Youth provision and life outcomes

Systematic literature review

A Youth Evidence Base report by SQW and the University of Warwick for the Department for Culture, Media and Sport

SQW

Contents

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Summary of key findings

This review located and screened over 25,000 studies from across 22 major research databases and repositories. A total of 77 studies met the review criteria for relevance and suitability. Studies were quality assessed, organised within six activity areas, and analysed in-depth by area to better understand the impacts of open access youth activities.

1. The review provides **convincing evidence to show that youth activities have beneficial impacts for young people across a range of personal, social, educational, and economic outcomes,** although it should be noted that literature had limitations (see below).

2. There is more, and better-quality evidence for some types of youth activity. **Mentoring and peer mentoring, and summer employment schemes, have the strongest evidence with more consistently positive impact findings.**

3. There was also evidence (of varying strength) of positive impacts for programmes in the areas of **citizenship and community service; residentials and camps; and sports and physical health**.

4. There were several **programmes with positive evidence of impact that had been tested at scale, sustained over time and delivered across multiple contexts**. These programmes provide models for programme design and implementation from which current and future provision can learn.

5. There was **variation in impact in all activity areas**, suggesting appreciable differences in programme quality and implementation, and in the needs of the young people involved.

6. **Youth activities typically affect multiple personal, social, education and economic outcomes for young people.** Many outcomes, however, are either hard to measure (e.g., resilience, social skills, wellbeing, and job readiness), indirect (e.g., developing social skills through community service or team sports), or relate to the avoidance of negative outcomes (e.g., reducing substance abuse).

7. **The evidence base was relatively weak** because of the challenges of evaluating the broad range of activities and outcomes supported through open access youth provision. There were some examples of multiple studies of the same or highly similar programmes; much of the literature, however, was more disparate in terms of the interventions assessed and outcomes measured. Only seven studies were rated as providing high quality impact evidence. Most studies were rated as providing medium (n=40) or low (n=30) quality evidence.

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Executive summary

Background to the study

1. This literature review was commissioned by the Department for Culture, Media and Sport (DCMS), and conducted by SQW, a research and policy consultancy, and the University of Warwick, with support from UK Youth, a national youth infrastructure charity.

2. The literature review was commissioned to build understanding of the impact of different youth activities on young people, and to identify what makes programmes effective.

3. This study is one of three 'Youth Evidence Base' research projects (the other two studies are, respectively, an analysis of longitudinal data examining the contemporaneous and long-term impacts of youth activities on young people, and a local-level analysis examining the impact of youth club closures on young people and their communities).[1]

4. We conducted searches and screening of literature evidence, from 22 major research databases, indexes and collections, before mapping results, quality appraising the studies and analysing findings.

5. Throughout the study, we worked with a Youth Panel, recruited by UK Youth. The Youth Panel helped to shape the study's scope and supported the study team in interpreting the key findings.

Study scope

6. Our review focused on open access youth provision, where the objective of the activity is about a young person's personal, educational, social and emotional growth. Activities targeting 'elite' skills (for example in sport or music) for their own sake, medical or clinical studies and school-based interventions were deemed out of scope. This is not to say that these wider studies would not have something potentially useful to say about the impact of activities targeting young people.

7. This review focused on studies involving randomised controlled trials (RCTs) or quasi-experimental methods. This means that while there is a rich evidence base which includes qualitative methodologies, surveys, and secondary data studies, we have not incorporated these into our review.

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[1] SQW (2024) *Youth provision and life outcomes: A study of longitudinal research,* and; SQW (2024) *Youth provision and life outcomes: A study of the local impact of youth clubs.*

Activity areas

8. This report presents findings in six activity areas (see Table 1), categories identified by the study team in dialogue with DCMS and our Youth Panel. Some studies sat across more than one activity area where they focused on programmes with multiple strands.

Table 1: Number of studies by activity area

Group	Number of studies
Citizenship, community service and volunteering	11
Music, arts, recreation and community	6
Employment, skills and enterprise	12
Mentoring, coaching and/or peer support	34
Residentials and camps	9
Sports and physical health	13
Total	85 category entries (77 studies)

Source: SQW and University of Warwick

Outcome areas

9. Many studies focused on multiple outcomes and outcome areas. We recorded only areas where there was an explicit and substantial focus on the outcome area (such as a dedicated research question and outcome measure), yet still found that most programmes targeted two or more outcome areas, with 121 category entries for 77 studies (see Table 2, below).

Table 2: Number of studies by outcome area

Outcome area	Number of studies
Social and personal skills outcomes	30
Mental health and wellbeing outcomes	29
General health outcomes	17
Educational outcomes	16
Employment and employability outcomes	15
Crime and anti-social or risky behaviour outcomes	14
Total	121 category entries (77 studies)

Source: SQW and University of Warwick

Evidence of Impact

10. This evidence base highlights how well-designed youth activities can have beneficial impacts for young people across a range of personal, social, educational, and economic

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outcomes. This aligns with other elements of the Youth Evidence Base research[2], which have highlighted some of the ways in which youth activities impact upon young people and their wider communities. We provide insights regarding activity-specific impacts, below.

Interpreting outcomes

11. The majority of the youth activities we reviewed had multiple aims and outcomes. Even outcomes that ostensibly relate to similar themes, such as 'social skills' or 'personal development', were reported differently because of how outcomes are defined and measured.

12. Typically, youth provision seeks to support a range of outcomes in tandem. Activities' main aims were often indirectly linked to the activity focus, for example with football being used to increase teamwork and social skills. This could be considered the 'what' and the 'why' of particular interventions.

13. Furthermore, different stakeholders and beneficiaries may use different language to describe a similar effect. For example, youth practitioners might describe an activity in terms of 'building trusted relationships'; policymakers might talk about 'social cohesion'; young people, though, might simply talk about 'seeing friends'.

14. These considerations make comparing outcomes across studies challenging.

Reflections on the evidence base

15. The evidence base is skewed towards larger programmes with pre-defined structures because these tend to be the programmes in receipt of public funding and which are consequently evaluated. This skew represents a gap in the evidence base, as we know anecdotally from our research partners and Youth Panel that high quality smaller programmes may well also generate impact for young people.

16. Our findings indicate that open access youth activities are often particularly beneficial for young people from disadvantaged and marginalised backgrounds. Many of the programmes included in our study were designed and evaluated with these groups in mind. These programmes are designed to address a perceived deficit in the skills or experiences of certain young people. This model of programme provision appears to work better in some cases (e.g., mentoring), than others (e.g., progression to employment). This underlines the observation that, while beneficial, youth provision cannot completely compensate for societal and structural inequalities.

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[2] SQW (2024) *Youth provision and life outcomes: A study of longitudinal research,* and; SQW (2024) *Youth provision and life outcomes: A study of the local impact of youth clubs.*

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Activity impact summary

17. Further to the headline impact findings (see above), below we provide key findings about impact by youth activity area:

Citizenship, community service and volunteering

- Evidence for youth engagement activities indicated small but consistently positive impact across a range of outcomes. For example, studies of the National Citizenship Service identified impact of youth activities on volunteering intentions, inter-ethnic relations and social trust, and life satisfaction (see Section 3.41).

- Other youth engagement activities related to citizenship, community service and volunteering found small to medium effects on self-efficacy, social self-efficacy, resilience, and wellbeing (3.42).

- Two studies of uniformed activities support a tentative positive conclusion that these have a range of beneficial impacts across a range of outcomes such as communication, teamwork, self-confidence, resilience, civic-mindedness, happiness, empathy and resourcefulness (3.44).

- The relatively weak evidence for interventions which were intended to reduce risky behaviours suggested mixed or modest impact (3.45-46).

Music, arts, recreation and community activities

- All studies in this section reported positive impacts of the intervention, with studies suggesting an impact across a range of personal, social, and educational outcomes, including improved education and skills, and improved mental health (3.72).

- However, there was some variability in the strength of the impact within some studies across different outcomes and different cohorts.

- Evidence quality in this area was weak and, while there is encouraging evidence of impact across multiple areas, more research is needed for robust estimates.

Employment, skills and enterprise

- Most studies in this area indicated a positive impact across a range of personal development, social and employment skills outcomes – particularly for recent summer employment schemes.

- Evidence for summer employment schemes suggested that employment reduces criminal justice involvement and decreases rates of violent-crime arrests. Heller (2014) estimates a 43% reduction over 16 months (3.95 fewer arrests per 100 youths) (see Section 3.90).

- Evidence for summer employment also suggested impact on community engagement, social skills, aspirations, job readiness and school attendance, with effects seemingly accentuated for at-risk or disadvantaged students (3.91).

- Evidence on other employment and enterprise interventions suggests that youth activities can increase income generation activity (3.93), develop financial skills and lower illegal drug use, binge alcohol use and rates of school absenteeism (3.94).

Mentoring, coaching and peer support

- Overall, there was consistent evidence of the positive impact of mentoring programmes, particularly including peer mentoring. Over two thirds of studies looking at mentoring interventions indicated that these had a positive impact.

- Estimates of impact for the Big Brothers Big Sisters programme (3.125) suggest small positive impacts on reducing depressive symptoms (d = 0.15); reductions in the likelihood of starting to use illegal drugs (45.8%) and alcohol (27.4%); and being 32% less likely to have hit someone. Studies of multi-component interventions which included mentoring (3.126) reported medium to large effect sizes on a range of outcomes including self-efficacy, connectedness, resilience and wellbeing, although there were some limitations in the evidence's robustness for these particular estimates.

- The findings on group mentoring and peer support programmes were notable given their combination of cost effectiveness and potential impact on wider social (e.g., meeting new peers) and personal (e.g., self-confidence) outcomes beyond those reported above (also see 3.130).

- Other studies of community-based and informal mentoring and peer support initiatives also suggest small positive benefits on outcomes such as school attendance (3.127) and social skills (3.128), as well as no effect or negative effect on these or other outcomes (3.129).

- The findings related to sexual health programmes or programmes to reduce substance use or violence were more mixed, sometimes generating positive impacts on target outcomes, but sometimes producing no significant outcome and, in one case, negative impact (3.132 and 3.133). However, many found small effects on a diverse range of outcomes including health, standard of living, sexual health knowledge, earnings,

decreased rates of violence, self-confidence and knowledge of personal and social issues (3.131).

- Evidence in this category was stronger given the volume of studies, consistency in approaches, and the size of many studies. There were, however, several studies with mixed or null findings (3.133), including one which found a small negative effect on academic achievement of an afterschool programme designed to improve academic performance (3.133).

Residentials and camps

- Most studies in this area reported positive impacts of interventions, particularly on mental health and wellbeing. Seven out of nine studies measured the impact of this activity area on mental health and wellbeing, six of which demonstrated impact.

- However, some studies reported variable impact around some social outcomes or risky behaviours, particularly entrepreneurial related schemes.

- Estimates of impact on wellbeing outcomes such as self-efficacy and reduction in depressive symptoms tended to be small but were consistently reported across studies (3.157-158). One study found that effects were temporary, being no longer evident three months after the intervention (3.158).

- Evidence in this category was less strong relative to other categories, with limitations highlighted in quality appraisal across several studies.

Sports and physical health

- Overall, evidence suggests interventions of this type can have a positive impact on physical and mental health and wellbeing. However, 3 of the 13 studies reported no or negative impact on physical activity levels.

- Estimates for increases in physical activity levels tended to be small, of increased activity of around 5 to 10 minutes per day. Some studies reported no impact or negative impact (3.185, 3.188).

- Three studies reported improved self-esteem, mental wellbeing or life satisfaction (3.185) and others reported reductions in problem behaviours and aggression, increases in belonging and higher motivation (3.187).

- The quality of evidence was mixed, with many studies of small scale, and there were many issues with study design such as allowing young people to choose which treatment arm and activities they were involved in.

1. Introduction to the project

Key points

- DCMS commissioned SQW, the University of Essex, University of Warwick and UK Youth to carry out three research projects collectively called the 'Youth Evidence Base'. This report presents the findings of one of those three projects: a systematic international literature review.

- This systematic review identifies and critically assesses the available English language international evidence on the impact of youth services to answer the question: '***What does existing evidence say about the impacts of youth provision?***'

- This research focused on the ways in which youth provision (such as youth clubs and other types of youth activities that take place outside school) shapes outcomes for young people and their communities.

- The review identified and analysed experimental and quasi-experimental trials testing the impact of youth activities on a range of outcome areas.

- The six outcome areas of interest were:

  - Educational outcomes

  - Employment / career pathways

  - General health

  - Mental health

  - Life satisfaction and wellbeing, and
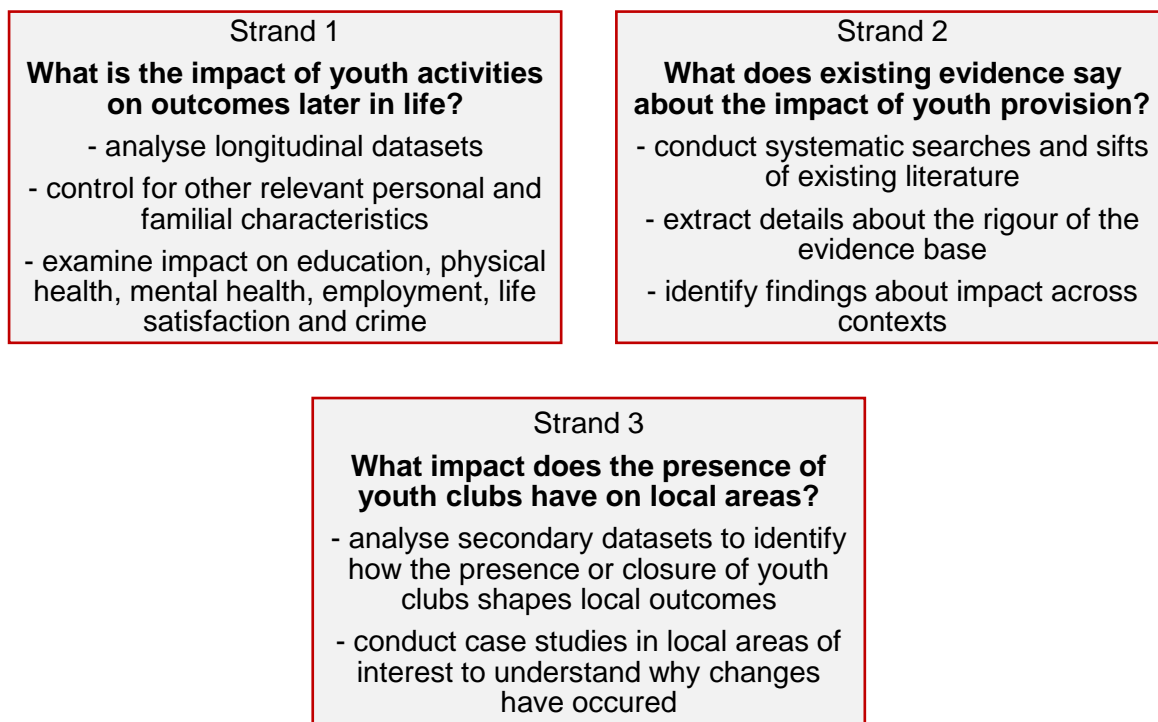
  - Crime and anti-social behaviour.

Project overview

1.1 Much has been written internationally regarding the effects of attending youth provision and it is important that both policy and practice build on this evidence. The Department for Culture, Media and Sport (DCMS) therefore commissioned this 'Youth Evidence Base' research to increase understanding of how young people's involvement in youth activities in England makes a difference to their lives, and to the communities in which they live.

1.2 It is in this context that the Civil Society and Youth (CSY) directorate at the Department for Culture, Media and Sport (DCMS) commissioned this research. The Youth Team sits in the CSY directorate and has overseen this research. The Youth Team leads on out-of-school provision for young people aged 11 to 18 years (up to 25 for those with special educational needs and disabilities (SEND)) and this covers a range of provision including

youth clubs, youth volunteering, residential activities, uniformed youth groups and open access youth groups.

1.3 This project is one in a series of three related projects that are collectively called the 'Youth Evidence Base'. These were commissioned to build a stronger evidence base about the youth sector's impact. Figure 1-1 sets out a summary of each and how the strands align with one another.

Figure 1-1: Research strand summary

Strand 1	Strand 2
What is the impact of youth activities on outcomes later in life?	**What does existing evidence say about the impact of youth provision?**
- analyse longitudinal datasets	- conduct systematic searches and sifts of existing literature
- control for other relevant personal and familial characteristics	- extract details about the rigour of the evidence base
- examine impact on education, physical health, mental health, employment, life satisfaction and crime	- identify findings about impact across contexts

Strand 3

What impact does the presence of youth clubs have on local areas?

- analyse secondary datasets to identify how the presence or closure of youth clubs shapes local outcomes

- conduct case studies in local areas of interest to understand why changes have occured

Source: SQW

1.4 This strand of the research was led by Dr Tom Perry and Dr Rebecca Morris at the University of Warwick, with Lindsey Wardle, who supported with screening, analysis, quality appraisal and reporting, and Dr Caitlin Murray, who supported with research design, data collection and screening. Will Millard and Dr Jo Hutchinson, with Annie Finegan and Izzy Hampton, at the public policy and economic research consultancy, SQW, helped to design and implement the research, with support from Jacob Diggle and Somia Nasim at UK Youth. UK Youth is a charity that seeks to secure sustainable investment into the youth sector, build cross-sector understanding of how youth work makes a difference, and create opportunities to embed effective solutions at scale. They provided strategic guidance, informed the research design, and gave feedback on analysis, as well as helped to recruit a Youth Panel – a group of six young individuals aged 16 to 25 years who used their lived experience of attending and running youth clubs to provide feedback on our approach and findings. We are indebted to our panellists Grace Berringer, Mia Meggiolaro, Shaun Horne,

Victor Agbontean, Molly Taylor and Therese Crossan for their insights. Dr Cara Booker, a Senior Research Fellow at The Institute for Social and Economic Research (ISER) at the University of Essex supported the delivery of the longitudinal analysis in Strand 1 of the research.

Project scope and objectives

Research objective

1.5 The overarching aim of the systematic review was to identify, review and critically assess the available international evidence on the impact of youth services.

Research questions

1.6 Our overarching research question was: 'What does existing evidence say about the impacts of youth provision?'

1.7 The following questions were used to guide the systematic review and report its findings:

- Which youth 'activities' (including programmes, interventions and/or services) have been evaluated to assess their effect(s) on youth outcomes? For these, which outcomes have been assessed?

- What is the evidence of impact for these activities for all assessed outcomes?

- Which activities and/or activity types show more and less promise? Which outcome areas does the evidence suggest have the greatest potential for positive impact through the provision of youth activities?

- What, if any, are the common features of youth activities that have positive and, if applicable, negative effects?

- What contextual or moderating factors does the evidence suggest matter for the success or otherwise of youth activities?

Research parameters

1.8 In dialogue with DCMS and our Youth Panel, we scoped the terms 'youth club', 'youth provision', 'youth services' and 'youth activities'. Youth provision is highly varied and can be categorised by activity, mode of delivery and type of provider. Its overarching purpose can be summarised as giving young people something to do, somewhere to go and someone to talk to.

1.9 The Youth Panel highlighted activities they see as within the remit of youth work.

Youth Panel reflections on types of youth provision

The Youth Panel described the range of activities they understand to be within the remit of this study, including:

- Youth clubs
- Detached youth work
- Residentials and outdoor learning
- Sports, arts and cultural learning – where the primary purpose of the activity is young people's personal development as opposed to elite talent development
- Skills and knowledge building, for example in relation to finances, outside of formal education
- The development of emotional and social skills, including activities targeting young people's confidence
- Social action
- Pastoral support, and mental health and wellbeing support, outside of a clinical setting.

1.10 This research adopts an expansive definition of 'youth provision' that reflects DCMS' remit and is focused on young people growing up in England aged 11 to 18 years and up to 25 years for those with SEND. Figure 1-2 summarises the modes of delivery and provider types within scope for this research, which can be universal or targeted to specific groups of young people.

Figure 1-2: Summary of modes of delivery and provider types

Modes of delivery
- Centre- or facility-based
- Detached and street-based youth work (not typically attached to a building or hub)
- Outreach youth work (typically an 'extension' of building- and hub-based provision)
- Outdoor learning in parks, sports fields or residentials
- Digital youth work.

Provider types
- Local authority youth services

- National uniformed organisations (for example, the Scouts or Girlguiding)
- Voluntary and community sector (VCS) organisations, not affiliated to a national uniformed organisation
- Provision delivered through faith groups
- Organisations with embedded youth workers, for example, some Housing Associations, schools, and hospitals.

Source: UK Youth

1.11 To ensure that we were able to focus on the provision that best fits the Youth Team's remit within DCMS, we identified criteria to help us judge whether provision falls in or out of scope for this research, namely:

- Young people's participation should be voluntary and not mandated (therefore the youth justice and children's care systems and their associated services are out of scope)

- Activities run by volunteers or by trained youth practitioners are in scope (including activities in schools), but activities run by teachers (either during or after school) are out of scope

- Activities that prioritise young people's holistic development are in scope; activities focused on a specific talent (such as sport or music) are out of scope

- Activities involving a financial contribution by parents (such as activities charging a fee) are in scope so long as they conform to the above criteria.

Defining outcomes and activities

1.12 In light of dialogue with DCMS and the Youth Panel, the project team identified six outcome areas for the Youth Evidence Base research projects, which this study included. These six areas are:

- Improved education and skills

- Improved employment prospects

- Improved physical health

- Improved mental health

- Improved life satisfaction

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- The avoidance of negatives, such as crime, anti-social behaviour, poor health and becoming NEET.

1.13 In addition, and specifically for this second strand of the Youth Evidence Base, we found it helpful to further describe youth activity by the type of intervention that was the subject of study. These activity areas were generated after the literature was mapped, enabling the team to identify overarching activity groupings. This process is explained in more detail in section 2. The activity areas were:

- Citizenship, community service and volunteering

- Music, arts, recreation and community

- Employment, skills and enterprise

- Mentoring, coaching and peer support

- Residentials and camps

- Sports and physical health.

2. Our approach and review methods

Key points

- At the outset of the project, searches were carried out for existing narrative and systematic reviews on the impact of youth services.

- Previous reviews in this area highlighted the difficulties of conducting rigorous impact evaluation of youth services. However, our scoping work suggested that the international evidence base has grown over the last decade. Alongside our intention to use a more expansive set of search terms, we felt a more substantial evidence base could be identified in this project.

- A five-phase method was deployed to conduct this study involving: i) Set up and project management; ii) Searching and screening; iii) Study selection and mapping; iv) Quality appraisal, and; v) Analysis, synthesis and reporting.

Review background

Existing narrative and systematic reviews in this area

2.1 At the outset of the project, searches were carried out for existing narrative and systematic reviews in the area. This preliminary scoping work supported the development of the review, in particular in relation to its aims, scope and research design. Here we summarise the key implications of this literature scoping. Further details of the previous reviews in this area are included in Annex A and in the pre-published research protocol (details, below).

2.2 Overall, previous reviews in this area highlighted the difficulties of conducting rigorous impact evaluation in the youth services space and suggested that the evidence base we are reviewing would be patchy and yield mixed results. Reviews such as those of youth programmes focusing on social and emotional skills also highlighted challenges of measurement and assessing impact across multiple outcomes from a generally weak evidence base. These challenges notwithstanding, our scoping work suggested that the evidence base has grown over the last decade – something which, coupled with our intention to use a more expansive set of search terms, led us to believe a more substantial evidence base could be identified for this project. Moreover, existing reviews suggested areas of promise in relation to some interventions and outcomes which this review could help clarify. Our purpose was to bring together a more recent range of studies from multiple disciplines to identify areas of promise for understanding the impact of youth services provision.

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Summary of review methods

2.3 A full summary of the review methods is provided in Annex A. Here we provide selected key information to support interpretation of this literature review report.

**2.4** In overview, a five-phase method was deployed, involving:

   i)   **Set up and project management**, including the development of a full research protocol

   ii)   **Literature searching**, which included the generation of a general set of search terms which were subsequently applied to 22 major research databases, indexes and collections

   iii)   **Study selection and mapping**, which involved screening studies against eligibility criteria for inclusion in the study and extracting and summarising key information about study designs, outcomes, location and scale

   iv)   **Quality appraisal,** involving the rating of all studies in relation to trustworthiness of evidence using a critical appraisal tool, and in-depth review of selected highly-relevant, randomised controlled trials ('RCTs')[3]

   v)   **Analysis, synthesis and reporting**, which included the development of questions with which to review each activity area in turn, and synthesising insights from across the study.

2.5 Below we provide selected key information for each of these stages. Our general search terms and a full list of search databases are provided in the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) diagram[4] (Figure 2-1) and Annex A.

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[3] Randomised Controlled Trials randomly assign subjects either to a 'treatment' group (in this case, some form of youth activity) or 'control' group (no activity). By contrast, quasi-experimental studies examine the impact of an intervention on a treatment versus a control group without random assignment.
[4] Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, et al. (2021) The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. BMJ 2021;372:n71. doi: 10.1136/bmj.n71

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Figure 2-1: PRIMSA Flow Diagram of Searching and Screening Process

Source: SQW and University of Warwick
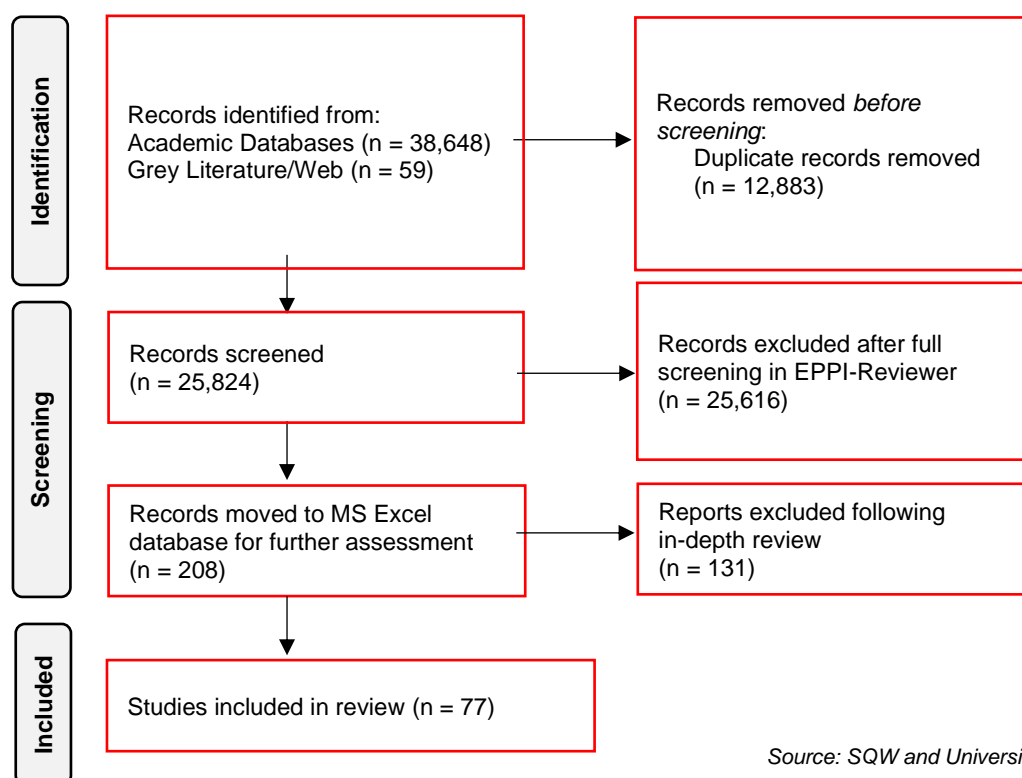
Set up and project management

2.7 A review protocol was discussed and agreed with all partners and DCMS. It was based on the definitions and scoping discussions outlined above and extended to studies published in the English language from 2002 onwards (20 years prior to the commencing of this study). This is available as a stand-alone document[5] registered on the Open Science Framework (OFS) hosted by Centre for Open Science. Further details of the methods can be found in the protocol. Pre-specification of methods and protocol registration prior to review completion are increasingly seen as important for rigorous, open scientific research[6].

Literature searching

2.8 We developed a general set of search terms which we applied across 22 major research databases, indexes and collections. These were developed to identify research 1) relating to youths or young people, 2) that had a causal design that could evaluate impact, and 3) using terms relating to our definition of youth activity. The search strategy was

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[5] Protocol registered at: https://doi.org/10.17605/OSF.IO/TE6PX
[6] See https://help.osf.io/article/145-preregistration

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implemented in the week between the 19th to 23rd December 2022, apart from grey literature searches, which involved Google Scholar searches and hand searching of organisational websites and took place during the screening process around January to March 2023. A full list of organisational websites searched is included in the protocol and in Annex A.

Study selection and mapping

2.9 Following searches and the removal of duplicates and results which did not include the full text, all records were screened for quality and relevance. To determine which studies were included in the review, we used the eligibility criteria summarised in Table 2-1. Full eligibility criteria are provided in Annex A in Table A-2.

Table 2-1: Summary of key eligibility criteria used during screening

Population:
● Provision focused on young people between 11 and 18 years of age (11-25 with SEND).
Provision/Interventions/Activities of interest:
● Study had a substantial focus on a youth service, programme, provision, or activity (see agreed definition and scope of these services).
Study design and outcomes:
● Study employs a causal research design suitable for assessing activity impact
● Study had a substantial focus on the impact of the activity on youth outcomes or experiences.
Bodies of literature and other criteria:
● Item is a peer-reviewed journal article or authoritative report reporting empirical research and subject to appropriate ethics protocols
● Piece is written in English.

Source: SQW and University of Warwick

2.10 We also collected basic study information such as sample size, research design and study location. This information was used to map the database and to create an overview of the types of activity studied, their location, outcomes they investigated and quality (see Section 3, Database Mapping and Overview).

Quality appraisal

2.11 For each study, we rated its quality and relevance using a 3-point (high/medium/low) scale across several areas including the relevance, scale, outcome measure quality, research design and level of detail. Further explanation of these is included in Annex A.

2.12 We further assessed all studies using selected items from the *Youth Endowment Fund (YEF) Critical Appraisal Tools.*[7] This tool helped provide an indication of the quality of studies, rating how clearly the intervention, evaluation questions, outcomes, and sample

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[7] See https://youthendowmentfund.org.uk/wp-content/uploads/2021/02/YEF-Evidence-and-Gap-Map-Technical-Report-FINAL.pdf (page 36 onwards)

information were described. This built on our previous quality assessments and was used on all of the studies in our database. Within the 77 studies, we also identified a small number of RCTs that were important for the study findings;[8] these studies were identified due to their large sample size and high directness of evidence (i.e., how directly relevant the evidence is to understand open-access, non-targeted youth activities, as per our focus). We conducted a full 'Risk of Bias' appraisal for these studies using a standardised tool for quality appraisal, the ***Revised Cochrane Risk of Bias Tool*** (RoB 2).[9] Further details of study quality appraisal are included in the relevant findings sections, and an overview of all appraisal ratings is provided in Annex C.

Analysis, synthesis and reporting

2.13 Using the YEF and Youth Futures Foundation (YFF) intervention types[10] as a starting point, and considering other relevant frameworks (e.g., the National Youth Agency (NYA) Curriculum)[11], our results were organised into six activity areas for analysis (see paragraph 1.13)[12].

2.14 Using the research questions outlined above we created a framework for analysis. This consisted of a set of headings and subheadings, each with a set of standardised questions for consideration by the analyst assigned to the section. Key data was collected in the main database to support analysis in each of these areas. The framework was designed to be anchored on the most robust studies, and cross-referenced in full to the underlying studies supporting the findings and discussion.

2.15 When describing impact we report, where available, effect sizes. Effect sizes are reported using a standardised scale relating to the typical amount of variation in the outcome measure. Most of the effect estimates reported use the Cohen's *d* measure, and conventional guidelines for effect size magnitude classifications are small (d = 0.2), medium (d = 0.5), and large (d ≥ 0.8). However, whether an effect is considered of substantive importance depends on the circumstances and context. For example, an effect of 0.1 (or even less) achieved in a large sample, over time, for a low-cost intervention, and on a highly consequential outcome area might be considered a substantial effect.

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[8] 41 of 77 studies were RCTs, of which: just over half were 'large' by our definition; 13 provided high directness evidence about our definition of youth activities/research aims; eight provided both high directness evidence and were large. These eight, plus two others, were assessed with the RoB tool. The additions, specifically, were Gelber and Heller 2014 and 2022, focused on summer jobs schemes.
[9] https://methods.cochrane.org/bias/resources/rob-2-revised-cochrane-risk-bias-tool-randomized-trials
[10] As per: https://youthendowmentfund.org.uk/evidence-and-gap-maps/ and https://youthfuturesfoundation.org/our-work/identify/evidence-and-gap-map/
[11] https://www.nya.org.uk/quality/curriculum/
[12] Early assessments included an activity area around sexual health, but only three items were found and this was therefore excluded from the activity type report.

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2.16 One aspect of our analysis was to look for theories (whether tested or simply proposed) about what 'ingredients', or mechanisms, cause the intervention to achieve impact. As the evidence base develops, we would hope that questions of how, for whom and in what conditions interventions work can receive attention as well as if interventions work. Findings reported in this study's programme components and design sections are presented with this aim, drawing on the information available in the studies reviewed.

