^{108,114}. However, results in relation to school quality were less consistent with some elements being protective for some sub-groups of adolescents and presenting as a risk factor in others.

One striking factor about the role and impact of both family and community social capital in the context of sexual health is the apparent differential impact across the various indicators of this outcome (e.g. sexual abstinence, sexual experience and contraception use) and across different sub-groups of adolescents. It appears that in different contexts different elements of social capital may be more or less salient. There is limited evidence to explore this further in this review, suffice to say that both age and sex seem to play a role here; for example, younger adolescents were less likely to be sexually active if they lived with a father figure but this was not the case for older adolescents¹¹⁵.

Sexual activity is regarded as a natural event for most adolescents, but at the various stages of adolescence it may be considered more or less appropriate, by both the adolescent and others around them. This sense of appropriateness will necessarily interact with support structures that are designed to prevent younger adolescents from engaging in sex and promote safer sex amongst older adolescents. Moreover, the gender divide and diverse cultural norms are other governing factors in terms of the acceptability and social appropriateness of sexual behaviours.

5.3.3.5 General risk behaviours

Five studies explored the role and impact of social capital on general health risk behaviours by creating a composite health risk behaviour score assessing risk across a number of different domains (e.g. smoking, alcohol and drug use) (see Table 10). The studies were all conducted as surveys; one was longitudinal⁶⁹ and four were

cross-sectional^{122,123,128,130}. Three of the studies had adolescent-only samples (12-19 years) and one included both children and adolescents (8-18 years), all were mixed-sex samples.

Although assessed by the five studies, there was limited evidence of a consistent effect for family social capital. Only family structure appeared to have a consistent role to play with children and adolescents, in most instances, a benefit was provided from living in a two-parent household^{123,128,130}.

When exploring community social capital there was limited evidence for social support networks having a role in health risk behaviours. The two studies assessing peer-based social networks^{123,128} found no association, but increased contact with neighbours was protective¹²³. There were mixed findings for civic engagement with some protective^{123,130} and some risk relationships identified¹²². Two of the three studies exploring the role of school quality reported that higher quality school environments were associated with fewer risk behaviours^{122,123} and another study reported that higher quality neighbourhood environments were also predictive of better outcomes¹³⁰.

5.3.3.6 Health risk behaviours – synthesis

The pattern of impact of the various elements of family and community social capital on child and adolescent health risk behaviours is shown in evidence Table 4. The 34 included studies investigated 165 associations between the various health risk behaviours and elements of family and community social capital: 68 of these associations were positive, showing higher levels of social capital to be associated with better child/adolescent outcomes; six were negative, showing higher levels of social capital to be associated with poorer outcomes; and, in 54 cases no association was identified between social capital and the outcome.

Table 4. Evidence table showing the pattern of investigated associations between social capital and health risk behaviours.

Association	Family structure	Parent-child relations	Adult interest	Parental monitoring	Extended family support	Composite/Other family social capital	Social support networks	Civic engagement	Trust & safety	Religiosity	Quality of school	Quality of neighbourhood	Composite/Other community social capital	Total
Number of investigated associations	8	25	2	19	4	9	25	21	4	15	20	4	9	165
Positive	5	10		6		7	4	7	3	10	7	3	6	68
Negative				1			4						1	6
None	1	2	2	11	4	1	10	10		3	9	1		54
Sub-group differences	2	10				1	4	4	1		4		2	28
Inconclusive results		3		1			3			2			0	9

In terms of family social capital, no associations were found between health risk behaviours and familial adults' interest in the child or extended family support and exchange. Moreover, given that in over half of the cases no association was found between parental monitoring and health risk behaviours, it may be reasonable to assume

that parental monitoring is of little value in this context. However, where associations were identified, these were, in the main, positive and looking across the various health risk domains, there is evidence to suggest that parental monitoring may be associated with better outcomes in some domains but not others. Specifically, while only one fifth of the investigated associations were positive in the context of tobacco use¹²⁷, two-thirds were positive in the context of sexual health^{121,125,129}. Thus, parental monitoring appears to exert a differential pattern of protection across different health risk behaviours.

The majority of the investigated associations between family structure and health risk behaviours were positive. Where this was assessed, children and adolescents benefited from living with at least one biological parent but being in a two-parent family was most protective^{116,123,128-130}.

In just under half of the investigated associations between the quality of the parent-child relationship and health risk behaviours, the impact was positive; that is, more positive parent-child relationships were associated with better child/adolescent outcomes^{86,95,116,119,129}. That said, a number of the investigated associations identified sub-group differences. Looking across the individual risk behaviours, the majority of these differences highlight that some sub-groups of children/adolescents benefit from positive relationships with their parent(s) in contrast to other sub-groups where no association was identified^{86,110,114,120,125}. There were few reports of positive parent-child relationships being associated with poorer outcomes.

Perhaps surprisingly given the social nature of many of the risk behaviours being investigated, there was little consistent evidence for social support networks having an impact on health risk behaviours. Some of the identified associations were positive^{91,107,119,123} and others were negative^{95,127} but in the majority of cases no association was found^{85,99,108,119,120,128}. On the other hand, there was more consistent evidence to suggest that having a peer or adult role model/mentor was protective^{107,108,114,119,120}.

Reported over a number of different studies, religiosity was the element of community social capital that had the most consistent evidence of a protective role in the context of health risk behaviours. Children and adolescents had better outcomes when they attended religious services more frequently^{81,107,109,114,117,119,120,123}; however, there was little evidence to suggest that religious identity or the personal importance of religion offered the same protection. Thus, it is the social aspect of religiosity that appeared to be most important.

Overall, there were very few instances where higher levels of social capital were associated with poorer outcomes and the majority of these related to social support networks. However, a significant number of the investigated associations (n=28) were identified as having sub-group effects, such that different patterns of association between social capital and the outcome were identified in different sub-groups of children/adolescents. It is clear that while there is support for higher levels of social capital having a protective role to play in the context of health risk behaviours, the pattern of effect is not absolutely consistent. The impact of the various elements of social capital differs across the various risk behaviour domains, and they have a differential impact across different sub-groups of adolescents.

5.3.4 General health, quality of life and wellbeing

Twenty-two studies reported on the role and impact of social capital on general health, quality of life (QoL) and wellbeing (see Table 11)^{57,58,62,68,69,84,89,90,95,99,100,128,131-140}. These included studies where a single item measure asking about general health, QoL or wellbeing had been employed as the outcome (e.g. Boyce *et al.*¹³⁴) or where the scale measuring a broad construct could not be broken down further (e.g. Al-Fayez *et al.*¹³³). The studies reported on mixed-sex samples from across the various age groups.

Neither of the studies assessing the role and impact of social capital in the context of pre-school children's general health, QoL and wellbeing included an indicator of family social capital. However, the studies with children and adolescents suggested that more positive, or fewer negative, outcomes were associated with living

in a two-parent, including a step-family, household^{90,133}. A further study demonstrated that family configuration may be more important for some sub-groups of adolescents than others (e.g. urban adolescents)¹³⁷.

Across the studies assessing family social capital there was substantial evidence demonstrating the role of the parent-child relationship in terms of general health, QoL and wellbeing. Better child and adolescent outcomes, or fewer poor outcomes, were reported where there were indicators of more positive parent-child relationships^{90,132,137}. Again supporting the role of positive relationships, there was evidence to suggest that higher levels of parental monitoring had a potentially negative impact; better outcomes were reported alongside adolescents having a sense of autonomy and control in the family¹³⁹ whereas poorer outcomes were associated with feeling more controlled by their father⁹⁹.

In terms of community social capital, children and adolescents who had wider-reaching or higher quality social support networks, either their own or through their parent(s), benefited in terms of having better general health, QoL and/or wellbeing, or had fewer negative outcomes. Although being a member of a recreational club/group was generally protective, membership of some club/group types was associated with more frequent reporting of psychosomatic symptoms¹⁰⁰. However, the direction of causation is not clear here and it is equally arguable that adolescents with poorer health will be attracted to activities that better meet their needs; for example, some adolescents may, for health reasons, avoid physical activity clubs.

Attending a school assessed as being higher quality^{95,99,138,139} and living in a neighbourhood with indicators of higher quality^{57,62,134,137} were also associated with more frequent reporting of better outcomes, or less frequent reporting of poorer outcomes.

5.3.4.1 General health, quality of life and wellbeing – synthesis

The pattern of impact of the various elements of family and community social capital on general health, QoL and wellbeing outcomes are presented in evidence Table 5. The 22 included studies investigated 61 associations between the various outcomes and the elements of family and community social capital: 35 of these associations were positive, showing higher levels of social capital to be associated with better child/adolescent outcomes; two were negative, showing higher levels of social capital to be associated with poorer outcomes; and, in 17 cases no association was identified between social capital and the outcome.

Table 5. Evidence table showing the pattern of investigated associations between social capital and general health, quality of life and wellbeing.

Association	Family structure	Parent-child relations	Adult interest	Parental monitoring	Extended family support	Composite/Other family social capital	Social support networks	Civic engagement	Trust & safety	Religiosity	Quality of school	Quality of neighbourhood	Composite/Other community social capital	Total
Number of investigated associations	4	9		4		5	16	6		1	5	7	4	61
Positive	2	7				3	10	2		1	4	4	2	35
Negative				2										2
None	1			2		1	4	4			1	3	1	17
Sub-group differences	1	1				1							1	4
Inconclusive results		1					2							3

There was minimal evidence about the role of family structure, but two of the three investigated associations were positive suggesting that children and adolescents benefited from being in a two-parent household^{90,133}. Likewise, there was minimal evidence about the role of parental monitoring; however, the pattern of association suggests that where a role exists, it is negative. That is, poorer outcomes were associated with feeling more controlled by parent(s)⁹⁹.

In the context of community social capital, there was considerable evidence to suggest that children and adolescents who had a wider range of, or higher quality, social support networks, either their own or through their parent(s), benefited in terms of having better general health, QoL and/or wellbeing, or they had fewer reports of negative health outcomes^{99,128,131,132,136,137}. Moreover, the weight of evidence suggests that higher quality school^{95,99,138,139} and neighbourhood environments^{57,62,134,137} are beneficial in promoting better outcomes.

In summary, children and adolescents report better general health, higher QoL and more positive wellbeing (or they report fewer negative outcomes) when they live in families where members engage in joint activities (e.g. play), where communication between people in the household is positive, where the young people feel supported and where levels of conflict are low. External to the family, children who have access to wider and higher quality networks and those who benefit from the structural support of higher quality schools and neighbourhoods have more positive outcomes.

5.3.5 Developmental issues

Four studies assessed the role and impact of social capital on developmental issues (see Table 12); three were conducted as cross-sectional surveys^{51,84,141}, and one as a longitudinal cohort study⁷⁹. All four studies presented data on mixed-sex samples of pre-school or school-aged children.

In terms of family structure, some children benefited from their mother being in employment in their early years (1-3 years old) and for other children maternal employment was associated with poorer developmental outcomes⁷⁹. Specifically, children whose mother went on to be employed in a complex occupation (i.e. an occupation high in autonomy, low in repetitive tasks and typically more highly paid) had poorer developmental outcomes if their mother was not in employment during their early years. Conversely, children whose mother went on to be employed in a less complex occupation (i.e. one characterised by limited autonomy, high levels of supervision and repetitive tasks and one typically lower paid) benefited from their mother not working during their early years. In addition, there was some evidence to suggest that children's development is associated with the parent-child relationship, with indicators of a more positive relationship being associated with better developmental outcomes^{79,141}.

There was limited evidence available to show a role for aspects of community social capital. However, there was no evidence of community social capital having a detrimental effect on children's developmental outcomes.

5.3.5.1 Developmental issues – synthesis

The pattern of impact of the various elements of family and community social capital on developmental issues is presented in evidence Table 6. The four included studies investigated 16 associations between the developmental outcomes and elements of family and community social capital: three of these associations were positive, showing higher levels of social capital to be associated with better child/adolescent outcomes; none were negative, showing higher levels of social capital to be associated with poorer outcomes; and, in four cases no association was identified between social capital and the outcome.

Table 6. Evidence table showing the pattern of investigated associations between social capital and developmental issues.

Association	Family structure	Parent-child relations	Adult interest	Parental monitoring	Extended family support	Composite/Other family social capital	Social support networks	Civic engagement	Trust & safety	Religiosity	Quality of school	Quality of neighbourhood	Composite/Other community social capital	Total
Number of investigated associations	1	2				1	1					2	1	8
Positive		2										1		3
Negative														
None						1	1					1	1	4
Sub-group differences	1													1
Inconclusive results														

The evidence available to assess the association between social capital and developmental outcomes is minimal and limited to children. Suffice to say that children have better developmental outcomes when parent-child relationships are assessed as being more positive and when the neighbourhood they are being raised in is

assessed as higher quality. The identified sub-group differences suggest that some groups of children may be differently affected by maternal employment in their early years⁷⁹.

5.4 The role and impact of family and community social capital on children and adolescents' health and wellbeing – synthesis

In this section we synthesise the results from across the full range of health and wellbeing outcomes, drawing on the evidence extracted from the 102 included studies. As noted above, many of the 102 studies reported on a number of different elements of family and community social capital and across a range of different health and wellbeing outcomes. Indeed, the total number of associations between social capital and health and wellbeing investigated was 454. As can be seen in Table 7, 217 of these were associations were positive, showing higher levels of social capital to be associated with better child/adolescent outcomes; 17 were negative, showing higher levels of social capital to be associated with poorer outcomes; and, in 141 cases no association was identified between social capital and the outcome.

Table 7. Evidence table showing the pattern of investigated associations between social capital and child and adolescent health and wellbeing.

Association	Family structure	Parent-child relations	Adult interest	Parental monitoring	Extended family support	Composite/Other family social capital	Social support networks	Civic engagement	Trust & safety	Religiosity	Quality of school	Quality of neighbourhood	Composite/Other community social capital	Total
Number of investigated associations	24	64	7	36	12	28	82	42	13	25	43	50	28	454
Positive	11	38	3	9	3	21	36	16	6	15	18	26	15	217
Negative	1			7			5		1			2	1	17
None	7	4	4	18	8	5	24	22	2	5	17	17	8	141
Sub-group differences	4	15			1	2	8	4	3	3	8	4	3	55
Inconclusive results	1	7		2			9		1	2		1	1	24

The evidence for family social capital is strongly weighted in favour of the protective effects of relationships within the family. Nearly half of the investigated associations in relation to family structure are positive. The evidence from across the studies shows that children and adolescents living in a two-parent household, including with step-parents, reported better outcomes, or experienced fewer negative outcomes. Moreover, children and adolescents particularly benefit from having a positive relationship with their parent(s) and being raised in a family where joint activity and good communication are present, where there are strong cohesive bonds between family members and where the young person feels supported and nurtured.

In contrast, parental monitoring and control is often viewed as characterising more negative elements of the parent-child relationship where the young person feels a lack of control or autonomy over decision-making. The

evidence here suggests that, while in the majority of cases there is no association, there are some aspects of health and wellbeing where increased monitoring is protective (see section 5.3.3 Health risk behaviours) and other aspects where it is associated with poorer outcomes. The evidence assessing the role of the extended family is limited; however, extended family support and exchange does not appear to be linked with poorer outcome.

The evidence in relation to community social capital suggests that children and adolescents accrue some benefit from having access to social support networks. Nearly half of the investigated associations between social support networks and health and wellbeing outcomes were positive. Moreover, this benefit may be direct, through the young person's own networks, or indirect, through the networks of their parent(s).

Two thirds of the investigated associations between religiosity and health and wellbeing were also positive. Across the studies, children and adolescents who attended religious services more frequently had better, or reported fewer negative, health and wellbeing outcomes. Moreover, children and adolescents who attended a school, or lived in a neighbourhood, rated by them or others as being higher quality had better outcomes. In essence, schools and neighbourhoods that have higher levels of cohesion, support and safety seem protective in the context of health and wellbeing.

A third of the investigated associations between both family and community social capital and health and wellbeing were identified as being neither positive nor negative; moreover, there was little evidence in support of negative associations, where higher levels of social capital were associated with poorer outcomes. Where negative associations were identified many of them were in sub-groups of children and adolescents. It appears, therefore, that elements of family and community social capital have the potential to help support children to achieve better health and wellbeing. In some instances the effect will be limited, but there is little evidence to suggest that, for the majority of children, it can do harm.

6 Discussion

The aim of this review was to assess the role and impact of family and community social capital on the health and wellbeing of children and adolescents. To achieve this we conducted a systematic review of the available empirical, peer-reviewed literature and synthesised the findings across individual health and wellbeing outcomes, groups of health and wellbeing outcomes, and across the entire set of findings.

Throughout section 5, the main findings in relation to the health and wellbeing outcomes have been presented, synthesised and summarised. Below we bring these together and offer an holistic overview of the key findings, highlight the methodological strengths and limitations, and make explicit the wider reaching implications.

6.1 Summary of the main findings

A total of 102 individual papers were included in this review and these reported on 454 associations between elements of family and community social capital and health and wellbeing outcomes. The associations were grouped thematically as mental health and problem behaviours; health promoting behaviours; health risk behaviours; general health; quality of life and wellbeing; and developmental issues. Across these six different domains relatively consistent patterns of the role and impact of both family and community social capital were identified.

6.1.1 Family social capital

In the majority of cases family structure was assessed by the number of parents who lived in the household. The findings of this review point to children and adolescents who live with two parents, even if one is a step-parent, having better outcomes than those who live in a one-parent household or those who live away from both of their biological parents.

Evidence statement 1

Children and adolescents living in a two-parent household have better health and wellbeing outcomes.

For family social capital, the most consistent finding across the range of different health and wellbeing outcomes was in favour of the role of the parent-child relations. Children and adolescents who experienced a positive relationship with their parent(s) were more likely to report that they had better mental health outcomes and fewer problem behaviours, they were more likely to report that they engaged in health promoting behaviour and less likely to report engaging in health risk behaviours, they experienced better general health, higher levels of quality of life, more positive wellbeing and had indicators of developmental thriving. The indicators of positive parent-child relations were multiple and included joint activities (e.g. play), good communication, feelings of support and nurturance, and low levels of conflict. Moreover, the advantage that children and adolescents with positive family relationships gain is not limited to the parent-child relationship.

The family has previously been highlighted as an important resource in the development of bonding social capital²², and this review adds further weight to this. Families that are characterised as having strong, cohesive bonds between all members and families that engage in more frequent joint activities appear to create an environment where children and adolescents are able to achieve better health and wellbeing.

Evidence statement 2

Children and adolescents who have a positive relationship with their parent(s), and other family members, have better health and wellbeing outcomes.

While the positive family environment offers opportunities for children and adolescents to thrive, the evidence suggests that family constraints have mixed effects. Managing a child/adolescent is a necessary part of parenting, however, in many cases parental monitoring is considered to be a negative aspect of the parent-child relationship and one that limits the young person's capacity to have control and autonomy over their own lives. Indeed in this review, the evidence for parental monitoring suggests that in many instances it had little impact on the health and wellbeing of children and adolescents. However, there were aspects of health and wellbeing where higher levels of parental monitoring had a positive impact and others where it had a negative impact. In the context of health promoting behaviours parental monitoring appeared to have no role to play; conversely, in the context of health risk behaviours there is some evidence to suggest that parental monitoring can offer protection against poorer outcomes.

Evidence statement 3

Parental monitoring may offer some protection in the context of health risk behaviours.

6.1.2 Community social capital

In the context of community social capital, the evidence in this review suggests that children and adolescents with access to a high quantity and quality of social support networks have better outcomes in most domains. Young people have access to their own social support networks but they also appear to benefit from the networks that their parent(s), and their family, are embedded in. Children and adolescents who had more access to this asset were more likely to have better mental health outcomes, fewer behavioural problems and were more likely to participate in health promoting behaviours. In the context of health risk behaviours, social support networks show the potential for exerting positive and negative influence.

While the mechanisms to explain this are not available in the data, others have highlighted the potential ‘downside’ to bonding forms of capital¹⁴². Positive friendships can facilitate opportunities for the development of social competencies, afford different kinds of social support, and help young people to face new situations¹⁴³; however, young people with wider peer networks may have more opportunities and encouragement from their peers to experiment with risk behaviours, such as substance use. Indeed, one of the included studies¹¹⁰ explored the role of parental monitoring by assessing adolescents’ access to negotiated but unsupervised time with peers and the authors reported that this was associated with increased risk behaviours.

Evidence statement 4

Social support networks are associated with better mental health outcomes, fewer problem behaviours and more health promoting behaviours. However, in some circumstances they are associated with increased participation in health risk behaviours.

More frequent participation in civic engagement groups/activities and in religious services/activities was associated with positive outcomes in children and adolescents. However, it is important to note that while more frequent participation in religious services/activities was associated with health and wellbeing, there was little evidence for the role of the personal importance of religion. Thus, it appears that it is the social rather than faith element of religious participation that is important in this context.

Why engagement in civic and religious activities might be important for health and wellbeing is not clear from the data. However, it could be argued that, as both rely on the young person being a member of social groups, civic and religious participation is a proxy-indicator of social support networks; participation in these groups may facilitate the development of bonded social support networks. Alternatively, the wider social groups may be a form of bridging social capital¹⁴⁴ that, while representing weak ties, open up access to information, services and other resources that are beneficial to the young person’s health and wellbeing.

Evidence statement 5

Engagement in non-recreational groups/activities is associated with better health and wellbeing outcomes.

The environment of the school that children and adolescents attend and the environment of the neighbourhood that they are growing up in both appear to be important for health and wellbeing. In both cases, where cohesion, trust and safety were high, where young people felt they had the support of others around them and where hazards (e.g. graffiti and crime) were low, children and adolescents were more likely to thrive.

Evidence statement 6

The structural support of higher quality schools and neighbourhoods (e.g. schools/neighbourhoods high in cohesion, trust and safety) is associated with better health and wellbeing outcomes.

A number of the studies included in this review provide evidence of the potential for social capital to have a differential impact on health and wellbeing in different sub-groups of children and adolescents. These sub-groups include: younger versus older adolescents; female versus male children/adolescents; children/adolescents living in one- versus two-parent households; children/adolescents living in urban versus rural communities; children/adolescents living in impoverished versus affluent neighbourhoods; and, different ethnic/racial groups. The number of stratified analyses was too few to bring meaning to this within each of the various health and wellbeing domains; however, the holistic body of evidence highlights the need to give consideration to the heterogeneity of children/adolescents and of their experiences.

6.2 Methodological strengths and limitations

The methodological strengths and limitations in relation to this review occur at two levels. First, there are the strengths and limitations associated with the review process itself. Second, there are the strengths and limitations associated with the individual studies that have been included in the review. While highlighting these methodological strengths and limitations aids interpretation of the findings of the review, they are also important considerations for those designing and evaluating both interventions and future research.

6.2.1 Strengths and limitations of the review

A major strength of the current review lies in the capture and synthesis of a large body of evidence. In comparison to others published in this field²⁸, the current review included a larger number of studies (n=102) and reported on a much larger number of associations. Moreover, by employing an integrative approach we have been able to synthesise evidence from across a wide range of study types (e.g. experimental, non-experimental and qualitative) offering a more comprehensive overview of the available published evidence.

It is possible that not all the relevant literature has been captured; however, as with any review, we were constrained by the adequate indexing of papers in relevant databases. That said, we employed a number of strategies to broaden the reach of our electronic searches, including the appropriate balancing of the precision and recall of our search and hand searching of relevant websites and review articles.

We are also aware that publication bias can distort the results of reviews (i.e. it is more likely that journals will publish papers that report significant results); however, we identified and reported on a large number of studies that failed to identify an association between social capital and health and wellbeing outcomes. Thus, within the constraints available, we believe we have provided a balanced picture of the current evidence base.

6.2.2 Strengths and limitations of the studies

The methodological quality of each included study was assessed and the quality score attached to each study is presented in Tables 8-12. The purpose of this was to provide the reader with a benchmark around which they could make a judgement about the evidence extracted from each study. However, there are a number of

methodological issues that cut across the studies and which have implications for the interpretation of the synthesised results and the conclusions drawn from them.

The majority (n=69) of the included studies were rated by the reviewers as being moderate to high quality, which strengthens the conclusions that can be drawn from the synthesised results. Moreover, many of the studies collected data from large samples that included a diverse range of participants, again, this provides a higher quality evidence base and enables broader generalisation of the findings.

It is essential that researchers are able to account for the direction of causation when exploring the relationships that exist between social capital and the health and wellbeing of children and adolescents. However, the majority of the studies included in this review were cross-sectional surveys, a research design which does not allow the direction of causation to be determined with any certainty. Synthesised, the studies offer a strong body of evidence demonstrating a link between the various elements of family and community social capital and the health and wellbeing outcomes, but they do not give insight into the direction of this association or the 'mechanisms of action'. While it could be argued that lower levels of social capital result in poorer health and wellbeing outcomes, it is equally plausible that poorer health and wellbeing limits opportunities for acquiring social capital. Understanding the 'mechanisms of action' is essential for policy-makers and practitioners who wish to build/enhance aspects of family and community social capital.

In addition, the lack of an accepted definition and little uniformity in the measurement of social capital resulted in considerable heterogeneity across the studies (see Appendices 6 and 7). Comparison and synthesis of studies was, therefore, challenging. Moreover, there was little discussion of the reliability and validity of the instruments used to measure social capital and health and wellbeing. We also note that the data were gathered from various sources, including parents, teachers, adult residents from the local neighbourhood (community social capital only) and from the children and adolescents themselves. An awareness of who reported on social capital and health and wellbeing is essential because it is likely to have influenced the results; for example, a child's view of their local neighbourhood may be very different to their parents'¹⁴⁵.

Furthermore, while published after the 1990s some of the papers reported on data collected up to 10 years previously. While this may not be problematic in itself, knowing when data were collected provides an important context. As a social resource, social capital is a dynamic and socially-dependent construct meaning that people's ability to acquire it will differ depending on their personal circumstances and the social context. The context within which children and adolescents develop has changed considerably in our recent past and, how they acquire social capital and how they use it in the context of health and wellbeing may also have changed.

Finally, the importance of cultural context is not limited to the timing of data collection but extends to the geographical place where children and adolescents develop. The majority of studies included in this review were conducted in North America which, arguably, offers a unique social context within which young people can acquire and use social capital. It is, therefore, important that those developing and implementing social capital interventions give careful consideration to the translation of evidence across different cultural contexts.

6.3 Implications of the findings

The findings from this review, that both family and community social capital are important in the context of the health and wellbeing of children and adolescents, have implications for policy and practice, research and education and workforce development. We outline some of these implications below.

6.3.1 Implications for policy and practice

The findings from this review support a number of existing policy initiatives and they provide evidence that may inform future policy and practice. It is essential that policy-makers and practitioners are cognisant of the

important role that family and community social capital play in relation to child and adolescent health and wellbeing, and that they are mindful of this when planning and implementing future initiatives.

In the context of family social capital, there is considerable evidence to support initiatives, such as the Scottish Government's *Getting It Right for Every Child And Young Person*¹⁴⁶, which have resulted in the implementation of interventions that are designed to promote positive family relationships, help develop nurturing family environments and support parents to manage their child's behaviour appropriately (see Evidence statements 1-3). This includes the Triple P Positive Parenting Programme³ and the Family Nurse Partnership Programme⁴. Key for policy-makers and practitioners is ensuring that the positive elements of the parent-child relationship are strengthened in favour of more negative elements. For example, evidence suggests that parental monitoring assessed by the young person as restricting opportunity is associated with poorer mental health and health risk behaviour outcomes. Supporting parents to adopt a more positive approach to managing the behaviour of their child/adolescent may facilitate better outcomes.

It is important to note, however, that access to these interventions varies across different regions and, in the majority of cases, interventions focus on the pre-school years. To date, there are a limited number of interventions designed to support families with school-aged children and adolescents, and those interventions that are available tend to focus on higher risk groups and/or on specific behavioural problems. For example, the Active Child Eating Smart (ACES) programme, which is available in Greater Glasgow and Clyde¹⁴⁷, works with families to affect positive outcomes specifically in terms of childhood obesity.

The findings of this review demonstrate the importance of interventions designed to create opportunities for all families to acquire and use family social capital, but also that sub-groups of children and adolescents may benefit from more targeted support. For example, in terms of mental health, there is evidence to suggest that positive parent-child relationships help protect children and adolescents against poorer outcomes; however, this is not the case for children and adolescents living in high violence contexts⁷². It has been hypothesised that young people will not be able to effectively mobilise family social capital accrued through positive relationships unless the amount of violence they are exposed to is reduced⁷².

The evidence suggesting that children and adolescents who live in two-parent households have better health and wellbeing outcomes (see Evidence statement 1) is important for policy-makers, particularly given predictions that the number of one-parent families is likely to rise in future years. This review highlights the importance of promoting other sources of family social capital that these children and adolescents can access and use. For example, there is evidence to suggest that interventions that encourage joint parent-child activities (e.g. promoting the importance of family meal times⁶⁵) may be a useful mechanism to enable families to acquire and use capital and help strengthen existing resources in lone parent households.

In the context of community social capital, this review provides evidence to demonstrate the importance of bonding, bridging and linking young people and their families to their local communities. In particular, creating opportunities for children and young people to expand their own social networks, and supporting them in developing the skills and competencies to effectively operate within a range of different networks, seems key to helping them acquire and mobilise protective forms of capital (see Evidence statement 4). In this review we found evidence of social networks formed in community clubs and societies playing a role in promoting better health and wellbeing outcomes and investment in these seems particularly important for the promotion of the health and wellbeing of adolescents (see Evidence statement 5).

In addition, this review provides evidence to suggest that creating opportunities for parents to develop and exploit their social networks ultimately benefits their children and this may be particularly important in the context of pre-school and school-aged children. Initiatives, such as the Templehall Dads' Group in Kirkcaldy, Fife (see McLean & McNeice¹⁴⁸), have the potential to expand parents' social networks and by locating this within

the context of parenting they offer further opportunities to encourage the protective element of family social capital (i.e. the parent-child relationship).

As with family social capital, while access to social networks appears to be important for the majority of children and adolescents in terms of effecting better outcomes, there are some sub-groups who may benefit from tailored support. For example, in the context of mental health, relationships with others, including parents and peers, seems particularly important for adolescents living in rural areas⁶⁷. We would hypothesise that in rural areas, increased distance between adolescents and their peers and reduced access to transport, limits opportunities to engage in extra-curricular activities with friends. Creating opportunities for young people who live rurally to socialise outside of school, which might include offering transportation, may increase bonding and bridging opportunities for them.

As evidenced in this review, communities or neighbourhoods that were considered by their residents to have indicators of quality, such as cohesion, where residents felt bonded with their neighbours and where there was evidence of residents being engaged in civic decision-making, provided their young residents with more opportunities to thrive (see Evidence statement 6). These findings compliment existing work showing the role of the built environment in the promotion of health and wellbeing (e.g. Croucher *et al.*¹⁴⁹) and we anticipate findings from projects such as GoWell¹⁵⁰ and the Govanhill Equally Well test site in Glasgow¹⁵¹, which have focused on community regeneration, will provide useful information to help policy-makers, planners and practitioners direct appropriate resources to help build social capital in local communities. Moreover, the findings from this review suggest that young people's involvement in local decision-making is an important vehicle through which they can acquire and use social capital, and it is important that learning from existing initiatives that encourage active citizenship, for example The Big ShoutER (see McLean & McNeice¹⁴⁸), is shared.

The evidence showing that the quality of the school attended by the child/adolescent is important for their health and wellbeing (see Evidence statement 6) will be of interest to policy-makers and planners. Young people spend a significant proportion of their time in school and, in addition to the relationships that they have with their peers, the relationships they have with school staff and their perceptions of safety and cohesion are important. Children and adolescents who attend schools where they feel safe, and where they feel a sense of community have better health and wellbeing outcomes than children and adolescents attending lower quality schools. Therefore, policies and initiatives can support the health and wellbeing of young people by promoting higher quality school environments and involving the young people in decision-making around this.

It is, however, important to recognise that not all forms of capital acquired in the context of community are beneficial; in some instances, most notably in the context of risk behaviours, acquired capital can also be associated with poorer health and wellbeing outcomes. It is essential, therefore, that future work is undertaken to elucidate the complex and underlying mechanisms through which communities and community initiatives, such as recreational clubs, societies and informal networks, facilitate the acquisition of protective forms of social capital. Knowing how and why communities work to support children and young people will provide a framework for community planning initiatives enabling a more targeted allocation of resources.

6.3.2 Implications for research

While the evidence presented in this review demonstrates that social capital has an impact on the health and wellbeing of children and adolescents, the ways in which social capital might be acquired, and the various mechanisms through which it exerts its influence are unclear. It is, therefore, important that future research gives full consideration to *how* social capital might affect more positive health and wellbeing and how this occurs in different groups of children and adolescents, contexts and environments. In particular, qualitative research is required to illuminate the processes involved in the development and maintenance of social capital, and this

needs to be complemented by robust experimental research that seeks to demonstrate the direction of causation between social capital and health and wellbeing outcomes.

In addition, researchers must be confident that the measures of social capital they employ are robust and consistent, enabling comparison across research studies conducted in different social contexts. As noted above, there is much theoretical debate about how social capital should be conceptualised and this has resulted in considerable heterogeneity in measurement approaches across studies making higher level, meaningful synthesis difficult to achieve. The development of a structural framework of social capital which outlines, links and explains the relationship between the dimensions that underpin it is essential¹⁵². Such a framework would facilitate the development of a complete and robust taxonomy of social capital indicators that would enable theory, measurement and analysis to advance together.

Moreover, the continued development of a theoretical framework and a taxonomy of indicators will facilitate the development and testing of interventions that are specifically designed to manipulate the elements of social capital known to promote better health and wellbeing.

6.3.3 Implications for education and workforce development

With these findings supporting a role for social capital in children's and adolescents' health and wellbeing, it is important that health, social care and education staff who work with families and young people are enabled to translate this learning into their professional practice. This begins with educational programmes providing opportunities for professionals to develop appropriate knowledge and understanding about social capital and also asset-based approaches and their potential in the context of health and wellbeing. Embedding social capital into undergraduate, postgraduate and continuing professional development curricula, will provide a platform from which professionals will be able to use this evidence to appropriately inform their practice.

6.4 Conclusions

To the best of our knowledge, this review is the first to systematically collate, analyse and synthesise the international, empirical, peer-reviewed evidence on the role and impact of social capital on the health and wellbeing of children and adolescents. While others have made inroads in this field (e.g. Ferguson²⁸), the number of studies included in previous reviews has been much smaller and, thus, less comprehensive in comparison. In conducting such a large-scale review, we are able to provide solid evidence to demonstrate that family and community social capital are associated with differences in children's and adolescents' experiences of health and wellbeing. Families that are nurturing and cohesive provide an environment in which children and adolescents are able to thrive. Moreover, children and adolescents who are able to acquire social capital in and through their local communities have the potential for much better health and wellbeing. This evidence has significant and wide-reaching implications for policy-makers, practitioners, researchers and educators alike.

While it is clear that family and community social capital are associated with positive outcomes for pre-school children, school-aged children and adolescents, our understanding of *how* social capital works to facilitate or debilitate in the context of health and wellbeing is more limited. It is now essential that researchers direct their efforts to developing knowledge in this regard. Knowing how the mechanisms through which social capital works to bring benefit will then enable policy-makers and practitioners to use social capital as a means of appropriately supporting children and adolescents through their development to ensure they are enabled to achieve their full health and wellbeing potential¹⁰.

Table 8. Mental health and problem behaviours.

Authors, Country Quality rating	Design	Sample	Family SC	Community SC	Outcomes
1) Self-esteem and self-worth					
Abbotts <i>et al.</i> 2004 ⁴³ UK high quality	cross-sectional survey (West of Scotland 11 to 16 Study)	size: 1,690 age group: adolescents age range: 11 yrs sex: not stated ethnic group: not stated	✗	✓	Weekly church attendance was associated with higher self-esteem in Catholic adolescents but lower self-esteem in Church of Scotland (protestant) adolescents.
Aim: To examine the relationship between church attendance and self-esteem.					
Birndorf <i>et al.</i> 2005 ⁴⁷ USA moderate quality	prospective longitudinal cohort study (National Education Longitudinal Survey) data collected 1988-1992	size: 16,489 age group: adolescents age range: 13-18 yrs sex: 50% female ethnic group: 72% White	✓	✓	Positive parent-adolescent communication and feeling safe at school at baseline predictive of higher self-esteem three years later. Religious participation was predictive for males only. No role for parental monitoring, adult interest in the child or social support networks.
Aim: To examine those modifiable community and individual factors that may influence high self-esteem over time.					
Ciarano <i>et al.</i> 2007 ⁵⁴ Italy high quality	longitudinal survey	size: 622 age group: adolescents age range: 14-20 yrs sex: 52% female ethnic group: not stated	✗	✓	Adolescents with friendships high in support reported positive self-perception. When friendship quality improved over time so did positive self-perception.
Aim: To distinguish different patterns of friendships, in terms of support and conflict, and reciprocity of friendship (and any link to positive self-perception).					
Drukker <i>et al.</i> 2006 ⁵⁸ Netherlands high quality	longitudinal cohort study data collected 2000-03, Time 1 (T1), Time 2 (T2)	size: 475 age group: adolescents mean age T1: 11 yrs mean age T2: 13.5 yrs sex: 52% female ethnic group: not stated	✗	✓	No role for community social capital.
Aim: To study associations between neighbourhood environment and changes in health related quality of life (including self-esteem).					
DuBois <i>et al.</i> 2002 ⁶⁰ USA moderate quality	controlled trial 1 intervention group 1 control group	size: 134 age group: children & adolescents age range: 7-15 yrs sex: 55% female ethnic group: 63% Black	✗	✓	Self-esteem in the intervention group greater than in the control group post-intervention.
Aim: To evaluate the effects of a mentoring programme on self-esteem.					