3. Database mapping and overview

Key points

- The body of literature that was selected for inclusion in the review is from a diverse range of fields, including education, health, sociology, psychology and youth studies. Our review centred on studies most relevant to our focus on youth provision that adopted methods enabling robust impact measurement across diverse contexts. There is a wide range of useful evidence in the literature that did not make it into our review.

- Given the breadth of the youth sector and scope of this review, there were only a relatively small number of studies (n=77) meeting our criteria for relevance and research design. Just under half of the studies (n=36) in the database were published in the last five years, suggesting an accelerating amount of impact research being published in this area.

- The amount of evidence varied within and across activity areas. For example, we found a greater quantity and coherence of evidence relating to mentoring, coaching and peer support interventions. We found a smaller amount of more varied evidence for music, arts, recreation and community.

- More than half the studies (n=42) are from North America, primarily the US. Nine were from the UK.

- Our review focused on experimental studies able to provide robust impact assessments. There were a similar number of studies following a RCT design (n=41) and using a form of quasi-experimental and/or observational design with statistical or human control groups (n=36) which we judged to be of sufficient validity to provide estimates of impact.

- Almost two thirds of the studies (n=49) were relatively large studies with 101 or more young people per comparison group.

- Quality appraisal rated seven as being of high quality for impact assessment (five of which were in the mentoring, coaching and peer support category).

- The most common outcomes under scrutiny related to mental health and wellbeing, and social and personal skills.

3.1 In this first section, we provide an overview of the youth activity database. This overview provides background information for the analyses of each activity type. This section also represents a contribution of the review in its own right, providing an overview of current causal evidence relating to youth activity interventions, listed in full in Annex B.

Study disciplines

3.2 There is no single or small group of academic disciplines that study youth activities, not least because it is an area that intersects with a range of interests and policy areas. The studies in the database were published in a wide range of journals spanning educational research, psychology, sociology, child development, urban studies, community studies and other specialist research areas. Each discipline will have its own standards and methodological biases and traditions. These may not, in all cases, include those types of method that focus on impact assessment. Exclusion from the database does not imply that research lacks value, simply that it did not fit our selection criteria outlined in the protocol.

Study dates

3.3 The studies in the database were published between 2002 and 2023.[13] From 77 studies in total, there were nine studies from 2008 or earlier, 10 from between 2009-2013, 22 between 2014-2018 and 36 (almost half of the total) from the last five years (2019-2023). The database therefore contains mostly recent evidence on youth activities and suggests an accelerating amount of impact research being published in this area.

Activity areas

3.4 We allocated each study into an activity category (Table 3-1). There were more studies on mentoring, coaching and/or peer support activities than for any other category (34 in total). We found fewer studies presenting evidence for music, arts, recreation and community, and the intervention types were more varied.

Table 3-1: Number of studies by activity area

Group	N
Citizenship, community service and volunteering	11
Music, arts, recreation and community	6
Employment, skills and enterprise	12
Mentoring, coaching and/or peer support	34
Residentials and camps	9
Sports and physical health	13
Total	85 category entries (77 studies)

Source: SQW and University of Warwick

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[13] There was one exception to this: a study from 1998 was included as an earlier impact assessment of a later study on the same programme so we could assess all the available evidence for this programme.

3.5 There were six studies which had substantial focus and activity on two or three activity areas, with 77 studies accounting for the 85 category entries above. Studies in more than one category are indicated in the sections below and overview tables in Annex B with an asterisk. As discussed in the respective sections below, each activity category tended to contain several types of intervention.

3.6 We have included a list of interventions for which we have impact evidence in Annex E. Note that this list includes named programmes as well as more generic descriptions of unnamed programmes. Several interventions have been assessed in multiple studies. In our results sections, we also group different but similar interventions as part of our impact assessment.

Region

3.7 We recorded the region for each study in the database. This gives an indication of whether evidence came from the UK or other similar national contexts. Noting that we were reviewing only English language texts, over half of the studies (n=42) in our database came from North America (primarily the US), nine from the UK, eight from Oceania (all from Australia or New Zealand), and six from Europe (except UK). A smaller number of studies came from East and South East Asia (four), Africa (four), Central and South America (three) and West Asia/Middle East (one).

Study quality

3.8 In the analysis sections below, we review study quality (as measured by alignment with the YEF critical appraisal tool) by activity area. Here we provide an overview of all studies. Annex C provides data tables for a) our quality appraisal of all studies using a YEF critical appraisal tool[14] and b) results from a Risk of Bias[15] analysis for all large, highly relevant RCTs and three other selected key studies. These results are summarised below:

- *Study Design* – 41 studies followed a RCT design. 36 studies used a form of quasi-experimental and/or observational design with statistical or human control groups which we judged to be of sufficient validity to provide estimates of impact. Note that the lack of studies with weaker pre-, post-test or other designs was driven by our search and eligibility criteria.

- *Study Size* – Over half of studies (n=49 were relatively large studies with 101 or more young people per comparison group. 12 studies were of medium size (51-100 per comparison group), and 16 studies were small (50 or less). Compared to other social

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[14] See https://youthendowmentfund.org.uk/wp-content/uploads/2021/02/YEF-Evidence-and-Gap-Map-Technical-Report-FINAL.pdf (page 36 onwards)
[15] https://methods.cochrane.org/bias/resources/rob-2-revised-cochrane-risk-bias-tool-randomized-trials

policy areas (e.g., formal education), where small studies are common, these figures suggest that many youth impact intervention trials take place at an adequate scale, allowing greater confidence that interventions will scale and have wider applicability.

3.9 Other items in the YEF appraisal tool (see Annex C) suggest that most studies described the youth activity partially (n=27) or in detail (n=48), with only a small number (n=2) providing little or no detail. Similarly, many studies define and measure outcomes clearly and with well validated instruments (n=45), or with partial definition and sufficient validity instruments (n=31). Only one study was rated low for outcome measures. Although, as we comment on further below, there were numerous challenges of measurement in many areas and reliance on self-reports of impact. Most studies fully (n=35) or partially (n=23) clearly state the evaluation questions, albeit with 19 studies providing little or no clarity.

3.10 Looking across the appraisal items above to create an overall quality appraisal, we rated seven studies as providing high quality evidence of impact, just over half as medium quality (n=40), and over one third as low quality (n=30). This assessment used selected items from the YEF appraisal tool that we judged to be most pertinent given the present review's context and aims (see Annex C). Using the more conservative standard of all YEF appraisal tool items, these figures drop to one high, fourteen medium and sixty-two low. Our quality appraisal was supported by a Risk of Bias analyses for large RCT studies (see section 2.10): only three of the 10 studies assessed received a 'Low' risk of bias assessment. Four were rated as having 'Some concerns' and three had a 'High' risk of bias. Across both tools, some studies received lower ratings due to lack of reporting on the intervention, evaluation questions and sample, although for those with 'high' risk of bias there were some issues identified with the implementation of those interventions and we also identified some issues with attrition.

3.11 In summary, this review has located only a small number of high-quality studies for impact assessment (of which five of the seven were in the mentoring, coaching and peer support category). These quality appraisal results limit our ability to draw firm conclusions or estimate general effect sizes for the impact of youth activity types. There were, however, a fair number of medium quality studies which, when combined with the smaller number of high-quality studies, support tentative impact assessments. In each activity area, we were able to make many tentative conclusions about effective interventions for young people. Further details of study design and quality by activity area are given in the findings sections that follow.

Outcome areas

3.12 One final consideration for the database-wide analysis was the range of outcomes assessed in the youth activity studies. These data revealed that many studies focused on

multiple outcomes and outcome areas. We recorded only areas where there was an explicit and substantial focus on the outcome area (e.g., a dedicated research question and outcome measure) yet still found that most programmes targeted two or more outcome areas, with 121 category entries for 77 studies (see Table 3-2). The most common outcomes related to mental health and wellbeing, and social and personal skills. These were often coupled with one other area: for example, a programme focused on employment also looking to boost confidence, communication skills or social skills of the young people involved. As we discuss in the findings sections, even very similar activities were assessed using different outcomes, with varied emphasis given to multiple potential programme impacts.

Table 3-2: Number of studies by outcome area

Outcome area	Number of studies
Crime and anti-social or risky behaviour outcomes	14
Educational outcomes	16
Employment and employability outcomes	15
General health outcomes	17
Mental health and wellbeing outcomes	29
Social and personal skills outcomes	30
Total	121 category entries (77 studies)

Source: SQW and University of Warwick

A. Citizenship, community service and volunteering

Definitions
- These activities sought to engage young people with their community or provide forms of community support. Some activities sought to address personal issues relating to risky behaviours through community service.

- Interventions in this activity area involved a mix of components and can be grouped into three general types: i), youth engagement activities promoting social action in the community; ii), uniformed activities, and; iii), community service as a form of youth outreach and risky-behaviour prevention.

Number of studies and proportion of RCTs
- The database contained eleven studies in this activity area, of which just under half (n=5) were RCTs.

Which of the six outcomes seem to be linked with/supported by the activity type?
- Activities in this area are associated with outcomes across all six outcome areas, with a range of personal, social, and behavioural outcomes being assessed. Educational, social and emotional skills were particularly emphasised.

- There was some variation in which outcomes were assessed even within the same programme.

- Interventions focused on reducing risky-behaviours aimed to avoid or reduce negative outcomes such as adolescent pregnancy.

What evidence of impact is there for interventions in this activity area?
- Overall, studies in this area showed consistent positive impact on a range of social and behavioural outcomes.

- Evidence for youth engagement activities indicates small but consistently positive impact across a range of outcomes. Studies of the National Citizenship Service estimate impact on volunteering intentions, inter-ethnic relations and social trust, and life satisfaction (see Section 3.41); other youth engagement activities related to citizenship, community service and volunteering find small- to medium-sized effects on self-efficacy, social self-efficacy, resilience, and wellbeing (3.42).

- Two studies of uniformed activities support a tentative positive conclusion that these have a range of beneficial impacts across a range of outcomes such as communication, teamwork, self-confidence, resilience, civic-mindedness, happiness, empathy and resourcefulness (3.44).

- The relatively weak evidence for interventions which were intended to reduce risky behaviours suggested mixed or modest impact (3.45-46).

> **What are some of the features of successful programmes?**
> - Many of the programmes had a strong social dimension and encouraged young people to form relationships with their peers and their wider community.
> - Many of the programmes in this activity area had a particular focus on promoting autonomy and high expectations for the participating young people.
>
> **Strength of the evidence base**
> - The strongest evidence of impact was found in studies measuring uniformed activities, with both studies in this area being large-scale RCTs.
> - The quality of evidence for youth engagement activities and uniformed activities was moderate. Five of the seven studies were large-scale, although only two reported evidence from RCTs.
> - The evidence was weakest in relation to community service interventions targeting high-risk behaviours due to the context-specific nature of such interventions.

Overview of Area

Area Description

3.13 This activity area was focused on studies which engage young people with their community or provide some form of community service or support. We have also included a small number of studies of community service activities which were designed as a form of youth outreach and risky-behaviour prevention to address issues such as teen pregnancy, STIs, violence, and drug use.

3.14 In this area, youth activities are predominantly delivered through multifaceted interventions which involve a mix of components, alongside a citizenship, community service or volunteering component. Studies in this area can be grouped into three general types of intervention: i) youth engagement activities promoting social action in the community; ii) uniformed activities; and iii) community service as a form of youth outreach and risky-behaviour prevention.

Study Details and Quality

3.15 The database contained 11 studies in this activity area. Four of these provided high directness of evidence about the impact of open-access youth activities. Most studies were large, with 101 or more young people per comparison group (n=9). There were two medium/small studies. Just under half of the studies were RCTs (n=5). There were six

quasi-experimental or controlled[16] trials. The quality appraisal using selected items from the YEF appraisal tool identified four studies presenting medium quality evidence (Robinson et al., 2016*; See et al., 2017; Kirkman et al., 2016; Quinn et al. 2009), and seven studies presenting lower quality evidence. Attrition and non-response for outcome measures was a common issue lowering the evidence quality for this latter group.

3.16 As noted in the previous section, there were a small number of studies (n=6) included in more than one activity area. These are marked with an asterisk. This section included three of these studies (Furness et al., 2017*; Deane et al., 2017*; Robinson et al., 2016*). Of these three, all also were included in the mentoring, coaching and peer support section, and two (Furness et al., 2017*; Deane et al., 2017*) were also in the residentials and camps analysis area.

Activities

Activity types, content and aims

3.17 This activity area was focused on citizenship, community service and volunteering. More than half of the studies in this activity area are focused on youth engagement interventions, six (out of seven) of which are focused on two specific interventions: Project K[17] (Furness et al., 2017*; Deane et al., 2017*) and National Citizen Service (NCS) (Laurence, 2019, 2020, 2021; Fitzpatrick et al., 2021). Both interventions are multifaceted, involving a community service component alongside other activities. NCS is a UK-wide youth engagement intervention intended to promote personal, social and civic development, and can include activities such as outdoor residentials and social action projects. The programme usually takes place over three to four weeks during the summer or autumn months, and is delivered by local providers. Project K consists of a three-week 'wilderness adventure', a 'community challenge' project and mentoring. Due to its mentoring component, the duration of Project K is longer than NCS, taking place over a year. Project K operates in 11 regions across New Zealand. Further examples of youth engagement activities were evaluated in Kirkman et al. (2016), who studied four programmes relating to citizenship, namely: the Citizenship Foundation, Community Service Volunteers, Envision, and Voluntary Action within Kent. The programmes evaluated in these studies had youth social action (activities that involve making a practical and positive difference to other people or the environment) as a focus and involved young people in various local community initiatives.

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[16] We define a controlled trial, and distinguish this from a randomised controlled trial, as a trial in which a control group is created using data (e.g., finding statistically similar individuals) or using an organisational group such as different cohorts, activity groups or geographical groups.
[17] https://dinglefoundation.org.nz/project-k/about-project-k/

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3.18 Two studies in this activity area (n=2) focused on uniformed activities, specifically those delivered by organisations such as Sea Cadets, St. Johns Ambulance, Fire Cadets, Scouts and Girl Guiding. See et al.'s (2017) study of the impact of uniformed activities on social and behavioural outcomes was one example. Activities in this intervention type tend to be made up of weekly sessions usually lasting two hours. Each uniformed organisation unit had their own syllabus and structured activities, with the number and type of activity sessions varying between each uniformed group. However, all delivered some kind of volunteering activity. For example, the Fire Cadets took part in social action events, which included fundraising activities and events to help the local community.

3.19 There were also two studies of interventions targeting risky behaviours. The study by Quinn et al. (2009) investigated the Teen Action programme. This programme was focused on youth social action, providing young people with a sustained opportunity to serve their community, learn about social issues, and reflect on their actions and contributions. Teen Action took place in New York, each site serving a minimum of 40 participants. Most of the programme was delivered through taught lessons delivering a minimum of 120 programme hours. Another programme reviewed in this area was reported in Robinson et al. (2016)*. This programme was designed to prevent teen pregnancy. Like Teen Action, it predominantly involved taught learning. The curriculum covered topics such as the components of service learning, team building, health and wellbeing, and basic sexuality education. The programme took place over nine months in two states, Louisiana and New York.

Providers, contexts and resources

3.20 Over half of the studies (n=7) reviewed took place in the UK and focused on well-established interventions which deliver activities nationally to broad youth groups including the NCS. The studies that focused on Project K (n=2), also a well-established intervention, took place in New Zealand (Deane et al., 2017*; Furness et al., 2017*), whereas the studies focused on risky behaviour prevention programmes (n=2) took place in more deprived areas of North America (Quinn et al., 2009; Robinson et al., 2016*).

3.21 Youth engagement interventions and uniformed activities in our database tend to be provided by non-profit organisations such as NCS Trust, which manages the NCS (Laurence, 2019, 2020, 2021; Fitzpatrick et al., 2021), and the Foundation for Youth Development, a New Zealand-based organisation which provided Project K (Deane et al., 2017*; Furness et al., 2017*). The National Citizen Service is primarily funded by the UK central government.

3.22 The interventions targeting risky behaviour were provided by government departments. Teen Action, for example, was funded by NYC Centre for Economic Opportunity and

managed by the NYC Department for Youth and Community Development (Quinn et al., 2009).

3.23 The youth engagement activities can be resource intensive. For example, both Project K and NCS involve an outdoor activity component, which requires an outdoor activity centre to deliver, as well as people with specific outdoor-activity related expertise. Project K also relies on trained mentors to deliver one of the programme phases.

3.24 The uniformed activities studied were organised by the Youth United Foundation who established links with uniformed organisations, and arranged for units to be set up to run the programme (FKY, 2015; See et al., 2017). The units were led by one or more development/youth support workers, and staffed by volunteers.

3.25 Given the nature of activities, risky-behaviour prevention interventions were the least resource intensive of the programmes we reviewed in this activity area. The pregnancy prevention programme studied by Robinson et al. (2016)*, for example, required a single trained adult facilitator to lead the weekly sessions.

Participants

3.26 Some youth engagement interventions did not target specific groups of young people. For example, NCS was open to all young people aged 16 to 17 in the UK, and participants were broadly representative of the UK population. Laurence (2019, 2020, 2021) described the intervention as having a 'high take-up'. Project K, on the other hand, targeted young people with low self-efficacy, however its participant group was still fairly broad in that it did not target young people who demonstrate high risk behaviour (Deane et al., 2017*; Furness et al., 2017*).

3.27 Uniformed activities tend to be relatively open to young people of different ages and backgrounds, although this was not always reflected in controlled studies. One of the studies recruited 7,781 trial participants from 71 secondary schools in the North of England, all from Year 9 (age 13 and 14 years) (See et al., 2017). The other uniformed activity study targeted a broader age range from 10 to 17 (FKY, 2015).

3.28 The interventions for high-risk behaviour targeted specific groups of young people (Robinson et al., 2016*; Quinn et al., 2009). Both studies targeted middle school and high school teenagers in areas of high social deprivation, where high risk behaviour in youth groups was more prevalent.

3.29 The descriptions of the programmes in this area suggest that the role of young people was sometimes quite passive in relation to determining activities: the activities were organised for them and they were expected to simply turn up and participate. For example:

- Project K (Deane et al., 2017*; Furness et al., 2017*) and NCS (Laurence, 2019, 2020, 2021; Fitzpatrick et al., 2021) offered a pre-organised programme of activities for youth participants;

- Uniformed activities were delivered through a syllabus and consisted of structured activities (See et al., 2017; FKY, 2015);

- The risky behaviour prevention programmes involved pre-planned taught learning activities (Robinson et al., 2016*; Quinn et al., 2009).

3.30 However, even structured activities tend to offer some scope for young people to take a more active role. The social action phase of NCS (Laurence, 2019, 2020, 2021; Fitzpatrick et al., 2021), for instance, requires young people to design and implement their own social action project. Furthermore, although uniformed interventions consisted of pre-organised activities (See et al., 2017; FKY, 2015), there was an expectation that these activities will facilitate an active learning environment, where young people can take part in 'hands on' learning and exercise some choice about if and how they engage with certain activities.

3.31 In this respect, the programmes studied by Kirkman et al. (2016) differ considerably from other activities studied in this area in that they are mostly youth-led. For example, Voluntary Action within Kent, one of the programmes studied by Kirkman et al., encouraged participants to take the lead and develop the community projects themselves, with support provided by the mentors.

Outcomes and Measures

3.32 Activities in this area are linked to many potential outcomes, with a range of personal, social and behavioural outcomes being assessed. The exception were the risky-behaviour-based interventions (Robinson et al., 2016*; Quinn et al., 2009) which were designed to address more specific issues of reducing problem behaviours, such as adolescent pregnancy, and improving school performance. Elsewhere in this activity area, outcomes were more varied and often seen as positive by-products of the overall programme rather than its expressed purpose. There was some variation in which outcomes were assessed even within the same programme. For instance, studies of the NCS focused on social cohesion, social mobility and social engagement (Fitzpatrick et al., 2021), life satisfaction (Laurence, 2021) and the promotion of positive inter-ethnic attitudes and relationships (Laurence, 2019; Laurence, 2020). Project K was evaluated by Deane et al. (2017)* in relation to academic and social self-efficacy and by Furness et al. (2017)* in relation to self-efficacy, resilience, connectedness and wellbeing.

3.33 Another common feature of outcomes assessed in this area was the attention to educational, social and emotional skills. Many of these proved difficult to measure and took

the form of self-reported attitudinal, educational and behavioural change. Kirkman et al. (2016) investigated impact on employability, identifying six key constructs which, while not 'directly observable in measures such as attainment', 'resonated with the objectives' of the four programmes evaluated. These constructs were: empathy, problem solving, cooperation, grit / resilience, sense of community, and educational attitudes (e.g., valuing education). Similarly, See et al. (2017) assessed impact on self-confidence, teamwork, social skills, civic-mindedness, initiative, generosity, resourcefulness and many more potential impacts, via a self-report survey.

3.34 Outcomes in this activity area were predominantly measured using pre-test and post-test surveys. This was the case for all intervention types. To evaluate the National Citizen Service scheme, the (then) Department for Digital, Culture, Media and Sport administered surveys to participants with questions related to the outcomes measured and this data was analysed in three studies in this section; for example, surveys asked respondents: 'On a scale of 0–10, where 0 was not at all satisfied and 10 was completely satisfied, overall, how satisfied are you with your life nowadays?' (Fitzpatrick et al., 2021; Laurence 2019, 2020, 2021). Studies of Project K used Moore's self-efficacy questionnaire (Deane et al., 2017*; Furness et al., 2017*). The questionnaire contained three self-efficacy subscales: academic, social and help-seeking. Another example, as mentioned above, was See et al. (2017), who measured the impact of uniformed activities on team work using a bespoke survey questionnaire administered once before randomisation and again after the intervention.

Programme components and design

3.35 Project K (Deane et al., 2017*; Furness et al., 2017*) is a well-established, long-running scheme in New Zealand which has grown from its original size to become a nationwide programme. It is designed to develop self-efficacy through activities which allow young people to experience competence and mastery when faced with challenging tasks, and in an environment of high expectations. Activities also have a strong social nature which is thought to encourage communication and social skills. The mentoring activities assist participants with setting and achieving a range of goals which was thought to direct, motivate and inform the programme goals. It is unclear the extent to which self-efficacy and social skills developed and demonstrated in the context of the programme and its activities will transfer into the young people's lives more generally.

3.36 Risky behaviour prevention interventions involving community service (Robinson et al., 2016* Quinn et al., 2009) were designed on the premise that promotion of autonomy, competence in decision making, and recognition of potential future life options strengthens young people's motivation not to engage in risky behaviours.

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3.37 The NCS is a long-running scheme in the UK thought to have a positive influence on inter-ethnic relations as it offers a site for connectivity that might not otherwise be available, therefore helping to overcome structural barriers to these relations (Laurence, 2019; 2020). The social nature of activities was considered to help facilitate positive inter-group contact. Laurence (2019, 2020, 2021) uses secondary data from the Department for Culture, Media and Sport; since data were collected and analysed in this way independently from programme staff, it is more difficult to say how well the NCS encouraged these aims.

3.38 The structured environment offered by uniformed group activities was thought to be linked to their intended benefits such as better organisation and communication skills (See et al., 2017; FKY, 2015). Another design factor discussed as important in relation to accessibility was the location of the uniformed organisation units, particularly for those from disadvantaged backgrounds who may not be able to travel far beyond their immediate local area to access provision.

Evidence of Impact

Activity Area Overview

3.39 Studies in the citizenship, community service and volunteering area provided numerous reports of positive impact for youth engagement interventions and uniformed activity interventions. The evidence suggests that young people can benefit socially and behaviourally from citizenship, community service and volunteering activities. Project K and NCS both appeared to be promising youth activities, despite limitations with the evidence available with which to evaluate them. Studies focused on uniformed activities also demonstrated evidence of positive impact. Like Project K and NCS, the organisations delivering uniformed activities, such as Scouts and Sea Cadets, were well-established and large-scale delivery and evaluation provides a consistent picture of benefits and feasibility. Evidence was less positive for community service interventions designed to reduce risky behaviours.

Youth engagement activities

3.40 The evidence for youth engagement activities provided consistent indicative evidence of positive impact. The interventions studied, NCS (Laurence, 2019, 2020, 2021; Fitzpatrick et al., 2021), Project K (Deane et al., 2017*; Furness et al., 2017*) and various UK-based youth social action programmes (Kirkham et al., 2016), were well-established, meaning that findings were less likely to have been impacted by challenges faced in the setting up and delivery of a new intervention. The populations involved in these studies were broadly representative of the wider youth population, meaning that findings were not specific to one youth group. This was one area of the review where there were multiple studies in a very similar area (n=7), most of which (n=5) were large in scale.

3.41 Studies of NCS focused on analysing personal and social outcomes: social cohesion, social engagement, and social mobility (Fitzpatrick et al., 2021); inter-ethnic ties and attitudes (Laurence, 2019, 2020); and wellbeing (Laurence, 2021). Fitzpatrick et al. (2021) found that 65% of NCS participants said they were more likely to volunteer in future, though there was no impact on time spent volunteering in a four-week period after the intervention. The NCS programme resulted in small improvements on inter-ethnic ties and inter-ethnic attitudes relative to a statistically matched control group (Laurence 2019, 2020). Participation in NCS is estimated to increase social trust by 0.3 on a 10-point scale compared to a comparison group (Fitzpatrick et al., 2021). Laurence (2021) also reported a small positive impact of 0.37 points for life satisfaction amongst young British people, with participants from disadvantaged backgrounds benefitting the most from improved wellbeing. However, it should be noted that while these four NCS studies had large samples, there were serious issues with response rates. Fitzpatrick et al. (2021) reported very low response rates for both the baseline and post-tests (20% and 29% for NCS participants and 6% and 25% for the control group respectively). The positive impacts reported should therefore be treated with caution.

3.42 Studies focused on Project K reported positive impacts on social and academic self-efficacy, resilience, and wellbeing. Deane et al. (2017)* found a medium-sized effect of 0.5 for social self-efficacy. Furness et al. (2017)* also reported significant positive effects on self-efficacy, resilience, and wellbeing, though not on connectedness[18]. It should be noted that there was a high risk of bias for the Deane et al. (2017)* study, due to high levels of attrition, lack of clarity over how programmes were selected, and lack of independent administration of tests. Furness et al. (2017)* had a small sample, limiting the generalisability of the results. The other study in this area was Kirkham et al. (2016), who found that involvement in youth social action has a positive impact on building the skills participants need for life and work.

Uniformed activities

3.43 Some evidence of impact was found in studies assessing uniformed activities. Both studies in this area (FKY, 2015; See et al., 2017) were large-scale RCTs. Moreover, uniformed organisations operate over several sites, suggesting that the intervention could easily be replicated. These studies were highly relevant to the UK context, given that both studies took place in England.

3.44 Findings were positive in the studies focused on uniformed activities. See et al. (2017) found small positive effects across a range of outcomes, despite not all pupils in treatment schools taking part in the intervention. Looking at effects for all pupils on all attitude scale

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[18] Cohen's *d* effect sizes looking at the difference between pre and post measures of self-efficacy, resilience, wellbeing, and connectedness, respectively, were (0.93, 0.70, 0.77 and 0.07 for the intervention group compared to -0.20, -0.36, 0.17, and -0.74 for the control group)

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items assessed: eight show very small[19] positive effects (effect size = 0.01 to 0.06), these relate to communication, teamwork, self-confidence, resilience, civic-mindedness, happiness, empathy and resourcefulness; two show no effect, relating to social skills and initiative; and one has a negative effect of 0.06 on creativity[20]. These are small effects on a self-report measure, however support a tentative positive conclusion about the value of the intervention. FKY's (2015) study found that a large proportion of participants (94%) wanted to stay involved in their uniformed organisation, suggesting that uniformed activities are an effective approach to promoting social action, although this is indirect as a measure and was found to be more the case for girls than for boys.

Interventions for high-risk behaviours

3.45 The quality of evidence for interventions targeting high-risk behaviours was the weakest in this activity area, with one issue being how context specific it was. Both studies took place in North America and involved a very specific type of young people, namely those from disadvantaged backgrounds. Both studies also had some notable limitations which could have affected results. Robinson et al. (2016)* reported issues with dosage (the amount of 'treatment' received) and attrition (i.e., people dropping out of treatment and/or study); across the two study sites, only 21% and 48% of youths completed at least 75% of sessions; only 6% and 28% completed all sessions. While meeting our inclusion criteria and scoring well on most quality measures, Quinn et al.'s (2009) study had several notable issues that were considered during analysis: it was non-randomised, no baseline was conducted to detect differences between participant groups, and the commitment to participation from the youth population was variable. The design and focus of the interventions also made assessing the impact of different programme components difficult. The community service component, for example, was a small part of the pregnancy prevention programme, which predominantly consisted of taught learning.

3.46 Overall, the evidence of impact was less positive for interventions which target risky behaviours, such as teen pregnancy, drug use, and violence. There was some evidence that interventions of this kind had a positive effect on community service involvement; however, we did not find appreciable evidence that these then impact on (the main outcome focus of) risky behaviours. For example, Robinson et al.'s (2016)* study of a pregnancy prevention programme suggested that there was no immediate impact of this intervention on the use of birth control. Evidence quality issues such as use of convenience sampling, low response rates, and the small number of studies of similar interventions located also limit the ability to produce findings for this subset of interventions in this review.

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[19] See Section 2.13 for further explanation of effect size reporting.

[20] A positive effect of 0.06 is recorded on a negatively worded scale item about liking to be 'told what to do', which is interpreted as a negative effect on creativity.

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Evidence Coverage and Quality

3.47 Note that for this activity area analysis, we have discussed evidence coverage and quality in connection with each of the three area types, as above. This was decided to be the clearest and least repetitious way to present the evidence. In all other activity area results sections, we provide an overall summary of the evidence coverage and quality across the whole section.

B. Music, arts, recreation and community activities

Definitions
- Studies in this activity area covered a wide range of activities focused on music, the arts, community, and recreational activities. Activities included drama sessions, youth orchestras, and science clubs.

- They allowed young people to engage with an activity they enjoy while also engaging socially with others in their community.

Number of studies and proportion of RCTs
- Six studies in total, of which one was a small-scale RCT.

Which outcomes of the six specified can be expected from these types of activities?
- The studies included in this group focused on outcomes relating to learning and academic progress, social interactions, relationships and attitudes, aspirations, attitudes towards specific subject areas, and personal development.

- All of the studies tested more than one outcome.

- Four of the six studies assessed impact on academic outcomes beyond the direct content of the activity itself (e.g., impact of an arts intervention on maths or English language outcomes).

- Four of the studies assessed social, behavioural and attitudinal impacts such as pro-social changes in behaviour, metacognition, self-efficacy and attitudes to diversity.

What evidence of impact is there for interventions in this activity area?
- All studies in this section reported positive impacts of the intervention, with studies suggesting an impact across a range of personal, social, and educational outcomes, including improved education and skills, and improved mental health (3.72).

- However, there was some variability in the strength of the impact within some studies across different outcomes and different cohorts.

- Evidence quality in this area was weak and, while there is encouraging evidence of impact across multiple areas, more research is needed for robust estimates.

What are some of the features of successful programmes?
- Many programmes, while not delivered by schools, needed support from schools including facilities and staff time in order to run successfully.

- The social elements of these activities, building networks and a sense of community within the programmes, were important in their delivery of intended outcomes.

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- Successful programmes in this activity area facilitated young people's engagement with activities they enjoyed and allowed them to express themselves through different mediums.

The strength of the evidence base
- Both the quality and quantity of studies in this activity area was very limited.

- Studies were of small scale and the interventions covered a range of activity areas making it harder to draw conclusions.

- There was only one large scale study and only one study which provided high directness of evidence.

- None of the studies were conducted within the UK and so consideration is needed about how findings may translate into the UK context.

Overview of Area

Area Description

3.48 Studies in the Music, Arts, Recreation and Community area were an eclectic group, and covered activities such as drama sessions, musical activities and orchestra participation, a poetry intervention, and computing or science clubs. Researchers of these studies were also interested in a range of outcomes relating to these enrichment programmes, including social and emotional outcomes, academic achievement, attitudes towards school and learning, and relationships with peers, teachers or parents. Further details of the six studies included in this group are provided in the subsections below.

Study Details and Quality

3.49 The database included six studies in this area. Only one of these provided high directness of evidence about the impact of open-access youth activities (the others were rated as medium directness). One study was large, with 101 or more young people per comparison group. There were two medium (51 – 100 per comparison group) and three small (50 of fewer per comparison group) studies. One study was a small-scale RCT and the remaining five were quasi-experimental studies. Four of the studies were carried out in US contexts, one in Taiwan, and one in Chile.

3.50 Four of the studies in this group (Forrest-Bank et al., 2016; Hall et al., 2013; Catterall, 2007; Egaña del Sol et al., 2019) focused on participant groups which were economically disadvantaged and/or from minority ethnic backgrounds. The young people engaged in the study by Chen et al. (2022), for example, were required to have some parental

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attachment insecurity as a condition of participation. This targeting is a key reason for the studies being down-graded in the assessment of directness.

3.51 Both the quality and quantity of studies in this group was very limited. With just six diverse pieces of literature to work with, it has proven challenging to present a coherent and connected overview of the research in this field. The relatively low-quality evidence base made it challenging to draw meaningful conclusions about areas of promise relating to these kinds of activities.

Activities

Activity types, content and aims

3.52 The activities included in this area focused on music, arts, community and recreation. All, as per our review aims, focused on beyond-school enrichment activities. Some were associated with the arts (music, drama, poetry), while others were more connected to areas such as science or technology. Some of the interventions straddled different elements. For example, the study by Egaña del Sol et al. (2019) examined the impact of a youth orchestra situated within and part of a local school community, and the Café Scientifique Program was a recreational activity designed to be responsive to local young people's needs and interests and run by local youth leaders from the areas in which the cafes operate.

3.53 The activities explored in this section all promoted engagement and connection with other young people. The combination of aims and outcomes connected with these interventions was of interest. While most of the interventions were not primarily focused on improving concrete academic outcomes (e.g., exam scores), some of them did seek to support young people's attitudes towards learning alongside wider personal and social outcomes (e.g., aspirations, character, peer interactions, sense of belonging). These interventions (e.g., Catterall, 2007; Forrest-Bank et al., 2016; Girod et al., 2004; Hall et al., 2013) enable young people to participate in meaningful, learning-focused activities which simultaneously may benefit their feelings about themselves, each other, and their communities.

3.54 Further details of each of the interventions are provided in this subsection. Given the disparate nature of this group, studies are discussed individually.

3.55 The intervention examined by Catterall (2019) was known as the 'School Project' and was an after-school drama/theatre programme designed to promote healthy interaction and development by building students' skills and motivation for conflict resolution. The programme used theatre and related activities including movement, voice, writing and drawing as building blocks for students to write and perform original plays. 90-minute workshops took place after school once a week, for a total of 24 weeks. During the first

half of the programme, artists led the young people through a range of structured activities; in the second half of the intervention, the focus was on the creation and presentation of original short plays and performance pieces.

3.56 Forrest-Bank et al. (2016) studied the impact of the AfA (Art from Ashes) Phoenix Rising expressive poetry workshops. Each workshop lasted for two hours and occurred twice per week over a four-week period for a total of eight hours. Two rounds of four-week programmes were run. The AfA workshops followed a structured curriculum and included topics such as identity, legacy and childhood experiences, following a three-step process: (1) expression, (2) connection, and (3) transformation. At the beginning of every workshop a guest poet sought to inspire and provide a positive example to the youth participants. Young people then had the opportunity to work on their own poems with the AfA facilitators providing support and prompts. Supportive and positive reflection and feedback was encouraged. The repetition of writing and sharing happened between three to six times per workshop, depending on size of the group and time. Each workshop was concluded by a performance from the guest poet. Young people participated in a performance of their work after each of the four-week programmes.

3.57 Chen et al. (2022) examined the impact of a group-based music intervention in Taiwan (known as 'Sing and Grow') on the attachment and psychosocial adaptation of adolescents with parental attachment challenges. Adolescents were asked to generate a list of their 10 favourite songs, rate these, and evaluate their general music preferences on a five-point Likert scale. A panel of experts, including an associate professor of nursing, a doctor of clinical child psychology, and an associate professor of counselling with expertise relating to music therapy, then created a music disc of 50 songs based on participants' preferences (5-point scale from strongly dislike to like very much). The main theme of the song lyrics was parents' love (e.g., Ed Sheeran's 'Photograph')[21]. Participants then listened to the songs and sang them in karaoke. The sessions took place in a community centre. The music group received two 40-minute sessions weekly for 10 weeks (resulting in 20 sessions in total).

3.58 Kids Learning In Computer Klubhouses! (KLICK!), an intervention examined by Hall et al. (2013) was an after-school club designed to support teen growth and development using computer technology and resources. Students attended voluntarily and were involved in a range of activities including: building webpages, browsing the internet, chatting online, filming and editing digital movies, and playing games. KLICK! settings contained a range of computer hardware including computers, scanners, digital cameras, laser printers, and

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[21] It is unclear to us from the study description whether this was by design. There were few details of what expert evaluation and screening (p.7) consisted of.

a server. KLICK! participants had opportunities to contribute to newsletters and take part in competitions, as well as take on employment (such as maintaining school websites).

3.59 Egaña del Sol et al.'s (2019) study examined participation in a youth orchestra in Chile. No other details were provided about the specifics of youth orchestra participation. Students who registered for the first cohort of the youth orchestra (the population being studied) did not have to go through any selection process to be accepted.

3.60 Finally, Hall et al. (2013) considered the role of youth-led Café Scientifique programmes on young people's attitudes to science and STEM-focused careers, and their personal development. The youth-based Café Scientifique programme was adapted from an adult-focused approach. The Café meetings – which ran twice a month – were 1.5 hour sessions, involving a mix of presentations and 'hands on' scientifically-focused activities. They also provided food and drink for participants.

Providers, contexts and resources

3.61 Youth activities in this group were provided by a range of different providers across different contexts. The majority of the providers were involved in community work of some kind. Some were connected with charitable or arts-based organisations, and the interventions formed one part of the overall portfolio of work carried out by these organisations (e.g., Catterall, 2019; Forrest-Bank et al., 2016; Egaña del Sol et al., 2019). Other providers ran the interventions as part of their designated organisational role (e.g. Girod et al., 2004; Hall et al., 2013). In one instance (Chen et al., 2022), the intervention was developed and delivered by the authors of the article.

3.62 The programmes were supported by a variety of funders. For example, the Curanilahue Youth Orchestra was supported by a range of public and private funders (Egaña del Sol et al., 2019) and KLICK! computing clubs described by Girod et al., (2004) were supported by funds from the US Department of Education and the Kellogg Foundation. Many of the programmes utilised school resources, such as the use of school buildings or the input of school staff. As per our inclusion/exclusion criteria, programmes which were led or run by schools were not included within the review; the initiatives described here were instead run and funded by non-school providers but drew upon some elements of school infrastructure to function. Some programmes in this section required the support of community leaders or experts. For example, the drama programme examined by Catterall (2007) was delivered by professional instructors including actors, writers, directors, dancers, singers and visual artists. In addition, a teacher from each site acted as a liaison between the programme and the school and participated in the workshops. All adults received training prior to the workshops.

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Participants

3.63 The diverse interventions and foci were matched by diverse participants. Most of the studies involved relatively small groups of students (up to 100 students per comparison group) with just one study including more than 100 students in each comparison group.

3.64 As noted above, a number of the studies were focused on supporting outcomes for young people from disadvantaged or 'at risk' backgrounds. More specifically, studies respectively examined the impact of interventions on young people in poor areas (e.g., Catterall, 2007; Egaña del Sol et al., 2019) and minority ethnic students (e.g., Catterall, 2007; Forrest-Bank et al., 2016).

3.65 Sometimes the programme targeting was specifically related to the programme aims: Chen et al. (2022) selected participants with parental attachment issues for the music activity which, in this instance, resulted in a female-heavy group, most with higher GPA (i.e., school attainment) scores. Young people self-selected onto other programmes, such as KLICK!, which Girod et al. (2004) report having particular appeal to young people struggling socially or behaviourally.

Outcomes and Measures

3.66 The studies included in this group examined a range of different outcomes, focusing on issues relating to learning and academic progress, social interactions, relationships and attitudes, aspirations for the future, attitudes towards specific subject areas, and personal development. All of the studies were testing more than one outcome.

3.67 Four of the six interventions examined impact in terms of academic outcomes not directly related to the content of the activity itself (e.g., arts). For example, Egaña del Sol et al. (2019) looked at the academic effects (in maths and language) of participation in a youth orchestra; and Forrest-Bank et al. (2016) examined the impact of the poetry intervention on academic confidence and competence. Similarly, Girod et al. (2004), in their study of an after-school computing club assessed impact in terms of students' relationships with teachers, readiness for classroom instruction, perceived parental involvement in school and overall school value (as well as on IT experience). Other studies assessed outcomes more directly linked to the content of the activity, such as Hall et al. (2013) who examined how Café Scientifique activities affected students' attitudes to science and science careers, and their confidence and competence in STEM.

3.68 There were also four interventions (including some of the ones already mentioned above in relation to academic outcomes) which assessed social, behavioural and attitudinal impact. Non-academic outcomes assessed included pro-social changes in behaviour, metacognition (awareness of one's own thinking), self-efficacy and future plans, and

attitudes about acting (Catterall, 2007); 'persistence' as a socioemotional outcome (Egaña del Sol et al., 2019); social confidence and attitudes to diversity (Forrest-Bank et al.'s, 2016); personal development (including character, contribution to community and leadership) (Hall et al., 2013); and parental attachment and psychosocial maladaptation (Chen et al., 2022).

3.69 Five out of six of the studies relied upon self-reported pre/post questionnaires, using Likert-scale questions to understand participants' academic and non-academic experiences and attitudes. In some cases, items were devised by the authors or came from a bank of items which organisations used in other evaluation work (Forrest-Bank et al., 2016; Catterall, 2007; Hall et al., 2013). In other studies, items were taken from pre-existing scales or studies (Girod et al., 2004; Forrest-Bank et al., 2016; Chen et al., 2022). Egaña del Sol et al. (2019) drew upon administrative data relating to students' SAT scores (for maths and language) and the university selection tests.

Programme components and design

3.70 The social elements of these programmes appeared to be important in their delivery and intended outcomes. For example, Catterall's study (2007) reported the use of peer activities, feedback and reflection to promote pro-social behaviours. Forrest-Bank et al's (2016) study described how an expression poetry intervention was used to provide a space for artistic creation and reflection in order to help young people develop self-awareness and coping mechanisms. Likewise, participants in the Chilean youth orchestra (Egaña del Sol et al., 2019) may also have benefited from the significant amount of time spent rehearsing and performing, and working for an extended period with a supportive group of other young people and adults. This community element and the networks associated with these may have also facilitated positive peer connections and aspirations.

3.71 The interventions were run in a structured yet informal way and appeared to promote inclusive and supportive environments for youth participants. There were frequent opportunities for young people to self-direct what they wanted to do or produce as well as opportunities for creation and reflection. The afterschool computing Café Scientifique programmes described respectively by Girod et al. (2004) and Hall et al. (2013) highlighted the role played by structured, learning-focused environments where young people can engage in topics of interest to them. The leadership of the programmes also seemed important with some of the studies detailing the value of youth leadership (Hall et al., 2013) or the involvement, support and inspiration provided by adults (Forrest-Bank et al., 2016).

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Evidence of Impact

Reported Impact

3.72 All of the studies in this section reported positive impacts on the outcomes being tested although, as noted above, these impacts were varied across studies and the studies had small sample sizes. Studies suggested positive benefits on young people's social outcomes such as improving parental attachment and reducing psychosocial maladaptation (Chen et al., 2022), improving pro-social behaviours and artistic- and self-reflection (Catterall, 2007)[22], academic confidence and social competence (Forrest-Bank et al., 2016; Girod et al., 2004; Hall et al., 2013), and attitudes towards school and learning, and towards science and STEM careers (Hall et al., 2013). Chen et al.'s (2022) study of music and singing also provides evidence for the potential for music to improve adolescents' moods and have positive physical effects, such as regulating cortisol levels.

3.73 There were some variances in results within each study across these outcomes. For example, Girod et al. (2004) found that the effect of their computer clubhouse intervention was greater for young people who had reported more negative attitudes towards school prior to the intervention. Egaña del Sol et al. (2019) found differences in impact across different cohorts, with effect sizes between 0.5 and 0.6 for 2001-02 cohorts but smaller or negative impact on mathematics, languages and secondary education for their 2003-04 cohorts. Catterall (2007) found variation in impact by outcomes area, calculating effect sizes between 0.16 and 0.62 across various measures, for example, enjoyment of drama and performance (0.16), ability to work effectively in groups (0.35) and self-efficacy (0.62).

Evidence Coverage and Quality

3.74 The evidence coverage and quality was generally quite weak in this area. Most studies were small to medium-sized, with just one large-scale study (Hall et al., 2013, which had a total sample of n = 383). Five of the six studies were quasi-experimental, with just one small-scale RCT (Chen et al., 2022). All of the studies reported some positive impacts, suggesting that there may be a warrant for developing and evaluating some of these approaches on a larger scale.

3.75 None of the studies were conducted in the UK and so some consideration of whether the interventions are appropriate for UK contexts is needed. For example, the extent to which karaoke (Chen et al., 2022) or participation in youth orchestras by young people from poor backgrounds (Egaña del Sol, 2019) would be feasible or translate into a UK context would

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[22] Catterall (2007) found particularly positive effects for the former two outcomes, with an effect size of 0.47 for 'problem resolution skills' and 0.62 for young people's 'self-efficacy'.

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need careful consideration. Similar examples of drama, poetry, science and computing programmes to those described above, exist in the UK but have often not been evaluated.

C. Employment, skills and enterprise

Definitions
- These activities are generally focused on developing young peoples' knowledge, skills and confidence in relation to business, entrepreneurship, finance and employment.

- The activities were designed to improve the participants' employability. However, most of the programmes also used these activities to improve young people's educational, personal and social outcomes.

- This included vocational and financial education programmes, summer work and work experience schemes, and camps and participatory initiatives to develop entrepreneurial skills through practical projects.

Number of studies and proportion of RCTs
- There were 12 studies in total of which seven (58%) were RCTs.

Which of the six outcomes seem to be linked with/supported by the activity type?
- Outcomes relating to employment were a common theme within this area. These were not, however, the sole focus.

- Other outcomes included: improved education and skills, reductions in youth violence, and improved school attendance.

- Many programmes suggested a strong link between, 1), social outcomes (e.g., social-emotional skills), 2), educational outcomes (e.g., employability skills, aspirations, school attendance and performance) and, 3), employment outcomes (e.g., employment and income-generating activities, and improved financial literacy).

What evidence of impact is there for interventions in this activity area?
- Most studies in this area indicated a positive impact across a range of personal development, social skills, and employment skills outcomes - particularly for recent summer employment schemes.

- Evidence for summer employment schemes suggest that employment reduces criminal justice involvement and decreases rates of violent-crime arrests. Heller (2014) estimates a 43% reduction over 16 months (3.95 fewer arrests per 100 youths) (see Section 3.90).

- Evidence for summer employment also suggests impact on community engagement, social skills, aspirations, job readiness and school attendance, with effects seemingly accentuated for at-risk or disadvantaged students (3.91).

- However, some studies of summer employment reported little or no impact on educational outcomes (entering university), employment rates and future earnings (3.92).

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- Evidence on other employment and enterprise interventions suggests that youth activities can increase income generation activity (3.93), develop financial skills, lower illegal drug use, binge alcohol use and rates of school absenteeism (3.94).

- The quality of evidence in this category was fairly strong relative to other categories, with well-reported, large-scale RCTs. However, the evidence base was thinner outside of the studies of summer employment schemes, with one study finding unintended negative impacts of a NEET intervention on rates of future benefit claims (3.95).

What are some of the features of successful programmes?
- Successful programmes provided meaningful experience of enterprise and employment in an employment or community setting.

- Programmes that included mentoring and coaching often had a specific focus on supporting educational choices or developing specific employability skills.

- Consistency throughout a programme is ensured by staff training. This is also useful when programmes are attempting to replicate or expand.

The strength of the evidence base
- The evidence base was strong *relative to other activity areas*, with mostly medium quality studies[23], particularly in relation to summer employment scheme programmes. However, evidence base on other activity types did not have sufficient critical mass or consistency to support firm conclusions about impact. Furthermore, some studies were culturally relevant and developed for the community and, therefore, less generalisable.

Overview of Area

Area Description

3.76 Studies in the Employment, Skills and Enterprise area were focused on developing young peoples' knowledge, skills and confidence in relation to business, entrepreneurship, finance and employment. Some programmes sought to support young people into work now or in the future, and others used employment or employability skills development to support other educational, personal or social outcomes.

3.77 These programmes were all offered outside of formal schooling. Activity components included clubs, workshops, experiences and other activities relating to employment, skills and enterprise. This included vocational and financial education programmes, summer

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[23] As discussed below, however, there were some concerns raised in Risk of Bias analysis and it is important to stress that this is a relative statement concerning an evidence base that was found to be weak overall, with the possible exception of the Mentoring, Coaching and Peer Support activity area.

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work and work experience schemes, and camps and participatory initiatives to develop entrepreneurial skills through practical projects. Example studies included:

- The study of a New Zealand Youth Service for young people not in employment, education or training by Dixon and Crichton (2016), which evaluated a government programme for 16- to 18-year-olds identified as being at risk of poor educational and employment outcomes. Community-based social service providers worked with young people and supported them to enter and remain in education, training or work-based learning through mentoring, coaching, counselling and targeted interventions

- The entrepreneurship education intervention evaluated in Tingey et al. (2020a*, 2020b*). The programme for 13- to 16-year-old youths consisted of a residential summer camp, followed by six-monthly follow-on workshops. These explored topics such as problem solving skills, financial literacy, entrepreneurship training, and small business design and culminated in a presentation of business ideas to local business leaders to receive start-up funds

- Modestino and Paulsen (2019), who reported a RCT evaluating short-term outcomes of the Boston Summer Youth Employment Program, in which young people, mostly aged 14 to 21 were provided with job readiness training and a six-week employment placement for up to 25 hours per week paid at the minimum wage.

Study Details and Quality

3.78 The database contained 12 studies in this area. Three of these provided high directness of evidence about the impact of open-access youth activities. Many had some level of targeting to specific youth populations or contextual needs. Most studies were large, with over 101 young people per comparison group (11 studies). There was one medium-sized study (with 51-100 young people per comparison group). Most studies were RCTs (seven out of 12), with five studies making use of quasi-experiments or controls to create suitable comparisons to estimate impact. Nine studies were from North America, primarily the US (one was from Africa; two were from Oceania). None of the studies were from the UK.

Activities

Activity types, content and aims

3.79 Looking across the studies in this area, multiple activity types and aims were apparent. The most common youth activity represented in this area were activities based around an employment placement (Heller, 2022; Modestino and Paulsen, 2019; Gelber et al., 2014; Leos-Urbel, 2014; McClanahan et al., 2004), often with additional support such as vocational education classes and/or mentoring.

3.80 There were also activities which provided financial vocational training directly. Bandiera et al. (2012) was one example, providing training in vocational skills alongside information about health and risky behaviours for adolescent girls aged between 14 and 20 in Uganda. Such courses were highly practical, focused directly on employment or potentially income-generating activities, often working in partnership with local businesses. Loke et al. (2016) studied the 'MyPath' and 'MyPath Plus Coaches' programme focused on developing financial capability through workshops, saving schemes, financial education modules and, in the case of the latter, peer-led group coaching. The entrepreneurship education intervention evaluated in Tingey et al. (2020a*, 2020b*) was for 13- to 16-year-olds and consisted of a residential summer camp, followed by six follow-on workshops, held monthly. These explored topics such as problem-solving skills, financial literacy, entrepreneurship training, and small business design and culminated in a presentation of business ideas to local business leaders in the hope of receiving start-up funds.

3.81 There were also activities designed to support success and participation in other services. The New Zealand Youth Service for young people not in employment, education or training (Dixon and Crichton, 2016), for example, provided government funding to enable community-based social service providers to give young people mentoring, coaching, counselling and other targeted interventions (also see the report on the Youth Transition Services in Qiao, 2008).

Providers, contexts and resources

3.82 Activities in the employment, skills and enterprise area were often provided through partnerships between government, non-profits, and the private sector. For example, in Modestino and Paulsen (2019), four organisations received public funding to implement the Summer Youth Employment Programs, and did so by acting as intermediaries between the government office and roughly 900 local employers. The four organisations reviewed applications, supervised job placements and delivered the program's career-readiness curriculum. Similar approaches were evident in other employment experience schemes including in Heller (2022, 2014), Leos-Urbel (2014), Gelber et al. (2014), and McClanahan et al. (2004). Partnership work was evident for all programmes in this area, which variously worked with non-governmental organisations, local employers, community groups and schools to deliver programmes relating to employment and enterprise.

3.83 There was some variation in how partnerships operated. Some had a programme co-construction and delivery model, whereas others took a more contractual approach: the former can be seen in Tingey et al. (2020a*, 2020b*) in their evaluation of the Arrowhead Business Group (ABG) intervention which was developed over a two-year formative period by the White Mountain Apache Tribe (WMAT/Apache) in collaboration with Johns Hopkins University (JHU) Center for American Indian Health. An example of a more contractual approach was provided in Dixon and Crichton (2016): community organisations were

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contracted to undertake needs assessments and provide mentoring and support for youth, funded using a mix of fee-for-service and outcome-based payments. There was variation in such examples of the extent to which programmes were developed by communities to create a tailored approach *in situ,* versus having a more established, standardised programme which was then implemented across a more general population with some contextualisation. There were also differences in the extent to which the programme, funding and partnership approach was designed to build capacity and sustainability of the community and/or providers, as well as directly benefiting the young people involved.

Participants

3.84 There was a mix of wholly open-access offers designed and often engaged with by a representative group of young people, and more targeted programmes. Within the summer employment programmes, some were universal summer jobs programmes open to all city youth - although these often also contained an element of targeting particular groups; Heller (2022), for example, recruited from schools in areas with higher rates of youth violence, and Leos-Urbel (2014) studied a programme where recruitment was via community-based organisations (CBOs) located in primarily low-income areas. Other programmes were more representative by design and in practice. For example, the summer employment programme reported in Modestino and Paulsen (2019) was eligible to all Boston city residents aged 14 to 24 and a largely representative programme population was achieved. Overall, therefore, there was a mix of targeted and open provision throughout the studies. Many had some degree of targeting by income; others used diagnostic tools or referral processes to identify groups with greater need or elevated risk of poor outcomes.

Outcomes and Measures

3.85 Unsurprisingly, outcomes relating to employment were a common theme within this area. These were not, however, the sole focus; most programmes considered an interconnected set of activities and outcomes. Even within studies of similar employment programmes, there were those that assessed impact on reducing youth violence (e.g., in Heller, 2022, 2014, and Tingey 2020a*) and on educational outcomes such as school attendance and examination performance (Leos-Urbel, 2014) as well as rates of employment (Gelber et al.,2014; McClanahan et al., 2004). Many programmes suggested a strong nexus between, 1), social outcomes (e.g., social-emotional skills and avoiding negative behaviours such as involvement in youth violence), 2), educational outcomes (e.g., employability skills, aspirations for further study, school attendance and performance) and, 3), employment outcomes (e.g., engaging in employment and income-generating activities, improved financial literacy, and reductions in benefits claims). The connections between education, employment and social outcomes were reflected in programme aims, measures and designs for the majority of studies in this area.

Programme components and design

3.86 Key to most of the programmes in this area was a form of job placement or training for employment or financial capability. The largest single group of studies in this activity area (n=6) related to summer employment programmes. These had a similar set of aims relating to perceived benefits of work experience, notably the development of employability skills and attitudes in a real-world setting. The specifics of these varied by the employer (including whether these were public, private or charity sector organisations). More generally, the idea of providing situated and meaningful experience of enterprise and employment in an employment or community setting was at the heart of most programmes in this area.

3.87 Beyond this core focus, there was more variation in programme components and impact mechanisms. One other common aspect was a form of training and development. Often this was in the form of formal training or workshops on topics including leadership, employability attitudes and skills, goal setting and planning, 'soft' employment skills including personal presentation and professional conduct, socio-emotional skills, and a range of general and job-specific substantive employment skills. Training sometimes focused on building aspirations and being community-specific, as in Tingey et al. (2020a*, 2020b*) where the training on entrepreneurship problem solving was connected to and contextualised with content about Apache culture and history and historical examples of entrepreneurship from this community. This programme was also delivered in a wider context, with various activities (not always designed specifically for the participants) taking place in community (i.e., café and 'marketplace') settings.

3.88 Another common feature of programmes in this area was the inclusion of forms of mentoring and coaching, often with a specific focus on supporting educational choices or with the development of specific employability skills. Reports were not clear about whether mentors were sourced from employers, or recruited from or by the youth programme team. Mentoring and support received different levels of emphasis, with many positioning this support as an enhancement, or 'wrap around' for the core employment-focused activity. There were examples, however, of provision where the mentoring and support relationship was the key component of the programme. In the Youth Transition Services (YTS) initiative, the provision of mentoring and support from YTS coaches was a central component (Qiao, 2008). Similarly, the NEET programme reported by Dixon and Crichton (2016) was designed to provide 'mentoring and support' to disadvantaged youth, following a needs assessment.

3.89 Other examples of programme components and designs were more activity- or context-specific. The Bandiera et al. (2012) study of the Ugandan 'adolescent development clubs' combined enterprise training with information on health and risky behaviours, thereby bringing together support for two perceived needs. The MyPath savings programme

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reported in Loke et al. (2016) focused on developing financial capability. The programme included activities in line with this aim, including supporting enrolment for bank accounts, making deposits and setting savings goals.

Evidence of Impact

Reported Impact

3.90 There were many studies reporting positive impact in this activity area, with good evidence suggesting impact for summer employment schemes[24]. In a large-scale study across multiple contexts, Heller (2022, 2014) found that summer jobs programmes resulted in decreased criminal justice involvement and decreased rates of violent-crime arrests. Heller (2014) estimated that the programme decreased rates of violent-crime arrests by 43% over 16 months (3.95 fewer arrests per 100 youths). The studies also found variation in the average affect, with Heller (2022, p.6) discussing how programme variation in structure, staff training and experience "dramatically change an intervention's effects across settings". There was a high risk of bias[25] due to compliance issues in this study; in one city, the control group unintentionally had access to the intervention immediately rather than being held back on the waiting list, and in another city compliance was only encouraged rather than being enforced.

3.91 Further supportive evidence for summer employment schemes was provided in Modestino and Paulsen (2019), who found a positive impact on self-reported community engagement and social skills (average of 11.7 percentage point difference between treatment and control group), job readiness skills (+5.5 ppts), and college aspirations (+6.9 ppts); and in the study by Leos-Urbel (2014), who found small effects on educational outcomes. Specifically, Leos-Urbel (2014) estimated that the programme resulted in a small increase in attendance, equating to about two or three days over a school year, and an increased probability of attempting and therefore passing examinations was also seen. Again, there was some variation in these effects. Modestino and Paulsen (2019) found greater benefits for disadvantaged groups on the programme; indeed, the programme affect seemed to be mostly driven by positive affects for a non-white group of participants. The benefits for attendance found in Leos-Urbel (2014) were accentuated for at-risk students, for whom the researchers estimated that school attendance was increased by nearly four to five additional days for more educationally at-risk students, compared to the overall effect of two to three days.

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[24] The two exceptions are discussed below, one of which was from 2004.
[25] Note that these issues notwithstanding, this study met our pre-specified inclusion criteria and we therefore, as per the protocol, conducted full analysis (including the Risk of Bias assessment in which these issues were identified). This review reports all such issues fully and transparently; they have been taken into consideration when assessing and describing the evidence base.

3.92 The evidence was not entirely positive for summer employment schemes, however. Gelber et al.'s (2014) results were more mixed. They found an increase in average earnings and the employment rate in the year of the programme, as well as decreases in incarceration rates and mortality; however, their results suggest a moderate *decrease* in earnings three years later compared to applicants who were unsuccessful in the programme lottery, and no impact on college enrolment. Additionally, the study by McClanahan et al. (2004) found that the employment programme was a success in the sense that young people were employed, earning and in contact with supportive adults for its duration. However, there was no apparent impact on work or educational attitudes, or on employment rates after participants left the programme.

3.93 Unlike the employment schemes evidence reported above, other activity types in this area did not have several studies relating to very similar programmes. Without several studies to support findings about impact, the following results only provide tentative evidence to support further research and programme development in these areas. This note of caution notwithstanding, the evidence we reviewed suggested that well designed youth activities can achieve impact in a variety of areas relating to employment, skills and enterprise. Bandiera et al. (2012) found that the provision of skills training and mentoring to girls identified as vulnerable boosted income generating activities by 32% over a two year period (mainly from self-employment). There were also clear benefits from the sexual health aspect of the programme that we did not focus on here. Loke et al. (2016) studied another programme that achieved its immediate aims. Peer-led coaching provided further impacts in financial knowledge and resulted in the use of more advanced financial management behaviours. The vast majority (96-100%) of participants, as intended, enrolled in savings accounts, set and met their savings goals. Participants reported increased financial confidence and saved on average 34% of their income. Rates of saving prior to the programme are unclear, and no comparison group figure was provided for savings rates. However, with 96% of young people meeting their savings goals, and the figures for low (and sometimes zero) rates of saving on the population described in the report, the implication is that this rate of saving represents an improvement on prior and typical rates.

3.94 The Qiao (2008) evaluation of the Youth Transition Service provided indicative evidence that the YTS encouraged a faster reduction in the uptake of working age benefits among participating areas than among non-participating areas, in the context of a general reduction in all areas. Moreover, Tingey et al. (2020b)* found that participants in an entrepreneurship education intervention reported improved entrepreneurship knowledge and economic confidence/security, and this was sustained at the 12-month point. They also saw increased economic agency and participation. In the further study of the same programme, Tingey et al. (2020a)* also found impacts for objective personal and social outcomes such as lower illegal drug use and binge alcohol use, and lower rates of school

absenteeism. Overall, they concluded that the programme demonstrated promise for reducing substance abuse and violence towards oneself and others, alongside the direct benefits of the programme relating to entrepreneurship reported in Tingey et al. (2020b)*.

3.95 The only study in this activity area that did not find a positive result was Dixon and Crichton (2017). This study of a NEET intervention found that the programme increased numbers in education and qualification attainment, but that this did not translate into higher employment rates. Rather, the results suggest higher rates of benefit recipiency and a *negative* longer-term impact on employment rates. We rated this study as providing medium quality evidence and therefore this result is worth noting. In their report, the authors discuss several issues relating to the effectiveness of the intervention: first, in relation to intervention targeting, with many young people not being high risk as intended; second, the possibility of enrolment being an overestimate of attendance and engagement; third, that retention in education imperfectly links with higher achievement; fourth, and with specific regard to finding higher benefit receipts for participants, there may have been an effect where participant's increased knowledge of their benefits eligibility and income needs led to increased benefit claims.

Evidence Coverage and Quality

3.96 Evidence in this activity area was fair to strong relative to other areas in the review. We rated eight of the 12 studies as providing evidence of 'medium' quality and relevance, one as 'high' and three as 'low'. We conducted the more in-depth Risk of Bias analysis on the Heller (2014, 2022) studies and Gelber et al. (2016), rating the former as having high risk of bias, and the latter as having 'some concerns'. The former high-risk results were largely driven by deviations from the intended intervention that occurred during implementation. In other areas, the Heller (2014 and 2022) studies were rated as having low risk or 'some concerns'. Combined with the other evidence in the area of summer employment schemes (Leos-Urbel, 2014; Modestino and Paulsen, 2019; Gelber et al., 2014; McClanahan et al., 2004), the evidence suggested promise for well implemented programmes of this type.

3.97 Outside of the summer employment scheme programmes, the evidence did not have sufficient critical mass or consistency to support firm conclusions about impact. Nonetheless, there were areas of promise suggested by most of the studies. The Tingey et al. (2020a*, 2020b*) studies, for example, provided good indicative evidence about the potential for entrepreneurship interventions to have a range of positive benefits. These studies were rated as high and medium in our quality appraisal. Without similar studies, it was difficult to reach firm conclusions. Moreover, one of the strengths of the programme – its innovative, culturally relevant approach, developed for and by the community – made assessment of how well the programme would work in other contexts or with a different set of providers and participants challenging.

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D. Mentoring, coaching and peer support

Definitions
- These activities provided support networks for young people and/or on the teaching of new skills.
- The mentoring could be from adults and peers in the community or as part of residential, online or other projects.
- The coaching involved learning new knowledge and skills, such as sports, cookery, mental health or physical health knowledge.
- The activities could be one-to-one or small groups, either face-to-face or online.

Number of studies and proportion of RCTs
- There were 34 studies in total and 23 (68%) of them were RCTs.

Which of the six outcomes seem to be linked with/supported by the activity type?
- All of the six outcomes areas were investigated by studies of mentoring, coaching and peer support. Many studies focused on multiple outcomes, while others were more specific.
- There was particular emphasis on improved mental health, improved physical health, and improved education and skills.

What evidence of impact is there for interventions in this activity area?
- Overall, there was consistent evidence of the positive impact of mentoring programmes, particularly including peer mentoring. Over two thirds of the studies indicated that the interventions had had a positive impact.
- Estimates of impact for the Big Brothers Big Sisters programme (3.125) suggest small positive impacts on reducing depressive symptoms ($d = 0.15$); reductions in the likelihood of starting to use illegal drugs (45.8%) and alcohol (27.4%); and being 32% less likely to have hit someone. Similarly, studies of multi-component interventions which included mentoring (3.126) report medium to large effect sizes on a range of outcomes including self-efficacy, connectedness, resilience, wellbeing – although there were some limitations in the robustness of the evidence for these particular estimates.
- The findings on group mentoring and peer support programmes were notable given their combination of cost effectiveness and potential impact on wider social (e.g., meeting new peers) and personal (e.g., self-confidence) outcomes beyond those reported above (also see 3.130).
- Other studies of community-based and informal mentoring and peer support initiatives also suggest small positive benefits on outcomes such

as school attendance (3.127) and social skills (3.128), as well as no effect or negative effect (3.129).