Authors, Country Quality rating	Design	Sample	Family SC	Community SC	Outcomes
1) Self-esteem and self-worth (continued)					
El-Dardiry <i>et al.</i> 2012 ⁶² Greece high quality	cross-sectional survey	size: 542 age group: children & adolescents age range: 8-12 yrs sex: 53% female ethnic group: not stated	✗	✓	Higher levels of parental social support and perceptions of neighbourhood social capital associated with more positive self-perception.
Aim: To examine the potential association between social capital and child health-related quality of life (including self-perception).					
Glendinning <i>et al.</i> 2007 ⁶⁷ Serbia moderate quality	cross-sectional survey	size: 647 age group: adolescents age range: 14-15 yrs sex: 53% ethnic group: not stated	✓	✓	Feeling supported by parents was protective for rural adolescents. Higher quality school was protective in urban adolescents. Higher peer support associated with higher self-esteem. Higher parental monitoring was a risk for all and community constraint a risk for rural adolescents only.
Aim: To examine young people's life circumstances and the implications for mental health (including self-esteem).					
Jager <i>et al.</i> 2011 ⁶⁹ USA moderate quality	longitudinal survey (ADD Health) data collected 1994-2002	size: 4,233 age group: adolescents age range: 13-19 yrs sex: not stated ethnic group: not stated	✓	✓	Different patterns of positive relationships with others share different relationships with self-esteem.
Aim: To examine heterogeneity in adolescent relationship constellations and its relation to adolescent adjustment (including self-image).					
Ying <i>et al.</i> 2008 ⁹³ USA high quality	cross-sectional survey (Children of Immigrants Longitudinal Study)	size: 491 age group: adolescents mean age: 17.4 yrs sex: 50% female ethnic group: 100% South East Asian-American	✓	✗	Parent-child relationships high in cohesion and low in conflict were associated with better self-esteem.
Aim: To examine the contribution of parental acculturation, parental involvement, and intergenerational relationships to wellbeing (including self-esteem).					
Yugo <i>et al.</i> 2007 ⁹⁵ Canada low quality	cross-sectional survey (National Longitudinal Survey of Children & Youth)	size: 3,725 age group: adolescents age range: 12-15 yrs sex: not stated ethnic group: not stated	✓	✓	Higher parental nurturance, peer connectedness and school engagement associated with increased odds of high self-worth. Higher parental monitoring associated with reduced odds of high self-worth. No role for civic engagement.
Aim: To examine which of five assets accounts for the most variance in positive health outcomes (including self-worth).					
2) Internalising behaviours					
Abbotts <i>et al.</i> 2004 ⁴³ UK high quality	cross-sectional survey (West of Scotland 11 to 16 Study) data collected 1994	size: 1,690 age group: adolescents age range: 11 yrs sex: not stated ethnic group: not stated	✗	✓	Weekly church attendance associated with lower levels of depression, malaise & social anxiety in Catholic adolescents, and higher levels in Church of Scotland (protestant) adolescents.
Aim: To examine the relationship between church attendance and social anxiety and depression in children from Christian denominations.					

Authors, Country Quality rating	Design	Sample	Family SC	Community SC	Outcomes
2) Internalising behaviours (continued)					
Aneshensel <i>et al.</i> 1996 ⁴⁴ USA high quality	cross-sectional survey	size: 877 age group: adolescents age range: 12-17 yrs sex: 47% female ethnic group: 49% Hispanic	✓	✓	Higher levels of neighbourhood ambient hazards associated with increased depression and anxiety. Higher social cohesion associated with lower depression only. Aim: To examine how structural aspects of neighbourhood context affect adolescent emotional wellbeing (including depressive symptoms and anxiety).
Beiser <i>et al.</i> 2011 ⁴⁶ Canada moderate quality	cross-sectional survey (New Canadian Children & Youth Survey) data collected 2002-04	size: 2,031 age group: children and adolescents age range: 4-6 yrs and 11-13 yrs sex: 49% female ethnic group: 100% mainland Chinese, Hong Kong Chinese and Filipino immigrants	✗	✓	Increased parents' social support, perceived quality of school and neighbourhood, and parents speaking native language of migrant country associated with fewer emotional problems. Aim: To explore the extent social capital accounts for the relationship between immigrant children's mental health (including emotional problems) and place of resettlement.
Bosacki <i>et al.</i> 2007 ⁴⁸ Canada high quality	cross-sectional survey	size: 7,290 age group: adolescents age range: 13-18 yrs sex: 51% female ethnic group: not stated	✗	✓	Better quality friendships and lower social isolation associated with lower levels of depression and social anxiety. Aim: To examine the connection between adolescent peer relationships and social anxiety and depression.
Bowker <i>et al.</i> 2010 ⁴⁹ USA high quality	quasi-experiment	size: 156 age group: adolescents age range: 10-15 yrs sex: 51% female ethnic group: 77% White	✗	✓	Higher conflict friendships associated with internal blame attributions in overweight, but not normal weight, adolescents. Positive friendship characteristics associated with more adaptive coping patterns in overweight, but not normal weight, adolescents. Aim: To explore the influence of friendship on psychological wellbeing in overweight and normal weight adolescents.
Caughy <i>et al.</i> 2003 ⁵⁰ USA high quality	cross-sectional survey	size: 200 age group: pre-school age range: 3-4.5 yrs sex: 54% female ethnic group: 100% Black	✗	✓	Higher quality of neighbourhood associated with fewer internalising problems. Support from neighbours protective against internalising problems in affluent neighbourhoods but a risk factor in impoverished neighbourhoods. Aim: To examine the impact of parents' attachment to community as a predictor of the mental health status of their children.

Authors, Country Quality rating	Design	Sample	Family SC	Community SC	Outcomes
2) Internalising behaviours (continued)					
Caughy <i>et al.</i> 2006 ⁵¹ USA high quality	cross-sectional survey	size: 241 age group: children mean age: 6.6 yrs sex: 49% females ethnic group: 92% Black	✗	✓	Negative neighbourhood climate, but not cohesion and control, associated with more internalising problems.
Aim: To examine whether racial socialisation and child outcomes (including internalised behaviours) were consistent across varied residential neighbourhood contexts.					
Caughy <i>et al.</i> 2008 ⁵² USA high quality	cross-sectional survey	size: 405 age group: children age range: 6-7 yrs sex: 55% ethnic group: 55% Black	✓	✓	Positive parent-child relations and better neighbourhood climate were protective. Higher neighbourhood control was protective in impoverished neighbourhoods only.
Aim: To examine whether neighbourhood social process characteristics are associated with differences in child behaviour problems (including internalising behaviour).					
Ciarano <i>et al.</i> 2007 ⁵⁴ Italy high quality	longitudinal survey	size: 622 age group: adolescents age range: 14-20 yrs sex: 52% female ethnic group: not stated	✗	✓	Supportive friendships at baseline predictive lower levels of depression six months later.
Aim: To distinguish different patterns of friendships, in terms of support and conflict, and reciprocity of friendship and how this was associated with depression.					
Delsing <i>et al.</i> 2005 ⁵⁵ Netherlands high quality	cross-sectional survey	size: 576 age group: adolescents age range: 11-16 yrs sex: 51% female ethnic group: 100% Dutch	✓	✗	Lower levels of justice and trust within family relationships associated with more internalising problems.
Aim: To examine the relationship between perceived justice and trust within family relationships and internalising problems.					
Drukker <i>et al.</i> 2003 ⁵⁷ Netherlands high quality	longitudinal cohort study	size: 563 age group: adolescents age range: 10-12 yrs sex: 51% female ethnic group: not stated	✗	✓	Neighbourhood informal social control, but not cohesion and trust, was protective in the context of mental health.
Aim: To study the associations between social capital and quality of life and behaviour (including mental health).					
Drukker <i>et al.</i> 2006 ⁵⁸ Netherlands high quality	longitudinal cohort study data collected 2000-2003 - Time 1 (T1) and Time 2 (T2)	size: 475 age group: adolescents mean age T1: 11 yrs mean age T2: 13.5 yrs sex: 52% female ethnic group: not stated	✗	✓	Neighbourhood factors did not predict changes in mental health over time.
Aim: To study associations between neighbourhood environment and changes in health related quality of life (including mental health).					

Authors, Country Quality rating	Design	Sample	Family SC	Community SC	Outcomes
2) Internalising behaviours (continued)					
DuBois <i>et al.</i> 2002 ⁶⁰ USA moderate quality	controlled trial 1 control and 1 intervention group mentoring intervention	size: 134 age group: children and adolescents age range: 7-15 yrs sex: 55% female ethnic group: 63% Black	✗	✓	No significant difference in emotional problems in the intervention group, compared to the control group, post-intervention.
Aim: To evaluate the effects (including on emotional problems) of a mentoring programme.					
El-Dardiry <i>et al.</i> 2012 ⁶² Greece high quality	cross-sectional survey	size: 542 age group: children & adolescents age range: 8-12 yrs sex: 53% female ethnic group: not stated	✗	✓	Higher levels of parental social support and neighbourhood social capital associated with more positive moods and emotions.
Aim: To examine the potential association between social capital and child health-related quality of life (including moods and emotions).					
Fitzpatrick <i>et al.</i> 2005 ⁶⁴ USA high quality	cross-sectional survey	size: 1,538 age group: adolescents age range: 10-18 yrs sex: 51% female ethnic group: 100% Black	✓	✓	Higher composite family and community social capital were associated with lower depression scores.
Aim: To examine depressive symptomatology focusing on the role of capital as both personal and social resources.					
Fulkerson <i>et al.</i> 2006 ⁶⁵ USA high quality	cross-sectional survey data collected 1996-97	size: 98,340 age group: adolescents age range: 11-17 yrs sex: 50% female ethnic group: 86% White	✓	✗	Regular family meals (an indicator of family cohesion) associated with reduced odds of experiencing depressive/suicidal thoughts.
Aim: To examine the associations between family meal frequency, developmental assets and high-risk behaviours (including depression & suicide risk/attempts).					
Glendinning <i>et al.</i> 2007 ⁶⁷ Serbia moderate quality	cross-sectional survey	size: 647 age group: adolescents age range: 14-15 yrs sex: 53% female ethnic group: not stated	✓	✓	Family and peer support protective for rural, but not urban, adolescents. School environment was protective only for urban adolescents. Parental and community monitoring were risk factors for both groups. No role for family structure.
Aim: To examine young people's life circumstances and the implications for mental health (including depressive mood).					
Jager 2011 ⁶⁹ USA moderate quality	longitudinal survey (ADD Health) data collected 1994-2002	size: 4,233 age group: adolescents age range: 13-19 yrs sex: not stated ethnic group: not stated	✓	✓	Different patterns of positive relationships with others share different relationships with depressive effect.
Aim: To examine heterogeneity in adolescent relationship constellations and its relation to adolescent adjustment (including depressive affect).					

Authors, Country Quality rating	Design	Sample	Family SC	Community SC	Outcomes
2) Internalising behaviours (continued)					
Kliewer <i>et al.</i> 2004 ⁷² USA high quality	longitudinal survey	size: 69 age group: children and adolescents age range: 9-13 yrs sex: 45% female ethnic group: 98% Black	✓	✓	Perceived positive relationship with caregiver protective for children/adolescents from low violence, but not high violence, communities. Observed parent-child relations not significant. Higher neighbourhood cohesion associated with fewer internalising problems. Aim: To examine different levels of children's ecology that could protect youth from adjustment difficulties (including internalising symptoms).
Landstedt <i>et al.</i> 2009 ³⁹ Sweden moderate quality	qualitative study focus groups	size: 29 age group: adolescents age range: 16-19 yrs sex: not stated ethnic group: not stated	✓	✓	Narrative described relationships with friends, family, teachers and classmates as important for better mental health. Aim: To explore what students perceive as significant for mental health.
Meltzer <i>et al.</i> 2007 ⁷⁵ UK moderate quality	cross-sectional survey	size: 3,340 age group: adolescents age range: 11-16 yrs sex: not stated ethnic group: not stated	✗	✓	Lower levels of neighbourhood trust and safety associated with higher reporting of emotional disorders. Aim: To explore relationship between children's perceptions of trustworthiness and safety of their neighbourhoods and their mental health (including emotional disorders).
Rasic <i>et al.</i> 2011 ⁸¹ Canada moderate quality	cross-sectional survey	size: 1,615 age group: adolescents age range: 15-19 yrs sex: 49% female ethnic group: not stated	✗	✓	No role identified for religiosity. Aim: To examine impact of social capital on the relationships between religion and depression and suicidal behaviour.
Rotenberg <i>et al.</i> 2004 ⁸² UK and Canada high quality	cross sectional & longitudinal survey Study 1 (S1) UK Study 2 (S2) Canada	size: 434 age group (S1): children age group (S2): adolescents age range (S1): 9-11 age range (S2): 11-14 yrs sex (S1): 53% female sex (S2): 48% female ethnic group (S1/S2): not stated	✗	✓	Lower number of friendships associated with loneliness in cross-sectional analysis but did not predict longer-term psychological adjustment. Aim: To examine whether trustworthiness contributes positively to children's and adolescents' social relationship and psychological adjustment (including depressive symptoms and loneliness).

Authors, Country Quality rating	Design	Sample	Family SC	Community SC	Outcomes
2) Internalising behaviours (continued)					
Rotenberg <i>et al.</i> 2005 ⁸³ UK moderate quality	cross-sectional & longitudinal survey	size: 434 age group: children and adolescents age range: 9-11 yrs sex: not stated ethnic group: not stated	x	✓	Very high and very low levels of trust in peers were associated with poorer mental health outcomes.
Aim: To assess the relationship between children's trust in peers, social exclusion, self-perceived social acceptance and internalising maladjustment (including depression, anxiety and loneliness) over eight months.					
Springer <i>et al.</i> 2006 ⁸⁶ El Salvador high quality	cross-sectional survey	size: 930 age group: adolescents age range: 12-19yrs sex: 48% female ethnic group: not stated	✓	✓	Low parental support associated with increased odds of suicidal thoughts. Low levels of social cohesion in school associated with increased risk of suicidal thoughts in females only.
Aim: To examine perceived parental social support and social cohesion at school with the prevalence of a range of youth risk behaviours (including depression, suicidal thoughts and attempts).					
Stevenson 1998 ⁸⁷ USA high quality	cross-sectional survey	size: 160 age group: adolescents mean age: 14.6 yrs sex: 54% female ethnic group: 100% Black	✓	✓	In high social capital neighbourhoods low kinship support associated with lower depression. In high risk, but not low risk neighbourhoods, neighbourhood social capital is protective.
Aim: To investigate impact of neighbourhood and kinship social support and fear of violence on emotional development (including depression).					
Wang <i>et al.</i> 2011 ⁸⁹ Taiwan moderate quality	cross-sectional survey	size: 453 age group: adolescents age range: 12-16 yrs sex: 46% female ethnic group: not stated	✓	✓	No role for family or community social capital in promoting better stress management.
Aim: To examine the relationship between developmental assets and health promoting behaviour of adolescents (including ability to manage stress).					
Windle 1994 ⁹¹ USA high quality	longitudinal cohort study	size: 1,098 age group: adolescents mean age: 16.2 yrs sex: 52% female ethnic group: 98% White	x	✓	Friendships high in hostility and low in reciprocity associated with increased depressive symptoms and suicidal behaviours in cross-sectional analyses but this did not impact on long-term outcomes.
Aim: To study concurrent and prospective relations between friendship characteristics and adolescent internalising problems (including depressive symptoms, suicidal thoughts and attempts).					

Authors, Country Quality rating	Design	Sample	Family SC	Community SC	Outcomes
2) Internalising behaviours (continued)					
Xue <i>et al.</i> 2005 ⁹² USA high quality	longitudinal cohort study (Project on Human Development in Chicago Neighborhoods) data collected 1995-98	size: 2,805 age group: children age range: 5-11 yrs sex: 50% female ethnic group: 48% Hispanic	✗	✓	Children in neighbourhoods with higher levels of civic participation had better internalising scores. No role identified for collective efficacy. Aim: To examine associations between neighbourhood structural characteristics and children's mental health (including internalising behaviours).
Ying <i>et al.</i> 2008 ⁹³ USA high quality	cross-sectional survey (Children of Immigrants Longitudinal Survey)	size: 491 age group: adolescents mean age: 17.4 yrs sex: 50% female ethnic group: 100% Southeast Asian-American	✓	✗	Adult interest in the child and parental monitoring predicted parent-child relationships and parent-child relationship high in cohesion and low in conflict associated with better child outcomes (including lower levels of depression). Aim: To examine the contribution of parental acculturation, parental involvement, and intergenerational relationships to wellbeing (including depressive symptoms).
Young <i>et al.</i> 2011 ⁹⁴ UK high quality	longitudinal survey (West of Scotland 11 to 16 survey) data collected 1994-2004 Time 1 (T1), Time 2 (T2), Time 3 (T3)	size: 1,698 age group: adolescents mean age T1: 11 yrs mean age T2: 15 yrs mean age T3: 19 yrs sex: 50% female ethnic group: not stated	✗	✓	Mismatch between pupil's religion and the denomination of the school they attended increased risk of future suicide attempts and self-harm behaviours. Poorer-rated schools were associated with suicide risk in future. No role for quality of neighbourhood. Aim: To explore the association between the school and suicide-risk, adjusting for important factors such as perception of local neighbourhood.
3) Externalising behaviours					
Abbotts <i>et al.</i> (2004) ⁴³ UK high quality	cross-sectional survey data collected 1994	size: 1,690 age group: adolescents age range: 11 yrs sex: not stated ethnic group: not stated	✗	✓	Weekly church attendance was associated with lower aggression scores in Catholic and Church of Scotland (protestant) adolescents. Aim: To examine the relationship between church attendance and aggressive behaviour in children from Christian denominations.
Aneshensel <i>et al.</i> 1996 ⁴⁴ USA high quality	cross-sectional survey	size: 877 age group: adolescents age range: 12-17 yrs sex: 47% female ethnic group: 49% Hispanic	✓	✓	Neighbourhoods high in hazards associated with poorer outcomes. Those living in a one-parent household had higher oppositional defiant, but not conduct disorder symptoms. No role for social cohesion. Aim: To examine how structural aspects of neighbourhood context affect adolescent emotional wellbeing (including conduct disorder and oppositional defiant disorder).