- The findings related to sexual health programmes or programmes to reduce substance use or violence were more mixed (3.132). Although many did find small effects on a diverse range of outcomes including health, standard of living, sexual health knowledge, earnings, decreased rates of violence, self-confidence and knowledge of personal and social issues (3.131).

- Evidence in this category was stronger given the volume of studies, consistency in approaches, and the size of many studies. There were, however, several studies with mixed or null findings (3.133), including one which found a small negative effect on academic achievement of an afterschool programme designed to improve academic performance (3.133).

What are some of the features of successful programmes?
- Programmes of longer duration were more likely to have positive outcomes as mentoring and coaching relies on trust which takes time to develop.

- Having available transportation or conducting programmes at an easily accessible site was beneficial for both participants and mentors.

- It was appropriate for some programmes to be made available online, making them more accessible and in some instances combating loneliness.

The strength of the evidence base
- The evidence base was strong as many studies were large scale and conducted across multiple sites, improving generalisability. Although, many studies were overrepresented by some groups such as those in disadvantage or of particular ethnic groups, which makes generalisability to young people in general challenging.

- Many instances of mentoring, coaching and/or peer support were conducted alongside other activities as part of a larger, multi-component intervention. While this provides a positive indication of its value, this made the evidence less clear in relation to attributing impact solely to the mentoring, coaching and/or peer support programme components.

Overview of Area

Area Description

3.98 Studies in the mentoring, coaching and peer support area were focused on support networks for young people and/or on the teaching of new skills. This included mentoring from both adults and peers in the community or as part of residential, online or other projects. Coaching involved learning new knowledge and skills, such as sports, cookery,

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mental health or physical health knowledge. For many studies, mentoring or coaching formed only one aspect of a programme, and was combined with other components such as outdoor residential activities or citizenship activities. There were four studies in this activity area which also had substantial activity components from other activity areas and were therefore included in other analysis sections. These studies are marked with an asterisk.

3.99 Examples of studies in this area, and details of how mentoring linked with other activities are given below:

- Mentoring as part of pre-existing large scale, national, established programmes such as Big Brothers Big Sisters and Project K (Furness et al., 2017*; Deane et al., 2017*; Rhodes et al., 2002; Herrera et al., 2023; Grossman and Tierney, 1998)

- Formal mentorship programmes on sports or music (Ho et al., 2017*; Darrow et al., 2009)

- Coaching young people to support peers (Foss et al., 2022; Klier et al., 2019; Pavarini et al., 2023; Liddle et al., 2021)

- Youth empowerment or youth development programmes, particularly those that were gender specific (Özler et al., 2020; Oscós-Sánchez et al.; 2021; Sheehan et al., 2022; To and Liu, 2021; Austrian et al., 2020; Gulesci et al., 2021)

- Mentoring or coaching programmes that supported physical, mental, or sexual health, e.g., mentoring and coaching to reduce teen pregnancy, STIs, violence, substance use, or a combination of these (Robinson et al., 2016*; LeCroy et al., 2018; Bangi et al., 2013; Brown et al., 2013; Greene et al., 2020; Iyer et al., 2021; Dinarte and Egaña del Sol, 2019; Van Horn et al., 2014)

- A study investigating different mentoring approaches: small group mentoring compared to one-to-one mentoring (Haddock et al., 2020)

- Other community-based or informal mentoring programmes linked to sports, education, social skills, or other life skills (Budd et al., 2020; Gowdy et al., 2021; Pryce et al., 2019; Russell and Francis, 2018; Donohue et al., 2005; DuBois and Keller, 2017; Hanlon et al., 2009; Kuroko et al., 2020).

Study Details and Quality

3.100 The database contained 34 studies related to mentoring, coaching and peer support, the highest number in any of our categories. 14 of these studies provided high directness of evidence about the impact of open-access youth activities. Over two thirds (23 in total) of

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the studies had large comparison groups (that is, over 101 per group). Four of the studies had medium sized groups (51-100 per group) and seven had small groups (50 or fewer young people per group). Most studies were RCTs (23 of the 34 in total). The majority of these studies were based in North America (22 of the 34), with a small number from other parts of the Americas (two), Africa (two), Oceania (four, all from New Zealand or Australia), and East/SE Asia (two); only one study was based in the UK.

Activities

Activity types, content and aims

3.101 Most studies in this activity area focused on a range of adult-led activities. All studies included some form of adult or peer support, or teaching young people new skills and knowledge – e.g., cookery, sports, or knowledge of health issues such as pregnancy. For many studies, mentoring was also combined with or offered alongside other activities, such as sports, walks, arts, homework assistance, games, computer projects, coaching on social skills, meals, field trips, and community service. Many interventions used technological tools to support young people in some format; this included examples of fully online e-learning programmes or online peer support, and these were sometimes used to complement in-person activities, for example via a WhatsApp group peer support chat. There was a mix of activities offered one-to-one and activities offered in smaller groups.

3.102 Most of the activities in this area related to adult mentoring or coaching. However, there were four studies which explored training for young people to offer support or to work as peer educators for mental or sexual health issues, or for music mentorship for adolescents with developmental difficulties. Some studies, such as Haddock et al. (2020) focused on the specific type of mentoring offered – this particular study evaluated whether there were any significant differences in the effectiveness of mentoring when offered one-to-one or in small groups. Where small groups were employed specifically for mentoring, this usually consisted of groups of 12 young people or fewer.

3.103 Two specific programmes which came up in this theme were Big Brothers Big Sisters and Project K (the latter was also reviewed in the Citizenship, Community Service and Volunteering activity area section). Big Brothers Big Sisters was a long running community-based mentoring programme which matched adults with young people for one-to-one mentoring. Project K was a multi-faceted programme which included mentoring, wilderness adventure, and community service. The aims of these programmes were various and, as such, outcome measures included educational attainment, behaviour, economic and other social outcomes.

3.104 There were some studies which related to reducing violence, substance use, sexual risk behaviours and delinquency. There were also some examples of youth empowerment

programmes, some of which were intended to address these issues but also to promote employability, health knowledge, and other skills. These studies employed various strategies including small-group activities, adult support, e-learning programmes or other curricula and peer mentoring. These programmes mostly took place outside North America. Two studies were related to issues highlighted during the Covid-19 pandemic and took place during this period; they focused on violence towards women and loneliness.

3.105 The most common frequency of activities appeared to be weekly, and many of the sessions took place after school. There were examples with a greater frequency than this; although this was found to potentially create issues with attendance given the greater time commitment expected (Budd et al., 2020). Many of the sessions lasted for 90 minutes or more. Activities in this category were also of variable duration: activities lasted from a single 45-minute workshop to programmes lasting 18 months or longer, although programmes of around eight to 12 weeks were common. Most studies focused on short- to mid-term effects; a small number collected data over a longer term.

Providers, contexts and resources

3.106 Within this area, there were several examples of studies which evaluated programmes which were already in existence prior to the evaluations (as opposed to trialling new projects). Some examples of these projects included: Teen Council; Communities That Care; Clark County Summer Business Institute; Louisiana and Rochester Teen Outreach Programs; Big Brothers Big Sisters; and Project K. Some of the articles gave historical context as to the formation of these programmes, including how they were formed and funded. For example, Project K was started in the 1960s in New Zealand by a mountaineer and a lawyer, and has since grown to be a licenced, multi-site programme across the country.

3.107 A number of these projects were funded by and initially designed away from the communities in which they were later implemented, for example, in university departments, government departments, or non-profit organisations. However, there were a few examples which involved some form of community participation in activity design. For example, Oscós-Sánchez et al. (2021) developed programmes with adolescents and their parents over a period of 17 months before the intervention took place. Brown et al.'s (2013) trial was of a project which was constructed as a partnership between the University of Montana and the local community.

3.108 Across the studies in this area, participants were recruited via various means, such as schools, community centres, health practices, social media, and other advertising media. Activities would then take place in a variety of locations suitable for the intervention, including sports clubs, schools, community hubs, outdoor spaces (which could include areas for specialist activities such as climbing), and online. As was discussed in relation

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to the study's scope in Section 1, above, activities which took place on school sites were included, but needed to be explicitly separated from the main school day and curriculum, for example programmes may have taken place in school but been funded and delivered by an outside organisation.

Participants

3.109 Studies in this area reported various methods for recruiting participants, with schools being a particularly popular choice. For many studies, activities took place in the neighbourhoods where young people lived and/or attended school, but there were examples where this was not the case, such as Project K, which included a residential adventure component.

3.110 Over two-thirds of the studies in this category (23 in total) had large samples (i.e., 101 or more young people per comparison group). In many cases, the sample sizes were much larger than this threshold, particularly though not limited to the larger, more established interventions such as Big Brothers Big Sisters and Communities That Care. For example, Van Horn et al. (2014) used a sample of 14,099 young people for an evaluation of Communities That Care. Özler et al.'s (2020) Girl Empower programme study used a sample of 1,264 girls, with very low attrition.

3.111 Young people from socially disadvantaged backgrounds were represented in all of the studies where this information was provided. Young people who were at-risk of undesirable behaviours (such as school underachievement, violence, etc.) or poor future outcomes (unemployment, etc.) were a particular focus of many studies, with six studies specifically focused on disadvantaged, high-risk or vulnerable groups and many more intentionally or unintentionally over-representing young people from disadvantaged backgrounds in their sample. Some of the programmes were specifically aimed at those from ethnic minority backgrounds (in these studies, Black, Latino or Native American) or immigrant youths. There were also some studies (n=7) that were gender-specific, particularly around empowerment of young women in Africa, and two studies around violence towards women.

3.112 Most studies took place in urban areas[26], but this was not universal. Due to the nature of the activities, with mentoring or coaching being the primary focus of these studies, they were mostly adult-led and adult-created.

Outcomes and Measures

3.113 Some programmes in this activity area targeted a wide range of outcomes including educational attainment and attitudes, health (physical or mental), social skills and

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[26] Urban/rural context was not an item we systematically collected data on due to the complexity of assessing this. This point is based on qualitative observations of the studies in this area, and therefore a precise definition and count of urban study contexts is not provided.

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cohesion, and future prospects and employability. In contrast, other programmes had specific aims, for example diabetes prevention (Brown et al., 2013) or mental health literacy (Liddle et al., 2021).

3.114 One commonality across the studies was the extensive use of existing, pre-tested or widely circulated measures and tests as part of the data collection. Many of these tools had clearly been derived from existing psychology or clinical health literature. Furthermore, information on participant characteristics and backgrounds had been derived from a variety of sources, including official databases held by government departments. This latter source was particularly prevalent for studies which took a longitudinal approach.

Programme components and design

3.115 While mentoring, coaching or peer support activities were the core foci for studies in this section, only a small number of articles highlighted the potential mechanisms or principles associated with these activities. Many studies did note that there was a relatively strong, existing evidence base for mentoring, but again only limited information was provided about effective components.

3.116 Across the studies, the importance of developing supportive, trusting relationships was noted as a key mechanism for promoting positive change. Varying approaches were discussed in relation facilitating these meaningful relationships. In most of the studies, young people were connected or matched to their mentor/coach rather than selecting them for themselves. Some of the studies stated explicitly that participants were matched with mentors of the same gender and/or from similar backgrounds and experiences, particularly in areas of high social disadvantage or for young people from ethnic minority backgrounds, with the intention that this would help form social connections. Programmes which employed this matching included Big Brothers Big Sisters and some interventions which took place at Big Brothers Big Sisters hubs (including Rhodes et al., 2002; Herrera et al., 2023; Grossman and Tierney, 1998; DuBois and Keller, 2017). All of these studies highlighted a positive impact on their participants. Some studies alluded to the fact that mentors were representative of their settings either in demographics or being from the local area, but they did not fully detail their methods or aims in forming mentoring relationships. While matching is sometimes a key element of the mentoring programmes, there does not yet appear to be any clear evidence of a direct connection between the matching approaches and a young person's outcomes. Matching based on demographics/characteristics can also be challenging, particularly if there are not enough mentors from certain backgrounds. One consideration from the wider mentoring evidence base not addressed in the studies we reviewed, but of interest for future research, is the question of whether there are any implications of mentoring relationships ending following the programme and how this can best be managed.

3.117 A small number of studies referred to the 'infrastructure' for fostering the development of effective mentoring relationships. This included the processes for recruitment and screening of mentors, training for mentors, and support and supervision throughout the programme. Strong, ongoing connections between programme providers and mentors appears to be associated with more productive relationships, retention of mentors, and positive outcomes for young people.

3.118 The length of a mentoring or support programme may also be associated with its effectiveness. Grossman and Rhodes (2002) and Rhodes et al. (2003), for example, found that mentoring relationships which last for 12 months or longer, are more likely to have a positive impact. These findings are echoed in the year-long study of an after-school programme by Hanlon et al. (2009). Sheehan et al. (2022) also found that a community-based positive youth development programme which offered a suite of interventions across a young person's life – from early years through to early adulthood – had a positive effect on likelihood of college completion and financial wellbeing.

3.119 Peer support was proposed to be a potentially effective model in some studies. Investigators hypothesised that young people would prefer informal mentoring and that they would be more likely to seek support from their peers than from adults (e.g., Liddle et al., 2021; Pavarini et al., 2023). Peers were trained to provide support as part of these programmes as this was considered to build trust and create safe spaces for sensitive conversations. Haddock et al. (2020) also note that group mentoring programmes (where young people are mentored with a small number of their peers) can be beneficial because the group situation can promote the observation and development of prosocial behaviours and relationships between young people as well as between mentor and mentees. Group mentoring interventions tended to have a positive impact on their participants.

3.120 Group mentoring strategies were also used to increase access as they create greater capacity to offer support. In some cases, group mentoring was also favoured due to being consistent with local community beliefs and (collectivist) values (e.g., Brown et al., 2013). Overall, group-based activities were more common than individual activities in this dataset, and included not only mentoring but the sharing and development of new skills such as cookery or study support activities (e.g. Budd et al., 2020; Kuroko et al., 2020).

3.121 There have been several recent reviews which have examined the effectiveness of mentoring programmes for young people and have shared more detailed insights into the mechanisms that promote positive outcomes (see e.g., Armitage et al., 2020; Lindsay et al., 2015; Pryce et al., 2020; Raposa et al., 2019). The positive impact results of experimental studies of mentoring and coaching in the context of youth activities (reported below) suggest that there is value in consulting these wider and mentoring-focused reviews and other non-experimental studies in this area to better understand effective programme design and implementation.

Evidence of Impact

Reported Impact

3.122 This review has found that mentoring, coaching and peer support was a promising area for youth activity interventions and services. The headline results reported by authors were overwhelmingly positive; over two thirds of the studies indicated that the interventions had had a positive impact. The areas of impact measured in this set of studies were numerous and covered social, educational, health and behavioural outcomes. Many studies focused on multiple outcomes, while others were more specific.

3.123 The findings on group mentoring and peer support programmes (see below) were notable; these were often cost effective to deliver but also supported (often unplanned or less tangible) wider outcomes such as increasing the opportunities for young people to meet their peers and develop self-confidence. The findings related to sexual health programmes or programmes to reduce substance use or violence were more mixed. There was significant or modest impact reported for some of these programmes, particularly where peer educators were involved. However, for some of these programmes, where a positive impact was reported, this was either small or inconsistent across all the outcomes measured. Others reported no effect. Below we summarise the evidence of impact in broad groups of studies:

National Programmes

3.124 Two large scale national programmes – Big Brothers Big Sisters and Project K – were evaluated by several studies. All highlighted the positive impact of these programmes.

3.125 Big Brothers Big Sisters had a positive effect on young people's parental relationships, behaviours at school, emotional symptoms, and behaviours such as using illegal substances or violence (Rhodes et al., 2002; Herrera et al., 2023; Grossman and Tierney, 1998). Herrera et al. (2023) found a small positive impact on depressive symptoms from their youth-reported data ($d = 0.15$, $p < .05$). Grossman and Tierney (1998) reported that BBBS participants were 45.8% less likely to have started using illegal drugs, 27.4% less likely to have started using alcohol, and 32% less likely to have hit someone than the comparison group. It should be noted that there were differences between parent and youth-reported results for Herrera et al. (2023), and that our Risk of Bias quality appraisal raised some concerns of bias for Grossman and Tierney's (1998) study relating to the randomisation process, deviations from intervention assignment and adherence, and in selection of the reported results. Nonetheless, the mass of evidence suggests this is an effective programme across a range of outcome measures.

3.126 Project K improved all outcomes (self-efficacy, connectedness, resilience, wellbeing), with effects being sustained one year later (Furness et al., 2017*; Deane et al., 2017*). Furness et al. (2017)* calculated effect sizes[27] for these outcomes of 0.93, 0.70, 0.77 and 0.07 for the intervention group compared to -0.20, -0.36, 0.17, and -0.74 for the control group respectively. One cautionary note is that these effect estimates are from a relatively small sample (total sample was 80, with 49 in intervention group and 31 in control group), something known to inflate effect size estimates. Also, our Risk of Bias assessment found that Deane et al.'s (2017)* study had high potential for bias due to attrition, lack of clarity on programme selection, and lack of independent evaluators administering the tests.

Community-based and informal initiatives

3.127 For other community based or informal mentoring initiatives, there were positive results related to academic attainment (Hanlon et al., 2009) and small effects on school attendance (Russell and Francis, 2018). These studies were rated as providing medium evidence quality. Hanlon et al. (2009) was a large experimental study that covered multiple sites; Russell and Francis (2018) was also a large, well-conducted study, although it did not clearly report attrition and used a (quasi-experimental) matched control group.

3.128 In terms of social skills or personal behaviours, a conversation club for immigrant young people had a positive impact on their sense of belonging and connection. Additionally, a small-scale cooking intervention (sample size 118, with 91 in intervention group and 27 in control group) increased mental wellbeing and attitudes towards diet and cooking (Kuroko et al., 2020).

3.129 Other community programmes had no or negative impact, as is described below. For formal mentorship programmes on sports and music, studies found that they improved self-esteem and comfort in meeting those with developmental difficulties (Darrow et al., 2009) as well as mental wellbeing (Ho et al., 2017*); it should be noted that there was no blinding to treatment allocation in the Ho et al. (2017)* study, and Darrow et al. (2009) had a small sample of 24 young people.

Peer support programmes

3.130 Programmes including peer support all had a positive impact across a wide range of outcomes. Pavarini et al. (2023) found an online training programme increased support-giving skills, peer connectedness, compassion, and the frequency of support provided; this was a very well-implemented intervention, although it had a small sample of 100 in total. One thing these activities did include was training for the peers providing this support, something the implementation of future interventions should note. The Help Out A Mate

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[27] Using the Cohen's *d* measure. 0.2 is conventionally seen as a 'small' effect, 0.5, 'medium' and 0.8 or great 'large'.

programme improved mental health literacy and attitudes around help-seeking. The Teen Council had a positive impact on sexual behaviours and comfort in discussing sexuality with either parents or peers. Peer group-based career counselling increased chances of finding employment.

Youth empowerment or development programmes

3.131 Youth empowerment or youth development programmes reported mostly positive results, although some of the effects were modest and these effects may have only been indicated on some outcomes (see below for details of null effects). Some of these programmes were located in Africa, Asia and Central America, but were effective at addressing localised issues such as violence or early marriage via a youth empowerment model. Studies found some small long-term effects on health, standard of living, creative self-efficacy, sexual health knowledge, and earnings, and, they may decrease violence (Oscós-Sánchez et al.; 2021; Sheehan et al., 2022; To and Liu, 2021; Austrian et al., 2020; Gulesci et al., 2021). For example, To and Liu (2021) found small positive effects on self-efficacy (ES = 0.02) and youth empowerment (ES = 0.01), while Austrian et al. (*2020) found small effects for six of the sixteen outcomes they measured (5 with p< 0.05 and 1 with p < 0.1). Supporting self-confidence and knowledge of personal and social issues in a way which was related to young people's experiences appears to be effective. It should be noted that participants were able to select whether to be in the intervention or control group in the To and Liu (2021) study, which resulted in a non-equivalent control group. Furthermore, Sheehan et al. (2022) had difficulties accessing potential participants who were programme alumni.

3.132 A number of mentoring or coaching prevention programmes were intended to promote improved physical, mental, or sexual health. Two programmes reported an increase in the knowledge of STIs and use of condoms. A diabetes prevention programme had a positive impact on physical activity and nutrition knowledge. Other programmes also reduced the loneliness of young people during the COVID-19 pandemic and absenteeism from school. However, some of these types of programmes also reported no effect, as described below.

Mixed, null or negative impact studies

3.133 It should be noted that even where studies reported a positive effect overall, there may have been no effect or a negative effect for some participants or for particular outcomes. For example:

- Gowdy et al. (2021) concluded that those from middle-income backgrounds who had mentors were 6% more likely to be upwardly mobile economically than those who had not received mentoring, but that there was no evidence of this for those from low-income backgrounds

- Özler et al. (2020) found that there were some positive effects of their empowerment programme, but there was no effect for their primary outcome of reducing sexual violence. This should be a consideration when replicating programmes elsewhere

- Three studies focused on models of mentoring rather than mentoring *per se*, and there was no overall effect on outcomes where this was the case. Haddock et al. (2020) found no difference in outcomes for those receiving group mentoring compared to one-to-one mentoring; this result could have implications for providers in effective delivery of their mentoring programmes. DuBois and Keller (2017) did not find differences in outcomes between their thriving promotion condition (which incorporated strategies and materials based on a developmental science perspective[28]) and normal Big Brothers Big Sisters mentoring, which had statistically insignificant results on all outcomes. Donohue et al. (2005) did not find any differences in outcomes for their financial management and job social skills programme components other than for financial management test scores and job social skills measures

- Two programmes related to sexual behaviour and substance use did not report an effect on outcomes (Robinson et al., 2016*; Van Horn et al., 2014). Both of these studies had large samples, though Robinson et al. (2016)* had low attendance for their intervention and used convenience sampling

- Only one study reported a negative effect of the intervention: Budd et al.'s (2020) evaluation of an afterschool programme intended to improve academic performance. This was a 12-week programme with sessions taking place four days per week, but there was no evidence to support its effectiveness. Programme participants showed significantly smaller increases in state reading scores ($d = -0.17$, $p = 0.01$), overall state test scores ($d = -0.12$, $p = 0.03$), and EXPLORE standardised 8th grade tests ($d = -0.46$, $p = 0.03$) compared to nonparticipants.

Variation in Impact

3.134 Looking across evidence in this area, it appears that programmes of longer duration were more likely to have a greater effect. Many programmes, including Big Brothers Big Sisters and Project K, incorporated mentoring which lasted for at least one year. As mentoring relies on building relationships with either adults or peers, this consistency helped to build long term foundations for young people to succeed in the outcomes desired. That said, there was evidence that short term mentoring can also have a positive impact, at least in the period immediately following the programme.

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[28] see Figure 1, p.1482 of the study for further details.

3.135 Conversely, where studies found low, no or negative impact, many authors highlighted what they believed were some of the potential reasons for this. Firstly, the length of the intervention itself may have been an issue. Short trials may not allow for differences to become apparent; for instance, Brown et al. (2013) found positive effects on most outcomes but no difference in body mass index, which may be due to the short duration of the intervention. Second, the activities themselves may not have been suitable, whether they were not seen to be 'fun' or 'interesting' compared to other alternatives or because young people preferred a particular location. Practical barriers to access and rates of attendance were also highlighted by the author, in particular transportation (especially for students in rural areas or for whom the cost of transportation was prohibitive) and the significant time requirement involved for programmes. There may also be wider concerns such as family factors involved. While these barriers describe reasons authors believe contributed to programmes being less effective, they did indicate what principles and considerations should be taken into consideration and if addressed may help to make a programme successful.

Evidence Coverage and Quality

3.136 Given the size of the database in this activity area, we have noted results from quality appraisal alongside the results, above. Here we briefly consider the overall coverage and quality in this section.

3.137 This area had a relatively good number of well-conducted trials, with five being given a high overall score on our quality rating and 19 having a medium overall score. This included strong randomised trial designs and some quasi-experimental studies which employed propensity score matching to create control groups statistically. Many programmes being evaluated were well-established and operating at a large scale, with hundreds and in some cases thousands in the samples. Moreover, many programmes and studies of them were conducted across multiple sites, and in some cases across more than one geographical area. This evidence provides strong support for mentoring and coaching-based youth provision and as a component of broader programmes.

3.138 One issue for this evidence was that a number of studies included interventions which included aspects other than mentoring; for example, Project K consists of 3 components with wilderness adventure and community service also forming key parts of the intervention. Where this was the case, isolating the impact of mentoring was more difficult. Many studies were overrepresented by some groups such as those in disadvantage or of particular ethnic groups – this was very helpful if we want to understand how to support these particular groups but may or may not affect the impact achieved if it was applied to the wider population.

E. Residentials and camps

Definitions (what do the activities cover?)
- Mixed activity residentials included activities such as wilderness adventure, community service and mentoring.

- Outdoor-adventure-based residentials included activities such as backpacking, mountain climbing and rock climbing.

- Entrepreneurship-focused residentials included activities such as learning activities, and business planning roleplay.

Number of studies and proportion of RCTs
- There were nine studies in total. Four of them were RCTs (44%).

Which of the six outcomes seem to be linked with/supported by the activity type?
- The main outcome focus for outdoor-adventure based activities was related to mental health and wellbeing, including studies of self-efficacy, depressive symptoms, self-concept and positive adjustment.

- One study in this activity area focused on personal and social skills and school attitudes.

What evidence of impact is there for interventions in this activity area?
- Most studies in this area reported positive impacts of interventions, particularly on mental health and wellbeing. Seven out of nine studies measured the impact of this activity area on mental health and wellbeing, six of which demonstrated evidence of impact.

- However, some studies reported variable impact around some social outcomes or risky behaviours, particularly entrepreneurial related schemes.

- Estimates of impact on wellbeing outcomes such as self-efficacy and reduction in depressive symptoms tended to be small but were consistently reported across studies (3.157-158). One study found that effects were temporary, being no longer evident three months after the intervention (3.158).

- Evidence in this category was less strong relative to other categories, with limitations highlighted in quality appraisal across several studies.

What are some of the features of successful programmes?
- Successful programmes provided opportunities for young people to develop positive attitudes and self-belief. This was achieved by supporting participants to face and overcome challenging activities.

- Staff being role models was found to be a beneficial aspect of some outdoor activity residential programmes.

> **The strength of the evidence base**
> - Although most studies were large-scale and focused on larger, well-established interventions, there was a lack of RCTs and often a narrow population focus.
> - Some studies also suffered from attrition or financial constraints.

Overview of Area

Area Description

3.139 Studies in the residential and camps area were focused on three types of intervention: mixed activity residentials, with a particular focus on Project K; outdoor-adventure based residentials; and an entrepreneurship-focused residential. Outdoor-adventure based residentials involved a wide range of activities such as backpacking, mountain biking, rock climbing and tall ship sail training. Project K, as well as a wilderness adventure, included a community service component and mentoring (as reported in previous findings sections). The two studies focused on an entrepreneurship residential, involved learning activities as well as the opportunity for young people to create their own business plan, which they presented to experts at the end of the intervention.

Study Details and Quality

3.140 The database contained nine studies in this area. Five of these provided high directness of evidence about the impact of open-access youth activities. Most studies were large, with over 101 young people per comparison group (n=7). There were two small studies. One RCT of Project K was conducted across many settings (Deane et al., 2017*) involving 50 of the 84 Project K programmes (from 42 schools across 11 regions in New Zealand) being delivered at the time of the study, with 600 programme participants and 577 in the control group. In terms of study design, four of the studies were RCTs. There were five quasi-experimental or controlled trials. Studies took place in geographies such as New Zealand, Australia, Europe, North America and China. Some studies focused on specific populations, for example youths from socially deprived backgrounds.

Activities

Activity types, content and aims

3.141 The most common activity type in this area was outdoor-adventure based activities (n=5). The outdoor adventure-based activities seen in these studies tended to take place in different stages, involving a wide variety of outdoor activities. For example, Widmer et al.

(2014) studied a two-week residential adventure recreation programme, which consisted of three different activities: backpacking, white water rafting and exploration. The exploration rotation included activities such as mountain biking and rock climbing. Groups of four to six young people rotated between activities. Between each activity, participants took part in service projects (e.g., stream restoration, painting buildings, and brush removal) and a variety of group activities (e.g., kickball, campfire programs, talent shows, etc.). Similarly, the outdoor adventure recreation programme studied by Williams et al. (2019) consisted of three stages – a hard-top stage, which involved adventure activities such as canoeing, raft building and mountain bike riding; a supported camp stage in which participants undertook their first experience camping in tents; and a journey stage which involved backpacking. These activity stages took place in groups of 10 to 12.

3.142 There were two studies which focused on Project K (Deane et al., 2017*; Furness et al. 2017*). Project K was a multifaceted intervention based in New Zealand, featuring a 'wilderness adventure' component, similar to the outdoor-adventure based activities described above, alongside a 10-day community service component and one year of mentoring.

3.143 There were two studies which focused on an entrepreneurship intervention (Tingey et al., 2020a*; 2020b*), namely the Arrowhead Business Group Youth Entrepreneurship Model. Activities in this intervention consisted of 16 lessons delivered through a residential summer camp, followed by six follow-on workshops at monthly intervals, four to six hours in length, to develop business plans. Activities were delivered to groups of 25 youth participants, aged 13 to 16.

Providers, contexts and resources

3.144 A proportion of the interventions studied in this activity area were provided by non-profit organisations, including:

- LEAD, a North American organisation with the mission to "prepare underserved middle school students for leadership and success in high school and beyond" through outdoor-adventure residentials (Smith et al., 2022, p.141)

- The Nava Italia Foundation, which provided tall sail ship training with the aim of improving wellbeing to vulnerable young people (Capurso and Borsci, 2013)

- The Foundation for Youth Development, a New Zealand-based organisation, which has provided Project K (Deane et al., 2017*; Furness et al., 2017*).

3.145 Some of the interventions, however, were developed in collaboration with universities. For example, the programme Widmer et al. (2014) evaluated was formed out of a collaborative

venture between university researchers and a non-profit organisation specialising in adventure recreation programming for adolescents. Similarly, the entrepreneurship intervention studied by Tingey et al. (2020a*, 2020b*) was developed by White Mountain Apache Tribe in collaboration with the John Hopkins University Centre for American Indian Health.

3.146 Outdoor-adventure based activities tended to require specific outdoor-activity-related expertise to deliver. For example, in Chung et al.'s (2021) study, the adventure-based activities were delivered by two certified professional adventure-based educators who had experience of leading such activities for young people. Similarly, in Williams et al.'s (2018) study, each student group was led by an outdoor professional in addition to a school staff member. Project K (Deane et al., 2017*; Furness et al., 2017*) has also relied on this kind of expertise, given its 'wilderness adventure' component.

Participants

3.147 For some of the studies, the type of young people focused on was relatively broad in that certain characteristics tended not be targeted. Most of the studies tended to target young people in secondary schools. Participants in Williams et al.'s (2019) study, for example, were recruited from different school classes. However, in some cases, studies targeted a specific year group. Project K (Deane et al., 2017*; Furness et al., 2017*) also targeted secondary school pupils with low self-efficacy, although this was still fairly general as pupils demonstrating high-risk behaviours were excluded from the program for safety reasons.

3.148 In contrast, a larger proportion of studies targeted marginalised groups (n=5). For example, Chung et al.'s (2021) study of the impact of adventure-based training on depressive symptoms focused on secondary school students who lived in a large public housing estate in Hong Kong. Similarly, Tingey et al.'s (2020a*, 2020b*) entrepreneurship intervention focused on Native American youths aged 13 to 16. Participants in Smith et al.'s (2022) study were also from low-income, predominantly Black neighbourhoods in Houston.

3.149 In most of the activities studied in this area, participants took on a relatively passive role in terms of the content and focus of activities. The nature of outdoor-adventure based activities, and Project K, were organised activities (Deane et al., 2017*; Furness et al., 2017*), meaning that young people simply turned up and took part. There were examples of young people shaping the direction of activities within a provided structure, usually in the context of a creative or entrepreneurial activity. For example, in an entrepreneurship intervention (Tingey et al., 2020a*; 2020b*), after a residential camp, participants attended workshops where they created a business plan and, at the end of the programme, presented these to a review board comprised of local business leaders.

Outcomes and Measures

3.150 The main outcome focus for outdoor-adventure based activities was related to mental health and wellbeing. Studies in this activity area tended to focus on:

- the impact of an outdoor recreation programme on academic self-efficacy (Widmer et al., 2014)

- the impact of adventure-based training on depressive symptoms (Chung et al., 2021)

- the impact of tall ship sail training on adolescents' self-concept (Capurso and Borsci, 2013)

- the impact of an outdoor adolescent adventure programme on positive adjustment in young people (Williams et al., 2018).

3.151 One study in this activity area (Smith et al., 2022), however, focused on personal and social skills and school attitudes.

3.152 The two studies which focused on Project K were also focused on outcomes related to mental health and wellbeing. Deane et al. (2017)* measured whether Project K improved social and academic self-efficacy, whilst Furness et al. (2017)* measured the impact of Project K on self-efficacy, resilience, connectedness and wellbeing.