Authors, Country Quality rating	Design	Sample	Family SC	Community SC	Outcomes
3) Externalising behaviours (continued)					
Bearinger <i>et al.</i> 2005 ⁴⁵ USA moderate quality	cross-sectional survey (Urban Indian Youth Health Survey) data collected 1995-98	size: 577 age group: children & adolescents mean age: 9-15 yrs sex: 52% female ethnic group: 100% American Indian	✓	✓	Adolescents who feel more connected to school had decreased odds of reporting violence perpetration. No role for extended family support or social support networks.
Aim: To identify the most salient risk and protective factors for violence perpetration.					
Caughy <i>et al.</i> 2003 ⁵⁰ USA high quality	cross-sectional survey	size: 200 age group: pre-school age range: 3-4.5 yrs sex: 54% female ethnic group: 100% Black	✗	✓	Support from neighbours was a risk factor in impoverished neighbourhoods only. No role for quality of neighbourhood.
Aim: To examine the impact of parents' attachment to community as a predictor of the mental health status of their children (including externalising behaviours).					
Caughy <i>et al.</i> 2006 ⁵¹ USA high quality	cross-sectional survey	size: 241 age group: children mean age: 6.6 yrs sex: 49% females ethnic group: 92% Black	✗	✓	No role for community social capital.
Aim: To examine whether racial socialisation and child outcomes (including externalising behaviours) were consistent across varied residential neighbourhood contexts.					
Caughy <i>et al.</i> 2008 ⁵² USA high quality	cross-sectional survey	size: 405 age group: children age range: 6-7 yrs sex: 55% ethnic group: 55% Black	✓	✓	Positive parent-child relationship characteristics were protective, and negative characteristics a risk factor, in relation to externalising problems. No role for community social capital.
Aim: To examine whether neighbourhood social process characteristics are associated with differences in child behaviour problems (including externalising behaviour).					
Champion <i>et al.</i> 2008 ⁵³ USA moderate quality	cross-sectional survey	size: 2,090 age group: adolescents age range: 14-19 yrs sex: 49% female ethnic group: 61% White	✓	✓	Positive parent-adolescent relationships, participation in extra-curricular activities and higher quality neighbourhood environment, but not neighbourhood connectedness, associated with decreased odds of reporting date fighting perpetration. No role for quality of school or trust and safety.
Aim: To explore contextual factors associated with date fight perpetration.					

Authors, Country Quality rating	Design	Sample	Family SC	Community SC	Outcomes
3) Externalising behaviours (continued)					
Ciarano <i>et al.</i> 2007 ⁵⁴ Italy high quality	longitudinal survey	size: 622 age group: adolescents age range: 14-20 yrs sex: 52% female ethnic group: not stated	✗	✓	Friendships high in support associated with lower levels of physical aggression but increased lying and disobedience.
Aim: To distinguish different patterns of friendships, in terms of support, conflict, reciprocity and how this impacts on adolescent psychosocial adjustment.					
Delsing <i>et al.</i> 2005 ⁵⁵ Netherlands high quality	cross-sectional survey	size: 576 age group: adolescents age range: 11-16 yrs sex: 51% female ethnic group: 100% Dutch	✓	✗	Lower levels of justice and trust within families associated with more externalising problems.
Aim: To examine the relationship between perceived justice and trust within family relationships and externalising problems.					
Drukker <i>et al.</i> 2003 ⁵⁷ Netherlands high quality	cross-sectional cohort study	size: 563 age group: adolescents age range: 10-12 yrs sex: 51% female ethnic group: not stated	✗	✓	Neighbourhood informal social control, but not cohesion and trust, was protective in the context of externalising problems.
Aim: To study the associations between social capital and quality of life and behaviour (including externalising behaviour).					
Drukker <i>et al.</i> 2010 ⁵⁹ Netherlands high quality	longitudinal cohort study data collected 2002-03 Time 1 (T1), Time 2 (T2)	size: 672 age group: adolescents age range (T1): 11 yrs age range (T2): 13-14 yrs sex: 52% female ethnic group: not stated	✗	✓	Females from neighbourhoods low in social cohesion and trust reported more delinquent behaviours but there was no role for informal social control. Males from neighbourhoods high in informal social control reported more delinquent behaviours but there was no role for cohesion and trust.
Aim: To investigate the influence of neighbourhood variables on delinquency.					
DuBois <i>et al.</i> 2002 ⁶⁰ USA moderate quality	controlled trial 1 intervention group (I) 1 control group (C) mentoring intervention	size: 134 age group: children and adolescents age range: 7-15 yrs sex: 55% female ethnic group: 63% Black	✗	✓	No significant difference in behavioural problems in the intervention group, compared to the control group, post-intervention.
Aim: To evaluate the effects (including externalising behaviours) of a mentoring programme.					
El Hajj <i>et al.</i> 2011 ⁴² Lebanon moderate quality	cross-sectional survey (Urban Health Survey)	size: 674 age group: adolescents age range: 13-19 yrs sex: 0% females ethnic group: not stated	✓	✓	Adolescents with wider and better quality social networks more likely to report fighting. Neighbourhood environment presented some risk and some protective factors. No role for family social capital or civic engagement, trust or reciprocity.
Aim: To assess the relationship of social capital to physical fights in three disadvantaged neighbourhoods.					

Authors, Country Quality rating	Design	Sample	Family SC	Community SC	Outcomes
3) Externalising behaviours (continued)					
Fulkerson <i>et al.</i> 2006 ⁶⁵ USA high quality	cross-sectional survey data collected 1996-97	size: 98,340 age group: adolescents age range: 11-17 yrs sex: 50% female ethnic group: 86% White	✓	✗	Regular family meals (an indicator of family cohesion) were associated with reduced odds of violent behaviours.
Aim: To examine the associations between family meal frequency, developmental assets and high-risk behaviours (including violent behaviour).					
Jager 2011 ⁶⁹ USA moderate quality	longitudinal survey (ADD Health) data collected 1994-2002	size: 4,233 age group: adolescents age range: 13-19 yrs sex: not stated ethnic group: not stated	✓	✓	Different patterns of positive relationships with others share different relationships with delinquent behaviours.
Aim: To examine heterogeneity in adolescent relationship constellations and its relation to adolescent adjustment (including delinquency).					
Johnson <i>et al.</i> 1999 ⁷⁰ USA high quality	cross-sectional survey (Choices of Life for Adolescent Success Study – CLASS)	size: 200 age group: adolescents age range: 15-20 yrs sex: 60% female ethnic group: 100% Black	✗	✓	No role for community social capital.
Aim: To examine the viability of a social systems perspective in predicting violence in youth.					
Kingston <i>et al.</i> 2009 ⁷¹ USA high quality	cross-sectional survey (Denver Youth Survey)	size: 741 age group: adolescents age range: 12-17 yrs sex: not stated ethnic group: not stated	✓	✓	Neighbourhoods characterised as limiting opportunity associated with increased reporting of property, but not violent, offending. No role for family structure, social support networks, social cohesion or institutional effectiveness.
Aim: To test the relationships between neighbourhood social structure, social processes, delinquent opportunity structures and rates of adolescent delinquency.					
Kliewer <i>et al.</i> 2004 ⁷² USA high quality	longitudinal survey	size: 69 age group: children and adolescents age range: 9-13 yrs sex: 45% female ethnic group: 98% Black	✓	✓	Perceived positive relationship with caregiver associated with fewer externalising behaviours. No role for community social capital.
Aim: To examine different levels of children's ecology that could protect youth from adjustment difficulties (including internalising symptoms).					
Meltzer <i>et al.</i> 2007 ⁷⁵ UK moderate quality	cross-sectional survey	size: 3,340 age group: adolescents age range: 11-16 yrs sex: not stated ethnic group: not stated	✗	✓	Lower levels of neighbourhood trust, but not safety, associated with higher reporting of conduct disorders.
Aim: To explore the relationship between children's perceptions of trustworthiness and safety of their neighbourhoods and mental health (including conduct disorder).					

Authors, Country Quality rating	Design	Sample	Family SC	Community SC	Outcomes
3) Externalising behaviours (continued)					
Oman <i>et al.</i> 2005 ⁷⁷ USA moderate quality	cross-sectional survey data collected 1999-2000	size: 1,277 age group: adolescents age range: 13-19 yrs sex: 52% female ethnic group: 48% White	✓	✓	Positive family communication protective for adolescents from one-parent households. Social networks were protective for some indicators of violence and delinquency. Religious participation and having a peer/adult role model were protective for delinquency. No role for civic engagement.
Aim: To investigate how the relationships between youth assets related to aggressiveness and delinquency.					
Smith <i>et al.</i> 2009 ⁸⁵ USA low quality	cross-sectional survey	size: 61 age group: adolescents age range: 11-13 yrs sex: 51 % female ethnic group: 53% Black	✓	✓	No role identified for family or community social capital.
Aim: To identify assets that contribute to positive youth outcomes, specifically health behaviours, thriving indicators, and not engaging in delinquency.					
Springer <i>et al.</i> 2006 ⁸⁶ El Salvador high quality	cross-sectional survey	size: 930 age group: adolescents age range: 12-19yrs sex: 48% female ethnic group: not stated	✓	✓	Low parental support associated with increased odds of reporting aggression. Low levels of social cohesion in school associated with increased odds of reporting aggression in males only.
Aim: To examine perceived parental social support and social cohesion at school with the prevalence of a range of youth risk behaviours (including aggression & violence).					
Stevenson 1997 ⁸⁸ USA high quality	cross-sectional survey	size: 202 age group: adolescents age range: 14-15 yrs sex: 63% female ethnic group: 100% Black	✓	✓	High kinship support was associated with anger suppression in high-, but not low-risk neighbourhoods.
Aim: To assess the relationship between sense of neighbourhood, social support, kinship or family social support and anger experience and expression.					
Windle 1994 ⁹¹ USA high quality	longitudinal cohort study	size: 1,028 age group: adolescents mean age: 16.2 yrs sex: 52% female ethnic group: 98% White	✗	✓	Friendships high in hostility associated with increased delinquency behaviours in cross-sectional analyses but did not predict longer-term delinquency.
Aim: To study concurrent and prospective relations between friendship characteristics and adolescent externalising behavioural problems (including delinquency).					

Authors, Country Quality rating	Design	Sample	Family SC	Community SC	Outcomes
4) Composite internalising and externalising behaviours					
Dorsey <i>et al.</i> 2003 ⁵⁶ USA high quality	cross-sectional survey	size: 130 age group: children & adolescents age range: 7-15 yrs sex: 49% female ethnic group: 100% Black	✓	✓	Higher family social capital and lower levels of neighbourhood danger were associated better outcomes. Higher levels of community social capital promote higher family social capital.
Aim: To assess how social capital, neighbourhood dangerousness and positive parenting relate to psychosocial adjustment (including internalising & externalising behaviours).					
Dufur <i>et al.</i> 2008 ⁶¹ USA high quality	cross-sectional survey (National Longitudinal Survey of Youth) data collected 1994	size: 1,833 age group: children & adolescents age range: 5-14 yrs sex: not stated ethnic group: not stated	✓	✓	Higher levels of family social capital were protective in context of general mental health/behavioural problems. No role for school-based social capital.
Aim: To explore the role of family and school social capital in the promotion of positive socialisation (including over- and under-controlled behaviours).					
Feldman <i>et al.</i> 2010 ⁶³ Israel high quality	longitudinal cohort study children followed from 3 months to 13 yrs	size: 31 age group: pre-school, children & adolescents age range: 3 months-13 yrs sex: 48% female ethnic group: not stated	✓	✗	Across childhood, parent-child relationships high in positive, and low in negative characteristics were predictive of better adjustment in adolescence.
Aim: To observe mother-child interactive behaviours and to test associations with internalising and externalising behaviours in adolescence.					
Galboda-Liyanage <i>et al.</i> 2003 ⁶⁶ UK high quality	cross-sectional survey	size: 559 age group: pre-school age range: 3.5 yrs sex: 49% female ethnic group: not stated	✓	✗	Higher quality parent-child relationships were associated with lower levels of behavioural problems.
Aim: To test the hypothesis that a low level of mother-school child joint activity is associated with behaviour problems.					
Harpham <i>et al.</i> 2006 ⁶⁸ Vietnam high quality	cross-sectional survey	size: 2,907 age group: pre-school & children age range (pre-school): 6-18 months age range (children) 7.5-8.5 yrs sex: not stated ethnic group: not stated	✗	✓	Maternal social support, civic engagement and a composite measure of community social capital associated with poorer mental health and increased behavioural problems in children. No role for group membership.
Aim: To explore the association between maternal social capital and child physical and mental health.					

Authors, Country Quality rating	Design	Sample	Family SC	Community SC	Outcomes
4) Internalising and externalising problem behaviours (continued)					
Maynard <i>et al.</i> 2010 ⁷³ UK moderate quality	cross-sectional survey data collected 2003	size: 4,349 age group: adolescents age range: 11-13 yrs sex: not stated ethnic group: 28% White	✓	✗	Positive parent-adolescent relationships associated with better mental health and fewer behavioural problems. Higher levels of parental control associated with poorer mental health and increased behavioural problems. Aim: To examine associations between perceived parental care control and psychological wellbeing.
Maynard <i>et al.</i> 2010 ⁷⁴ UK moderate quality	cross-sectional survey data collected 2003	size: 4,349 age group: adolescents age range: 11-13 yrs sex: 47% female ethnic group: 28% White	✓	✗	Adolescents from families with infrequent participation in joint activities reported increased poorer mental health and increased behavioural problems. Aim: To explore whether family activities explain ethnic differences in mental health.
Newman <i>et al.</i> 2007 ⁷⁶ USA moderate quality	cross-sectional survey (National Survey of America's Families) data collected 1999	size: 11,809 age group: adolescents age range: 12-17 yrs sex: 49% female ethnic group: 67% White	✗	✓	Increased adolescent social support networks and parental attendance at religious services predictive of better outcomes. Knowledge of community resources inconsistent, with some protective and some risk associations. No role for parental civic engagement. Aim: To examine relations between adolescent and parental social integration, residential and school stability, family access to community resources and wellbeing (including internalising and externalising behaviours).
Parcel <i>et al.</i> 1993 ⁷⁸ USA high quality	longitudinal cohort study (National Longitudinal Survey of Youth) data collected 1986-88	size: 524 age group: children age range: 6-8 yrs sex: not stated ethnic group: not stated	✓	✗	Children whose parent is in a complex occupation have fewer reported problems but mothers working only part-time was a risk. Fewer children in the house was predictive of better outcomes. Aim: To explore the association between parental working conditions and family circumstances on children's social adjustment (over- and under-controlled behaviour).
Parcel <i>et al.</i> 1994 ⁷⁹ USA high quality	longitudinal cohort study (National Longitudinal Survey of Youth) data collected 1986	size: 1,294 age group: pre-school & children age range: 3-4 yrs sex: not stated ethnic group: not stated	✓	✗	Having a father but not a mother working fewer than full-time hours was a risk factor for behavioural problems. Aim: To evaluate the impact of parental working conditions on social outcomes (including over- and under-controlled behaviour).

Authors, Country Quality rating	Design	Sample	Family SC	Community SC	Outcomes
4) Internalising and externalising problem behaviours (continued)					
Parcel <i>et al.</i> 2001 ⁸⁰ USA high quality	longitudinal survey (National Longitudinal Survey of Youth) data collected 1992-95	size: 1,833 age group: children & adolescents age range: 5-15 yrs sex: not stated ethnic group: not stated	✓	✓	Being in a larger family is a risk but parental monitoring, more frequent attendance at religious services and attending a school with a higher quality environment were protective in relation to behavioural problems.
Aim: To investigate the effects of both family and school capital on social adjustment (including over- and under-controlled behaviour).					
Slee <i>et al.</i> 2007 ⁸⁴ Australia high quality	cross-sectional survey	size: 500 age group: pre-school & children age range: birth-7 yrs sex: not stated ethnic group: not stated	✓	✓	No role for family or community social capital.
Aim: To examine the links between young children's wellbeing (including behavioural problems) and social capital.					
Wen <i>et al.</i> 2008 ⁹⁰ USA high quality	cross-sectional survey (National Survey of America's Families)	size: 20,667 age group: children & adolescents age range: 6-17 yrs sex: not stated ethnic group: not stated	✓	✓	Being in a two-parent family, less frequent parent-child arguments, being involved in extra-curricular activities and religious services were protective. No role for civic engagement.
Aim: To contribute to understandings of the links and pathways between family structure and child wellbeing (including emotional wellbeing and behavioural problems).					

Table 9. Health-promoting behaviours (nutritional health, physical activity, weight status and body image, dental health).

Authors, Country Quality rating	Design	Sample	Family SC	Community SC	Outcomes
1) Nutritional health					
Morgan <i>et al.</i> 2009 ⁹⁹ UK moderate quality	cross-sectional survey (Health Behaviour in School-aged Children)	size: 6,425 age group: adolescents age range: 11-15 yrs sex: 51% females ethnic group: not stated	✓	✓	Low family sense of belonging, less involvement in neighbourhood clubs/groups, less civic engagement associated with reduced fruit and vegetable intake.
Aim: To assess importance of sense of belonging, autonomy, control & social networking on a range of health-related outcomes (including fruit and vegetable intake).					
Wang <i>et al.</i> 2011 ⁸⁹ Taiwan moderate quality	cross-sectional survey	size: 543 age group: adolescents age range: 12-16 yrs sex: 46% females ethnic group: not stated	✓	✓	Better family communication, more community involvement and having peer/adult role models associated with better nutritional outcomes.
Aim: To examine the relationship between developmental assets and health-promoting behaviour of adolescents (including nutritional behaviours).					
Zambon <i>et al.</i> 2010 ¹⁰⁰ Belgium, Canada, England, Italy, Poland, Romania high quality	cross-sectional survey (Health Behaviour in School-aged Children)	size: 10,230 age group: adolescents age range: 15 yrs sex: 53% female ethnic group: not stated	✗	✓	Involvement in clubs associated with increased fruit and vegetable, and decreased soft drink consumption. Different club types have different influence.
Aim: To test whether young people's participation in clubs is associated with health and healthier behaviours (including fruit and vegetable and soft drink consumption).					
2) Physical activity					
Cradock <i>et al.</i> 2009 ¹⁰³ USA high quality	longitudinal cohort study (Project on Human Development in Chicago Neighbourhoods) questionnaire data collected 1994-99 Time 1 (T1), Time 2 (T2)	size: 680 age group: adolescents age range (T1): 11-15 yrs age range (T2): 13-18 yrs sex: 49% female ethnic group: 42% Hispanic	✗	✓	Higher neighbourhood social cohesion at baseline associated with increased physical activity two years later. Availability of youth services did not play a role.
Aim: To explore whether neighbourhood-levels of social cohesion and other variables are associated with parent- and child-reports of physical activity.					
Hume <i>et al.</i> 2009 ¹⁰¹ Australia high quality	cross-sectional survey	size: 764 age group: children & adolescents age range: 9-12 yrs sex: 65% female ethnic group: not stated	✗	✓	Higher neighbourhood social capital associated with increased walking frequency and moderate/vigorous exercise. Better neighbourhood social networks associated with increased exercise but not walking frequency.
Aim: To examine associations between children's perceptions of the neighbourhood social environment and their walking and physical activity.					