3.153 Outcomes related to mental health and wellbeing tended to be measured using scales. Capurso and Borsci (2013), for example, measured self-concept using the Multidimensional Self-Concept Scale, composed of six subscales: Social, Competence, Affect, Academic, Family and Physical. Widmer et al. (2014) measured self-efficacy using Bandura's guidelines for constructing self-efficacy scales – respondents were asked to indicate their confidence in their ability to complete a variety of outdoor tasks. The studies focused on Project K (Deane et al., 2017*; Furness et al., 2017*) used a 20-item self-report scale specifically designed for Project K to measure self-efficacy. The Project K Self-Efficacy Questionnaire contained three self-efficacy subscales: academic (e.g., "How well can you study for a test?"; eight items), social (e.g., "How well can you become friends with other people?"; eight items) and help-seeking (e.g., "How well can you get adults to help you with a problem?"; four items).

3.154 The outcome focus for Tingey et al.'s entrepreneurship-based studies (2020a*, 2020b*) ranged from social wellbeing and entrepreneurship outcomes to behavioural outcomes, with a particular focus on the impact on substance abuse, suicide and violence. Again, outcomes were measured using pre-test and post-test scales. For example, Tingey et al. measured social wellbeing and entrepreneurship outcomes self-reported in questionnaires

completed by participants at baseline and at 6-, 12-, and 24- months post-intervention. The questionnaires included entrepreneurship knowledge, economic empowerment questions, and scales to measure social wellbeing outcomes, including connectedness and hopelessness. Both studies measured outcomes over long periods.

Programme components and design

3.155 Many studies emphasised the development of attitudes and self-beliefs as the key mechanisms for the programme impacts, or took these as outcomes in their own right. Capurso and Borsci (2013), for example, hold that outdoor-activity programmes were considered to have positive effects on individual development, such as leadership, self-concept, locus of control and interpersonal attitudes. Similarly, the wilderness adventure component of Project K (Deane et al., 2017*; Furness et al., 2017*) was considered to increase self-efficacy because it provided an opportunity for participants to experience competence and mastery when faced with challenging tasks. Outdoor-activity programmes were also considered to have positive effects, particularly on self-efficacy, because of the staff being role models for the young people (Widmer et al., 2014).

Evidence of Impact

Reported Impact

3.156 Most studies focusing on outdoor-activity based residentials demonstrated evidence of impact, particularly in the outcome area of mental health and wellbeing. This suggested that outdoor activities, such as backpacking, kayaking and camping, could be impactful when delivered to young people in a residential setting (although the specific impact of each component cannot be separated out). The main benefit of this activity area for young people was improvements in mental health and wellbeing and, in particular, young people's self-concept. Seven out of nine studies measured the impact of this activity area on mental health and wellbeing, six of which demonstrated evidence of impact.

3.157 Project K was also shown to be effective in the outcome of mental health and wellbeing and, in particular, self-efficacy. Project K was a particularly promising youth activity, given that it was a large-scale, well-established programme which was delivered across 11 regions in New Zealand. Deane et al. (2017)* for example, reported positive effects on social and academic self-efficacy from pre- to post-programme, whilst Furness et al. (2017)* demonstrated positive effects on self-efficacy, resilience, and wellbeing. We noted, however, that Deane et al. (2017)* reported differential effects across participant subgroups. For example, there were stronger efficacy-enhancing effects for Asian youth participants, a group that reported significantly lower social self-efficacy at baseline. It should be noted that the Furness et al. (2017)* study used a small sample, and that there

was a high risk of bias in the Deane et al. (2017)* study due to attrition, lack of independent test administrators, and lack of clarity over selection of programmes.

3.158 The evidence of impact found in other studies of outdoor-activity residentials, however, was more variable. Some studies in this area demonstrated strong evidence of impact. For example:

- Widmer et al. (2014) reported positive outcomes for academic self-efficacy

- Capurso and Borsci (2013) reported that the tall boat sail training intervention had a significant effect on self-concept, with effects on the Competence and Social domains of Bracken's self-concept scale of 0.2 and 0.23, although this effect was only temporary, as revealed by a follow-up measure 3 months after the intervention

- Chung et al. (2021) reported that adventure-based training had a positive impact on resilience (η^2 = 0.05), self-esteem (η^2 = 0.02) and reduced depressive symptoms (η^2 = 0.03)[29]. These effects were maintained at 6 months post-intervention for resilience and depressive symptoms, and at 3 months but not 6 months for self-esteem. This study also was judged to have a low risk of bias.

3.159 Evidence of impact was weak in other studies in this area. Williams et al.'s (2018) study of an outdoor adventure programme was inconclusive in terms of the programme's impact. Using the Strengths and Difficulties Questionnaire, they reported a positive short and medium-term impact on dealing with psychosocial difficulties, but no evidence of short or medium-term effects on psychological strengths, interpersonal connectedness, or natural relatedness.

3.160 The evidence of impact for studies focused on entrepreneurship interventions was also variable. Tingey et al. (2020b*) reported positive impacts in terms of social wellbeing and entrepreneurship outcomes. For outcomes relating to risky behaviour (Tingey et al., 2020a*), the evidence of impact was encouraging, albeit slightly less clear. Substance use and violence decreased, an effect which was maintained at each data collection point, with 24.1% of participants using marijuana compared to 31.4% in the control group 24 months after the intervention. There was an increase in alcohol use in both participant and control groups during the study, however the increase in binge drinking for the control group was twice that of the participant group.

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[29] Partial eta squared (η^2) is a correlation-based effect size estimate. Conventional classifications for size of effects are 0.01 (small), 0.06 (medium), and 0.14 (large).

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Evidence Coverage and Quality

3.161 The quality of evidence studied in the residential and camps activity area was mixed. There was a notable lack of RCTs and in a number of studies the population focus was too narrow to generalise findings to the wider youth population. One strength was that most studies in this activity area were large-scale and some focused on large, well-established interventions. Also, there was a good critical mass of evidence in this activity area, particularly of outdoor-activity based interventions.

3.162 The quality of evidence for studies focused on mixed-activity residentials, namely Project K, was variable. Whilst Furness et al.'s (2017)* study was longitudinal, it was non-randomised and small scale. Deane et al.'s (2017) study, on the other hand, was a large-scale RCT, although the study experienced a high rate of attrition of over 50%, particularly in the control group. We have also noted the challenge of drawing conclusions in relation to this activity area given that Project K was a multifaceted intervention with non-residential components, including mentoring.

3.163 There was a good critical mass of evidence for studies focusing on outdoor-activity residentials, with more than half (five of nine) studies in the area of residentials and camps focused on this activity type and most of these being large-scale (i.e., there were more than 101 participants in each comparison group). However, our quality appraisal identified several limitations of these studies, notably that four out of five studies were non-randomised – although most studies also fell short of being high quality in other respects. Chung et al. (2021) and Widmer et al. (2014) failed to demonstrate that the effects witnessed held over a longer time period; Widmer et al. conducted a post-test on the last day of the intervention, giving no indication of long-term benefits, whilst Chung et al.'s study was cut short due to financial constraints. Meanwhile, participants in Smith et al.'s (2022) study were limited to young people from Black and Latino backgrounds, making it difficult to apply findings to the wider youth population.

3.164 The quality of evidence for the entrepreneurship interventions was relatively strong, albeit limited to a single research team. These studies (Tingey et al., 2020a*; 2020b*) were discussed at greater length in the Employment, Skills and Enterprise activity area analysis.

F. Sports and physical health

Definitions (what do the activities cover?)
- These activities related to sport or intended to support the physical health of adolescents.

- This included: individual sports delivered as part of a programme for multiple participants; small team sports and games such as football; programmes coupling additional activities to sports activities; sports programmes to support young people in difficult contexts, and; interventions involving a range of sports including rock climbing, judo, dance, kickboxing, basketball, football, volleyball, and small informal games.

- Highly targeted activities for elite athletes or young people with particular health needs were out of scope.

Number of studies and proportion of RCTs
- There were 13 studies in total and seven (54%) of them were RCTs.

Which of the six outcomes seem to be linked with/supported by the activity type?
- Improved physical health of participants was common (n=7) due to the nature of the activities (e.g., muscle power, physical activity levels, completion of physical tasks).

- Many studies also assessed a variety of personal and social behaviours and skills, including self-efficacy, self-esteem, resilience, mental health issues, and motivation (n=5).

- Some studies focused on improvements in mental health or related problem behaviours such as aggression or feeling a lack of belonging (n=6).

What evidence of impact is there for interventions in this activity area?
- Overall, evidence suggests interventions of this type can have a positive impact on physical and mental health and wellbeing. However, 3 of the 13 studies reported no or negative impact on physical activity levels.

- Estimates for increases in physical activity levels tended to be small, of increased activity of around 5 to 10 minutes per day. Some studies reported no impact or negative impact (3.185, 3.188).

- Three students reported improved self-esteem, mental wellbeing or life satisfaction (3.185) and others reported reductions in problem behaviours and aggression, increases in belonging and higher motivation (3.187).

- The quality of evidence was mixed, with many studies of small scale, and there were many issues with study design such as allowing young people to choose which treatment arm and activities they were involved in.

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What are some of the features of successful programmes?

- Successful sport and physical health programmes focused on creating constructive environments, supportive relationships, and positive social experiences through their activities.

- Successful programmes had sufficient capacity for and access to physical activities. This may include cost, facilities, and equipment.

- Maintaining commitment from participants was a challenge for sport and physical health programmes due to the high frequency of their sessions (often once or twice a week). Successful programmes tried to minimise attrition where possible.

The strength of the evidence base

- Studies' conclusions should be treated with caution as the interventions were often context-dependent and studies small in scale.

- Some studies focused on socioeconomic disadvantage, whereas others were more representative of the general population.

- However, bias issues may be present in studies where participants could choose whether they received the intervention or not and in which activities they took part in.

Overview of Area

Area Description

3.165 Studies in the sports and physical health area included a range of activities relating to sport and/or intended to support the physical health of adolescents. All studies included activities that were not highly targeted, (e.g., for elite athletes or young people with particular health needs). Many aims and outcomes were related to physical health, such as weight and fitness levels, but other outcomes were also included in these studies, particularly social and behavioural outcomes. Examples of studies in this area included:

- Individual sports delivered as part of a programme for multiple participants, e.g., rock climbing, judo, dance (Cross, 2002; Jago et al., 2015)

- Small team sports and games such as football (Beltrán et al., 2018; Soytürk and Öztürk, 2020; Trajković et al., 2020; Zarrett et al., 2021)

- Programmes coupling additional activities to sports activities such as mentoring, healthy eating or leadership programmes, and partnerships with local community businesses (DeBate et al., 2009; Pate et al., 2003; Tesler et al., 2022; Ho et al., 2017*)

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- Sports programmes to support young people in difficult contexts, e.g., during the COVID-19 pandemic, or for those living in post-conflict settings (Nathan et al., 2013; Richards et al., 2014; Efek and Eryiğit, 2022).

3.166 The database contained 13 studies related to sports and physical health, making it the second largest of our database categories. Nine of these studies provided high directness of evidence about the impact of open-access youth activities. The size of the samples employed in these studies were variable: five of the studies were classed as small (that is, 50 participants or fewer per comparison group), with four medium (51-100 per comparison group) and four large studies (101 participants or more per comparison group). Just over half of the studies were of an RCT (7 of the 13). Most of the studies took place in either North America (four) or Europe except the UK (four). Additionally, one study was based in the UK, with a small number from Oceania, Asia, and Africa.

Activities

Activity types, content and aims

3.167 This activity area focused on sports and activities to support physical health. Interventions involved a range of sports including rock climbing, judo, dance, kickboxing, basketball, football, volleyball, and small informal games. Team games were more common than activities which involved individual progress, although programmes which focused on the latter were still delivered in a small group format (to between eight and twenty young people). For example, the urban forest programme included activities such as bike riding, hiking, and rock climbing which were completed individually but provided in small groups (Tesler et al., 2022).

3.168 While sporting activities were the main focus of the projects, some projects in this area included other supplementary activities such as mentoring, healthy eating activities, and leadership programmes. These projects usually aimed to improve some aspect of physical health and fitness, but secondary aims included socialisation and an improvement in wellbeing and self-esteem. Sports were thought by those developing programmes to be a vehicle for wider social and behavioural outcomes. Some programmes were also targeted to young people affected by circumstances beyond their control, including a study during the COVID-19 pandemic, a programme to support young people living in a post-conflict setting, and a football initiative to promote cohesion in communities housing refugees (Nathan et al., 2013; Richards et al., 2014; Efek and Eryiğit, 2022).

3.169 Prizes and rewards were not universally adopted but were included in some programmes, such as prizes for completing scorecards (DeBate et al., 2009), and a trophy for a football

league based on results, sportsmanship, peacekeeping and community activities (Richards et al., 2014).

3.170 Most of the programmes included in this area ran for between 10 and 14 weeks. However, there were a few exceptions, such as Active Winners, which lasted 18 months (Pate et al., 2003), and a five-day intensive adventure education programme, which focused on rock climbing (Cross, 2002). The frequency of activities varied, but was usually multiple times per week, requiring large time commitment from participants. Most sessions were between 60 and 90 minutes in length. Many of these sessions involved a warm up activity, main sport and cool down format, although other components sometimes included student discussions of progress after the physical activity.

Providers, contexts and resources

3.171 It was not always clear who funded and initiated all of the programmes in this area. However, authors did share background information on some pre-existing and established projects. For example, the VERB Summer Scorecard was a well-established programme that began in Kentucky, USA in 2004 to create or improve access to activities, and it was part of a national initiative. The Football United programme started initially at one site in 2006 before expanding to cover 13 sites in New South Wales, Australia, in both rural and urban locations (Nathan et al., 2013).

3.172 Some of the programmes made efforts to particularly target socioeconomically disadvantaged communities (for example, Beltrán et al., 2018), but this was not the case in all studies. One took place in a post-conflict setting, a large city in Uganda recovering from a lengthy civil war (Richards et al., 2014). A mix of settings were used including schools, established hubs such as the Football United centres, and other community settings. Overall, interventions within this activity area took place in a range of contexts.

3.173 There were a number of small-scale studies in this area of programmes in specific, localised contexts. Beltrán et al. (2018) recruited from two schools in a city in Chile, and Cross (2002) recruited from a single, small school with fewer than 150 students and with which the researcher already had previous links. In contrast to the majority of studies which focused on urban-based interventions, Pate et al.'s (2003) Active Winners programme was based in two rural communities in South Carolina, USA.

3.174 Prizes and assistance with access to activities formed part of some programmes. For example, DeBate et al. (2009) created partnerships with the local community which were essential for providing young people with the opportunities to access physical activities through discounted entrance costs and other means. Instructors and equipment were provided for participants in all studies.

3.175 The cost of accessing physical activities was a consideration for some projects. The VERB Summer Scorecard programme involved forging partnerships with local businesses and communities in order to provide free or discounted opportunities for young people to take part in physical activities (DeBate et al., 2009). The Bristol Girls Dance Project also included significant costs for instruction, which led researchers later to conclude the project was not cost effective given its negligible impact (Jago et al., 2015).

Participants

3.176 None of the activities were restricted to one gender or ethnic minority background group, except for the Bristol Girls Dance Project (Jago et al., 2015). As mentioned previously, some activities specifically targeted those from lower socioeconomic backgrounds, but most were open to all other than elite athletes or those with pre-existing medical conditions that would prevent full commitment to the programmes. The intervention group in Pate et al. (2003) included relatively more young people of African American background than the comparison communities, and the majority of both participant and comparison groups were receiving free or discounted school meals.

3.177 Some samples had a significant proportion of participants who were overweight or obese (e.g., Ho et al., 2017*; Zarrett et al., 2021). One characteristic of contrast in this area was at-risk students: DeBate et al. (2009) did not try to reach these students with their programme, whereas the urban forest intervention was specifically targeted at Israeli youth attending at-risk centres (Tesler et al., 2022). The Football United and Gum Maron Kids League programmes included potentially vulnerable adolescents who were refugees or who were living in post-conflict areas (Nathan et al., 2013; Richards et al., 2014).

3.178 In relation to opportunities for young people to direct and shape the activities, most programmes were largely pre-planned, although there were some which involved participants more closely in design such as a sports mentorship programme which allowed mentors and mentees to decide together what skills to learn as the programme developed and to choose which sport to focus on (Ho et al., 2017*).

Outcomes and Measures

3.179 Primary outcomes were usually related to aspects of physical health or physical fitness such as, for example, body mass index, muscle power, ability to complete particular physical tasks (jumps, etc.), or physical activity levels. Seven studies included physical activity levels measured via self-reports or movement-induced accelerometer readings of physical activity as a primary outcome. These studies also assessed a variety of personal and social behaviours and skills, including self-efficacy, self-esteem, resilience, mental health issues, and motivation. How participants related to their peers, their sense of

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belonging and social cohesion were also measured outcomes. Some studies focused on a single or few outcomes, whereas others covered a larger number of these areas.

3.180 Use of pre-existing, validated tools to measure outcomes was commonplace. A large number of tools were cited in the studies in this area, particularly related to physical or mental health and social skills or behaviours. Where relevant, a few of these questionnaires were translated so that they were accessible for participants. Examples of these data sources included: Previous Day Physical Activity Recall; the Physical Activity Rating Questionnaire for Children and Youth; the Generalised Self-Efficacy Scale; the Center for Disease Control and Prevention's survey data; and the Strengths and Difficulties Questionnaire.

Programme components and design

3.181 Most studies cited links to the existing literature, theories and frameworks as reasons to assess the interventions. Examples of theories and frameworks which were adapted for these interventions included the Positive Youth Development principles of the National Research Council and Institute of Medicine, social cognitive theory, and Pender's health promotion model (Ho et al., 2017*; Pate et al., 2003). Cross' (2002) adventure education programme supported fundamental aspects of adventure education: namely, a novel setting; cooperative, caring and trusting environment; unique problem-solving opportunities; feelings of success or accomplishment; and time for processing and reflecting on the experience. Tesler et al.'s (2022) urban forest intervention was also designed in line with research on the potential of green environments for physical activities and healthy lifestyles.

3.182 Constructive environments, supportive relationships, and positive social experiences formed the basis for many interventions. Links between physical activity, motivation, social interactions, and physical and mental and wellbeing were commonly hypothesised. Sport was also considered to be a mechanism to build relationships across cultural boundaries. Effective access to activities, either by improving existing access or creating new places, was a key mechanism for projects (e.g., DeBate et al., 2009). Zarrett et al. (2021) achieved this aim by working with already existing after school programmes.

3.183 In order to be successful, ensuring that there was sufficient capacity for and access to physical activities was important. This included cost, facilities, and equipment. Moreover, many of these studies required a high level of commitment; programmes mostly lasted for a duration of 10 to 14 weeks, but with multiple sessions per week. A range of setting types were used for the interventions, access to programmes in practical terms should be a consideration for future programmes.

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Evidence of Impact

Reported Impact

3.184 Generally, the evidence suggested that sports programmes could have a positive impact on physical and mental health and wellbeing. However, some studies which reported positive effects for some outcomes also reported no or negative effects on other outcomes. Benefits of sports programmes in this area included improved physical fitness, physical activity levels, self-esteem, motivation, sense of belonging, and relationships with peers. This supported evidence cited by authors from the literature suggests links between physical activity, motivation, social interactions, and physical and mental wellbeing. A wide range of sports formed part of the programmes with positive effects, including various team sports and small-games-based activities.

3.185 Three studies reported an increase in the amount of time engaged in physical activity (Zarrett et al., 2021; Tesler et al., 2022; DeBate et al., 2009). Zarrett et al. (2021) calculated a difference between the intervention and control groups of 8.16 minutes of moderate to vigorous physical activity (MVPA) per day. Trajković et al. (2020) also reported increased levels of physical fitness, and Tesler et al. (2022) found improved healthy eating habits, though this study used a small sample. Zarrett et al. (2021) and DeBate et al. (2009) also had some issues with attrition.

3.186 Three studies reported improved self-esteem, mental wellbeing or life satisfaction (Efek and Eryiğit 2022; Ho et al., 2017*; Tesler et al., 2022). However, Ho et al.'s (2017)* trial also reported only small effects on physical factors (which were negated for those who already engaged in physical activities), and there were some concerns about bias due to allocation to treatment arms.

3.187 In terms of individual behaviour and attitudes, Beltrán et al. (2018) found positive effects on various motivation measures although this study used a small sample. Two studies also reported a reduction in problem behaviours or aggression (Soytürk and Öztürk, 2020; Trajković et al., 2020). For social outcomes, Cross (2022) found that participants in the intervention group felt less alienated than those in the control group, and the Football United programme had a positive effect on scores for other-group orientation and the prosocial scale (Nathan et al., 2013), although there were some issues with attrition for this study. 83.9% of participants in the Football United programme also reported feeling 'a bit or much better' since joining the programme, and 85.2% said it had also helped in other ways.

3.188 Three studies reported no or negative effects on physical activity variables (Pate et al., 2003; Jago et al., 2015; Richards et al., 2014). For example, Jago et al. (2015) found that MVPA only increased from 53.25 to 56.55 minutes per weekday for the intervention group

compared to 49.15 to 53.15 minutes per weekday for the control group. Moreover, the sport-for-development league in Uganda reported a negative effect on the mental health of participating boys. Some reasons were identified for interventions not succeeding as intended. For example, Pate et al. (2003) identified resource and time limitations in implementing three of the four programme components, and Jago et al. (2015) highlighted a difficulty in maintaining attendance on their dance programme.

Evidence Coverage and Quality

3.189 The quality of evidence in this area was mixed. The largest proportion of studies were of small scale, meaning below 50 participants in each intervention or control group in total; for some studies, this was actually under 20 participants. While these findings could be informative to organisations or individuals developing youth service programmes, these results should be seen as context-dependent. Outcomes measured were appropriate to their studies, and there was a consistent use of pre-existing, validated tools to collect data which increased the quality of evidence and findings.

3.190 A few of these studies focused on areas of socioeconomic disadvantage and had participants with highly diverse backgrounds. However, these studies tended to be smaller scale, clustered in one or few schools or geographical areas. Most studies overall recruited samples more generally representative of the general population, suggesting that positive impacts in this area might be applicable to a wide audience. Only one study took place in the UK, the Bristol Girls Dance Project (Jago et al., 2015), and this reported no effect and issues with cost effectiveness and attendance.

3.191 Just over half of the studies provided highly direct evidence for this topic. Seven out of thirteen used RCTs as a method. Conducting trials of activities already taking place rather than developing new projects and piloting them was a common pattern. Some studies also allowed young people to choose whether they received the intervention or not, and allowed choices on activities once started; for example, Ho et al (2017)* evaluated an intervention where participants chose which sport they learned, DeBate et al. (2009) focused on a Scorecard scheme which allowed young people to choose activities to access, and Tesler et al.'s (2022) urban forest intervention allowed participants to choose which three activities they joined. These factors may introduce a level of bias to these studies and to our understanding of the issue as a whole.

4. Synthesis and discussion

4.1 In reflecting on and synthesising the evidence, the project team developed a set of questions (outlined throughout this section) to draw out themes from across the activity areas while answering the study's original research questions. We held a workshop with the Youth Panel to help 'make sense' of these questions and review findings, and the discussion, below, incorporates a synthesis that reflects the project team and Youth Panel's interpretation of the findings.

What are programmes' aims and outcomes, how do these vary, and why?

4.2 **The majority of the youth activities we reviewed had multiple outcomes and aims.** We saw outcomes vary greatly within specific thematic areas (for example, across 'Social and personal skills') and even for similar programmes, with examples of studies of similar activities taking very different outcomes as their primary focus. This multiplicity within activities and their aims in part reflects the need for open access programmes to have broad appeal. Multiple aims, scope for variation and a degree of responsiveness – rather than singular aims with more general appeal – were the more common ways to achieve wide engagement in the studies we reviewed. Having multiple outcomes and aims also stemmed from the nature of many activities. Youth activities often took a holistic or multifaceted approach, addressing multiple academic, personal, social, and financial or economic outcomes. It is common for youth programmes to focus on the 'whole' person and how they interact with their community, recognising that different people benefit in different ways when the right environment is created.

4.3 **The main aims of activities were often indirectly linked to the activity focus.** For example, one music-focused programme – Sing and Grow – involved engaging parents and their children in musical activities, but took parental attachment and psychosocial adaptation as the target outcomes rather than musical or personal outcomes. Similarly, there were many sports programmes where the focus of activities was on achievement in the sport, yet the outcomes ranged from closely-related outcomes like physical fitness to more indirect outcomes such as confidence or social skills. For this reason, it is often helpful to make a distinction between the 'what' and the 'why' of an intervention.[30]

4.4 Furthermore, the framing of programme objectives and outcomes varied according to the perspectives of the stakeholders and beneficiaries involved. We found that different stakeholders tended to emphasise different objectives and outcomes to differing degrees. For example, whereas a young person might describe an activity in terms of 'seeing

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[30] The literature also considered the aims in terms of 'primary' and 'secondary' or short- and long-term.

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friends' and 'playing football', practitioners might describe an activity in terms of 'building trusted relationships', whereas commissioners and policymakers might talk in terms of 'improving social cohesion'. What we observed in the review often reflected the nature of research, where the focus is often on testing specific outcomes. In contrast, activity designers are more likely to treat participation in its own right as valuable, and focus on direct aims that are more visible to and intended by activity organisers and young people themselves. A holistic picture of youth activities would recognise multiple overlapping narratives in relation to aims, focus and outcomes. This is particularly important to consider when encouraging effective cross-sector and multi-agency collaboration to join-up support for young people more effectively, as each profession has its own outcomes of interest, conceptual models, traditions of practice, and so on.

4.5 **Descriptions of categories of outcome and the use of terminology varies between studies**. We used a set of outcome descriptors that were developed for the Youth Evidence Base research (see paragraph 1.3) – that is, improved education and skills, employment prospects, physical health, mental health, life satisfaction and the avoidance of negatives such as involvement in anti-social behaviour or crime. Other categories of outcome have been developed including those used by UK Youth's study on the economic value of youth work[31] such as improved family relationships, emotion management and reduced use of social services; while some studies further categorise impacts as primary (such as learning a sporting skill) and secondary (team working skills or community building, for example).

4.6 **Some interventions have been designed to be responsive to particular local needs rather than scalable more generally**. Some of the activities covered in this study described activities that have built on local expertise, enthusiasm and need and were sometimes locality specific, leveraging assets – people and places – within particular communities. Local initiatives have received less attention in the literature in terms of being subject to robust impact assessment studies. However, evidence indicated that to succeed, even larger, national programmes needed local engagement and buy-in, for example from local youth workers or employers; similarly, **large-scale, standardised programmes often involved a degree of contextualisation**, such as working with local employers to provide employment experiences. We also found that **open access programmes often involved a degree of targeting**, such as priority places for disadvantaged groups.

What is the state of the evidence?

4.7 **In general, we observed that the evidence was skewed towards medium-sized and larger, national programmes**. This is not necessarily because these programmes were

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[31] UK Youth (2022) https://www.ukyouth.org/untapped/, see page 11

the best designed or most likely to generate impact. Rather, it appeared to be a case of evaluation 'following the money'. This is reflected in the size of many evaluation samples, with over 60% having over 100 participants per comparison group. For example, there were numerous studies in the US that assessed large policy-funded programs such as mentoring or employability programmes. We found fewer studies that attempted to evaluate smaller-scale programs, limiting opportunities for meta-analysis of similar programmes and reducing the ability of the review to examine the impact of youth provision more broadly. There also seemed to be a skew towards structured, curriculum-based programmes rather than open access services (e.g., drop-in youth clubs) with a less structured intervention but focus on cultivating trusted adult relationships over the medium-to-long term. Our searches focused on causal evidence, resulting in a slight majority of studies being RCTs (n=41). There were also quasi-experimental or statistically controlled designs, accounting for 36 of the 77 studies. It is also worth noting that only a minority of the evidence relates directly to the UK context.

4.8 **The evidence base for the impact of youth provision is weak in most areas.** Overall, 77 studies were reviewed in full, which is fairly thin evidence considering the range of areas we reviewed and the variety of programs in existence. This likely stems from the methodological[32] and resource challenges of conducting experimental research in this area. Eight studies were from the UK. Most interventions of a similar nature had only a few studies from which to assess impact. There was some variation, however. For example, we found a greater quantity of evidence relating to similar types of mentoring, coaching and peer support interventions. We found a moderate amount of evidence for summer employment experience programmes, with a fair degree of consistency in the design and aims of the programmes. We found a smaller amount of evidence for music, arts, recreation and community, with intervention types and aims being more disparate.

4.9 **There were few examples of detailed process evaluations and theory development**. At present, there is a lack of coherence and development in shared and tested theories of change for youth activities. Some of the larger interventions, such as Big Brothers Big Sisters (BBBS), National Citizen Service (NCS) and Project K, had built up a small body of evidence around them. Furthermore, there are delivery models about which there is reasonable evidence, such as mentoring programs, employment programs, citizenship programs, uniformed clubs, and sports clubs. Research from What Works centres in this area has the potential to develop greater coherence and clarity around the design, causal mechanisms and impacts of youth activities. Note that we have included a list of all interventions for which we have impact evidence in Annex E. This list includes named programmes as well as more generic descriptions of unnamed programmes.

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[32] E.g., relating to measurement, discussed in 4.11; diversity of contexts and activity types; and to conducting controlled experiments for open access provision with voluntary participation.

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4.10 **Measurement was an issue in the evidence,** with many of the studies' outcomes addressing measurement challenges, with varying degrees of success. For example, measuring communication and social skills can be difficult, and many studies relied on self-reported satisfaction, an issue compounded by a lack of longer-term follow up or objective measures for triangulation. Self-reported measures often provided convincing evidence of enjoyment and engagement, which are important outcomes in their own right. Fewer studies were able to provide objective measures of wider or longer-term impacts, making it difficult to assess whether immediate and short-term impacts transferred elsewhere. For example, Project K aimed to develop self-efficacy through challenge, but it was unclear whether this carried over to greater self-efficacy in young people's personal or educational lives, or in later life outcomes. Longitudinal quasi-experimental studies, long-term follow-up measures[33], and use of a combination of objective and subjective measurement using standardised instruments would strengthen the evidence base. There is a common outcomes framework[34] and guidance for measuring outcomes for youth work[35] that could be utilised to address some of these measurement challenges.

What is the overall evidence of impact for youth provision evaluated in the literature? Which activities and/or activity types show more and less promise?

4.11 In terms of impact, despite the limitations of the evidence base, there was sufficient evidence to conclude that well-designed youth activities can and do have positive impacts across a range of personal, social, educational and economic outcomes. There was also good evidence of impact on self-reported enjoyment of youth activities and general wellbeing indicators, although we note that impact assessment using clinical measures of mental health fell outside the scope of the review. What was more variable was the number of well-developed and researched models that could form a starting point for developing and funding programmes across the activity areas we reviewed. Activities in the areas of citizenship, community service, summer employment schemes, and volunteering tended to have the strongest examples of well-established models working at scale and demonstrated the clearest evidence of impact on personal, social and behavioural outcomes, particularly for youth engagement interventions and uniformed activity interventions. The evidence for risky behaviour interventions and arts community interventions was more variable in terms of the quality of the research and whether positive

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[33] Including follow on studies to check impact at durations of, for example, 6, 12 or 18 months to assess 'fade out'/persistence of the direct intervention effects, as well as studies of how interventions have impacted on outcomes later in the life course (e.g., employment outcomes in adult life).

[34] YMCA George Williams College and the Centre for Youth Impact (2023). Outcomes Framework 2.1. https://www.youthimpact.uk/outcomes-framework-21. Furthermore, the Youth Work Evidence Alliance, supported by DCMS, is working to standardise outcome measurement across youth organisations in the UK.

[35] https://www.nya.org.uk/resource/future-outcomes-practical-guide-measuring-outcomes-young-people/

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outcomes were achieved. Some studies in these areas found that interventions had a mixed or null impact on young people.

What are the characteristics of effective youth provision?

4.12 **Positive adult-youth relationships are a necessary condition in many youth activities**. Activities designed to build social connections were often characterised by mentoring, volunteering, and sometimes community involvement. Mentoring (including peer mentoring) was the most common single component of effective programmes. Effective interventions also often made meaningful use of time outside school, and created a safe and supportive environment where young people felt comfortable.

4.13 Effective interventions often gave young people the opportunity for mastery (of a skill or pursuit), and/or supported their personal, educational or career development (e.g., in providing employability or social skills and experiences). Social mixing and an element of building or engaging with communities also appeared linked to positive outcomes and can be considered an outcome as well as a factor in the effectiveness of youth activities. Many interventions were multifaceted, as discussed above – this linked with the nature of the open access activities we reviewed, but also may be part of what made activities beneficial for young people with different needs and aspirations who attended them.

4.14 **Effective programmes often provided young people with the ability to make choices within structured parameters**, meaning that even within structured programmes young people had the space to exercise agency. It appeared young people were often passive (or absent) from the actual design of many programmes, and it is unclear how this affected outcomes. For example, with many of the citizenship activities examined, young people simply attended and participated in the activity, perhaps in pre-planned activities or under an overarching curriculum. Nonetheless, the design of longer running and larger scale programmes suggests that a level of structure and predetermination of the content and focus of activities is desirable, when balanced with opportunities for ownership and leadership from young people. Activities designed to address specific issues such as risky behaviours tended to have a more specific curricula.