Authors, Country Quality rating	Design Methods	Sample	Family SC	Community SC	Outcomes
2) Physical activity (continued)					
McKay <i>et al.</i> 2007 ¹⁰⁴ USA moderate quality	cross-sectional survey (National Survey of Children's Health)	size: 37,930 age group: adolescents age range: 10-17 yrs sex: 49% female ethnic group: 93% Hispanic	✗	✓	Adolescents living in states with higher levels of mutual aid and social trust had increased odds of not meeting physical activity recommendations. Aim: To examine influence of state-level social trust and mutual aid on odds of being inactive or having above-normal weight.
Morgan <i>et al.</i> 2009 ⁹⁹ UK moderate quality	cross-sectional survey (Health Behaviour in School-aged Children)	size: 6,425 age group: adolescents age range: 11-15 yrs sex: 51% females ethnic group: not stated	✓	✓	Low levels of participation in neighbourhood clubs/groups and perceived lack of autonomy/control at school associated with increased odds of not meeting physical activity guidelines. Aim: To assess importance of sense of belonging, autonomy, control & social networking on a range of health-related outcomes (including physical activity).
Schinke <i>et al.</i> 2010 ⁴⁰ Canada moderate quality	qualitative group discussions	size: not stated age group: adolescents age range: 13-18 years sex: not stated ethnic group: Aboriginal	✓	✗	Parent and extended family key in youth sport participation. Adults help decide which activity and provide resources to enable engagement. Aim: To consider the role of family in the context of sport engagement of Canadian Aboriginal youth.
Singh <i>et al.</i> 2008 ¹⁰² USA high quality	cross-sectional survey (National Survey of Children's Health) data collected 2003-04	size: 68,288 age group: child & adolescent age range: 6-17 yrs sex: 49% female ethnic group: 70% White	✗	✓	Lower neighbourhood safety associated with reduced odds of participating in physical activity. Higher neighbourhood social capital was associated with increased odds of inactivity and reduced odds of activity. Aim: To estimate the prevalence of physical in/activity among children by characteristics including neighbourhood safety and social capital.
Smith <i>et al.</i> 2009 ⁸⁵ USA low quality	cross-sectional survey	size: 61 age group: adolescents age range: 11-13 yrs sex: 51% female racial group: 53% Black	✓	✓	No associations identified between family or community social capital and physical activity. Aim: To identify assets that contribute to positive youth outcomes, including physical activity.

Authors, Country Quality rating	Design Methods	Sample	Family SC	Community SC	Outcomes
2) Physical activity (continued)					
Wang <i>et al.</i> 2011 ⁸⁹ Taiwan moderate quality Aim: To examine the relationship between developmental assets and health-promoting behaviour of adolescents.	cross-sectional survey	size: 453 age group: adolescents age range: 12-16 yrs sex: 46% female racial group: not stated	✓	✓	Better family communication, more community involvement and having peer/adult roles models associated with better physical activity outcomes.
Zambon <i>et al.</i> 2011 ¹⁰⁰ Belgium, Canada, England, Italy, Poland, Romania high quality Aim: To test whether young people's participation in clubs is associated with better health and healthier behaviours.	cross-sectional survey (Health Behaviour in School-aged Children)	size: 10,230 age group: adolescents age range: 15 yrs sex: 53% female ethnic group: not stated	✗	✓	General club/group membership associated with decreased sedentary behaviour but not associated with levels of physical activity. Different club types showed different impact.
3) Weight status and body image					
Fenton <i>et al.</i> 2010 ¹⁰⁵ UK high quality Aim: To employ an asset-based approach to identify how young people create or sustain positive body images.	cross-sectional survey (Health Behaviour in School-aged Children) data collected 2001-02	size: 2,898 age group: adolescents age range: 11-15 yrs sex: not stated ethnic group: not stated	✓	✓	Living with a father figure and having good communication with them, as well as good relations with teachers, were associated with better body image outcomes.
Fulkerson <i>et al.</i> 2006 ⁶⁵ USA high quality Aim: To examine the associations between family meal frequency, developmental assets and high risk behaviours including weight management behaviours.	cross-sectional survey data collected 1996-97	size: 98,340 age group: adolescents age range: 11-17 yrs sex: 50% female ethnic group: 86% White	✓	✗	Regular family meals (an indicator of family cohesion) were associated with reduced odds of disordered eating/weight management patterns.
McKay <i>et al.</i> 2007 ¹⁰⁴ USA moderate quality Aim: To examine influence of state-level social trust and mutual aid on odds of being inactive or having above-normal weight.	cross-sectional survey (National Survey of Children's Health)	size: 37,930 age group: adolescents age range: 10-17 yrs sex: 49% female ethnic group: 93% Hispanic	✗	✓	Higher state-level mutual aid and social trust associated with better weight outcomes in 10-13 year olds and poorer weight outcomes in 17 year olds.

Authors, Country Quality rating	Design	Sample	Family SC	Community SC	Outcomes
3) Weight status and body image (continued)					
Singh <i>et al.</i> 2008 ¹⁰⁶ USA high quality	cross sectional survey (National Survey of Children's Health)	size: 46,707 age group: adolescents age range: 10-17 yrs sex: 48% female ethnic group: 73% White	✗	✓	Lower neighbourhood social capital associated with increased odds of being obese and this association was stronger in 10-11 year olds than adolescents. Impact of neighbourhood/school safety was, in part, accounted for by social/economic disadvantage. Aim: To estimate obesity prevalence among 10-17 year olds by characteristics including perceived neighbourhood safety and social capital.
4) Dental health					
Aida <i>et al.</i> 2008 ⁹⁷ Japan high quality	cross-sectional survey	size: 3,086 age group: pre-school age range: 3 yrs sex: 48% female ethnic group: not stated	✗	✓	Higher number of community centres/100,000 residents (indicator of social cohesion) associated with better dental health. Aim: To estimate the community contextual influences on decayed, missing, and filled teeth in three year old children.
Pattussi <i>et al.</i> 2006 ⁹⁸ Brazil high quality	cross-sectional survey questionnaire	size: 1,302 age group: adolescents age range: 14-15 yrs sex: 48% female ethnic group: not stated	✗	✓	Higher neighbourhood empowerment associated with better dental health. To assess the individual and neighbourhood effect on the oral health of adolescents.

Table 10. Health risk behaviours (tobacco use, alcohol consumption, drug use, sexual health, general risky behaviour).

Authors, Country Quality rating	Design	Sample	Family SC	Community SC	Outcomes
1) Tobacco use					
Atkins <i>et al.</i> 2002 ¹⁰⁷ USA high quality	cross-sectional survey	size: 1,256 age group: adolescents age range: 13-19yrs sex: 52% female ethnic group: 48% White	✓	✓	Positive parent-adolescent communication, recreational group membership, active citizenship, attendance at religious services/groups and having a peer/adult role model were all associated with increased odds of non-use of tobacco.
Aim: To examine the influence of individual developmental assets on youth tobacco use.					
Borawski <i>et al.</i> 2003 ¹¹⁰ USA high quality	cross sectional survey	size: 692 age group: adolescents mean age: 15.7 yrs sex: 50% female ethnic group: 41% White	✓	✗	Female, but not male, adolescents reporting that their relationship with their parents is high in trust were more likely to not use tobacco. Parental monitoring and negotiated unsupervised time with peers had no role in relation to tobacco use.
Aim: To explore parental monitoring, negotiated unsupervised time and trust as they relate to tobacco use.					
Fulkerson <i>et al.</i> 2006 ⁶⁵ USA high quality	cross sectional survey data collected 1996-97	size: 98,340 age group: adolescents age range: 11-17 yrs sex: 50% female ethnic group: 86% White	✓	✗	Adolescents from families who ate together more frequently (an indicator of family cohesion) were less likely to report tobacco use.
Aim: To examine the associations between family meal frequency, developmental assets and tobacco use among a national sample of adolescents.					
Mellor <i>et al.</i> 2011 ¹¹⁷ USA low quality	cross-sectional survey (ADD Health) data collected 1995	size: 10,972 age group: adolescents age range: 13-18 yrs sex: not stated ethnic group: not stated	✗	✓	After controlling for other variables results were inconsistent for the impact of religious participation on smoking.
Aim: To identify the effects of religious participation on smoking.					
Morgan <i>et al.</i> 2009 ⁹⁹ UK moderate quality	cross-sectional survey (Health Behaviour in School-aged Children)	size: 6,425 age group: adolescents age range: 11-15 yrs sex: 51% female ethnic group: not stated	✓	✓	Low family sense of belonging and lower quality of neighbourhood associated with more frequent smoking. No role for parental monitoring, social support networks, civic engagement or quality of school.
Aim: To assess the importance of sense of belonging, autonomy, control and social networking on a range of health-related outcomes (including smoking).					
Smith <i>et al.</i> 2009 ⁸⁵ USA low quality	cross sectional survey	size: 61 age group: adolescents age range: 11-13 yrs sex: 51% female ethnic group: 53% Black	✓	✓	Neither family nor community social capital associated with tobacco use.
Aim: To identify assets that contribute to positive youth outcomes, specifically not engaging in risk behaviour (including smoking).					

Authors, Country Quality rating	Design	Sample	Family SC	Community SC	Outcomes
1) Tobacco use (continued)					
Takakura 2011 ¹²⁴ Japan high quality	cross-sectional survey	size: 2,424 age group: adolescents age range: 15-18 yrs sex: 52% female ethnic group: not stated	✗	✓	Low individual-level trust associated with increased odds of smoking in adolescents. Low school-level trust associated with increased odds of smoking in females only.
Aim: To examine the individual and contextual effects of social capital at school on cigarette smoking.					
Vuille <i>et al.</i> 2002 ¹²⁶ Switzerland high quality	cross-sectional survey	size: 459 age group: adolescents mean range: 14.8 yrs sex: 54% female ethnic group: 55% Swiss	✗	✓	Positive school climate associated with reduced prevalence of smoking.
Aim: To look into details of the relationships between smoking, individual psychological variables, and school climate.					
Wen <i>et al.</i> 2009 ¹²⁷ USA high quality	longitudinal survey (ADD Health) data collected 1994-96	size: 13,552 age group: adolescents age range: not stated sex: 51% female ethnic group: 54% White	✓	✓	Parent-adolescent relations a risk factor, diluted by protective effect of a close relationship. Parental monitoring protective against smoking. More frequent contact with friends a risk factor. No role for family structure, quality of school or neighbourhood.
Aim: To investigate factors influencing adolescent cigarette smoking at the individual-, peer-, school-, and state-level.					
Yugo <i>et al.</i> 2007 ⁹⁵ Canada low quality	cross-sectional survey (National Longitudinal Survey of Children and Youth) data collected 2000-01	size: 3,725 age group: adolescents age range: 12-15 yrs sex: not stated ethnic group: not stated	✓	✓	Higher parental nurturance and school engagement associated with reduced odds of tobacco use. Higher peer connectedness associated with increased odds of tobacco use. No role for parental monitoring or civic engagement.
Aim: To examine which assets account for the most variance in participation in risky health behaviours (including smoking).					
Zambon <i>et al.</i> 2010 ¹⁰⁰ Belgium, Canada, England, Italy, Poland, Romania high quality	cross sectional survey (Health Behaviour in School-aged Children) data collected 2005-06	size: 10,230 age group: adolescents age range: 15 yrs sex: 53% females ethnic group: not stated	✗	✓	In general, being a member of at least one recreational club was protective against smoking. Differential impact found across individual club types.
Aim: To test whether young people's participation in clubs is associated with better health and healthier behaviours (including not smoking).					

Authors, Country Quality rating	Design	Sample	Family SC	Community SC	Outcomes
2) Alcohol consumption					
Bartkowski <i>et al.</i> 2007 ¹⁰⁹ USA high quality Aim: To adopt a social capital perspective on religiosity and adolescent alcohol use.	cross-sectional survey (Monitoring the Future)	size: 1,630 age group: adolescents age range: not stated sex: not stated ethnic group: not stated	✗	✓	Secular (but not religious) civic participation, humanistic (but not religious) trust, and attendance at religious services all associated with reduced alcohol use. Inconsistent findings for denominational affiliation and religious saliency.
Borawski <i>et al.</i> 2003 ¹¹⁰ USA high quality Aim: To explore parental monitoring, negotiated unsupervised time and trust as they relate to alcohol use.	cross-sectional survey	size: 692 age group: adolescents mean age: 15.7 yrs sex: 50% female ethnic group: 41% White	✓	✗	Negotiated unsupervised time with peers associated with increased odds of reporting of alcohol use in adolescents. Parental monitoring and trust were associated with reduced odds of reporting of alcohol use in males only.
Eitle <i>et al.</i> 2009 ¹¹² USA moderate quality Aim: To examine associations among immigrant generation, selective acculturation, and alcohol use in Mexican, Cuban, and Puerto Rican adolescents.	longitudinal survey (ADD Health) data collected 1994+	size: 7,637 age group: adolescents age range: 13-18 yrs sex: not stated ethnic group: 80% White	✓	✓	Living in a two-parent household was protective in relation to alcohol use and binge drinking for Cuban and Mexican, but was a risk for Puerto Rican, adolescents. Positive parent-child relations protective for Mexican adolescents only. Extended family support protective for Mexican and Puerto Rican, but a risk factor for Cuban, adolescents. Increased frequency of parental communication with adolescents' friends' parents was only protective for Mexican adolescents.
Fulkerson <i>et al.</i> 2006 ⁶⁵ USA high quality Aim: To examine the associations between family meal frequency, developmental assets and high-risk behaviours (including alcohol consumption) in adolescents.	cross-sectional survey	size: 98,340 age group: adolescents age range: 11-17 yrs sex: 50% female ethnic group: 86% White	✓	✗	Adolescents reporting that their family ate together more frequently (an indicator of family cohesion) had reduced odds of using alcohol.
Mellor <i>et al.</i> 2011 ¹¹⁷ USA low quality Aim: To identify the effects of religious participation on binge drinking.	cross-sectional survey (ADD Health)	size: 10,972 age group: adolescents age range: 13-18 yrs sex: not stated ethnic group: not stated	✗	✓	After controlling for other variables results were inconsistent for the impact of religious participation on binge drinking.

Authors, Country Quality rating	Design	Sample	Family SC	Community SC	Outcomes
2) Alcohol consumption (continued)					
Morgan <i>et al.</i> 2009 ⁹⁹ UK moderate quality	cross-sectional survey (Health Behaviour in School-aged Children)	size: 6,425 age group: adolescents age range: 11-15 yrs sex: 51% female ethnic group: not stated	✓	✓	Perceptions of high father control behaviour, low levels of joint family activity, limited opportunity for decision-making at school and low sense of belonging to school were associated with increased odds of regular drinking. No role for social support networks. Aim: To assess importance of sense of belonging, autonomy, control & social networking on a range of health-related outcomes (including alcohol consumption).
Oman <i>et al.</i> 2004 ¹¹⁹ USA high quality	cross-sectional survey	size: 1,255 age group: adolescents age range: 13-19 yrs sex: 52% female ethnic group: 48% White	✓	✓	Positive parent-adolescent communication, having a peer role model and more frequent religious services attendance associated with non-use of alcohol. Active citizenship protective only for adolescents from one-parent households. Aim: To examine the relationship between youth assets and alcohol use in a community sample.
Rasic <i>et al.</i> 2011 ⁸¹ Canada moderate quality	cross-sectional survey	size: 1,615 age group: adolescents age range: 15-19 yrs sex: 49% females ethnic group: not stated	✗	✓	Less frequent religious service attendance associated with increased odds of binge drinking. No role for personal importance of religion. Aim: To examine the impact of social capital on the relationships between religion and substance use disorders.
Smith <i>et al.</i> 2009 ⁸⁵ USA low quality	cross-sectional survey	size: 61 age group: adolescents age range: 11-13 yrs sex: 51 female ethnic group: 53% Black	✓	✓	No association identified between any element of family or community social capital and alcohol use. Aim: To identify assets that contribute to positive youth outcomes specifically health behaviours and not engaging in risk behaviour (including alcohol use).
Springer <i>et al.</i> 2006 ⁸⁶ El Salvador high quality	cross-sectional survey	size: 930 age group: adolescents age range: 12-19 yrs sex: 48% ethnic group: not stated	✓	✓	Poorer parent-adolescent relationships associated with increased odds of binge drinking in female adolescents. Low levels of school cohesion associated with increased odds of binge drinking in females but reduced odds of binge drinking in males. Aim: To examine perceived parental social support and social cohesion at school with the prevalence of a range of youth health risk behaviours (including alcohol use).
Takakura 2011 ¹²⁴ Japan high quality	cross-sectional survey	size: 2,424 age group: adolescents age range: 15-18 yrs sex: 52% female ethnic group: not stated	✗	✓	Low individual trust was associated with increased odds of drinking in females only. No role identified for school-level trust. Aim: To examine the individual and contextual effects of social capital at school on alcohol drinking.