4.15 **Our findings paint a picture of a disparate youth landscape**. There appeared to be many ways of configuring funding and provision, made up predominantly (but not exclusively) of non-profit and publicly-funded provision. Furthermore, forms of partnerships were varied and a feature of many of the activities reviewed, for example between local and national government, community groups, schools and charities. The resource-intensity of activities varied considerably and so sustainability of funding and delivery (partnerships) is an ongoing consideration for youth provision and the organisations that

work in this space. The evidence suggests that contextual factors are important considerations for youth services (see 4.6, above), with perceived community needs being important to the design of many programmes, and the (human, organisational, and other) resources and capacities of the local community important moderators for youth activities being effective and sustainable.

What next for research, policy and practice?

4.16 **In terms of future research**, the evidence was spread thinly across a range of activities. Mentoring and coaching had the strongest evidence base, and the arts, music and community-based interventions formed the least coherent thematic areas. The evidence base currently leans towards more generic and standardised programs, but there are also locally- and culturally-specific activities that need to be studied. There is value in finding ways to assess impact across more diverse activity areas (e.g., arts and community-based interventions) and smaller, local initiatives to ensure that areas where programmes are less standardised, and measures less tangible, do not remain as blind spots for the research. Moreover, many activities cut across educational, clinical and other public and private services. Focused attention in each area with consideration of how youth services can work in partnership would be an appropriate step for further research.

4.17 This review looked at open access provision and therefore youth provision that potentially includes young people with a range of backgrounds and different characteristics. Where assessed within studies, the evidence often revealed variation in impact on different young people in terms of the amount of impact and in terms of them experiencing and benefiting from activities in different ways. Future research should therefore also consider the potentially variable impact of open-access activities on the different groups that attend them, considering factors such as need, age, disadvantage, ethnicity, gender, and location.

4.18 The challenge of improving the evidence base requires sustained activity over a long period and the adoption of a set of sound research practices to bring more coherence in measurement tools, with a common outcomes framework for youth work and shared, validated measurement tools – including tools that could be deployed at point of use, thus serving both practical and research purposes. This study has made use of tools developed by the Youth Futures Foundation[36] (for developing youth employment) and Youth Endowment Fund with respect to prevention of serious youth violence[37], and these tools, along with other frameworks and guidance referred to above, will play an important role in helping the field of research to move beyond short-term and self-report measures, and

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[36] Youth Futures Foundation (2022) Evidence and Gap Map - Youth Futures Foundation.
[37] Youth Endowment Fund: https://youthendowmentfund.org.uk/toolkit/

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also to consider the practical, formative use of validated measurement tools in activities like mentoring.

4.19 **In terms of policy and practice**, despite the skew in the evidence towards larger programmes, our review suggests value in a mixed activity portfolio: developing, funding, piloting and evaluating small-scale initiatives as well as larger scalable programs. We suggest that the NYA's[38] or YMCA George Williams College's[39] advice to encourage each intervention to consider its objective and potential impact in the form of a logic model would support clarity of purpose as well as providing the basis for sound evaluation research. Our assessment of outcomes suggests particular consideration is needed to balance specific aims and the overall measure of success, with a range of immediate, indirect and wider outcomes including young people's participation, enjoyment, and social mixing. Membership, attendance, and the composition of young people participating in activities should also be monitored. Sustained funding and longer-term timeframes for impact measurement are also important considerations.

What are the main limitations of this literature review?

4.20 Our literature review has highlighted a range of high-quality evidence demonstrating the various ways in which youth interventions can generate impact for young people. As with all reviews, there were inevitable constraints, challenges and trade-offs in meeting the overall review objectives. As has already been noted, the requirements of our review were specific, prioritising certain types of evidence over others. We acknowledge the large amount of useful evidence generated through different methodologies which did not make it into this review, such as small and/or purely qualitative studies, and studies employing longitudinal and/or correlational designs. These studies invariably contain important insights about the nature and impact of youth work, from a variety of different perspectives and disciplinary traditions. Because our goal was generalisability – that is, identifying what evidence tells us about the impact that might be expected from youth work in a range of contexts and settings – this meant our findings and discussions relate only to the specific studies in scope for this review, as per the eligibility criteria. Furthermore, our review related to young people aged 11 to 18, and up to age 25 for young people with forms of SEND, which further shapes the research included in this study. Other limitations relating to inclusion are the likely omissions of eligible studies due to the difficulty locating studies in hand searches of the grey literature, and not being able to draw on more indirect evidence beyond open-access youth activity to support the analysis (i.e., from studies of targeted provision or offered by other providers such as schools or clinical settings).

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[38] National Youth Agency https://www.nya.org.uk/resource/future-outcomes-practical-guide-measuring-outcomes-young-people/

[39] YMCA George Williams College (2023) Impact and Improvement Hub. https://www.youthimpact.uk/key-resources/impact-improvement-hub

4.21 The review has also faced constraints in its analysis of programme mechanisms and moderating and contextual factors. The key challenges related to the low availability of relevant data linked to experimental studies, and as reported in word-limited journal articles that make up most of the database, and the feasibility of qualitative analysis across a large database stemming from many disciplinary areas and literatures.

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Annex A: Research methods and tools

A.1 In this Annex we provide further detail about the methods used to inform our review, the search terms and databases we used, how we appraised the quality of the material in the review and our analysis framework.

Summary of existing systematic reviews in this area

A.2 We found several studies conducted about ten years ago that presented findings from systematic reviews of literature to find, scan and screen available research for robust and reliable evidence of the effects of youth provision. All reported the paucity of robust evidence. These included:

- A systematic review that found no studies that met their inclusion criteria (Mundy-McPherson et al., 2012). This 'empty review', they argue, exposed the international absence of rigorously conducted evaluative research in this area

- A review of evidence regarding non-cognitive skill development which found some evidence based on limited robust research (Gutman and Schoon, 2013)

- A similar systematic study of the effect of youth work which again found limited experimental and quasi-experimental studies in the field (Dickson et al. 2013)

- Morton and Montgomery (2012) examined the impact of youth empowerment programmes for improving adolescents' self-efficacy and self-esteem. They found only three studies which met their inclusion criteria, with none of them reporting significant effects on the stated outcomes.

A.3 We also located four reviews which focused specifically on youth sport or physical activity programmes. Lubans et al. (2012) and Hermens et al. (2017) both noted the lack of high-quality evidence on activities for young people with disabilities (Arbour-Nicitopoulos et al., 2018). This review discussed 18 diverse programmes and studies, concluding that in many instances the activities appeared to be important for promoting positive psychosocial and physical skill development for participants. The authors highlighted the need for more rigorous methodological designs, however, particularly for measuring impact on psychological wellbeing and participation.

A.4 In recent years, Positive Youth Development (PYD) approaches have been further developed (particularly in the US) as a way of addressing and tackling multiple health-risk behaviours for young people such as substance abuse, risky sexual behaviours, self-harm, and other behaviours leading to emotional, behavioural and mental health problems

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(Bonell et al., 2015). PYD approaches focus on young people's strengths, capacities and surrounding contexts, engaging them within their communities, schools, organisations, peer groups, and families.[40] PYD interventions aim to provide young people with positive expectations, positive relationships with adults, and engagement in diverse activities and settings (Bonell et al., 2015). A meta-analysis of PYD RCTs concluded that these interventions had a small but significant effect on academic achievement and psychological adjustment, but no significant effects were found for sexual risk behaviours, problem behaviour or positive social behaviours (Ciocanel et al., 2017).

A.5 The influence of youth programmes on young people's social and emotional skills and outcomes has been a specific focus for several recent systematic reviews. Morton and Montgomery (2012) examined the impact of youth empowerment programmes for improving adolescents' self-efficacy and self-esteem. They found only three studies which met their inclusion criteria, with none of them reporting significant effects on the stated outcomes. Similarly, a review of UK-based school and out-of-school interventions designed to enhance social and emotional development revealed a picture of weak evidence (Clarke et al., 2015). For the out-of-school programmes (focused on here, in line with the aims of the current study) there was limited evidence of impact for sport, drama or music programmes, and weak evidence for mentoring programmes (with some exceptions, such as the Big Brothers Big Sisters initiative). In relation to youth social action programmes, there was potential promise shown in the evaluation of the National Citizenship Service (NCS) programme but not in other similar initiatives (Clarke et al., 2015). Also providing relevant information in this area is the rapid evidence assessment from Alma Economics, funded by DCMS[41]. This review explored the motivations for youth social action and its impact on young people. Despite challenges in establishing direction of causation, there were clear associations between positive personal characteristics and social action. Finally, a review by Barry and colleagues (2017) focused on the effect of community-based programmes on adolescents' social and emotional skills, and echoed some of the findings in the aforementioned study. Only five of the included 14 studies used an RCT design and none were designated as methodologically strong. There was some evidence of impact in the small number of social action trials and mentoring programmes, but the authors posit that stronger, more standardised approaches to measuring social and emotional skills and development are needed to make stronger claims about intervention effects.

A.6 We located four reviews which focus specifically on youth sport or physical activity programmes, two of them particularly examining the impacts on vulnerable or at-risk young people. Lubans et al. (2012) and Hermens et al. (2017) both noted the lack of high-quality

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[40] See https://youth.gov/youth-topics/positive-youth-development
[41] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1003521/DCMS_youth_social_action_REA_-_Alma_Economics_final_report__accessible_.pdf

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evidence on these programmes and outcomes. The latter, reviewing 18 studies reported improvement in at least one life skill area following participation in a sports programme, but only one of these studies was an RCT; other studies included small-scale quasi-experiments, cross sectional or case study designs. Evans et al. (2017) found some positive impacts on youth psychosocial experiences following engagement in sport activities, particularly in relation to mental health and self-esteem-related outcomes. The majority of studies included in this review, however, focused on sport activity in school settings (with just a few focusing on beyond-school settings). The evidence for the latter settings was considerably weaker than for the studies based in schools. Finally, we look at a systematic scoping review of inclusive out-of-school physical activity programmes for young people with disabilities (Arbour-Nicitopoulos et al., 2018). This review discussed 18 diverse programmes and studies, concluding that in many instances the activities appeared to be important for promoting positive psychosocial and physical skill development for participants. The authors highlight the need for more rigorous methodological designs, however, particularly for measuring impact on psychological wellbeing and participation.

A.7　Beyond systematic literature reviews in this area, there are many reports and studies exploring if and how youth provision benefits young people. Two notable examples brought to the attention of the review team are the recent #iwill Learning Hub's Youth social action impact summary[42] and a recent report on the economic impact of youth work from Frontier Economics, funded by UK Youth[43]. Both of these reports provide an overview of previous studies of the impact of youth work and present new evidence on the benefits of youth action across a range of outcome areas and the economic value of youth provision, respectively.

A.8　Overall, previous reviews in this area highlight the difficulties of conducting rigorous impact evaluation in the youth services space and suggests that the evidence base we are reviewing is patchy and will yield mixed results. Reviews such as those of youth programmes focusing on social and emotional skills also highlight challenges of measurement and assessing impact across multiple outcomes from a generally weak evidence base. These challenges notwithstanding, our scoping work suggests that the evidence base has grown over the last decade – something which, coupled with our intention to use a more expansive set of search terms, leads us to believe a more substantial evidence base can be identified. Moreover, existing reviews suggest areas of promise for some interventions and outcomes which may become clearer as our understanding of the evidence base develops. Our hope is that this review, positioned within a broader research project, will bring together a more recent and wider range of

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[42] https://www.youthimpact.uk/sites/default/files/2023-05/V3%20iwill%20summative%20report%204%5B86%5D.pdf
[43] https://www.ukyouth.org/wp-content/uploads/2022/11/Economic-Value-of-Youth-Work-Full-Report.pdf

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studies to identify areas of promise for understanding the impact of youth services provision.

Searching and screening information

A.9 We developed a general set of search terms using the Web of Science database, which we applied to all other databases with the minimum of adaptation needed to use the same search syntax and functionality and ensure comparability across databases.

A.10 Box A–1, below, gives the general search terms that were adapted to all databases. Full details of search terms, options and conditions by database and results is included in the protocol. Table A-1, below, provides a full list of search databases.

Box A-1: Search terms used for the Web of Science collection, adapted to all other databases

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1. Topic (i.e., keywords, title and abstract): (youth OR "young pe*" OR teen* OR adolescen* OR "young adult")

AND

2. Abstract: (RCT OR experiment* OR randomi* OR "propensity score matching" OR "difference-in-difference" OR "difference in difference" OR "regression discontinuity" OR "quasi-ex*" OR "time series" OR "instrumental variable" OR "(impact OR effectiveness OR efficacy OR realist OR theory-based) (trial OR evaluation)")

AND

3. Abstract: (activity OR service OR "youth work" OR club* OR centre OR center OR "youth group" OR program* OR volunt* OR mentor* OR scheme OR initiative OR intervention OR organisation OR provision OR camp)

Table A-1: Search databases

ProQuest Collection	Web of Science Core Collection
Databases included:	***Databases included:***
● Humanities Index	● Social Sciences Citation Index (SSCI)
● Social Science Premium Collection	● Science Citation Index Expanded (SCI-EXPANDED)
➢ Criminology Collection	
➢ Education Collection	● Emerging Sources Citation Index (ESCI)
i) Education Database	● Arts & Humanities Citation Index (A&HCI)
	Other Databases

ii) ERIC	***Academic Databases:***
➤ International Bibliography of the Social Sciences (IBSS)	● PsychInfo
➤ Library & Information Science Collection	● Science Direct
➤ Linguistics Collection	***What Works Centre Databases:***
➤ Politics Collection	● ***Youth Endowment Foundation (YEF)*** – Relevant Categories in Evidence and Gap Maps
➤ Social Science Database	● ***Youth Futures Foundation (YFF)*** – Relevant Categories in Evidence and Gap Maps
➤ Sociology Collection	
i) Applied Social Sciences Index & Abstracts (ASSIA)	
ii) Sociological Abstracts	
iii) Sociology Database	
● Sports Medicine & Education Index	

Grey Literature Searches

- **Google Scholar**
  - ➤ To capture commissioned research reports, we will also search Google Scholar and review the first 1000 returns
- **Hand searches**
  - ➤ We will search **websites** of organisations which report evidence about youth services. A full list of organisations for scoping and hand searching is provided below.

We searched **websites** of organisations which report evidence about youth services. For feasibility purposes, we only located records from readily-accessible and/or searchable databases. Full records were kept of hand search locations and items located. The following organisational pages were searched: ● OECD (https://www.oecd.org/) ● Council of Europe (https://www.coe.int/web/portal/home) ● EU (https://european-union.europa.eu/index_en) ● EU Commission (https://commission.europa.eu/index_en) ● Youth Impact (www.youthimpact.uk/key-resources/resource-hub) ● UK Government (https://www.gov.uk/search/research-and-statistics) ● NYA (www.nya.org.uk/knowledge/nya-research-hub/) and (https://www.nya.org.uk/youth-investment-fund/) ● UK Youth (www.ukyouth.org/resources ● The Commonwealth (https://thecommonwealth.org/our-work/youth) ● The Scout Association (https://www.scouts.org.uk/) ● The Duke of Edinburgh's Award (https://www.dofe.org/)	Where applicable, the following search string was used: (youth OR "young pe" OR teen OR adolescen) AND (RCT OR experiment OR randomi OR evaluation)

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• Institute for Employment Studies (https://www.employment-studies.co.uk/publications) • Institute for Outdoor Learning (https://www.outdoor-learning-research.org/Research/Research-Reports) • American Camp Association (https://www.acacamps.org/ • The Summer Camp Society (https://www.thesummercampsociety.com/) **There were also a small number of academic databases with limited search and/or export capability that were hand searched:** **SSRN, searching titles, abstract and keywords for:** • Youth RCT (n=11) • Youth experiment (n=141) • Youth trial (n=129) • Youth evaluation (n=212) **REPEC (repec.org) searched via:** • IDEAS/RePEc search (n=253) • EconPapers (n=518)	All records using the following search string: (youth OR "young pe" OR teen OR adolescen) AND (RCT OR experiment OR randomi OR evaluation)

A.11 For further details of search conditions, and results by database, please see the review protocol registered and available at the following web location: https://doi.org/10.17605/OSF.IO/TE6PX

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A.12 Following searches and the removal of duplicates, all records were screened for quality and relevance. This took place in two main stages: 1) titles and abstract screening and 2) full report screening. At both stages, all inclusion/exclusion reasons based on eligibility criteria were recorded on the EPPI-Reviewer software. 10% of records were double screened independently by a second researcher (with results compared), with the same researcher handling the record through both stages. Following this manual screening, all records were exported into an excel database and papers into secure document storage. Subsequently, a further round of relevance and quality appraisal took place, recorded on the database. At this point the database was finalised and studies were placed into groups for analysis.

A.13 The screening process applied detailed eligibility criteria (Table A.3, below), with decisions recorded in EPPI-Reviewer and/or the MS Excel database, depending on the stage of the review.

Table A-2: Eligibility criteria

Criteria	Further information and conditions.
Population:	
• Provision focused on young people between 11 and 18 years of age (11-25 with SEND).	• If mixed youth, adult and/or younger child population, INCLUDE when at least 50% young people between 11 and 18 years old[44].
Provision/Interventions/Activities of interest:	
• Study has a substantial focus on a youth service, programme, provision, or activity (see agreed definition and scope of these services).	• INCLUDE activities that can be or are offered widely or universally. This _can_ be a service offered in a small geographical area when similar provision (by the same or a different provider) could be or is offered elsewhere • INCLUDE when young people can OR do participate in the programme voluntarily. Participation includes attending services (e.g., a youth centre) on regular or semi-regular basis as well as in relation to engagement with defined programmes • INCLUDE defined programmes as well as multi-activity and/or ongoing services (see activity definition above) • EXCLUDE highly targeted, restricted access programmes such as youth in the care or criminal justice system • EXCLUDE programmes which target a specific talent or objective such as elite sports, advanced music or arts that are not open to all/beginners

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[44] This condition was included prior to searching to support inclusion decisions. It is reported here for full transparency in relation to the review protocol plans. In practice, this was not an operative condition, and we did not include any studies whose impact estimates included results for appreciable numbers of non-youth participants.

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	• EXCLUDE programmes primarily focused on religious objectives. Activities with a religious character or population (e.g., Jewish Lad's and Girls Brigade) _are_ in scope where they have potential impact on youth outcomes (as per our general definition, below)
	• INCLUDE activities run by organisations which focused in part or whole on the provision of youth activity, where activities are run by youth workers and/or volunteers. EXCLUDE activities run by all other organisations (e.g., schools/colleges, medical services)
	• EXCLUDE programmes focused on families, i.e., targeted parents or other family members as well as young people

Study design and outcomes:	
• Study employs a causal research design suitable for assessing activity impact.	• INCLUDE studies using an experimental design or quasi-experimental design. This includes but is not restricted to: ➢ Randomised controlled trials ➢ Propensity score matching ➢ Difference in difference analysis ➢ Regression discontinuity designs ➢ (Interrupted) Time Series ➢ Instrumental variables • INCLUDE studies self-describing as 'experiments', 'quasi-experiments' and/or 'causal' beyond the designs named above. These are to be reviewed during quality appraisal. • EXCLUDE systematic reviews or meta-analyses. Examples meeting other population and intervention criteria (above) will be placed in a separate folder and mined for references. • EXCLUDE evaluation studies without a suitable comparison group or statistical controls. Separately retain any notable medium to large studies (n=100<) meeting other population and intervention criteria for wider/indicative evidence – but exclude from main review.
• Study has a substantial focus on the impact of the activity on youth outcomes or experiences.	• INCLUDE evidence of impact for ANY personal, social and/or emotional outcome for the youth involved. This may take the form of educational, employment, physical and mental health, and/or emotional and social outcomes, life satisfaction, community safety and cohesion, positive affect, happiness, subjective wellbeing, leadership etc.

Bodies of Literature and other criteria	
• INCLUDE pieces written in English	
• Item type is a peer reviewed journal article or authoritative report	• INCLUDE peer reviewed journal articles and/or reports based on research commissioned by policy makers, charitable or other non-commercial organisations

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reporting empirical research.	• EXCLUDE conference proceedings, opinion pieces, book chapters and working papers • EXCLUDE master's and doctoral dissertations/theses that were published before January 2019
• EXCLUDE where full text not available	
• EXCLUDE duplicates	• We will remove all duplicate records. We will in the first instance INCLUDE multiple publications from the same study or body of work but will subsequently remove any superseded by other related publications associated with the study. If multiple studies are reported within a single publication, we will apply eligibility criteria to publication sections or chapters pertaining to individual studies and treat eligible sections as single records.

Quality appraisal

A.14 A range of quality information was collected for studies included in the database, including ratings using formal appraisal tools (see below). Information about the following quality and relevance criteria was collected following the screening stage:

- *Outcome measure quality and type* – e.g., the suitability and validity of the outcome measure, and whether standardised validated measures were used

- *Directness of evidence* – Whether the study is directly relevant to the population (the youth population) and activities we were focused on (as per the definitions provided earlier in this section). Studies with 'low' directness were excluded. Studies with some minor indirectness were rated 'medium' and some with none were rated 'high'. Examples of indirectness include 1) the programme being offered to a restricted population (e.g., a poorer neighbourhood), and therefore only providing indirect evidence about the activity's potential impact on a general population; 2) the activity being provided by a mixture of specialist providers and dedicated youth workers or volunteers

- *Ecological validity and realism* – Many social intervention studies are designed to optimise conditions for the intervention and/or control for factors outside the scope of the study. An efficacy trial, for example, might be conducted with a small number of enthusiastic volunteers or with a provider or in a context with somewhat unique attributes (e.g., a scheme running as part of the 2012 London Olympics). An experiment might deliberately control factors by providing standardised materials or instructions to isolate certain variables. These would be features which undermine the generalisability of the results and scalability of the activities

- *Study scale* – For purposes of this review, and in the context of typical group sizes for trials in social research, we defined a small study as having less than 50 individuals per comparison group, a medium study involving between 51 and 100 young people per comparison group, and a large study as having over 100 individuals per comparison group

- *Activity and process detail* – A common problem with social and educational trials is the lack of attention to the nature and implementation of the underlying intervention. It is not yet standard practice in social research for studies to report using standardised description frameworks.[45] We therefore rated each study by the detail and clarity of the information provided about the activity and its implementation

- *Study design* – Summarising the design used in the study in terms of level of causal strength of the design. For this we used a 4-point scale, rating studies from 1) 'true' experimental designs such as RCTs, to 2) quasi-experimental designs, to 3) correlational/observational studies with and then 4) without controls. More in-depth quality appraisal was conducted for all studies in the final analysis (see below).

A.15 Table A-3 below provides an overview of the initial quality and relevance appraisal. We include further analysis in the relevant analysis sections below, by area.

Table A-3: Ratings from eligibility criteria used following screening

	High	Medium	Low
Activity, population and process detail	48	27	2
Directness of evidence	32	45	
Ecological validity and realism	44	33	
Outcome measure quality and type	45	31	1

A.16 We expected our database to contain several standards of evidence from different research designs. We therefore employed more than one quality appraisal tool to assess the evidence. Our key quality appraisal tool consisted of selected items from the *YEF Critical Appraisal Tools.*[46] This builds on our previous quality assessments (above) and the items on measurement quality indirectness and so on. Details of study quality appraisal from the YEF appraisal tools are included in the relevant findings section, with further details in Annex C.

A.17 *Assessment of selected randomised controlled trials* – We identified a small number of ostensibly high quality RCTs that were important for the study findings. We conducted

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[45] For example, the TIDieR Framework: see https://www.bmj.com/content/348/bmj.g1687
[46] See https://youthendowmentfund.org.uk/wp-content/uploads/2021/02/YEF-Evidence-and-Gap-Map-Technical-Report-FINAL.pdf (page 36 onwards)

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a full 'Risk of Bias' appraisal for these studies using a standardised tool for quality appraisal, the Revised Cochrane Risk of Bias Tool (RoB 2).[47] We conducted a RoB appraisal for all 'large', high directness, RCT studies in the database (n=8), plus three studies of two interventions from the employment, skills and enterprise that were collectively decided to constitute suitable evidence for RoB assessment. In total, we conducted 10 RoB assessments for a total of 11 studies (with two grouped). Further details are included in the findings section and Annex C.

Analysis, synthesis and reporting

A.18 Using the YEF/YFF intervention types[48] as a starting point, and considering other relevant frameworks (e.g., the NYA Curriculum)[49], our results are organised into six activity areas for analysis (see 2.2a)[50].

A.19 *Narrative review and synthesis* – Using the research questions outlined above we created a framework for analysis. This consisted of a set of headings and subheadings, each with a set of standardised questions for consideration. Key data was collected in the main database to support analysis in each of these areas. We used a structured, narrative review approach which closely aligned to sections and questions in the analysis framework. The framework was designed to be anchored on the most robust studies, and cross-referenced in full to the underlying studies supporting the findings and discussion. The framework included questions about the impact analysis and quality appraisal, to ensure all relevant data, appraisal and analysis was considered in the findings. Some selected effect sizes were obtained to support the analysis with quantitative impact estimates alongside the general presentation of the findings and study quality.

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[47] https://methods.cochrane.org/bias/resources/rob-2-revised-cochrane-risk-bias-tool-randomized-trials
[48] As per: https://youthendowmentfund.org.uk/evidence-and-gap-maps/
[49] https://www.nya.org.uk/quality/curriculum/
[50] Early assessments included an activity area around sexual health but only three items were found and this was therefore excluded from the activity type report.

Annex B: Quality ratings of studies reviewed

B1. Citizenship, community service and volunteering

Evidence Quality Overview

Directness of evidence		Study size			Study design	
High	Medium	Large (101+ per comparison group)	Medium (51 – 100 per comparison group)	Small (50 or fewer per comparison group)	1 - RCT/True Experimental Design	2 - Quasi-expt./Correlational /observational - with controls
4	7	9	1	1	5	6

Study Quality Appraisal Ratings (see Annex C for further details on ratings and overview)

Citation	Intervention Description?	Evaluation question clarity	Information on Statistical Power	Causal Study Design	Valid and Clear Outcomes	Study size	Retention (i.e., high is low attrition)	Overall Score Using YEF Items	Overall Score for this Review	Risk of Bias Assessment
Deane et al. (2017)*	High	High	Low	High	High	Large	Low	Low	Low	High risk of bias
FKY (2015)	Low	High	Low	High	Low	Large	Medium	Low	Low	-
Fitzpatrick et al. (2021)	High	Medium	Low	Medium	Medium	Large	Low	Low	Low	-
Furness et al. (2017)*	Medium	Medium	Low	Medium	High	Small	High	Low	Low	-
Kirkman et al. (2016)	Medium	Medium	High	High	Medium	Medium	Not clearly reported/ applicable	Medium	Medium	-
Laurence (2019)	High	High	Low	Medium	Medium	Large	Low	Low	Low	-
Laurence (2020)	High	High	Low	Medium	Medium	Large	Low	Low	Low	-
Laurence (2021)	High	High	Low	Medium	High	Large	Low	Low	Low	-
Quinn et al. (2009)	High	High	Low	Medium	Medium	Large	Medium	Low	Medium	-
Robinson et al. (2016)*	High	Low	Low	High	Medium	Large	High	Low	Medium	-
See et al. (2017)	High	High	High	High	Medium	Large	High	Medium	Medium	Low risk of bias

[1]High risk of bias indicates a weak study, Low risk of bias indicates a strong study

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Overview Table - Citizenship, community service and volunteering

Citation	Title	Study size	Study design	Main focus/foci	Main finding(s)
Deane et al. (2017)*	The Impact of the Project K Youth Development Program on Self-Efficacy: A Randomised Controlled Trial	Large	1 - RCT/True Experimental Design	Impact of Project K (which includes wilderness adventure, community service, and mentoring components) on academic and social self-efficacy.	Project K participants on average had significantly higher academic (b = 0.44, p < .001) and social self-efficacy scores (b = 0.36, p < .001) than Control participants. For social self-efficacy, the ES = 0.50. This was maintained one year after the programme. There were no consistent differential effects for any particular participant subgroup.
FKY (2015)	Youth (2015) Youth social action journey fund evaluation: report of research results	Large	1 - RCT/True Experimental Design	Effect of Youth United programme in promoting social action and in encouraging enrolment to the National Citizens Service.	94% wanted to stay involved with their Youth United organisation. 75% of Youth United people volunteered at least once a month compared to 56% before pre-intervention.
Fitzpatrick et al. (2021)	National Citizen Service 2019 Summer Evaluation	Large	2 - Quasi-expt/Correlational/observational - WITH controls	Effect of NCS on social cohesion, social engagement, and social mobility.	76% of participants reported that they feel more positive towards people from different backgrounds. 65% said that they are more likely to volunteer in their local community in future, though there was no impact on time spent volunteering in a four weeks period after the programme. NCS has a statistically significant positive impact on six out of the seven self-confidence measures.
Furness et al. (2017)*	Maximising potential: The psychological effects of the youth development programme Project K	Small	2 - Quasi-expt/Correlational/observational - WITH controls	Impact of Project K (which includes wilderness adventure, community service, and mentoring) on self-efficacy, resilience, connectedness, and wellbeing.	Project K had substantial positive effects on self-efficacy, resilience, and wellbeing, although the effect on connectedness was not significant. The effects for the intervention group were d =0.93, d = 0.70, d = 0.77 and d = 0.07 for self-efficacy, resilience, connectedness, and wellbeing respectively. For the control group, the effects were d=-0.20, d = -0.36, d = 0.17, and d = -0.74 respectively.
Kirkman et al. (2016)	Does participating in social action boost the skills young people need to succeed in adult life? Evaluating Youth Social Action: Final report	Medium	1 - RCT/True Experimental Design	Effect of participating in the Social Action programme on having skills to succeed in adult life.	This paper summarises a small number of RCTs. Common results across the programmes studies included an improvement in empathy, community involvement, grit, students' cooperation, and willingness to donate time in future.
Laurence (2019)	Youth Engagement, Positive Interethnic Contact, and "Associational Bridges": A Quasi-Experimental Investigation of a UK National Youth Engagement Scheme	Large	2 - Quasi-expt/Correlational/observational - WITH controls	Evaluation of whether sites of youth engagement can act as bridges for forming interracial ties amongst youths.	There was a greater increase in affective interethnic ties for the intervention group: DiD-score of 0.2 [CI: 0.12, 0.27]. This was still in evidence 4-6 months after the intervention. Participation also had a stronger positive impact on youth from more residentially segregated areas. However, participation had no difference in effects for youth from more or less ethnically diverse areas.

Laurence (2020)	Cohesion through participation? Youth engagement, interethnic attitudes, and pathways of positive and negative intergroup contact among adolescents: a quasi-experimental field study	Large	2 - Quasi-expt/Correlational /observational - WITH controls	Impact of youth engagement activities on interethnic attitudes and positive/negative interethnic contacts.	The overall impact of participation on intergroup attitudes) is significant and positive: DiD: 2.58 [CI: 0.69, 4.46]. This was especially the case for those with previously low levels of interethnic contact.
Laurence (2021)	The Impact of Youth Engagement on Life Satisfaction: A Quasi-Experimental Field Study of a UK National Youth Engagement Scheme	Large	2 - Quasi-expt/Correlational /observational - WITH controls	Impact of youth engagement activities on life satisfaction.	There is a significant increase in life satisfaction: a significant positive engagement impact of 0.37 points [CI: 0.21, 0.52].
Quinn et al. (2009)	Teen Action: Final Evaluation Report	Large	2 - Quasi-expt/Correlational /observational - WITH controls	Evaluation of an after school programme whose aim is to improve school performance and reduce risky behaviours.	There were no effects on risk behaviours, p = 0.007. Small difference for academic achievement, p = 0.015.
Robinson et al. (2016)*	Randomised Trials of the Teen Outreach Program in Louisiana and Rochester, New York	Large	1 - RCT/True Experimental Design	Impact of an outreach programme in two US states on pregnancy prevention.	There were no differences between the intervention and control youths on delay of sexual onset in Louisiana (adjusted odds ratio [AOR] = 0.80; 95% confidence interval [CI] = 0.62, 1.03) or in Rochester, New York (AOR = 0.89; 95% CI = 0.45, 1.77), or for sex with no effective means of birth control (Louisiana, AOR = 1.18; 95% CI = 0.78, 1.78; Rochester, AOR = 0.41; 95% CI = 0.13, 1.27)
See et al. (2017)	Does participation in uniformed group activities in school improve young people's non-cognitive outcomes?	Large	1 - RCT/True Experimental Design	Impact of uniformed activities (Sea Cadets, Scouts, St John's Ambulance and Fire Cadets) on social and behavioural outcomes.	Small positive impact on self-confidence and teamwork (ES = 0.10 and 0.07). Pupils who receive free school meals gained more than their peers on some items, including civic mindedness, creativity, empathy, and happiness; they gained less on other items including communication skills, teamwork and resilience - although we note that all such subgroup differences were small and should be treated with caution.

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B2. Music, arts, recreation and community

Evidence Quality Overview

Directness of evidence		Study size			Study design	
High	Medium	Large (101+ per comparison group)	Medium (51 – 100 per comparison group)	Small (50 or fewer per comparison group)	1 - RCT/True Experimental Design	2 - Quasi-expt./Correlational /observational - with controls
1	5	1	2	3	1	5

Study Quality Appraisal Ratings (see Annex C for further details on ratings and overview)

Citation	Intervention Description?	Evaluation question clarity	Information on Statistical Power	Causal Study Design	Valid and Clear Outcomes	Study size	Retention (i.e., high is low attrition)	Overall Score Using YEF Items	Overall Score for this Review	Risk of Bias Assessment
Catterall (2007)	High	High	Low	Medium	High	Medium	Not clearly reported/ applicable	Low	Medium	-
Chen et al. (2022)	Medium	High	High	High	Medium	Small	High	Medium	Low	-
Egaña del Sol et al. (2019)	Medium	High	Low	Medium	Medium	Small	Medium	Low	Low	-
Forrest-Bank et al. (2016)	High	Low	Medium	Medium	High	Small	High	Low	Low	-
Girod et al. (2004)	High	High	Low	Medium	Medium	Medium	High	Low	Medium	-
Hall et al. (2013)	High	High	Low	Medium	Medium	Large	High	Low	Medium	-

[1]No Risk of Bias assessments were conducted for this activity area

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Overview Table - Music, arts, recreation and community

Citation	Title	Study size	Study design	Main	Main finding(s)
Catterall (2007)	Enhancing peer conflict resolution skills through drama: an experimental study	Medium	2 - Quasi-expt/Correlational /observational - WITH controls	Drama programme designed to promote healthy interaction and development by building students' skills and motivation for conflict resolution.	Programme students showed gains in all reported outcomes. For outcomes related to pro-social changes in behaviour, the effect sizes for ability to work with others when disagreeing, ability to work effectively in groups, and problem resolution skills were 0.28, 0.35, and 0.47 respectively. For conditions and processes of learning, the effect sizes for metacognitive skills, self-efficacy, and general outlook were 0.38, 0.62, and 0.22 respectively. Related to the drama medium, the effect size for liking to act and perform was 0.16.
Chen et al. (2022)	Effects of a group music-based intervention in improving attachment and psychosocial adaptation in adolescents with parental attachment insecurity: A randomised trial	Small	1 - RCT/True Experimental Design	Effects of a music-based intervention on attachment and psychological adaption in adolescents with parental attachment insecurity.	Group music-based interventions may effectively improve adolescents' parental attachment and mitigate their psychosocial maladaptation. Significant differences were found for parental attachment ($F(1.03, 25.81)=19.19$, $p<.001$) and psychosocial maladaptation ($F(1.28, 31.93)=14.22$, $p<.001$) scores between the intervention and control groups.
Egaña del Sol et al. (2019)	The impact of art-education on human Capital: An empirical assessment of a youth orchestra	Small	2 - Quasi-expt/Correlational /observational - WITH controls	Impact of participation in a youth orchestra on cognitive and social-emotional skills.	In academic tests, the effect ranges from 0.5 to 0.6 standard deviations for the 2001 – 2002 cohorts, but smaller effects in mathematics and languages and negative effects on average secondary education grades were reported for the 2003 – 2004 cohorts. For persistence, 68.4% of the intervention group took the university admission test at least once compared to 29.4% of the control group.
Forrest-Bank et al. (2016)	Effects of an Expressive Art Intervention with Urban Youth in Low-Income Neighbourhoods	Small	2 - Quasi-expt/Correlational /observational - WITH controls	Effects of an expressive art intervention (poetry workshops) with urban youth.	Independent t tests were used to assess results for non-equivalent groups. When Group A served as the intervention group, there were significantly higher mean scores on all three measures (academics, diversity, social competence). However, these differences were not apparent when Group B later received the intervention and their results were compared to the group A baseline measure. No gender differences were uncovered.
Girod et al. (2004)	AFTER-SCHOOL COMPUTER CLUBHOUSES AND AT-RISK TEENS	Medium	2 - Quasi-expt/Correlational /observational - WITH controls	Evaluation of a computer clubhouse (KLICK!) as a means for supporting positive, engaging, and innovative after-school activities.	For perceptions of school value, those in the intervention group were more likely to have more favourable conceptions of the value of school ($F3,155 = 17.44$, $p < 0.0005$). The greatest positive impact was on those with initially more negative perceptions (including at-risk teens). Those in the intervention group were also more likely to use computers at home ($F 5,155 = 4.22$, $p = < .01$).
Hall et al. (2013)	Design and Impacts of a Youth-Directed Café Scientifique Program	Large	2 - Quasi-expt/Correlational /observational - WITH controls	Whether the Cafe-Scientifique programme makes science and scientists more engaging and accessible to youth.	Café participants reported that their attitudes toward science and their attainment of PYD indicators had changed over time. The highest ratings were for feeling comfortable coming to the sessions.

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B3. Employment, skills and enterprise

Evidence Quality Overview

Directness of evidence		Study size			Study design	
High	Medium	Large (100+ per comparison group)	Medium (51 – 100 per comparison group)	Small (50 or fewer per comparison group)	1 - RCT/True Experimental Design	2 - Quasi-expt./Correlational /observational - with controls
3	9	11	1	0	7	5

Study Quality Appraisal Ratings (see Annex C for further details on ratings and overview)

Citation	Intervention Description?	Evaluation question clarity	Information on Statistical Power	Causal Study Design	Valid and Clear Outcomes	Study size	Retention (i.e., high is low attrition)	Overall Score Using YEF Items	Overall Score for this Review	Risk of Bias Assessment
Bandiera et al. (2012)	Medium	Low	Low	High	Medium	Large	High	Low	Medium	-
Dixon and Crichton (2016)	Medium	Medium	Low	Medium	Medium	Large	Medium	Low	Medium	-
Gelber et al. (2016)	Medium	Low	Low	High	High	Large	High	Low	Medium	Some concerns
Heller (2014)	Medium	Low	Medium	High	Medium	Large	High	Low	Medium	High risk of bias
Heller (2022)	Medium	Low	Medium	High	Medium	Large	High	Low	Medium	High risk of bias
Leos-Urbel (2014)	High	Medium	High	Medium	High	Large	High	Medium	Medium	-
Loke et al. (2016)	Medium	Low	Low	Medium	Medium	Medium	Low	Low	Low	-
McClanahan et al. (2004)	Medium	High	Low	High	Medium	Large	High	Low	Medium	-
Modestino and Paulsen (2019)	Medium	High	Low	Medium	Medium	Large	Low	Low	Low	-
Qiao (2008)	High	High	Low	Medium	Medium	Large	Low	Low	Low	-
Tingey et al. (2020a)*	High	Medium	Low	High	High	Large	High	Low	High	-
Tingey et al. (2020b)*	Medium	Medium	High	High	High	Large	High	Medium	Medium	-

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Overview Table - Employment, skills and enterprise

Citation	Title	Study size	Study design	Main focus/foci	Main finding(s)
Bandiera et al. (2012)	Empowering adolescent girls: Evidence from a randomised control trial in Uganda	Large	1 - RCT/True Experimental Design	Impact of a programme which provides vocational training and information on health and risky behaviours.	Intervention raised the likelihood that girls engage in income generating activities by 32%. On health related outcomes, self-reported routine condom usage increased by 50% among the sexually active and girls reporting sex against their will fell from 21% to almost 0%.
Dixon and Crichton (2016)	Evaluation of the Impact of the Youth Service: NEET programme	Large	2 - Quasi-expt/Correlational /observational - WITH controls	Impact of Youth Service: NEET on educational retention, qualification achievement, benefit receipt, inactivity, and employment rates.	The YS:NEET scheme raised educational retention of participants in the first year by up to nine percentage points. Those completing a level 2 qualification increased by 2 percentage points. However, there was no improvement in the likelihood of being employed, and the programmed raised rather than lowered benefit receipt rate.
Gelber et al. (2016)	The Effects of Youth Employment: Evidence from New York City Lotteries	Large	1 - RCT/True Experimental Design	Impact of the Summer Youth Employment Programme.	For the effect of SYEP participation on earnings, in year 0 the point estimate of the coefficient $\beta 1$ is \$876.26 ($p<0.01$), as SYEP participation on average leads to a substantial increase in earnings. This persists over time, though by year 4 the increases become insignificant. There is also a positive effect on the probability of having any job.
Heller (2014)	Summer jobs reduce violence among disadvantaged youth	Large	1 - RCT/True Experimental Design	Effects of a summer job programme on violence among disadvantaged youth.	Assignment to the summer jobs programme decreases violence by 43% over 16 months (3.95 fewer violent-crime arrests per 100 youth, ES = -0.0395, $p < 0.05$). The decline occurs largely after the 8-week intervention ends. However, there was a slight increase in arrests related to property (ES = 0.0124) and drugs (ES = 0.0054), and very little difference for other crimes (ES = -0.0004).
Heller (2022)	When scale and replication work: Learning from summer youth employment experiments	Large	1 - RCT/True Experimental Design	To show how repeated study of an intervention as it scales can guide decisions in public investment - summer youth employment experiments.	This paper focuses on two interventions in two American cities. Results show that these programs generate arrests and incarceration. In Philadelphia, the WorkReady programme resulted in one fewer arrest per 100 youth, a statistically significant 36 percent decline, and incarceration fell by 1.5 percentage points (or almost 80% among participants). In Chicago, OSC+ participants have almost nine fewer arrests per 100 participants than control compliers (a 52 percent decline), although the result is not quite statistically significant ($p = 0.125$)
Leos-Urbel (2014)	What Is a Summer Job Worth? The Impact of Summer Youth Employment on Academic Outcomes	Large	2 - Quasi-expt/Correlational /observational - WITH controls	Impact of a youth employment programme on school attendance and other educational outcomes.	Results reported that the SYEP programme fosters engagement and success in schools. SYEP increases school attendance by about 1% ($p < 0.05$), or one to two school days. The effect is larger for those who had a prior attendance of below 95), with a 1.6% increase in fall and 2.7% increase in spring attendance. There was also an increase in attempts at the English Regents examination of 1% ($p < 0.10$), but no impact on likelihood of passing.

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Loke et al. (2016)	Boosting the power of youth paychecks: integrating financial capability into youth employment programs	Medium	2 - Quasi-expt/Correlational /observational - WITH controls	Effect of MySavings programme on banking and saving habits and financial confidence.	The intervention groups (Standard MyPath and MyPath Plus) were three to five times more likely to have increased confidence in financial tasks, and those receiving peer coaching were nine times more likely to have increased their financial knowledge compared to the comparison group. There were no statistically significant differences between the two treatment groups.
McClanahan et al. (2004)	Enriching Summer Work: An Evaluation of the Summer Career Exploration Program	Large	1 - RCT/True Experimental Design	Evaluation of the Summer Career Exploration Program for low-income teens.	The programme achieves its short-term objectives – it helps teens find summer jobs (92% compared to 62% of the control group) and provides them with supportive adult contact. However, it did not increase employment rates or improve attitudes towards academic achievements or work one year after applying to the programme.
Modestino and Paulsen (2019)	Reducing inequality summer by summer: Lessons from an evaluation of the Boston Summer Youth Employment Program	Large	2 - Quasi-expt/Correlational /observational - WITH controls	Effect of summer youth employment programmes on behavioural, academic and employment outcomes.	While all respondents in the treatment group worked during the summer, only 26.4 percent of those responding in the control group had worked during the summer. Participants also reported an increase in community engagement, social skills, job readiness skills, and college aspirations – the largest gains were for non-white youths.
Qiao (2008)	Youth transition services process and outcomes evaluation final report	Large	2 - Quasi-expt/Correlational /observational - WITH controls	Evaluation of an initiative to keep 15–19-year-olds in work, education or training.	61% left the scheme with a positive outcome, defined as remaining in education, training or employment and no longer requiring the support of YTS to remain engaged in that activity. Areas offering the intervention showed bigger fall in claims for benefits than those where the intervention was not offered.
Tingey et al. (2020a)*	Behavioural and Mental Health outcomes from an RCT of a Youth Entrepreneurship Intervention among Native American Adolescents	Large	1 - RCT/True Experimental Design	Effect of an entrepreneurship programme on behaviour and mental health.	Compared to the control group, fewer participants used marijuana at 6-, 12- and 24-months post-intervention (19.6% vs. 28.0%, p = 0.032; 20.4% vs. 31.8%, p = 0.01; and 24.1% vs. 31.4%, p = 0.047). All violence-related measures statistically significantly declined between baseline and 24 months for both groups. There was an increase in alcohol use in both groups, but the increase was twice as high for binge alcohol use in the control group.
Tingey et al. (2020b)*	Entrepreneurial, Economic, and Social Well-Being Outcomes from an RCT of a Youth Entrepreneurship Education Intervention among Native American Adolescents	Large	1 - RCT/True Experimental Design	An entrepreneurship education programme to improve entrepreneurship knowledge and social wellbeing of Native American youths.	There were significantly greater gains for the intervention group compared to the control group for entrepreneurial knowledge six months after the intervention (16.63 vs. 15.51, p = 0.0071) and 12 months after (16.94 vs. 15.88, p = 0.0083). There were no significant differences between the groups on measures of economic confidence or social connectedness over time.

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B4. Mentoring, coaching and/or peer support

Evidence Quality Overview

Directness of evidence		Study size			Study design	
High	Medium	Large (100+ per comparison group)	Medium (51 – 100 per comparison group)	Small (50 or fewer per comparison group)	1 - RCT/True Experimental Design	2 - Quasi-expt./Correlational /observational - with controls
14	20	23	4	7	23	11

Study Quality Appraisal Ratings (see Annex C for further details on ratings and overview)

Citation	Intervention Description?	Evaluation question clarity	Information on Statistical Power	Causal Study Design	Valid and Clear Outcomes	Study size	Retention (i.e., high is low attrition)	Overall Score Using YEF Items	Overall Score for this Review	Risk of Bias Assessment
Austrian et al. (2020)	High	Medium	High	High	High	Large	High	Medium	High	-
Bangi et al. (2013)	High	Low	Low	High	High	Small	High	Low	Low	-
Brown et al. (2013)	Medium	High	Medium	High	High	Medium	High	Medium	Medium	-
Budd et al. (2020)	High	High	Low	Medium	High	Large	High	Low	Medium	-
Darrow et al. (2009)	Medium	Medium	Low	Medium	High	Small	High	Low	Low	-
Deane et al. (2017)*	High	High	Low	High	High	Large	Low	Low	Low	High risk of bias
Dinarte and Egaña del Sol (2019)	High	Medium	Medium	High	Medium	Large	Low	Low	Low	-
Donohue et al. (2005)	High	Low	Low	High	High	Medium	High	Low	Medium	-
DuBois and Keller (2017)	High	High	Low	High	High	Large	High	Low	High	-
Foss et al. (2022)	Medium	Low	Low	High	Medium	Large	High	Low	Medium	-
Furness et al. (2017)*	Medium	Medium	Low	Medium	High	Small	High	Low	Low	-
Gowdy et al. (2021)	Low	High	Low	Medium	High	Large	Low	Low	Low	-
Greene et al. (2020)	Medium	High	Low	High	High	Large	High	Low	Medium	Low risk of bias
Grossman and Tierney (1998)	High	Low	Low	High	High	Large	High	Low	High	Some concerns

Gulesci et al. (2021)	Medium	Medium	Low	High	Medium	Large	High	Low	Medium	-
Haddock et al. (2020)	Medium	High	Low	Medium	High	Large	High	Low	Medium	-
Hanlon et al. (2009)	High	Medium	Low	High	Medium	Large	High	Low	Medium	-
Herrera et al. (2023)	High	Low	Low	High	High	Large	High	Low	High	High risk of bias
Ho et al. (2017)*	Medium	Medium	High	High	High	Large	High	Medium	Medium	Some concerns
Iyer et al. (2021)	High	High	Low	High	High	Medium	High	Low	Medium	-
Klier et al. (2019)	High	Medium	Low	High	High	Medium	Medium	Low	Medium	-
Kuroko et al. (2020)	High	High	Low	High	Medium	Small	Low	Low	Low	-
LeCroy et al. (2018)	Medium	Low	Low	High	High	Large	High	Low	Medium	-
Liddle et al. (2021)	High	High	Low	High	High	Small	Medium	Low	Low	-
Oscós-Sánchez et al. (2021)	High	Low	Low	Medium	High	Large	High	Low	Medium	-
Özler et al. (2020)	High	Low	High	High	High	Large	High	Low	High	-
Pavarini et al. (2023)	High	High	High	High	High	Small	High	High	Low	-
Pryce et al. (2019)	Medium	Medium	Low	Medium	High	Small	High	Low	Low	-
Rhodes et al. (2002)	High	Low	Low	Medium	High	Large	High	Low	Medium	-
Robinson et al. (2016)*	High	Low	Low	High	Medium	Large	High	Low	Medium	-
Russell and Francis (2018)	High	High	Low	Medium	Medium	Large	Not clearly reported/ applicable	Low	Medium	-
Sheehan et al. (2022)	High	Low	Low	Medium	High	Large	High	Low	Medium	-
To and Liu (2021)	High	High	High	Medium	High	Large	High	Medium	Medium	-
Van Horn et al. (2014)	Medium	High	Medium	High	Medium	Large	High	Medium	Medium	-

Overview Table - Mentoring, coaching and/or peer support

Citation	Title	Study size	Study design	Main focus/foci	Main finding(s)
Austrian et al. (2020)	The impact of the Adolescent Girls Empowerment Program (AGEP) on short and long term social, economic, education and fertility outcomes: a cluster randomized controlled trial in Zambia	Large	1 - RCT/True Experimental Design	Impact of the Adolescent Girls Empowerment Program (AGEP) on social, health and economic assets.	The intervention did not lead to improvements in a range of 16 social, health, economic, or educational outcomes overall for girls. However, there were a small number of indicators where there was some positive impact. For social outcomes, there was a significant effect for having a safe space to meet friends (DID 0.082, $p < 0.05$) at round 3 and self-efficacy at round 5 (DID 0.310, $p < 0.05$). For economic outcomes, youths were more likely to have saved money in the past year at both round 3 and round 5 (DID 0.037, $p < 0.05$). Knowledge of fertility and contraception was higher for the intervention group at both round 3 and 5 (DID 0.289, $p < 0.01$ and DID 0.268, $p < 0.05$), and girls were less likely to agree to transactional sex (DID -0.119, $p < 0.05$ and DID -0.118, $p <0.05$ for rounds 3 and 5) or to have ever had sex (DID 0.069, $p < 0.05$ at round 5).
Bangi et al. (2013)	Psychosocial Outcomes of Sexual Risk Reduction in a Brief Intervention for Urban African American Female Adolescents	Small	1 - RCT/True Experimental Design	Sexual risk reduction following an intervention for urban African American female adolescents.	The intervention can impact factors that increase ability to recognise and label risky sexual behaviours. At post-test, Project ÒRÉ participants scored higher on knowledge of HIV/STI prevention and protection ($p < .01$), knowledge of living with HIV/STI ($p < .01$), perceived HIV risk ($p < .05$), perceived STI risk ($p < .01$), and intentions to use condoms for vaginal sex ($p < .05$).
Brown et al. (2013)	Developing and piloting the Journey to Native Youth Health Program in Northern Plains Indian communities	Medium	1 - RCT/True Experimental Design	Developing a culturally modified version of an existing intervention (DPP) for Native American youth and its impact on behavioural physiological outcomes.	The authors suggest the programme is feasible to implement and has the potential to impact behaviours and weight gain associated with type-2 diabetes in Native American youths. For nutrition, the intervention group increased their overall nutrition KAB score by 8% ($p = .008$) whereas there was no change for the control group. Both groups had lower physical activity levels; however, the decline was non-significant for the intervention group (- 25 minutes of MVPA), whereas it was more substantial in the control group (-59 minutes, $p < .001$). There was a small increase in BMI for both groups, but no overall difference between the groups.
Budd et al. (2020)	The impact of afterschool program attendance on academic outcomes of middle school students	Large	2 - Quasi-expt/Correlational /observational - WITH controls	Effects of an after-school programme on academic performance.	There was no consistent evidence that ASIO-supported afterschool programme participation was associated with improved student academic outcomes. Programme participants showed significantly smaller increases in state reading scores ($d = -.17$, $p = .011$), overall state test scores ($d = -.12$, $p = .032$), and EXPLORE standardised 8th grade tests $d = -.46$, $p = .028$) compared to nonparticipants. Younger and racial minority participants had the smallest increases in scores.
Darrow et al. (2009)	The Effect of Participation in a Music Mentorship Program on the Self Esteem and Attitudes of At-Risk Students	Small	2 - Quasi-expt/Correlational /observational - WITH controls	Effect of a music mentorship programme on self-esteem and attitudes of at-risk students.	Participants' self-esteem scores in the music and music mentorship groups improved similarly from pre to post-test, and improved more so than the control group, though not significantly.
Deane et al. (2017)*	The Impact of the Project K Youth Development Program on Self-Efficacy:	Large	1 - RCT/True Experimental Design	Impact of Project K (which includes wilderness adventure, community	Project K participants on average had significantly higher academic (b = 0.44, $p < .001$) and social self-efficacy scores (b = 0.36, $p < .001$) than Control participants. For social

	A Randomized Controlled Trial			service, and mentoring components) on academic and social self-efficacy.	self-efficacy, the ES = 0.50. This was maintained one year after the programme. There were no consistent differential effects for any particular participant subgroup.
Dinarte and Egaña del Sol (2019)	Preventing Violence in the Most Violent Contexts: Behavioral and Neurophysiological Evidence	Large	1 - RCT/True Experimental Design	Impact of an after-school behavioural intervention on vulnerable public school pupils.	Results indicate that the programme reduced reports of bad behaviour and school absenteeism, and that students' grades improved. Participants report having better attitudes toward school by 0.17 standard deviations and spending 16% more time (20.4 minutes approximately) each day doing their homework. Treated students are absent 1.6 days fewer per week than students in the comparison group, a reduction of 23% in school absenteeism. Both students and teachers reported a reduction in bad behaviour. The intervention increases the probability of passing reading and science courses, and reduces the probability of grade repetition by 2.8 percentage points. There were positive spillover effects to other children who had not received the intervention.
Donohue et al. (2005)	Financial management and job social skills training components in a summer business institute: a controlled evaluation in high achieving predominantly ethnic minority youth	Medium	1 - RCT/True Experimental Design	Impact of two components of the Summer Business Institute –a job social skills component and financial management component.	Ratings of student workers (measuring relationships between employers and students and on-the-job social skills) significantly improved over the intervention period (F(15, 76) = 2.37, p = .007). Job interviewing scores also significantly improved (F(7, 37) = 3.00, p = .01). There were no differences between the component workshop intervention groups for these measures. However, those in the job skills component group rated their overall work experience more favourably than those in the financial management group (F(1, 90) = 3.42, p = .034). Conversely, the financial management group had a greater improvement in the financial management test (F(1, 90) = 6.53, p = .01).
DuBois and Keller (2017)	Investigation of the Integration of Supports for Youth Thriving Into a Community-Based Mentoring Program	Large	1 - RCT/True Experimental Design	Impact of youth thriving as part of a community-based mentoring programme.	There was no evidence of effects of the thriving promotion (p > .25 on all outcomes). Effect sizes were small in magnitude and inconsistent in direction both with and without control variables.
Foss et al. (2022)	A randomized controlled trial of the impact of the Teen Council peer education program on youth development	Large	1 - RCT/True Experimental Design	Impact of Teen Council, a programme that trains youths as peer educators in sexual health.	There was no difference between the intervention and control groups for being sexually active at follow-up, but those receiving the Teen Council intervention were more likely to have changed to a more effective contraceptive method (16.9% vs 7.3%, P < 0.001). Teen Council participants were also more likely to be comfortable with their own sexuality (3.59 vs 3.31, P = 0.001), have more confidence in their peer education skills (3.79 vs 3.43, P = 0.001), and have significantly higher civic action scores (3.61 vs 3.42, P = 0.001). Youths' comfort in discussing issues around sex also applied to conversations with parents as well as their peers.
Furness et al. (2017)*	Maximising potential: The psychological effects of the youth development programme Project K	Small	2 - Quasi-expt/Correlational /observational - WITH controls	Impact of Project K (which includes wilderness adventure, community service, and mentoring) on self-efficacy, resilience, connectedness, and wellbeing.	Project K had substantial positive effects on self-efficacy, resilience, and wellbeing, although the effect on connectedness was not significant. The effects for the intervention group were d =0.93, d = 0.70, d = 0.77 and d = 0.07 for self-efficacy, resilience, connectedness, and wellbeing respectively. For the control group, the effects were d=-0.20, d = -0.36, d = 0.17, and d = -0.74 respectively.
Gowdy et al. (2021)	Helping Those Who Need It the Least: A Counterfactual and Comparative Analysis of	Large	2 - Quasi-expt/Correlational /observational - WITH controls	Whether informal mentoring promotes economic upward mobility for low/middle income youths.	Informal mentoring of middle-income youth was associated with upward economic mobility (p = .013) but this was not the case for those from low incomes (p = .953). Middle-income youths who had received informal mentoring had a 6% greater likelihood of being upwardly mobile than those who had not received informal mentoring.

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	Whether Informal Mentoring Promotes Economic Upward Mobility for Low- and Middle-Income Youth				
Greene et al. (2020)	Short term effects of the REAL media e-learning media literacy substance prevention curriculum: An RCT of adolescents disseminated through a community organization	Large	1 - RCT/True Experimental Design	The short-term effects of an e-learning programme to reduce adolescent substance abuse.	The intervention group reported increased self-efficacy to counter argue (B= 0.12, SE = 0.06, t(1834.5) = 2.01, p = .04) and decreased positive injunctive norms (B = -0.10, SE = .04, t(1615.4) = -2.38, p = .02) compared to the control group. There were no significant differences for descriptive norms
Grossman and Tierney (1998)	Does mentoring work? An impact study of the Big Brothers Big Sisters program	Large	1 - RCT/True Experimental Design	Impact of the Big Brothers Big Sisters programme on a range of personal, social and educational outcomes.	Compared to a control group, participants in the Big Brothers Big Sisters programmes were 45.8% less likely to have started using illegal drugs, 27.4% less likely to have started using alcohol, and 32% less likely to have hit someone. Grade point averages were also higher for the intervention group (2.71 compared to 2.63), and participants were 30% less likely to skip a day of school. For all academic outcomes, results were better for girls. Parents of youths in the intervention group reported more improved relationships with family, particularly boys, which matched with youth reports. There was no overall difference between the intervention and control groups in attendance at social and cultural enrichment activities.
Gulesci et al. (2021)	Can youth empowerment programs reduce violence against girls during the COVID-19 pandemic?	Large	1 - RCT/True Experimental Design	Impact on a youth empowerment programme on violence towards women.	There were no statistically significant treatment effects on boys. For girls, there was a significant reduction in reported violence in the last 3 months (9.5 percentage points less likely to report suffering violence) and an increase in income of 41% compared to the control group, but no significant effects on soft skills.
Haddock et al. (2020)	Does Organizing Mentor-Mentee Matches into Small Groups Enhance Treatment Effects in a Site-Based Mentoring Program for Adolescents? Results of a Randomized Controlled Trial	Large	2 - Quasi-expt/Correlational /observational - WITH controls	Impact of organising mentoring into small groups during a site-based 12-week mentoring programme.	Significant improvements in most outcomes were reported for both the intervention and control groups (that is group mentoring and one-to-one mentoring conditions). Results included reductions in emotional dysregulation, and improvements in developmental outcomes, sense of belonging and mattering. The only significant differences between the intervention and control groups were in the intervention group's improvement in school grades and the control group's improvement in academic aspirations.
Hanlon et al. (2009)	The Effectiveness of an After-school Program Targeting Urban African American Youth	Large	1 - RCT/True Experimental Design	Effectiveness after one year of an after-school prevention programme,	There was a reduction in cognitive problems for the intervention group compared to the control group in both youth and teacher reported data (p < .001 and p = .046 respectively). There was also a significant positive effect on grade point average scores (p < .001). However, there were no differences between groups for youth deviant behaviour (use of tobacco, alcohol, drugs, or sexually risky behaviour).
Herrera et al. (2023)	Effects of the Big Brothers Big Sisters of America Community-Based Mentoring Program on	Large	1 - RCT/True Experimental Design	Effect of the Big Brothers Big Sisters programme on social-emotional, behavioural and academic outcomes.	Positive effects reported for a range of outcomes, with effects stronger in parent reports than youth reports. Youths reported a significantly positive effect of mentoring for depressive symptoms (d = 0.146, p < .05). For parent-reported outcomes, there were significant effects for emotional symptoms (d = 0.212, p < .01), peer problems (d = 0.253,

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	social-emotional, behavioural, and academic outcomes of participating youth: A randomized controlled trial				p < .001), conduct problems (d = 0.138, p < .10), and the SDQ total difficulties score (d = 0.220, p < .001).
Ho et al. (2017)*	A Sports-Based Youth Development Program, Teen Mental Health, and Physical Fitness: An RCT	Large	1 - RCT/True Experimental Design	Effect of a positive youth development-based sports mentorship programme on the physical and mental well-being of adolescents.	The intervention had a positive effect on youths' mental well-being (d = 0.25, 95% CI = 0.10 to 0.40, P = .001), self-efficacy (d = 0.22, 95% CI = 0.07 to 0.37, P = .01), resilience (d = 0.19, 95% CI = 0.03 to 0.34, P = .02), physical fitness (flexibility: d = 0.28, 95% CI = 0.13 to 0.43, P = .02; lower limb muscle strength: d = 0.18, 95% CI = 0.03 to 0.33, P = .03; and dynamic balance: d = 0.21, 95% CI = 0.06 to 0.37, P = .01), and physical activity levels (d = 0.39; 95% CI = 0.24 to 0.55, P < .0001). However, there was no significant improvement for physical well-being (d = −0.01, 95% CI = −0.17 to 0.14, P = .86), BMI z scores (d = −0.03, 95% CI = −0.18 to 0.12, P = .69), body fat proportion (d = −0.15, 95% CI = −0.31 to 0.00, P = .051), and social connectedness (d = −0.03, 95% CI = −0.18 to 0.12, P = .72).
Iyer et al. (2021)	Impact of the Heartfulness program on loneliness in high schoolers: Randomized survey study	Medium	1 - RCT/True Experimental Design	Evaluation of an online loneliness self-care programme delivered via e-portfolio and webinars.	Heartfulness programme participants scored significantly lower on loneliness (scores in pre- and post-tests fell from 46.54 to 38.07 (t(53) = 6.434, p < .001), d = .90). The control group saw smaller, non-significant differences (43.93 to 42.89 (t(53) = 0.054, p = .08), d = .09). These differences occurred for all age groups and US regions.
Klier et al. (2019)	Power of Mobile Peer Groups: A Design-Oriented Approach to Address Youth Unemployment	Medium	1 - RCT/True Experimental Design	The value of digital peer groups in the context of youth unemployment.	Mobile peer-group based career counselling had significant effects on attitude towards career choice (difference in mean scores 0.50, p = 0.016), career maturity (0.46, p = 0.042), problem awareness (0.57, p = 0.009), decision behaviour (0.60, p = 0.032), and career search intensity (0.57, p = 0.001). Smaller, non-significant but positive effects were also detected for self-assessment, level of information, and realisation activities. There was a 98% improvement in the treatment group's employment assurance compared to the control group.
Kuroko et al. (2020)	Create Our Own Kai: A Randomised Control Trial of a Cooking Intervention with Group Interview Insights into Adolescent Cooking Behaviours	Small	1 - RCT/True Experimental Design	Impact of a cooking intervention on adolescent cooking behaviour.	The cooking intervention has short-term benefits, but only influences cooking self-efficacy over time. Cooking self-efficacy had a significant impact compared to the control group (p < 0.001). Mental well-being (p= 0.005), diet quality (p = 0.041) and frequency of helping prepare an evening meal (p = 0.001) all increased at seven weeks but did not persist at 12 months.
LeCroy et al. (2018)	Go Grrrls: A Randomized Controlled Trial of a Gender-Specific Intervention to Reduce Sexual Risk Factors in Middle School Females	Large	1 - RCT/True Experimental Design	A gender specific intervention to reduce sexual risk behaviours – comparing female empowerment curriculum with a science and technology-based leadership curriculum.	At post-test, there were significant difference between the treatment and comparison groups on all three primary outcome variables: condom technical skills (t = 8.300, p < .001), STD knowledge (t = 5.264, p < .001), and condom self-efficacy (t = 2.965, p = .004). These differences persisted at six months for condom technical skills (t = 5.949, p < .001) and STD knowledge (t = 2.961, p = .006), but not condom self-efficacy. At 18 months, there was only a significant difference between groups for condom technical skills (t = 2.045, p = .047).
Liddle et al. (2021)	A Brief Sports-Based Mental Health Literacy Program for Male	Small	1 - RCT/True Experimental Design	Effect of a mental health literacy programme delivered to youths at a sports club.	The workshop decreased stigmatising attitudes, improved intentions to provide help, and increased knowledge of depression and anxiety. Levels of depression and anxiety literacy significantly increased for the intervention group (to 9.00 and 7.00, respectively)