Authors, Country Quality rating	Design	Sample	Family SC	Community SC	Outcomes
2) Alcohol consumption (continued)					
Windle 1994 ⁹¹ USA high quality	longitudinal cohort study	size: 1,098 age group: adolescents mean age: 16.2 yrs sex: 52% female ethnic group: 98% White	✗	✓	Poorer quality friendships (e.g. high in hostility) associated with higher alcohol consumption. This was significant in cross-sectional, but not longitudinal, analyses.
Aim: To study concurrent and prospective relations between friendship characteristics and adolescent externalising & internalising problems (including alcohol consumption).					
Yugo <i>et al.</i> 2007 ⁹⁵ Canada low quality	cross-sectional survey (Longitudinal Survey of Children & Youth) data collected 2000-01	size: 3,725 age group: adolescents age range: 12-15 yrs sex: not stated ethnic group: not stated	✓	✓	Higher parental nurturance and school engagement associated with reduced odds of using alcohol. Higher peer connectedness associated with increased odds of alcohol use. No role for parental monitoring or civic engagement.
Aim: To examine which assets account for the most variance in positive health outcomes and participation in risky health behaviours (including alcohol use).					
Zambon <i>et al.</i> 2010 ¹⁰⁰ Belgium, Canada, England, Italy, Poland, Romania high quality	cross-sectional survey (Health Behaviour in School-aged Children) data collected 2005-06	size: 10,230 age group: adolescents age range: 15 yrs sex: 53% female ethnic group: not stated	✗	✓	In general, being a member of at least one recreational club was protective against drunkenness. Differential impact found across individual club types.
Aim: To test whether young people's participation in clubs is associated with better health and healthier behaviours (including less drunkenness).					
3) Drug use					
Bartkowski <i>et al.</i> 2007 ¹⁰⁹ USA high quality	cross-sectional survey (Monitoring the Future)	size: 1,630 age group: adolescents age range: not stated sex: not stated ethnic group: not stated	✗	✓	Trust in people (but not trust in God) and attendance at religious services associated with reduced marijuana and other drug use. Secular (not religious) civic participation and personal importance of religion associated with reduced marijuana use but not other drugs.
Aim: To adopt a social capital perspective on religiosity and adolescent drug use.					
Borawski <i>et al.</i> 2003 ¹¹⁰ USA high quality	cross-sectional survey	size: 692 age group: adolescents mean age: 15.7 yrs sex: 50% female ethnic group: 41% White	✓	✗	High trust adolescent-parent relationships associated with decreased odds of marijuana use in females only. Negotiated unsupervised time with peers associated with increased odds of marijuana use. No role for parental monitoring.
Aim: To explore parental monitoring, negotiated unsupervised time and trust as they relate to drug use.					
Fulkerson <i>et al.</i> 2006 ⁶⁵ USA high quality	cross-sectional survey	size: 98,340 age group: adolescents age range: 11-17 yrs sex: 50% female ethnic group: 86% White	✓	✗	Adolescents from families who ate together more frequently (an indicator of family cohesion) were less likely to report using illicit drugs.
Aim: To examine the associations between family meal frequency, developmental assets and high-risk behaviours (including drug use) among adolescents.					

Authors, Country Quality rating	Design	Sample	Family SC	Community SC	Outcomes
3) Drug use (continued)					
Mellor <i>et al.</i> 2011 ¹¹⁷ USA low quality	cross-sectional survey (ADD Health)	size: 10,972 age group: adolescents age range: 13-18 yrs sex: not stated ethnic group: not stated	✗	✓	Adolescents who attended religious services more frequently were less likely to report marijuana use.
Aim: To identify the effects of religious participation on marijuana use.					
Oman <i>et al.</i> 2004 ¹¹⁹ USA high quality	cross-sectional survey	size: 1,255 age group: adolescents age range: 13-19 yrs sex: 52% female ethnic group: 48% White	✓	✓	More positive parent-adolescent relationships, participation in recreational clubs and religious services, civic engagement and having a peer/adult role model all associated with increased odds of never having used drugs.
Aim: To examine the relationship between youth assets and drug use in a community sample.					
Rasic <i>et al.</i> 2011 ⁸¹ Canada moderate quality	cross-sectional survey	size: 1,615 age group: adolescents age range: 15-19 yrs sex: 49% females ethnic group: not stated	✗	✓	In females, low attendance at religious services, but not religious importance, associated with increased marijuana use. In males, low importance of religion, but not religious attendance, associated with increased marijuana use.
Aim: To examine impact of social capital on the relationships between religion and substance use disorders (including drug use).					
Smith <i>et al.</i> 2009 ⁸⁵ USA low quality	cross-sectional survey	size: 61 age group: adolescents age range: 11-13 yrs sex: 51 female ethnic group: 53% Black	✓	✓	No association identified between any element of family or community social capital and drug use.
Aim: To identify assets that contribute to positive youth outcomes, specifically health behaviours and not engaging in risk behaviour (including drug use).					
Springer <i>et al.</i> 2006 ⁸⁶ El Salvador high quality	cross-sectional survey	size: 930 age group: adolescents age range: 12-19 yrs sex: 48% ethnic group: not stated	✓	✓	Low perceived parental support associated with increased odds of reporting drug use. Low cohesion at school associated with increased odds of drug use in females.
Aim: To examine perceived parental social support and perceived social cohesion at school with the prevalence of a range of youth health risk behaviours (including drug use).					
Yugo <i>et al.</i> 2007 ⁹⁵ Canada low quality	cross-sectional survey (National Longitudinal Survey of Children & Youth) data collected 2000-01	size: 3,725 age group: adolescents age range: 12-15 yrs sex: not stated ethnic group: not stated	✓	✓	Higher parental nurturance and school engagement associated with reduced odds of using marijuana. Higher peer connectedness associated with increased odds of marijuana use. No role for parental monitoring or civic engagement.
Aim: To examine which assets account for the most variance in positive health outcomes and participation in risky health behaviours (including drug use).					

Authors, Country Quality rating	Design	Sample	Family SC	Community SC	Outcomes
4) Sexual health					
Bensyl <i>et al.</i> 2011 ¹⁰⁸ USA moderate quality	cross-sectional survey	size: 2,335 age group: adolescents age: 12-19 yrs sex range: 52% female ethnic group: 44% White	✓	✓	Frequent attendance at religious services associated with increased odds of never having had sex, apart from those from most impoverished neighbourhoods. Having a role model was protective for all adolescents. No role for extended family support, social support or civic engagement. Aim: To explore the associations among household income, youth assets, and youth sexual intercourse.
Borawski <i>et al.</i> 2003 ¹¹⁰ USA high quality	cross-sectional survey	size: 692 age group: adolescents mean age: 15.7 yrs sex: 50% female ethnic group: 41% White	✓	✗	High trust adolescent-parent relationships associated with lower intention to have sex in females only. Parental monitoring associated with consistent condom use in males only. Negotiated unsupervised time with peers associated with having had/intention to have sex and contraception use. Aim: To explore parental monitoring, negotiated unsupervised time and trust as they relate to sexual activity.
Crosby <i>et al.</i> 2003 ¹¹¹ USA high quality	cross-sectional survey (Youth Risk Behaviour Surveillance Survey)	size: 15,349 age group: adolescents age range: 14-18 yrs sex: 50% female ethnic group: 61% White	✗	✓	State-level social capital associated with better sexual health. Aim: To assess the state-level relationship between Putnam's index of social capital and sexual risk and protective behaviours of adolescents in 28 US states.
Erulkar <i>et al.</i> 2009 ⁴¹ Ethiopia moderate quality	cross-sectional survey	size: 521 age group: adolescents age range: 15-19 yrs sex: 100% female ethnic group: not stated	✗	✓	Lack of social support networks predicted non-consensual sexual debut but not early sexual initiation. Aim: To explore the role of social exclusion in sexual debut and non-consensual sexual debut.
Evans <i>et al.</i> 2004 ¹¹³ USA high quality	cross-sectional survey	size: 2,108 age group: adolescents age range: 14-18 yrs sex: 44% female ethnic group: 61% Black	✓	✓	Increased adult support associated with low sexual risk taking in White females and Black males but more sexual risk taking in White males. No role for other social capital variables. Aim: To explore which youth assets were predictive of youth engagement in risky sexual behaviours.
Fulkerson <i>et al.</i> 2006 ⁶⁵ USA high quality	cross-sectional survey	size: 98,340 age group: adolescents age range: 11-17 yrs sex: 50% female ethnic group: 86% White	✓	✗	Adolescents from families who ate together more frequently (an indicator of family cohesion) were less likely to report having had sexual intercourse. Aim: To examine the associations between family meal frequency, developmental assets and high-risk behaviours (including sexual intercourse) among adolescents.

Authors, Country Quality rating	Design	Sample	Family SC	Community SC	Outcomes
4) Sexual health (continued)					
Harris <i>et al.</i> 2006 ¹¹⁴ USA high quality	cross-sectional survey	size: 1,079 age group: adolescents age range: 13-19 yrs sex: 52% female ethnic group: 49% White	✓	✗	Family and community social capital associated with never having had sex in adolescents supervised full-time at home. Having a peer role model and increased religious service attendance were protective for adolescents home alone for two hours or more per day. Aim: To examine how relationships between youth assets and sexual intercourse vary according to the stratification of youth 'self-care' and 'supervised' at home youth.
Hellerstedt <i>et al.</i> 2006 ¹¹⁵ USA high quality	cross-sectional survey (Minnesota Student Survey) data collected 1998 & 2001	size: 4,135 age group: adolescents age range: 13-18 yrs sex: 100% female ethnic group: American Indian	✓	✓	Living with father associated with reduced odds of being sexually experienced in younger, but not older, adolescents. Participation in sport clubs was a risk factor for older males. Positive relationship with teacher was associated with increased odds of being sexually experienced in younger females and reduced odds in older males. Aim: To examine the correlates of having ever had sexual intercourse among American Indians in Minnesota.
Kerrigan <i>et al.</i> 2006 ¹¹⁶ USA high quality	cross-sectional survey (Perceived Risk of Sexually Transmitted Disease Survey)	size: 343 age group: adolescents age range: 14-19 years sex: 76% female ethnic group: 98% Black	✓	✓	Living with at least one biological parent, positive communication with parents and living in a cohesive neighbourhood associated with increased odds of condom use. No role for parental or neighbourhood monitoring. Aim: To examine the associations between perceived neighbourhood social cohesion and collective monitoring and condom use.
Oman <i>et al.</i> 2004 ¹¹⁸ USA moderate quality	cross-sectional survey	size: 1,121 age group: adolescents age range: 13-19 yrs sex: 53% female ethnic group: 49% White	✓	✓	Family and community assets protective for some of the sexual health outcomes. The more assets the adolescent had the more protection they gained for some of the sexual health outcomes. No association between assets and current sexual activity or number of sexual partners. Aim: To investigate the possible positive cumulative effects that youth assets may have on youth sexual behaviour.
Oman <i>et al.</i> 2005 ¹²⁰ USA high quality	cross-sectional survey	size: 1,253 age group: adolescents age range: 13-19 yrs sex: 52% female ethnic group: 49% White	✓	✓	Family communications, active citizenship, religious participation and having peer/adult role models were protective for a number of sexual health outcomes. The importance of some assets differed across youth from one- or two-parent households. No role for social support networks. Aim: To investigate how the relationship between youth assets and sexual risk behaviours vary according to family structure.
Parkes <i>et al.</i> 2011 ¹²¹ UK high quality	cross-sectional survey	size: 1,854 age group: adolescents mean age: 16.6 yrs sex: 50% female ethnic group: 94% White	✓	✗	Parental supportiveness, ease of communication and parental monitoring associated with better sexual health outcomes. Frequency of communication with parents about sex associated with not delaying first sexual experience. Aim: To identify processes associated with sexual risk avoidance, autonomy and relatedness.

Authors, Country Quality rating	Design	Sample	Family SC	Community SC	Outcomes
4) Sexual health (continued)					
Springer <i>et al.</i> 2006 ⁸⁶ El Salvador high quality	cross-sectional survey data collected 1999	size: 930 age group: adolescents age range: 12-19 yrs sex: 48% ethnic group: not stated	✓	✓	Positive support from parents associated with higher odds of sexual abstinence in females. No role for quality of school. Aim: To examine perceived parental social support and perceived social cohesion at school with the prevalence of a range of youth health risk behaviours (including sex).
Tolma <i>et al.</i> 2011 ¹²⁵ USA high quality	cross-sectional survey (Youth Assets Survey) data collected 2003-04	size: 976 age group: adolescents age range: 12-19 years sex: 53% female ethnic group: 43% White	✓	✗	Increased parental monitoring associated with increased odds of sexual abstinence. Elements of the parent-adolescent relationship were protective for Black and White, but not Hispanic, adolescents. Aim: To examine the relationship between parental youth assets and race/ethnicity and sexual abstinence.
Wight <i>et al.</i> 2006 ¹²⁹ UK high quality	longitudinal survey data collected in 1996 & 1999 Time 1 (T1), Time 2 (T2)	size: 5,041 age group: adolescents age range T1: 13-14 yrs age range T2: 15-16 yrs sex: 54% female ethnic group: not stated	✓	✗	Living away from father associated with future risk behaviour in males. Living in a one-parent house associated with future risk behaviour in females. Feeling at ease talking to parents about sex protective against early first sex for females. Increased parental monitoring was protective for both sexes but girls benefited the most. Aim: To use longitudinal data to show how parental monitoring predicts sexual behaviour.
5) General risk behaviours					
Jager <i>et al.</i> 2011 ⁶⁹ USA moderate quality	longitudinal survey (ADD Health)	size: 4,233 age group: adolescents age range: 13-19 yrs sex: not stated ethnic group: not stated	✓	✓	Different patterns of positive relationships with others share different relationships with problem behaviours. Aim: To examine heterogeneity in adolescent relationship constellations and its relation to adolescent binge drinking, marijuana use and sexual health.
Reininger <i>et al.</i> 2005 ¹²² USA high quality	cross-sectional survey	size: 3,439 age group: adolescents age range: 14-18 yrs sex: 53% female ethnic group: 50% Black	✓	✓	Higher perceived support from school associated with lower risk scores. No role for other community social capital indicators. No role for family social capital. Aim: To examine the relationship between smoking, drinking and sex, assets, and demographic characteristics.
Smylie <i>et al.</i> 2006 ¹²³ Canada high quality	cross-sectional survey (National Population Health Survey)	size: 4,178 age group: adolescents age range: 15-19yrs sex: 48% female ethnic group: 85% White	✓	✓	Social support networks, civic engagement, higher quality schools and neighbourhoods protective. Speaking native language of country migrated to associated with increased risk. Inconsistent findings for role of family social capital. Aim: To understand social influences on adolescent risk-taking (alcohol use, smoking, risky sexual behaviour).

Authors, Country Quality rating	Design	Sample	Family SC	Community SC	Outcomes
5) General risk behaviours (continued)					
Wen <i>et al.</i> 2012 ¹²⁸ China moderate quality	cross-sectional survey	size: 625 age group: children & adolescents age range: 8-18 yrs sex: 49% female ethnic group: Chinese (no further details)	✓	✓	Children/adolescents whose mother has migrated for employment more likely to report health risk behaviours. Support received from the family was protective. No role for community social capital.
Aim: To examine the similarities and differences in psychological and behavioural outcomes (smoking, alcohol, drugs) of children living in migrant and non-migrant families.					
Winstanley <i>et al.</i> 2008 ¹³⁰ USA high quality	cross-sectional survey (National Survey of Drug Use and Health)	size: 38,115 age group: adolescents age range: 12-17 yrs sex: 49% female ethnic group: 67% White	✓	✓	Increased civic participation associated with lower odds of reporting drug/alcohol use and dependence. Increased neighbourhood disorganisation associated with higher odds of reporting drug/alcohol use. Living with only one or neither biological parent was a risk factor.
Aim: To examine the influence of self-reported neighbourhood disorganisation and social capital as community factors for adolescent alcohol or drug use dependence.					

Table 11. General health, quality of life and wellbeing.

Authors, Country Quality rating	Design	Sample	Family SC	Community SC	Outcomes
General health, quality of life and wellbeing					
Al-Fayez <i>et al.</i> 2011 ¹³³ Kuwait high quality	cross-sectional survey	size: 4,458 age group: adolescents age range: 14-23 yrs sex: 51% female ethnic group: 87% Kuwaitis	✓	✓	Adolescents whose father was divorced or separated had poorer quality of life. No role for social support networks.
Aim: To examine the relationship between quality of life and personal, parental, and socio-environmental factors.					
Berntsson <i>et al.</i> 2006 ¹³² Denmark, Finland, Iceland, Norway, Sweden moderate quality	longitudinal survey data collected 1984 & 1986	size: 20,608 age group: pre-school, children & adolescents age range: 2-17 yrs sex: not stated ethnic group: not stated	✓	✓	Positive parent-child relationship and parental civic engagement associated with reporting no psychosomatic symptoms cross-sectionally, but not over time. Child participation in group activities associated with better health outcomes within and over time.
Aim: To analyse the development in the health of children (including psychosomatic symptoms) between 1984 and 1996 and relate it to social capital.					
Boyce <i>et al.</i> 2008 ¹³⁴ Canada high quality	cross-sectional survey (Health Behaviour in School-aged Children) data collected 2001-02	size: 2,375 age group: adolescents age range: 14-16 yrs sex: 57% female ethnic group: not stated	✗	✓	Neighbourhoods rated as having high or moderate social capital associated with better self-rated health.
Aim: To examine the effects of socioeconomic status and neighbourhood social capital on health.					
De Souza <i>et al.</i> 2007 ¹³⁵ Brazil moderate quality	randomised controlled trial 1 intervention group 1 control group	size: 253 age group: adolescents age range: 12-18 yrs sex: 57% female ethnic group: not stated	✗	✓	Adolescents in the intergeneration exchange intervention reported better general health than adolescents in the control group but the effect was weak.
Aim: To report on an intervention, involving intergenerational interaction, on perceived health status.					
Drukker <i>et al.</i> 2003 ⁵⁷ Netherlands high quality	cohort study	size: 563 age group: adolescents age range: 10-12 yrs sex: 51% female ethnic group: not stated	✗	✓	Neighbourhood informal social control and cohesion and trust protective in the context of health-related quality of life.
Aim: To study the associations between social capital and quality of life.					

Authors, Country Quality rating	Design	Sample	Family SC	Community SC	Outcomes
General health, quality of life and wellbeing (continued)					
Drukker <i>et al.</i> 2006 ⁵⁸ Netherlands high quality	longitudinal cohort study Time 1 (T1), Time 2 (T2) data collected 2000-03	size: 475 age group: adolescents mean age T1: 11yrs mean age T2: 13.5 yrs sex: 52% female ethnic group: not stated	✗	✓	No role for neighbourhood environment in predicting longer-term health.
Aim: To study associations between neighbourhood environment and changes in health related quality of life.					
Dunt <i>et al.</i> 2011 ¹³¹ Australia moderate quality	cross-sectional survey data collected 2004-06	size: 3,038 age group: pre-school age range: 3 yrs sex: not stated ethnic group: not stated	✗	✓	Community support for child rearing associated with better global health ratings. No role for quality of neighbourhood.
Aim: To study the effects of parental social capital on child health.					
Eder 1990 ¹³⁶ Austria moderate quality	cross-sectional survey (WHO Cross National Survey)	size: 34,345 age group: adolescents age range: 11-15 yrs sex: 50% female ethnic group: not stated	✗	✓	Adolescents reporting they were socially integrated were more likely to report better health and satisfaction with life.
Aim: To explore the relationship between social integration and subjective health and happiness in children (including satisfaction with life).					
El-Dardiry <i>et al.</i> 2012 ⁶² Greece high quality	cross-sectional survey	size: 542 age group: children & adolescents age range: 8-12 yrs sex: 53% female ethnic group: not stated	✗	✓	Higher levels of parental social support protective for psychological, but not physical, wellbeing. Positive neighbourhood social capital protective for physical and psychological wellbeing.
Aim: To examine the potential association between social capital and child health-related quality of life (including psychological and physical wellbeing).					
Eriksson <i>et al.</i> 2011 ¹³⁷ Sweden high quality	cross-sectional survey (Health Behaviour in School-aged Children) data collected 2001-02	size: 3,808 age group: adolescents age range: 11-15 yrs sex: 50% female ethnic group: not stated	✓	✓	For urban, but not rural, adolescents living with only one or neither parent was associated with increased odds of poor satisfaction with life. Poorer quality parent-adolescent relationships, poorer quality of neighbourhood and less peer support increased odds of reporting low satisfaction with life.
Aim: To explore the associations between subject wellbeing (including satisfaction with life) and perceptions of community trust and safety.					