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					but not the control group (7.00 and 6.00, respectively) with significant differences observed between groups.
Oscós-Sánchez et al. (2021)	The Effects of Two Community-Based Participatory Action Research Programs on Violence Outside of and in School Among Adolescents and Young Adults in a Latino Community	Large	2 - Quasi-expt/Correlational/observational - WITH controls	Effects of two community-based participatory action research programmes (an 8-week internet-based programme and an in-person youth summit) on violence outside of and in school among adolescents and young adults in a Latino community.	There was a positive effect on out of school violence at six months (partial eta² = .030; p = .007), and for the VPP at 12 months (partial eta² = .023; p = .025). For violence in school, there were small PYDP effects at six months (partial eta² = .023; p = .018).
Özler et al. (2020)	Girl Empower – A gender transformative mentoring and cash transfer intervention to promote adolescent wellbeing: Impact findings from a cluster-randomized controlled trial in Liberia	Large	1 - RCT/True Experimental Design	Effect of cash incentives for participating in a gender empowerment programme.	Neither intervention group had a significant effect on sexual violence or schooling. There were significant differences for both GE and GE+ programmes on the SRH index, with the effect 50% higher for GE+ than GE (GE: 0.244 SDs, p < 0.01; GE+: 0.372 SDs, p < 0.01; F-test for GE = GE+: p = 0.075). Both programmes had a significant effect on index scores on Gender Attitudes (GE: 0.206 SD, p<0.05; GE+: 0.228 SD, p<0.05) and Life Skills (GE: 0.224 SDs, p<0.05; GE+: 0.289 SDs, p<0.01), but there was no significant difference between GE and GE+.
Pavarini et al. (2023)	Online peer support training to promote adolescents' emotional support skills, mental health and agency during COVID-19: Randomised controlled trial and qualitative evaluation	Small	1 - RCT/True Experimental Design	Evaluation of an online training programme to give youths skills to support peers with mental health.	There were medium to large effects on perceived support-giving skills (p < 0.0001), frequency of giving support (p < 0.0001), engaging with others (p = 0.001), perceived ability to take action (p < 0.0001), and feeling connected to peers (p < 0.0001), but there was no significant effect on motivation to provide support (p = 0.110). There was also a positive intervention impact on mental wellbeing, emotional symptoms, and agency.
Pryce et al. (2019)	Conversation Club: A Group Mentoring Model for Immigrant Youth	Small	2 - Quasi-expt/Correlational/observational - WITH controls	Effect of the Conversation Club intervention on immigrant youths' feelings of connectedness, belonging, and integration.	The intervention group had an increased feeling of belonging (t = 3.224, p < .05), morale (t = 1.632, p < .10), and sense of being able to conceptualise pathways to achieve their goals (t = 1.781, p < .05) compared to the control group.
Rhodes et al. (2002)	Agents of change: Pathways through which mentoring relationships influence adolescents' academic adjustment	Large	2 - Quasi-expt/Correlational/observational - WITH controls	Parental relationships as a mediating factors for the effect of mentoring on educational outcomes in the Big Brothers Big Sisters programme.	Improved parental relationships provided a better explanation when treated as a mediating factor in the effect of the BBBS programme than when treated as an outcome. Direct effects of mentoring on global self-worth, school value, and grades were not detected but were instead mediated through improved parental relationships and scholastic competences.
Robinson et al. (2016)*	Randomized Trials of the Teen Outreach Program in Louisiana and Rochester, New York	Large	1 - RCT/True Experimental Design	Impact of an outreach programme in two US states on pregnancy prevention.	There were no differences between the intervention and control youths on delay of sexual onset in Louisiana (adjusted odds ratio [AOR] = 0.80; 95% confidence interval [CI] = 0.62, 1.03) or in Rochester, New York (AOR = 0.89; 95% CI = 0.45, 1.77), or for sex with no effective means of birth control (Louisiana, AOR = 1.18; 95% CI = 0.78, 1.78; Rochester, AOR = 0.41; 95% CI = 0.13, 1.27)

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Russell and Francis (2018)	Evaluation of the YMI Cornerstone Mentoring Program: Role in Supporting Engagement in School and Learning	Large	2 - Quasi-expt/Correlational /observational - WITH controls	Impact of a mentoring programme to close educational outcome differences between Black and Latino boys and their peers.	Mentees had a higher rate of enrolment in following years at the centre, regardless of whether this included mentoring or not – 55% of mentees remained enrolled for two years, and 26% for three or more years. Participants also had a higher attendance at school ($p < 0.001$), but there was no difference on progression to the next school grade.
Sheehan et al. (2022)	Long-term effects of a community-based positive youth development program for Black youth: health, education, and financial well-being in adulthood	Large	2 - Quasi-expt/Correlational /observational - WITH controls	Long-term effects of a community-based positive youth development programme for disadvantaged black youths.	The majority in both intervention and control groups reported to be in good to excellent health (83% of programme alumni vs. 74% of comparison group). Alumni were more likely to have completed college, 24% vs. 12% (adjusted odds ratio (aOR) 2.47, 95% CI, 1.25–4.86), and to end up with some money at the end of the month, 35% vs. 19% (aOR 2.16, 95% CI, 1.17, 3.97).
To and Liu (2021)	Outcomes of Community-Based Youth Empowerment Programs Adopting Design Thinking: A Quasi-Experimental Study	Large	2 - Quasi-expt/Correlational /observational - WITH controls	Outcomes of community-based youth empowerment initiatives which adopt design thinking.	There were small positive effects on creative self-efficacy (ES = .02) and youth empowerment (ES = .01), and a medium effect on youth-adult partnerships (ES = .05) for the intervention group compared to the control groups.
Van Horn et al. (2014)	Effects of the Communities That Care System on Cross-Sectional Profiles of Adolescent Substance Use and Delinquency	Large	1 - RCT/True Experimental Design	Effects of a community-based prevention system on adolescent substance use and delinquency.	There was no intervention effect on the probability of experimenting with substances for either 8th or 10th grades. Those in 10th grade were significantly less likely to be alcohol users (OR=0.69, CI=0.48, 1.00).

B5. Residentials and camps

Evidence Quality Overview

Directness of evidence		Study size			Study design	
High	Medium	Large (100+ per comparison group)	Medium (51 – 100 per comparison group)	Small (50 or fewer per comparison group)	1 - RCT/True Experimental Design	2 - Quasi-expt./Correlational /observational - with controls
5	4	7	-	2	4	5

Study Quality Appraisal Ratings (see Annex C for further details on ratings and overview)

Citation	Intervention Description?	Evaluation question clarity	Information on Statistical Power	Causal Study Design	Valid and Clear Outcomes	Study size	Retention (i.e., high is low attrition)	Overall Score Using YEF Items	Overall Score for this Review	Risk of Bias Assessment
Capurso and Borsci (2013)	Medium	Medium	Low	Medium	High	Large	Medium	Low	Medium	-
Chung et al. (2021)	High	Low	High	High	High	Large	High	Low	High	Low risk of bias
Deane et al. (2017)*	High	High	Low	High	High	Large	Low	Low	Low	High risk of bias
Furness et al. (2017)*	Medium	Medium	Low	Medium	High	Small	High	Low	Low	-
Smith et al. (2022)	High	Medium	High	Medium	Medium	Small	Not clearly reported/applicable	Medium	Low	-
Tingey et al. (2020a)*	High	Medium	Low	High	High	Large	High	Low	High	-
Tingey et al. (2020b)*	Medium	Medium	High	High	High	Large	High	Medium	Medium	-
Widmer et al. (2014)	High	High	Low	Medium	High	Large	High	Low	Medium	-
Williams et al. (2018)	High	High	Low	Medium	High	Large	High	Low	Medium	-

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Overview Table - Residentials and camps

Citation	Title	Study size	Study design	Main focus/foci	Main finding(s)
Capurso and Borsci (2013)	Effects of a tall ship sail training experience on adolescents' self-concept	Large	2 - Quasi-expt/Correlational /observational - WITH controls	Impact of a sail training education programme on self-concept	Effects on the Competence and Social domains of Bracken's self-concept scale were assessed before the intervention, on the last day of the voyage, and three months after the programme. A significant difference was identified at the end of the programme (Competence: effect size 0.2, $p < .001$; Social: effect size 0.23, $p < .05$) but this was not maintained.
Chung et al. (2021)	Adventure-based training to enhance resilience and reduce depressive symptoms among juveniles: A randomized controlled trial	Large	1 - RCT/True Experimental Design	Whether adventure-based training can reduce depressive symptoms in juveniles.	The experimental group showed significantly higher resilience ($p = 0.001$) and fewer depressive symptoms ($p = 0.02$) at six months, and significantly higher self-esteem at 3 months ($p = 0.04$), but not at six months ($p = 0.12$) compared to the control group.
Deane et al. (2017)*	The Impact of the Project K Youth Development Program on Self-Efficacy: A Randomized Controlled Trial	Large	1 - RCT/True Experimental Design	Impact of Project K (which includes wilderness adventure, community service, and mentoring components) on academic and social self-efficacy.	Project K participants on average had significantly higher academic ($b = 0.44$, $p < .001$) and social self-efficacy scores ($b = 0.36$, $p < .001$) than Control participants. For social self-efficacy, the ES = 0.50. This was maintained one year after the programme. There were no consistent differential effects for any particular participant subgroup.
Furness et al. (2017)*	Maximising potential: The psychological effects of the youth development programme Project K	Small	2 - Quasi-expt/Correlational /observational - WITH controls	Impact of Project K (which includes wilderness adventure, community service, and mentoring) on self-efficacy, resilience, connectedness, and wellbeing.	Project K had substantial positive effects on self-efficacy, resilience, and wellbeing, although the effect on connectedness was not significant. The effects for the intervention group were $d = 0.93$, $d = 0.70$, $d = 0.77$ and $d = 0.07$ for self-efficacy, resilience, connectedness, and wellbeing respectively. For the control group, the effects were $d=-0.20$, $d = -0.36$, $d = 0.17$, and $d = -0.74$ respectively.
Smith et al. (2022)	Comparing Three Overnight Summer Camp Experiences for Marginalized Middle School Students: Negative, Neutral, and Positive Results	Small	2 - Quasi-expt/Correlational /observational - WITH controls	Comparison between 3 different types of camps and their effects on personal and social skills and on school attitudes.	The experiential education camp saw a decrease in life satisfaction ($d = -.61$, $p = .03$) and increase in Negative Affect ($d = -.64$, $p = .03$), but no other significant differences. For the integrated didactic and experiential camp, youths reported significant positive differences for Negative Affect ($d = 0.49$, $p = .047$), academic self-perception ($d = 0.49$, $p = .048$,), and plan management ($d = 0.91$, $p = .001$), and smaller positive effects across all other outcomes. For the recreational camp, results were mixed and mostly non-significant, though youths did report a significant positive effect on attitudes towards school ($d = 0.55$, $p = .05$) and a significant negative effect on social skills ($d = -.074$, $p = .01$).

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Tingey et al. (2020a)*	Behavioral and Mental Health outcomes from an RCT of a Youth Entrepreneurship Intervention among Native American Adolescents	Large	1 - RCT/True Experimental Design	Effect of an entrepreneurship programme on behaviour and mental health.	Compared to the control group, fewer participants used marijuana at 6-, 12- and 24-months post-intervention (19.6% vs. 28.0%, p = 0.032; 20.4% vs. 31.8%, p = 0.01; and 24.1% vs. 31.4%, p = 0.047). All violence-related measures statistically significantly declined between baseline and 24 months for both groups. There was an increase in alcohol use in both groups, but the increase was twice as high for binge alcohol use in the control group.
Tingey et al. (2020b)*	Entrepreneurial, Economic, and Social Well-Being Outcomes from an RCT of a Youth Entrepreneurship Education Intervention among Native American Adolescents	Large	1 - RCT/True Experimental Design	An entrepreneurship education programme to improve entrepreneurship knowledge and social wellbeing of Native American youths.	There were significantly greater gains for the intervention group compared to the control group for entrepreneurial knowledge six months after the intervention (16.63 vs. 15.51, p = 0.0071) and 12 months after (16.94 vs. 15.88, p = 0.0083). There were no significant differences between the groups on measures of economic confidence or social connectedness over time.
Widmer et al. (2014)	Increasing and Generalizing Self-Efficacy The Effects of Adventure Recreation on the Academic Efficacy of Early Adolescents	Large	2 - Quasi-expt/Correlational /observational - WITH controls	Effect of an outdoor recreation programme on outdoor education and academic self-efficacy.	The authors report positive outcomes on all outdoor and academic measures. For outdoor activities, there was a significant effect on rafting efficacy (F(1, 256) = 192.4, p < .001, η2 = .43) and backpacking efficacy (F(1, 168) = 72.08, p < .001, η2 = .30). For academic measures, there were significant effects on academic attitudes (F(1, 256) = 24.90, p < .001, η2 = .09), academic efficacy (F(1, 256) = 22.37, p < .001, η2 = .08), and academic motivation (F(1, 256) = 10.32, p = .001, η2 = .04).
Williams et al. (2018)	The Impact of an Outdoor Adventure Program on Positive Adolescent Development: A Controlled Crossover Trial	Large	2 - Quasi-expt/Correlational /observational - WITH controls	Impact of an outdoor adventure programme on positive adjustment in young people.	This study assessed self-reported social and health outcomes. Quantitative analyses did not support positive, universal effects of the programme. Results indicated both a short-term and medium-term programme effect on psychosocial difficulties (SDQ-Dif 95% CIs [1.00, 2.48], [−0.49, −0.003], respectively. There was no evidence of short or medium-term effects on psychological strengths, interpersonal connectedness, or natural relatedness. Qualitative data suggests that the programme may have been impactful for some students.

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B6. Sports and physical health

Evidence Quality Overview

High	Medium	Large (100+ per comparison group)	Medium (51 – 100 per comparison group)	Small (50 or fewer per comparison group)	1 - RCT/True Experimental Design	2 - Quasi-expt./Correlational /observational - with controls
8	5	4	4	5	7	6

Study Quality Appraisal Ratings (see Annex C for further details on ratings and overview)

Citation	Intervention Description?	Evaluation question clarity	Information on Statistical Power	Causal Study Design	Valid and Clear Outcomes	Study size	Retention (i.e., high is low attrition)	Overall Score Using YEF Items	Overall Score for this Review	Risk of Bias Assessment
Beltrán et al. (2018)	Medium	Medium	Low	Medium	High	Small	High	Low	Low	-
Cross (2002)	High	High	Low	Medium	High	Small	High	Low	Low	-
DeBate et al. (2009)	High	Medium	Low	Medium	High	Large	Low	Low	Low	-
Efek and Eryiğit (2022)	High	High	Low	High	Medium	Small	High	Low	Low	-
Ho et al. (2017)*	Medium	Medium	High	High	High	Large	High	Medium	Medium	Some concerns
Jago et al. (2015)	Medium	Medium	Medium	High	High	Large	High	Medium	Medium	Some concerns
Nathan et al. (2013)	High	High	Low	Medium	Medium	Medium	Low	Low	Low	-
Pate et al. (2003)	High	Medium	Low	Medium	High	Large	High	Low	Medium	-
Richards et al. (2014)	High	Medium	High	High	Medium	Medium	Medium	Medium	Medium	-
Soytürk and Öztürk (2020)	High	High	Medium	High	High	Small	High	Medium	Low	-
Tesler et al. (2022)	Medium	High	Low	Medium	Medium	Small	High	Low	Low	-
Trajković et al. (2020)	High	Medium	Low	High	High	Medium	High	Low	Medium	-
Zarrett et al. (2021)	High	Low	Low	High	High	Medium	Low	Low	Low	-

Overview Table - Sports and physical health

Citation	Title	Study size	Study design	Main focus/foci	Main finding(s)
Beltrán et al. (2018)	Self-determined motivation and state of flow in an extracurricular program of Small Sided Games	Small	2 - Quasi-expt/Correlational /observational - WITH controls	Effects of a Small Sided Games programme based on football on self-determined motivation and state of flow.	Sports participation in extracurricular hours could have a positive impact on self-determined motivation and the state of flow. There were significant effects detected for balance challenge-ability, automatism, time distortion, autotelic experience, and concentration.
Cross (2002)	The Effects of an Adventure Education Program on Perceptions of Alienation and Personal Control among At-Risk Adolescents	Small	2 - Quasi-expt/Correlational /observational - WITH controls	Effect of a rock climbing programme on youths' sense of alienation and sense of control over their own lives.	The intervention group felt less alienated and a stronger sense of personal control. The mean DAS scores (alienation) for the intervention group were 3.61 and 3.94 in the pre- and post-test respectively, compared to 3.42 and 3.43 for the control group. The Connell Control scores (sense of personal control) for the intervention group were 2.83 and 3.16 in the pre- and post-test respectively, compared to 2.75 and 2.76 for the control group.
DeBate et al. (2009)	VERB ™ Summer Scorecard: Findings from a Multi-level Community-based Physical Activity Intervention for Tweens	Large	2 - Quasi-expt/Correlational /observational - WITH controls	Effect of the VERB Summer Scorecard™ on levels of physical activity.	Participating in the intervention was significantly related to meeting recommendations for vigorous physical activity (OR = 2.08, P = 0.0259), being physically active on weekends (OR = 1.84, P = 0.0017), and reporting more days of trying a new game or sport (OR = 1.49, P = 0.046) after controlling for grade, gender, race/ethnicity, and SES.
Efek and Eryiğit (2022)	The effect of the 12-week judo physical activity program on the self-esteem of secondary school students during the COVID-19 period	Small	1 - RCT/True Experimental Design	Effect of a judo physical activity programme on the self-esteem of secondary school students during the COVID-19 pandemic.	Participation in 12 weeks of regular exercise significantly increased self-esteem. There was no significant difference between the intervention and control groups pre-test, but there was in the post-test for self-esteem (p < 0.05). The experimental group experienced a positive effect between the two tests (pre-test score 72.00 ± 12, post-test 81.65 ± 9, p < 0.05). This was not the case for the control group (pre-test score 68.78 ± 10, post-test 67.82 ± 13).
Ho et al. (2017)*	A Sports-Based Youth Development Program, Teen Mental Health, and Physical Fitness: An RCT	Large	1 - RCT/True Experimental Design	Effect of a positive youth development-based sports mentorship programme on the physical and mental well-being of adolescents.	The intervention had a positive effect on youths' mental well-being (d = 0.25, 95% CI = 0.10 to 0.40, P = .001), self-efficacy (d = 0.22, 95% CI = 0.07 to 0.37, P = .01), resilience (d = 0.19, 95% CI = 0.03 to 0.34, P = .02), physical fitness (flexibility: d = 0.28, 95% CI = 0.13 to 0.43, P = .02; lower limb muscle strength: d = 0.18, 95% CI = 0.03 to 0.33, P = .03; and dynamic balance: d = 0.21, 95% CI = 0.06 to 0.37, P = .01), and physical activity levels (d = 0.39; 95% CI = 0.24 to 0.55, P < .0001). However, there was no significant improvement for physical well-being (d = −0.01, 95% CI = −0.17 to 0.14, P = .86), BMI z scores (d = −0.03, 95% CI = −0.18 to 0.12, P = .69), body fat proportion (d = −0.15, 95% CI = −0.31 to 0.00, P = .051), and social connectedness (d = −0.03, 95% CI = −0.18 to 0.12, P = .72).
Jago et al. (2015)	Effect and cost of an after-school dance programme on the physical activity of 11-12 year old girls: The Bristol Girls Dance Project, a school-based cluster randomised controlled trial	Large	1 - RCT/True Experimental Design	Effect of an after-school dance programme on levels of physical activity.	There were no significant differences between the intervention group and control group in the level of physical activity at any of the assessed time points. For the intervention group, weekday MVPA was 53.25 at T0, 60.46 at T1, and 56.55 at T2. These values were 49.15, 57.69, and 53.15 respectively. However, there were small differences in physical activity on dance class days for those in the intervention group (4.7 more minutes of MVPA, 14.2 more minutes of light intensity activity and 258 more accelerometer counts per minute between 15:00 and 17:00 on dance days versus non-dance days). The average cost of the intervention was £73 per girl.

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Nathan et al. (2013)	"We wouldn't of made friends if we didn't come to Football United": the impacts of a football program on young people's peer, prosocial and cross-cultural relationships"	Medium	2 - Quasi-expt/Correlational /observational - WITH controls	Impact of a football initiative on young people's peer, prosocial and cross-cultural relationships.	83.9% reported feeling 'a bit or much better' since joining the Football United programme, and 85.2% said it had also helped in other ways. Feeling better was significantly positively correlated with both regularity of attendance and total participation in the program (r^2 = 0.31 p = 0.02; r^2 = 0.32 p = 0.01 respectively). There was a significant effect on other-group orientation (ES = 0.46, p = 0.006). For male participants, there were larger effects on peer problems (ES = 0,40, p = 0.046), prosocial behaviour (ES – 0.45, p = 0.024) and other-group orientation (ES = 0.67, p < 0.001).
Pate et al. (2003)	Evaluation of a community-based intervention to promote physical activity in youth: Lessons from active winners	Large	2 - Quasi-expt/Correlational /observational - WITH controls	Impact of a community-based intervention to promote physical activity.	There were no significant differences in either vigorous or moderate to vigorous physical activity levels between intervention and control groups (p = 0.31 and p = 0.19 for boys, p = 0.43 and p = 0.74 for girls). There were also few significant differences in the psychosocial outcomes.
Richards et al. (2014)	Physical fitness and mental health impact of a sport-for-development intervention in a post-conflict setting: randomised controlled trial nested within an observational study of adolescents in Gulu, Uganda	Medium	1 - RCT/True Experimental Design	Impact of a sport-for-development football league programme on physical fitness and mental health in a post-conflict setting.	There was no significant effect on fitness for boys when comparing intervention and waiting list, or intervention and control groups. However, there was a negative effect on depression-like syndromes (ES = 0.67 [0.33 to 1.00]) cf. intervention vs non-registered (ES = 0.25 [0.00 to 0.49]) and anxiety-like syndromes (ES = 0.63 [0.30 to 0.96]) cf. intervention vs non-registered (ES = 0.26 [0.01 to 0.50]). There was no significant effect of the intervention on any outcome for girls.
Soytürk and Öztürk (2020)	Effect of Extracurricular Sports-Related Games on High School Students' Behaviour Patterns	Small	1 - RCT/True Experimental Design	Effect of sports-related games as an extracurricular activity on behaviour patterns.	For students' internalising score and total problematic behaviour score, the values were significantly different (p < .05) and lower than control group, meaning that those in the experimental group less likely to have behavioural problems.
Tesler et al. (2022)	Urban Forest Health Intervention Program to promote physical activity, healthy eating, self-efficacy and life satisfaction: impact on Israeli at-risk youth	Small	2 - Quasi-expt/Correlational /observational - WITH controls	Impact of activities in an urban forest e.g. climbing on at-risk youth.	The intervention had a positive effect on increasing physical activity, self-efficacy, and life satisfaction. For the intervention group, there was an increase in physical activity (p < 0.001), healthy eating (p = 0.007), self-efficacy (p < 0.01), and life satisfaction (p < 0.001), The control group also experienced an increase in healthy eating (p = 0.007 – no significant difference between groups), but no change in physical activity, self-efficacy (p = 0.353), or life satisfaction (p = 0.657).
Trajković et al. (2020)	Reducing Aggression and Improving Physical Fitness in Adolescents Through an After-School Volleyball Program	Medium	1 - RCT/True Experimental Design	Effect of an after-school volleyball programme on aggression and physical fitness.	Results revealed a significant interaction effect (group × time) for physical aggression (F(1, 105) = 17.688; p < 0.001), verbal aggression (F(1,105) = 4.973; p = 0.028), anger (F(1, 105) = 7.662; p = 0.007), medicine ball throw (F(1,105) = 36.143; p < 0.001), and the Yo-Yo Intermittent Recovery Level Test (F(1, 105) = 12.508; p = 0.001). There was a decrease in aggression and better results in physical fitness compared to the control group.
Zarrett et al. (2021)	Connect through PLAY: a randomized-controlled trial in afterschool programs to increase adolescents' physical activity	Medium	1 - RCT/True Experimental Design	Effect of including a climate-based intervention within pre-existing after-school programmes on physical activity.	The intervention group had an increase of 8.17 minutes of daily accelerometry-measured MVPA (56 min of additional weekly MVPA) at post-intervention compared to the control group, controlling for baseline MVPA, school, gender, and weight status.

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Annex C: Quality summary

Quality Appraisal Using the YEF General and Impact Assessment Study Appraisal Tool

	All Activity Categories	Category - Sports and physical health (non-clinical)	Category - Mentoring, coaching and/or peer support	Category - Music, arts, recreation and community	Category - Residentials and camps	Category - Employment, skills and enterprise	Category - Citizenship, community service and volunteering
1. INTERVENTION - Is the intervention clearly named and described, including all relevant components?							
High: full and clear description, so that the main components and how they are delivered are clear	48	9	22	4	6	3	8
Medium: Partial description	27	4	11	2	3	9	2
Low: Little or no description	2	0	1	0	0	0	1
2. EVALUATION QUESTIONS - Are the evaluation questions clearly stated?							
High: full and clear description, so that the main components and how they are delivered are clear	35	5	14	5	3	3	7
Medium: Partial description	23	7	9	0	5	4	3
Low: Little or no description	19	1	11	1	1	5	1
3. STUDY DESIGN - What type of study design is used?							
High: Experimental	41	7	23	1	4	7	5
Medium: Non-experimental	36	6	11	5	5	5	6
4. OUTCOMES - Are the outcomes clearly defined? Where appropriate do they use an existing, validated measurement tool?							
High: full and clear definition using validated instruments where available (a researcher wishing to use these outcomes would have sufficient information to do so)	45	9	26	2	8	4	3
Medium: Partial definition. May use validated instruments but without sufficient references to source.	31	4	8	4	1	8	7
Low: Little or no definition	1	0	0	0	0	0	1

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	All Activity Categories	Category - Sports and physical health (non clinical)	Category - Mentoring, coaching and/or peer support	Category - Music, arts, recreation and community	Category - Residentials and camps	Category - Employment, skills and enterprise	Category - Citizenship, community service and volunteering
5. SAMPLE SIZE (POWER CALCULATION) - Do the authors report a power calculation as the basis for sample size?							
High: Power calculation report and sample size meets necessary sample size	13	2	5	1	3	2	2
Medium: Power calculation mentioned and sample size meets necessary sample size	8	2	3	1	0	2	0
Low: No mention of power calculation.	56	9	26	4	6	8	9
6. ATTRITION - Reported for endline and longest follow up. Calculate overall attrition and differential attrition.							
High: Attrition within IES conservative standard	51	9	27	4	6	8	3
Medium: Attrition within IES liberal standard	8	1	2	1	1	1	2
Low: Attrition outside IES liberal standard	14	3	4	0	1	3	5
Not (clearly) reported	4	0	1	1	1	0	1
7. STUDY SIZE							
Large (101+ per comparison group)	49	4	23	1	7	11	9
Medium (51-100 per comparison group)	12	4	4	2	0	1	1
Small (<50 per comparison group)	16	5	7	3	2	0	1
OVERALL SCORE (all YEF items) - Is there a low score on any of items 1-6?							
High: High on all items	1	0	1	0	0	0	0
Medium: No lower than medium on any item	14	4	5	1	2	2	2
Low: At least one low	62	9	28	5	7	10	9
OVERALL SCORE (selected Items) - Is there a low score on any of items 1, 3, 4, 6 or 7?							
High: High on all items	7	0	5	0	2	1	0
Medium: No lower than medium on any item	40	5	19	3	4	8	4
Low: At least one low	30	8	10	3	3	3	7

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Risk of Bias Analysis Summary

Short Title	Analysis Areas	Risk of bias arising from the randomization process	Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Missing outcome data	Risk of bias in measurement of the outcome	Risk of bias in selection of the reported result	Overall risk of bias
Grossman (1998)	4	Some concerns	Some concerns	Some concerns	Low	Low	Some concerns	Some concerns
Greene (2020)	4	Low	Low	Low	Low	Low	Low	Low
Deane (2017)	1,4,5	Low	Low	Low	High	High	High	High
Gelber (2016)	4	Low	Low	Low	Low	Low	Some concerns	Some concerns
Chung (2021)	5	Low	Low	Low	Low	Low	Low	Low
Heller (2022) and (2014)	3	Low	High	Some concerns	Low	Low	Some concerns	High
Herrera (2023)	4	Low	Low	Low	High	Low	Low	High
Ho (2017)	4,6	Some concerns	Low	Low	Low	Low	Low	Some concerns
Jago (2015)	6	Low	Low	Some concerns	Low	Low	Low	Some concerns
See (2017)	1	Low	Low	Low	Low	Low	Low	Low

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Annex D: Items included in evidence review

D.1 This bibliography references the 77 studies included in this evidence review.

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Annex E: List of interventions with high or medium quality impact evidence

E.1 Below is a list of interventions which were evaluated within the studies we assessed as being of high or medium quality. This list covers all six activity area categories, and references are provided. Interventions for which we identified at least one study providing evidence rated high quality are emboldened.

E.2 Note that high evidence quality in a single study does not signify a positive impact result, only more trustworthy evidence to assess impact; moreover, note that studies were treated as a body of evidence in the analysis, with results based on the weight and consistency of evidence looking across all studies of similar interventions. Therefore, the list below gives an overview of the interventions for which there was evidence and the number of studies rather than a summary of the most promising interventions (for which the reader should consult the main results sections).

- 4 social action programmes: Citizenship Foundation, Community Service Volunteers, Envision, Voluntary Action Within Kent (Kirkman et al, 2016)

- Teen ACTION (Quinn et al, 2009)

- Teen Outreach Program in Louisiana and Rochester, New York (Robinson et al, 2016*)

- 4 uniformed services supported by Youth United Foundation: Sea Cadets, St John's Ambulance, Scouts, and Fire Cadets (See et al, 2017)

- School Project, an after-school drama/theatre programme (Catterall, 2007)

- KLICK!, a computer clubhouse programme (Girod et al, 2004)

- Café Scientifique (Hall et al, 2013)

- Empowerment and Livelihood for Adolescents (ELA) programme in Uganda (Bandiera et al, 2012)

- Youth Service: NEET scheme (Dixon and Crichton, 2016)

- New York Summer Youth Employment Program (Gelber et al, 2016; Leos-Urbel, 2014)

- One Summer Chicago Plus (OSC+) summer jobs programme (Heller, 2014; Heller 2022)

- WorkReady summer jobs programme (Heller, 2022)

- Summer Career Exploration Program (McClanahan et al, 2004)

- **Arrowhead Business Group entrepreneurship education programme (Tingey et al, 2020a*, evidence quality rated high; Tingey et al, 2020b*)**

- **Adolescent Girls Empowerment Program (AGEP) in Zambia (Austrian et al, 2020, evidence quality rated high)**

- Journey to Native Youth Health diabetes prevention programme (Brown et al, 2013)

- An after-school system intermediary organisation (ASIO) programme in an American city (Budd et al, 2020)

- Clark County Business Development Division's Summer Business Institute (Donohue et al, 2005)

- **Big Brothers Big Sisters (DuBois and Keller, 2017, evidence quality rated high; Grossman and Tierney, 1998, high; Herrera et al, 2023, high; Rhodes et al, 2002)**

- Teen Council, a peer education programme (Foss et al, 2022)

- REAL media literacy e-learning curriculum (Greene et al, 2020)

- Adolescents: Protagonists of Development programme implemented by Save the Children (Gulesci et al, 2021)

- Campus Connections, a site-based mentoring programme (Haddock et al, 2020)

- Village Model of Care after-school intervention (Hanlon et al, 2009)

- An after-school sports mentorship programme based in Hong Kong (Ho et al, 2017*)

- Heartfulness Self-Care programme (Iyer et al, 2021)

- A mobile peer group career counselling intervention (Klier et al, 2019)

- Go Grrrls, a gender-specific intervention (LeCroy et al, 2018)

- A violence prevention programme and a positive youth development programme co-developed by Familias en Acción, a partnership between a Latino community and investigators (Oscós-Sánchez et al, 2021)

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- **Girl Empower programme in Liberia (Özler et al, 2020, evidence quality rated high)**

- YMI Cornerstone Mentoring Program in New York (Russell and Francis, 2018)

- Cabrini-Green Youth Program (CGYP) (Sheehan et al, 2022)

- YouthCreate Series project in Hong Kong (To and Liu, 2021)

- Communities That Care (Van Horn et al, 2014)

- 11 specific education programmes aboard the Tender to Nave Italia Foundation vessel (Capurso and Borsci, 2013)

- **An adventure-based training programme in Hong Kong (Chung et al, 2021, evidence quality rated high)**

- A two-week adventure recreation programme (Widmer et al, 2014)

- A purpose-designed outdoor adventure programme in Australia (Williams et al, 2018)

- The Bristol Girls Dance Project (Jago et al, 2015)

- Active Winners, an after-school and summer physical activity programme (Pate et al, 2003)

- Gum Marom Kids League (GMKL), a sport-for-development programme in Uganda (Richards et al, 2014)

- An after-school volleyball programme (Trajković et al, 2020).

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