Authors, Country Quality rating	Design	Sample	Family SC	Community SC	Outcomes
General health, quality of life and wellbeing (continued)					
Harpham <i>et al.</i> 2006 ⁶⁸ Vietnam high quality	cross-sectional survey	size: 2,907 age group: pre-school & children age range: 6-18 months & 7.5-8.5 yrs sex: not stated ethnic group: not stated	✗	✓	Higher community social capital associated with decreased odds of physical ill health in infants but not children. No role for social support networks or civic engagement.
Aim: To explore the association between maternal social capital and child physical and mental health.					
Jager 2011 ⁶⁹ USA moderate quality	longitudinal survey (ADD Health) data collected 1994-2002	size: 4,233 age group: adolescents age range: 13-19 yrs sex: not stated ethnic group: not stated	✓	✓	Different patterns of positive relationships with others share different relationships with general health.
Aim: To examine heterogeneity in adolescent relationship constellations and its relation to adolescent adjustment (including general health).					
Lau <i>et al.</i> 2011 ¹³⁸ China high quality	cross-sectional survey	size: 1,297 age group: adolescents age range: 11-12 yrs sex: 44% female ethnic group: not stated	✓	✓	Higher quality, but not quantity, parent-child relations and peer relations associated with better outcomes. Better relations with teachers associated with better outcomes.
Aim: To examine the extent to which family and school social capital might be associated child subjective wellbeing.					
Morgan <i>et al.</i> 2012 ¹³⁹ Spain and UK high quality	cross-sectional survey (Health Behaviour in School-aged Children) data collected 2002	size: 3,591 age group: adolescents age range: 15 yrs sex: 53% female ethnic group: not stated	✓	✓	Positive parent-adolescent relations, feeling a sense of control/autonomy in family and school sense of belonging associated with improved satisfaction with life. Feeling family engaged in joint activities protective for English, and support at school protective for Spanish, adolescents.
Aim: To assess the importance (in terms of satisfaction with life) of young people's social capital in the home, at school, in the neighbourhood and amongst peers.					
Morgan <i>et al.</i> 2009 ⁹⁹ UK moderate quality	cross-sectional survey (Health Behaviour in School-aged Children)	size: 6,425 age group: adolescents age range: 11-15 yrs sex: 51% female ethnic group: not stated	✓	✓	Feeling family does not engage in joint activities, less frequent participation in recreational clubs and low sense of school belonging associated with higher odds of reporting fair or poor health. Controlling father and low sense of school belonging associated with increased odds of poorer wellbeing.
Aim: To assess the relative importance of sense of belonging, autonomy and control and social networking to a range of health and health-related outcomes (including wellbeing).					

Authors, Country Quality rating	Design	Sample	Family SC	Community SC	Outcomes
General health, quality of life and wellbeing (continued)					
Slee <i>et al.</i> 2007 ⁸⁴ Australia high quality	cross-sectional survey	size: 500 age group: pre-school & children age range: birth-7 yrs sex: not stated ethnic group: not stated Aim: To examine the links between young children's wellbeing and social capital.	✓	✓	No role for family or community social capital.
Vandeleur <i>et al.</i> 2009 ¹⁴⁰ Switzerland high quality	longitudinal survey	size: 95 age group: adolescents age range: 13-18 yrs sex: 46% female ethnic group: not stated Aim: To investigate whether higher cohesion and satisfaction with family bonds were associated with emotional wellbeing.	✓	✗	More positive reporting of family bonds and cohesion were associated with better emotional wellbeing.
Wang <i>et al.</i> 2011 ⁸⁹ Taiwan moderate quality	cross-sectional survey	size: 453 age group: adolescents age range: 12-16 yrs sex: 46% female ethnic group: not stated Aim: To examine the relationship between developmental assets and feelings of responsibility for one's own health in adolescents.	✓	✓	Better family communication, more community involvement and having peer/adult roles models associated with better outcomes.
Wen <i>et al.</i> 2012 ¹²⁸ China moderate quality	cross-sectional survey	size: 625 age group: children & adolescents age range: 8-18 yrs sex: 49% female ethnic group: Chinese (no further detail) Aim: To examine the similarities and differences in psychological outcomes (including satisfaction with life) of children living in migrant and non-migrant families.	✓	✓	Positive relationship with parents associated with more satisfaction with life in females only. Being in a cohesive family and having peer support was protective for all. No role for family structure or parental monitoring.
Wen 2008 ⁹⁰ USA high quality	cross-sectional survey (National Survey of America's Families) data collected 1999	size: 20,667 age group: children & adolescents age range: 6-17 yrs sex: not stated ethnic group: not stated Aim: To contribute to understandings of the links and pathways between family structure and social capital variables and child wellbeing.	✓	✓	Being in a two-parent family associated with better outcomes than being in one-parent family. Parent-child conflict associated with poorer outcomes. Participation in extra-curricular activities associated with better outcomes. Participation in religious services associated with less reporting of limiting health conditions. No role for civic engagement.

Authors, Country Quality rating	Design	Sample	Family SC	Community SC	Outcomes
General health, quality of life and wellbeing (continued)					
Yugo <i>et al.</i> 2007 ⁹⁵ Canada Low quality	cross-sectional survey (National Longitudinal Survey of Children & Youth) data collected 2000-01	size: 3,725 age group: adolescents age range: 12-15 yrs sex: not stated ethnic group: not stated	✓	✓	Higher levels of parental nurturance, peer connectedness and school engagement associated with increased odds of reporting excellent or very good health. No role for civic engagement or parental monitoring.
Aim: To examine which assets account for the most variance in positive health outcomes (including self-rated health).					
Zambon <i>et al.</i> 2010 ¹⁰⁰ Belgium, Canada, England, Italy, Poland, Romania high quality	cross-sectional survey (Health Behaviour in School-aged Children) data collected 2005-06	size: 10,230 age group: adolescents age range: 15 yrs sex: 53% female ethnic group: not stated	✗	✓	In general, being a member of at least one recreational club associated with better satisfaction with life and general health and reporting less psychosomatic symptoms. Differential impact found across individual club types.
Aim: To test whether young people's participation in clubs is associated with better health (including satisfaction with life, perceived health and psychosomatic symptoms).					

Table 12. Developmental outcomes.

Authors, Country Quality rating	Design	Sample	Family SC	Community SC	Outcomes
Caughy <i>et al.</i> 2006 ¹⁴¹ USA high quality	cross-sectional survey	size: 200 age group: pre-school age range: 3-4.5 yrs sex: 54% female ethnic group: Black	✓	✓	Some indicators of positive parent-child relations and higher quality neighbourhoods were associated with better child outcomes.
Aim: To examine how social capital at both family-level and neighbourhood-level contribute to cognitive competence.					
Caughy <i>et al.</i> 2006 ⁵¹ USA high quality	cross-sectional survey data collected 2002	size: 241 age group: children mean age: 6.6 yrs sex: 49% female ethnic group: 92% Black	✗	✓	No role for community social capital.
Aim: To examine whether racial socialisation and child outcomes (including intelligence and language development) were consistent across varied residential neighbourhood contexts.					
Parcel <i>et al.</i> 1994 ⁷⁹ USA moderate quality	cross-sectional survey (National Longitudinal Survey of Children & Youth) data collected 1986	size: 1,294 age group: pre-school & children age range: 3-6 yrs sex: not stated ethnic group: not stated	✓	✗	Maternal unemployment in the early years is protective when mother's future employment is in a less complex job. Maternal unemployment in the early years is a risk factor when mother's future employment is in a complex job. Having a greater number of siblings is a risk factor in the context of language development.
Aim: To evaluate the impact of parental working conditions on cognitive and social outcomes.					
Slee <i>et al.</i> 2007 ⁸⁴ Australia high quality	cross-sectional survey	size: 500 age group: pre-school & children age range: birth to 7 yrs sex: not stated ethnic group: not stated	✓	✓	No role for family or community social capital.
Aim: To examine the links between young children's wellbeing (including developmental problems) and social capital.					

References

1. Scottish Government. *The early years framework*. Edinburgh: Scottish Government; 2008.
2. Graham H, Power C. *Childhood disadvantage and adult health: A life-course framework*. London: Health Development Agency; 2004.
3. NHS Greater Glasgow & Clyde/Glasgow City Council. Triple P Positive Parenting Programme website. <http://glasgow.triplep-staypositive.net>. (accessed 1 June 2012).
4. Scottish Government. Family nurse partnership programme. Scottish Government website. <http://www.scotland.gov.uk/Topics/People/Young-People/Early-Years-and-Family/family-nurse-partnership>. (accessed 1 June 2012).
5. NHS Health Scotland. *Equally Well test sites evaluation report*. Edinburgh: NHS Health Scotland; 2011.
6. Education Scotland. What is the curriculum for excellence? Education Scotland website. <http://www.educationscotland.gov.uk/thecurriculum/whatiscurriculumforexcellence/index.asp>. (accessed 1 June 2012).
7. Scottish Executive. *More choices, more chances: A strategy to reduce the proportion of young people not in education, employment or training in Scotland*. Edinburgh: Scottish Executive; 2006.
8. Allen G. *Early interventions: The next steps*. London: HMSO; 2011.
9. Irwin L, Sidiqqi A, Hertzman C. *Early child development: A Powerful Equalizer. Final Report for the World Health Organization's Commission on the Social Determinants of Health*. Geneva: WHO; 2007.
10. Killoran A, Morgan A, Jagroo J. Promoting the emotional and social well-being of children in primary education: Evidence-based guidance. In: Killoran A, Kelly M (eds.) *Evidence-based public health: Effectiveness and efficiency*. Oxford: Oxford University Press; 2009.
11. Morgan A. Social capital as a health asset for young people's health and wellbeing. *Journal of Child and Adolescent Psychology* 2010;52:19-42.
12. Prior D, Paris A. *Preventing children's involvement in crime and anti-social behaviour: A literature review*. Nottingham: Department for Education and Skills; 2005.
13. Schmied V, Tully L. *Effective strategies and interventions for adolescents: A literature review*. New South Wales: NSW Department of Community Sciences; 2009.
14. Baumrind D. Parenting styles and adolescent development. In: Brooks-Gunn J, Lerner R, Peterson A (eds.) *The encyclopedia of adolescence*. New York: Garland; 1991.
15. De Vore ER, Ginsburg KR. The protective effects of good parenting on adolescents. *Current Opinions in Pediatrics* 2005;17(4):460-465.
16. Rutter M, Smith D, eds. *Psychosocial disorders in young people: Time trends and their causes*. Chichester: John Wiley & Sons; 1995.
17. Fonagy P, Higgitt A. An attachment theory perspective on early influences on development and social inequalities. In: Osofsky J, Fitzgerald H (eds.) *Handbook of infant mental health*. New York: John Wiley; 2000.
18. Heijmens Vissor J, van der Ende J, Koot H, Verhulst F. Predictors of psychopathology in young adults referred to mental health services in childhood or adolescence. *British Journal of Psychiatry* 2000;177:59-65.
19. Durkheim E. *The division of labor in society*. New York: Free Press; 1893/1964.

20. Bourdieu P. The forms of capital. In: Richardson J (ed). *Handbook of theory and research for the sociology of education*. New York: MacMillan; 1986.
21. Coleman J. Social capital in the creation of human capital. *American Journal of Sociology* 1988;94:S95-S120.
22. Putnam R. *Making democracy work: Civic traditions in modern Italy*. Princeton, New Jersey: University Press; 1995.
23. Morrow V. *Networks and neighbourhoods: Children's and young people's perspectives*. London: Health Development Agency; 2001.
24. Morgan A. *Social capital as a health asset for young people's health and wellbeing: Definitions measurement and theory*. Stockholm: Karolinska Institutet; 2011.
25. Jung J, Kim Y, Lin W, Cheong P. The influence of social environment on Internet connectedness of adolescents in Seoul, Singapore and Taipei. *New Media & Society* 2005;7(1):64-88.
26. Sally J, Morrison M. Coming of age with the Internet. A qualitative exploration of how the Internet has become an integral part of young people's lives. *New Media & Society* 2006;8(1):73-95.
27. James A, Prout A. *Constructing and reconstructing childhood*. London: Falmer Press; 1997.
28. Ferguson KM. Social capital and children's wellbeing: A critical synthesis of the international social capital literature. *International Journal of Social Welfare* 2006;15(1):2-18.
29. Schaefer-McDaniel N. Conceptualizing social capital among young people: Towards a new theory. *Children, Youth and Environments* 2004;14(1):140-150.
30. World Health Organization. Adolescent health. http://www.who.int/topics/adolescent_health/en/. (accessed 22 July 2012).
31. Shaw RL, Booth A, Sutton AJ, Miller T, Smith JA, Young B, Jones DR, Dixon-Woods M. Finding qualitative research: An evaluation of search strategies. *BMC Medical Research Methodology* 2004;4:5.
32. Evans DD. Database searches for qualitative research. *Journal of the Medical Library Association* 2002;90(3):290-293.
33. Hawker S, Payne S, Kerr C, Hardey M, Powell J. Appraising the evidence: Reviewing disparate data systematically. *Qualitative Health Research* 2002;12(9):1284-1299.
34. Dixon-Woods M, Agarwal S, Young B, Jones D, Sutton A. *Integrative approaches to qualitative and quantitative evidence*. London: Health Development Agency; 2004.
35. Barnett-Page EE, Thomas JJ. Methods for the synthesis of qualitative research: A critical review. *BMC Medical Research Methodology* 2009;9:59.
36. Goldsmith MRM, Bankhead CRC, Austoker JJ. Synthesising quantitative and qualitative research in evidence-based patient information. *Journal of Epidemiology & Community Health* 2007;61(3):262-270.
37. Popay J (ed.) *Moving beyond effectiveness in evidence synthesis: Methodological issues in the synthesis of diverse sources of evidence*. London: National Institute for Health and Clinical Excellence; 2006.
38. Ramirez AJ, Westcombe AM, Burgess CC, Sutton S, Littlejohns P, Richards MA. Factors predicting delayed presentation of symptomatic breast cancer: A systematic review. *The Lancet* 1999;353(9159):1127-31.
39. Landstedt E, Asplund K, Gillander Gadin K. Understanding adolescent mental health: The influence of social processes, doing gender and gendered power relations. *Sociology of Health & Illness* 2009;31(7):962-978.

40. Schinke R, Yungblut H, Blodgett A, Eys M, Peltier D, Ritchie S, Recollet-Saikkonen D. The role of families in youth sport programming in a Canadian Aboriginal reserve. *Journal of Physical Activity & Health* 2010;7(2):156-166.
41. Erulkar A, Ferede A. Social exclusion and early or unwanted sexual initiation among poor urban females in Ethiopia. *International Perspectives on Sexual and Reproductive Health* 2009;35(4):186-193.
42. El Hajj T, Afifi RA, Khawaja M, Harpham T. Violence and social capital among young men in Beirut. *Injury Prevention* 2011;17(6):401-406.
43. Abbotts JE, Sweeting HN, West PB, Williams RGA. Is going to church good or bad for you? Denomination, attendance and mental health of children in West Scotland. *Social Science and Medicine* 2004;58(3):645-656.
44. Aneshensel CS, Sucoff CA. The neighborhood context of adolescent mental health. *Journal of Health & Social Behavior* 1996;37(4):293-310.
45. Bearinger LH, Pettingell S, Resnick MD, Skay CL, Potthoff SJ, Eichhorn J. Violence perpetration among urban American Indian youth: Can protection offset risk? *Archives of Pediatric & Adolescent Medicine* 2005;159(3):270-7.
46. Beiser M, Zilber N, Simich L, Youngmann R, Zohar AH, Taa B, Hou F. Regional effects on the mental health of immigrant children: Results from the new Canadian children and youth study (NCCYS). *Health & Place* 2011;17(3):822-829.
47. Birndorf S, Ryan S, Auinger P, Aten M. High self-esteem among adolescents: Longitudinal trends, sex differences, and protective factors. *Journal of Adolescent Health* 2005;37(3):194-201.
48. Bosacki S, Dane A, Marini Z. Peer relationships and internalizing problems in adolescents: Mediating role of self-esteem. *Emotional and Behavioural Difficulties* 2007;12(4):261-282.
49. Bowker JC, Spencer SV, Salvy S. Examining how overweight adolescents process social information: The significance of friendship quality. *Journal of Applied Developmental Psychology* 2010;31(3):231-237.
50. Caughy MO, O'Campo PJ, Muntaner C. When being alone might be better: Neighborhood poverty, social capital, and child mental health. *Social Science and Medicine* 2003;57(2):227-237.
51. Caughy MO, Nettles SM, O'Campo PJ, Lohrfinck KF. Neighborhood matters: Racial socialization of African American children. *Child Development* 2006;77(5):1220-1236.
52. Caughy MO, Nettles SM, O'Campo PJ. The effect of residential neighborhood on child behavior problems in first grade. *American Journal of Community Psychology* 2008;42(1-2):39-50.
53. Champion H, Foley KL, Sigmon-Smith K, Sutfin EL, DuRant RH. Contextual factors and health risk behaviors associated with date fighting among high school students. *Women & Health* 2008;47(3):1-22.
54. Ciairano S, Rabaglietti E, Roggero A, Bonino S, Beyers W. Patterns of adolescent friendships, psychological adjustment and antisocial behavior: The moderating role of family stress and friendship reciprocity. *International Journal of Behavioral Development* 2007;31(6):539-548.
55. Delsing MJMH, van Aken MAG, Oud JHL, De Bruyn EEJ, Scholte RHJ. Family loyalty and adolescent problem behavior: The validity of the family group effect. *Journal of Research on Adolescence* 2005;15(2):127-150.
56. Dorsey S, Forehand R. The relation of social capital to child psychosocial adjustment difficulties: The role of positive parenting and neighborhood dangerousness. *Journal of Psychopathology and Behavioral Assessment* 2003;25(1):11-23.

57. Drukker M, Kaplan C, Feron F, van Os J. Children's health-related quality of life, neighbourhood socio-economic deprivation and social capital. A contextual analysis. *Social Science and Medicine* 2003;57(5):825-841.
58. Drukker M, Kaplan C, Schneiders J, Feron FJ, van Os J. The wider social environment and changes in self-reported quality of life in the transition from late childhood to early adolescence: A cohort study. *BMC Public Health* 2006;6:133.
59. Drukker M, Kaplan CD, Feron FJM, Van Os J, Korebrits A. Delinquency in context; neighbourhood and gender interactions among adolescents. *Epidemiologia e Psichiatria Sociale* 2010;19(2):148-158.
60. DuBois DL, Neville HA, Parra GR, Pugh-Lilly A. Testing a new model of mentoring. *New Directions for Youth Development* 2002(93):21-57.
61. Dufur MJ, Parcel TL, McKune BA. Capital and context: Using social capital at home and at school to predict child social adjustment. *Journal of Health and Social Behaviour* 2008;49(2):146-161.
62. El-Dardiry G, Dimitrakaki C, Tzavara C, Ravens-Sieberer U, Tountas Y. Child health-related quality of life and parental social capital in Greece: An exploratory study. *Social Indicators Research* 2012;105(1):75-92.
63. Feldman R. The relational basis of adolescent adjustment: Trajectories of mother-child interactive behaviors from infancy to adolescence shape adolescents' adaptation. *Attachment & Human Development* 2010;12(1-2):173-192.
64. Fitzpatrick KM, Piko BF, Wright DR, LaGory M. Depressive symptomatology, exposure to violence, and the role of social capital among African American adolescents. *American Journal of Orthopsychiatry* 2005;75(2):262-274.
65. Fulkerson JA, Story M, Mellin A, Leffert N, Neumark-Sztainer D, French SA. Family dinner meal frequency and adolescent development: Relationships with developmental assets and high-risk behaviors. *Journal of Adolescent Health* 2006;39(3):337-345.
66. Galboda-Liyanage KC, Prince MJ, Scott S. Mother-child joint activity and behaviour problems of pre-school children. *J Child Psychol Psychiatry Allied Disciplines* 2003;44(7):1037-1048.
67. Glendinning A, West P. Young people's mental health in context: Comparing life in the city and small communities in Siberia. *Social Science and Medicine* 2007;65(6):1180-1191.
68. Harpham T, De Silva M,J., Tuan T. Maternal social capital and child health in Vietnam. *Journal of Epidemiology & Community Health* 2006;60(10):865-871.
69. Jager J. Convergence and nonconvergence in the quality of adolescent relationships and its association with adolescent adjustment and young-adult relationship quality. *International Journal of Behavioral Development* 2011;35(6):497-506.
70. Johnson SD. The social context of youth violence: A study of African American youth. *International Journal of Adolescent Medicine and Health* 1999;11(3-4):159-175.
71. Kingston B, Huizinga D, Elliott DS. A test of social disorganization theory in high-risk urban neighborhoods. *Youth & Society* 2009;41(1):53-79.
72. Kliwer W, Cunningham JN, Diehl R, Parrish KA, Walker JM, Atiyeh C, Neace B, Duncan L, Taylor K, Mejia R. Violence exposure and adjustment in inner-city youth: Child and caregiver emotion regulation skill caregiver-child relationship quality, and neighborhood cohesion as protective factors. *Journal of Clinical Child and Adolescent Psychology* 2004;33(3):477-487.
73. Maynard MJ, Harding S. Perceived parenting and psychological well-being in UK ethnic minority adolescents. *Child: Care, Health and Development* 2010;36(5):630-638.

74. Maynard MJ, Harding S. Ethnic differences in psychological well-being in adolescence in the context of time spent in family activities. *Social Psychiatry and Psychiatric Epidemiology* 2010;45(1):115-23.
75. Meltzer H, Vostanis P, Goodman R, Ford T. Children's perceptions of neighbourhood trustworthiness and safety and their mental health. *Journal of Child Psychology and Psychiatry* 2007;48(12):1208-1213.
76. Newman JL. Social capital in and adolescent well-being national sample. *Journal of Human Behavior in the Social Environment* 2007;16(3):57-72.
77. Oman RF, Vesely SK, Aspy CB. Youth assets, aggression, and delinquency within the context of family structure. *American Journal of Health Behavior* 2005;29(6):557-568.
78. Parcel TL, Menaghan EG. Family social capital and children's behavior problems. *Social Psychology Quarterly* 1993;56(2):120-135.
79. Parcel TL, Menaghan EG. Early parental work, family social capital, and early childhood outcomes. *American Journal of Sociology* 1994;99(4):972-1009.
80. Parcel TL, Dufur MJ. Capital at home and at school: Effects on child social adjustment. *Journal of Marriage and the Family* 2001;63(1):32-47.
81. Rasic D, Kisely S, Langille DB. Protective associations of importance of religion and frequency of service attendance with depression risk, suicidal behaviours and substance use in adolescents in Nova Scotia, Canada. *Journal of Affective Disorders* 2011;132(3):389-395.
82. Rotenberg KJ, McDougall P, Boulton MJ, Vaillancourt T, Fox C, Hymel S. Cross-sectional and longitudinal relations among peer-reported trustworthiness, social relationships, and psychological adjustment in children and early adolescents from the United Kingdom and Canada. *Journal of Experimental Child Psychology* 2004;88(1):46-67.
83. Rotenberg KJ, Boulton MJ, Fox CL. Cross-sectional and longitudinal relations among children's trust beliefs, psychological maladjustment and social relationships: Are very high as well as very low trusting children at risk? *Journal of Abnormal Child Psychology* 2005;33(5):595-610.
84. Slee PT, Murray-Harvey R. Disadvantaged children's physical, developmental and behavioral health problems in an urban environment. *Journal of Social Service Research* 2007;33(4):57-69.
85. Smith LH, Barker E. Exploring youth development with diverse children: Correlates of risk, health, and thriving behaviors. *Journal for Specialists in Pediatric Nursing* 2009;14(1):12-21.
86. Springer A, Parcel G, Baumler E, Ross M. Supportive social relationships and adolescent health risk behavior among secondary school students in El Salvador. *Social Science and Medicine* 2006;62(7):1628-1640.
87. Stevenson HC. Raising safe villages: Cultural-ecological factors that influence the emotional adjustment of adolescents. *Journal of Black Psychology* 1998;24(1):44-59.
88. Stevenson HC, Jr. "Missed, dissed, and pissed": Making meaning of neighborhood risk, fear and anger management in urban black youth. *Cultural Diversity and Mental Health* 1997;3(1):37-52.
89. Wang R, Chen S, Tang S, Lee S, Jian S. The relationship between selected developmental assets and health-promoting behaviours of adolescents in Southern Taiwan. *Journal of Clinical Nursing* 2011;20(3-4):359-368.
90. Wen M. Family structure and children's health and behavior: data from the 1999 national survey of America's families. *Journal of Family Issues* 2008;29(11):1492-1519.
91. Windle M. A study of friendship characteristics and problem behaviors among middle adolescents. *Child Development* 1994;65(6):1764-1777.

92. Xue Y, Leventhal T, Brooks-Gunn J, Earls FJ. Neighborhood residence and mental health problems of 5- to 11-year-olds. *Archives of General Psychiatry* 2005;62(5):554-563.
93. Ying Y, Han M. Parental contributions to Southeast Asian American adolescents' well-being. *Youth & Society* 2008;40(2):289-306.
94. Young R, Sweeting H, Ellaway A. Do schools differ in suicide risk? the influence of school and neighbourhood on attempted suicide, suicidal ideation and self-harm among secondary school pupils. *BMC Public Health* 2011;11:874.
95. Yugo M, Davidson MJ. Connectedness within social contexts: The relation to adolescent health. *Healthcare Policy/Politiques de Sante* 2007;2(3):47-55.
96. Goodman R. The strengths and difficulties questionnaire: a research note. *Journal of Child Psychology and Psychiatry* 1997;38(5):581-586.
97. Aida J, Ando Y, Oosaka M, Niimi K, Morita M. Contributions of social context to inequality in dental caries: a multilevel analysis of Japanese 3-year-old children. *Community Dentistry and Oral Epidemiology* 2008;36(2):149-156.
98. Pattussi MP, Hardy R, Sheiham A. The potential impact of neighborhood empowerment on dental caries among adolescents. *Community Dentistry and Oral Epidemiology* 2006;34(5):344-350.
99. Morgan A, Haglund BJA. Social capital does matter for adolescent health: evidence from the English HBS study. *Health Promotion International*. 2009;24(4):363-372.
100. Zambon A, Morgan A, Vereecken C, Colombini S, Boyce W, Mazur J, Lemma P, Cavallo F. The contribution of club participation to adolescent health: evidence from six countries. *Journal of Epidemiology & Community Health* 2010;64(1):89-95.
101. Hume C, Jorna M, Arundell L, Saunders J, Crawford D, Salmon J. Are children's perceptions of neighbourhood social environments associated with their walking and physical activity? *Journal of Science and Medicine in Sport* 2009;12(6):637-41.
102. Singh GK, Kogan MD, Siahpush M, van Dyck PC. Independent and joint effects of socioeconomic, behavioral, and neighborhood characteristics on physical inactivity and activity levels among US children and adolescents. *Journal of Community Health* 2008;33(4):206-216.
103. Cradock AL, Kawachi I, Colditz GA, Gortmaker SL, Buka SL. Neighborhood social cohesion and youth participation in physical activity in Chicago. *Social Science and Medicine* 2009;68(3):427-435.
104. McKay CM, Bell-Ellison B, Wallace K, Ferron JM. A multilevel study of the associations between economic and social context, stage of adolescence, and physical activity and body mass index. *Pediatrics* 2007;119 Suppl 1:S84-S91.
105. Fenton C, Brooks F, Spencer NH, Morgan A. Sustaining a positive body image in adolescence: An assets-based analysis. *Health and Social Care in the Community* 2010;18(2):189-198.
106. Singh GK, Kogan MD, Van Dyck PC, Siahpush M. Racial/ethnic, socioeconomic, and behavioral determinants of childhood and adolescent obesity in the united states: Analyzing independent and joint associations. *Annals of Epidemiology* 2008;18(9):682-695.
107. Atkins LA, Oman RF, Vesely SK, Aspy CB, McLeroy K. Adolescent tobacco use: The protective effects of developmental assets. *American Journal of Health Promotion* 2002;16(4):198-205.
108. Bensyl DM, Vesely SK, Tolma EL, Oman RF, Aspy C. Associations between youth assets and sexual intercourse by household income. *American Journal of Health Promotion* 2011;25(5):301-309.

109. Bartkowski JP, Xu X. Religiosity and teen drug use reconsidered: a social capital perspective. *American Journal of Preventative Medicine* 2007;32(6):S182-S194.
110. Borawski EA, Ievers-Landis C, Lovegreen LD, Trapl ES. Parental monitoring, negotiated unsupervised time, and parental trust: The role of perceived parenting practices in adolescent health risk behaviors. *Journal of Adolescent Health* 2003;33(2):60-70.
111. Crosby RA, Holtgrave DR, DiClemente RJ, Wingood GM, Gayle JA. Social capital as a predictor of adolescents' sexual risk behavior: A state-level exploratory study. *AIDS and Behavior* 2003;7(3):245-252.
112. Eitle TM, Wahl AG, Aranda E. Immigrant generation, selective acculturation, and alcohol use among Latina/o adolescents. *Social Science Research* 2009;38(3):732-742.
113. Evans AE, Sanderson M, Griffin SF, Reininger B, Vincent ML, Parra-Medina D, Valois RF, Taylor D. An exploration of the relationship between youth assets and engagement in risky sexual behaviors. *Journal of Adolescent Health* 2004;35(5):424.e21-e30.
114. Harris L, Oman RF, Vesely SK, Tolma EL, Aspy CB, Rodine S, Marshall L, Fluhr J. Associations between youth assets and sexual activity: Does adult supervision play a role? *Child: Care, Health and Development* 2007;33(4):448-454.
115. Hellerstedt WL, Peterson-Hickey M, Rhodes KL, Garwick A. Environmental, social, and personal correlates of having ever had sexual intercourse among American Indian youths. *American Journal of Public Health* 2006;96(12):2228-2234.
116. Kerrigan D, Witt S, Glass B, Chung S, Ellen J. Perceived neighborhood social cohesion and condom use among adolescents vulnerable to HIV/STI. *AIDS and Behavior* 2006;10(6):723-729.
117. Mellor JM, Freeborn BA. Religious participation and risky health behaviors among adolescents. *Health Economics* 2011;20(10):1226-1240.
118. Oman RF, Vesely SK, Aspy CB, McLeroy KR, Luby CD. The association between multiple youth assets and sexual behavior. *American Journal of Health Promotion* 2004;19(1):12-18.
119. Oman RF, Vesely S, Aspy CB, McLeroy KR, Rodine S, Marshall L. The potential protective effect of youth assets on adolescent alcohol and drug use. *American Journal of Public Health* 2004;94(8):1425-1430.
120. Oman RF, Vesely SF, Aspy CB. Youth assets and sexual risk behavior: The importance of assets for youth residing in one-parent households. *Perspectives on Sexual and Reproductive Health* 2005;37(1):25-31.
121. Parkes AA, Henderson MM, Wight DD, Nixon CC. Is parenting associated with teenagers' early sexual risk-taking, autonomy and relationship with sexual partners? *Perspectives on Sexual and Reproductive Health* 2011;43(1):30-40.
122. Reininger BM, Evans AE, Griffin SF, Sanderson M, Vincent ML, Valois RF, Parra-Medina D. Predicting adolescent risk behaviors based on an ecological framework and assets. *American Journal of Health Behavior* 2005;29(2):150-161.
123. Smylie L, Medaglia S, Maticka-Tyndale E. The effect of social capital and socio-demographics on adolescent risk and sexual health behaviours. *Canadian Journal of Human Sexuality* 2006;15(2):95-112.
124. Takakura M. Does social trust at school affect students' smoking and drinking behavior in Japan? *Social Science and Medicine* 2011;72(2):299-306.
125. Tolma EL, Oman RF, Vesely SK, Aspy CB, Beebe L, Fluhr J. Parental youth assets and sexual activity: Differences by race/ethnicity. *American Journal of Health Behavior* 2011;35(5):513-524.

126. Vuille J, Schenkel M. Psychosocial determinants of smoking in Swiss adolescents with special reference to school stress and social capital in schools. *Sozial- und Präventivmedizin* 2002;47(4):240-250.
127. Wen M, Van Duker H, Olson LM. Social contexts of regular smoking in adolescence: towards a multidimensional ecological model. *Journal of Adolescence* 2009;32(3):671-692.
128. Wen M, Lin D. Child development in rural china: Children left behind by their migrant parents and children of nonmigrant families. *Child Development* 2012;83(1):120-136.
129. Wight D, Williamson L, Henderson M. Parental influences on young people's sexual behaviour: a longitudinal analysis. *Journal of Adolescence* 2006;29(4):473-494.
130. Winstanley EL, Steinwachs DM, Ensminger ME, Latkin CA, Stitzer ML, Olsen Y. The association of self-reported neighborhood disorganization and social capital with adolescent alcohol and drug use, dependence, and access to treatment. *Drug and Alcohol Dependence* 2008;92(1-3):173-182.
131. Dunt D, Hage B, Kelahe M. The impact of social and cultural capital variables on parental rating of child health in Australia. *Health Promotion International* 2011;26(3):290-301.
132. Berntsson L, Kohler L, Vuille J. Health, economy and social capital in Nordic children and their families: A comparison between 1984 and 1996. *Child: Care, Health and Development* 2006;32(4):441-451.
133. Al-Fayez G, Ohaeri JU. Profile of subjective quality of life and its correlates in a nation-wide sample of high school students in an Arab setting using the WHOQOL-bref. *BMC Psychiatry* 2011;11:71.
134. Boyce WF, Davies D, Gallupe O, Shelley D. Adolescent risk taking, neighborhood social capital, and health. *Journal of Adolescent Health* 2008;43(3):246-252.
135. de Souza EM, Grundy E. Intergenerational interaction, social capital and health: Results from a randomised controlled trial in Brazil. *Social Science and Medicine* 2007;65(7):1397-1409.
136. Eder A. Risk factor loneliness. on the interrelations between social integration, happiness and health in 11-, 13- & 15-year old schoolchildren in 9 European countries. *Health Promotion International* 1990;5(1):19-33.
137. Eriksson U, Hochwalder J, Sellström E. Perceptions of community trust and safety – consequences for children's well-being in rural and urban contexts. *Acta Paediatrica* 2011;100(10):1373-1378.
138. Lau M, Li W. The extent of family and school social capital promoting positive subjective well-being among primary school children in Shenzhen, China. *Children and Youth Services Review* 2011;33(9):1573-1582.
139. Morgan A, Rivera F, Moreno C, Haglund B. Does social capital travel? Influences on the life satisfaction of young people living in England and Spain. *BMC Public Health* 2012;12:138.
140. Vandeleur CL, Jeanpretre N, Perrez M, Schoebi D. Cohesion, satisfaction with family bonds, and emotional well-being in families with adolescents. *Journal of Marriage and Family* 2009;71(5):1205-1219.
141. Caughy MO, O'Campo PJ. Neighborhood poverty, social capital, and the cognitive development of African American preschoolers. *American Journal of Community Psychology* 2006;37(1-2):141-154.
142. Summach AHJ. Facilitating trust engenderment in secondary school nurse interactions with students. *Journal of School Nursing* 2011;27(2):129-138.
143. Hartup WW. The company they keep: friendships and their developmental significance. *Child Development* 1996;67(1):1-13.
144. Putnam RD. *Bowling alone: the collapse and revival of American community*. New York, NY, USA: Touchstone Books/Simon & Schuster: New York, NY; 2000:541.

145. Morrow V. Using qualitative methods to elicit young people's perspectives on their environments: Some ideas for community health initiatives. *Health Education Research* 2001;16(3):255-268.
146. Scottish Government. Getting it right for every child and young person. Scottish Government website. <http://www.scotland.gov.uk/Topics/People/Young-People/gettingitright>. (accessed 1 June 2012).
147. NHS Greater Glasgow & Clyde. ACES. NHS Greater Glasgow & Clyde website. http://www.nhsggc.org.uk/content/default.asp?page=s1810_1. (accessed 1 October 2012).
148. McLean J, McNeice V. *Assets in action: Illustrating asset based approaches for health improvement*. Glasgow: Glasgow Centre for Population Health; 2012.
149. Croucher K, Wallace A, Duffy S. *The influence of land use mix, density and urban design on health: a critical literature review*. Glasgow: Glasgow Centre for Population Health/University of York; 2012. http://www.gcph.co.uk/publications/361_the_influence_of_land_use_mix_density_and_urban_design_on_health.
150. Glasgow Community Health and Wellbeing Research and Learning Programme. GoWell. <http://www.gowellonline.com/>. (accessed 1 October 2012).
151. Glasgow Centre for Population Health. Equally Well Glasgow city test site. http://www.gcph.co.uk/work_programmes/healthy_urban_planning/equally_well/glasgow_city_test_site. (accessed 1 October 2012).
152. Hean S, Cowley S, Forbes A, Griffiths P, Maben J. The M-C-M' cycle and social capital. *Social Science and Medicine* 2003;56(5):1061-1072.