

Reducing the poverty-related attainment gap:

A rapid evidence review of mentoring and tutoring

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The Poverty Alliance is Scotland's anti-poverty network. Together with our members, we influence policy and practice, support communities to challenge poverty, provide evidence through research and build public support for the solutions to tackle poverty. Our members include grassroots community groups, academics, large national NGOs, voluntary organisations, statutory organisations, trade unions, and faith groups.

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Executive Summary

This rapid evidence review examines evidence on the effectiveness of mentoring and tutoring for children and young people living in poverty and provides an overview of the current policy and practice landscape in Scotland. Drawing on mainly UK-based evidence published in the last ten years, this review synthesises the existing evidence on how far mentoring and tutoring programmes impact on educational and other educational outcomes, specifically focused on understanding where, when, how and with who both interventions work best. Secondly, an online mapping exercise was conducted to examine current provision of mentoring and tutoring programmes focused on attainment in Scotland. A key aim of this review was to identify gaps in evidence, policy and practice regarding these two solutions to addressing the poverty-related attainment gap.

Mentoring

What is the evidence of how mentoring impacts on the poverty-related attainment gap?

- Overall, findings support the use of mentoring as a solution to the poverty-related attainment gap. International evidence demonstrates small but positive effects of mentoring on academic performance and achievement. Evidence also shows that mentoring can be an effective intervention for aiding young people living in poverty to think about higher education. However, evidence shows that there are also strong risks associated with unsuccessful mentoring matches.
- Findings also show that mentoring programmes can impact positively on other education outcomes specifically increased self-confidence and self-esteem.
- Most of the existing evidence is from the United States (U.S) and there are a small number of evaluations/studies conducted in England and only four in Scotland.

Where, when, how and with who do mentoring programmes work best?

- Mentoring programmes are most effective when they have a clear structure and provide training and support for mentors. Programmes are also most effective when mentors have a professional background.
- There is little, and mixed, evidence on whether mentoring effects are linked to gender or age of young people.

What does the mentoring landscape look like in Scotland and where are there gaps in evidence, policy and practice?

- In March 2021, the Scottish Government announced a £19.4 million fund for mentoring programmes to support young people. This included funding for MCR Pathways, a key provider of mentoring for care experienced as well as children and young people affected by poverty, to further rollout provision across Scotland.
- Mentoring programmes in Scotland typically use adult volunteers focused on developing one-to-one relationships in community settings. They are also most widely delivered by third sector organisations, but there are also several programmes delivered by local councils as well as colleges/universities. Overall, mentoring programmes are most often focused on secondary school aged pupils.
- Evaluation evidence on mentoring in Scotland is minimal and there are gaps in provision geographically.



Tutoring

What is the evidence of how tutoring impacts on the poverty-related attainment gap?

- Overall, findings show that tutoring programmes improve academic and social and emotional outcomes. Based on international evidence, the Education Endowment Foundation state that one-to-one and peer tutoring interventions have a high impact on attainment, delivering approximately five additional months' progress on average, based on extensive evidence.
- However, there is a significant lack of research and evaluation of UK-based tutoring programmes.

Where, when, how and with who do tutoring programmes work best?

- Tutoring programmes are most effective when they are highly structured and work in collaboration with schools and teachers. Research shows that tutoring programmes are most effective when tutors are reliable and committed and have strong pedagogical skills and subject knowledge and when tutors have some teaching experience. Tutoring is also more effective when it is delivered through short, regular sessions over a specific timeframe.

What does the tutoring landscape look like in Scotland and where are there gaps in evidence, policy and practice?

- Free tutoring provision for children and young people in Scotland is sparse. A key challenge conducting this review was the lack of collated information online on the availability of free tuition provision in Scotland. An online mapping exercise conducted as part of this review identified very few providers, although there is likely to be very localised provision in the form of homework clubs for example. Despite calls by third sector organisations, the Scottish Government has not made a commitment to rolling out tuition as part of Covid-19 education recovery.



1. Introduction

The Robertson Trust commissioned the Poverty Alliance to conduct a rapid evidence review of mentoring and tutoring as solutions to the poverty-based attainment gap in August 2021. The purpose of this review is to inform the Robertson Trust's work around inequalities in education pathways in Scotland and directly stems from a review of the evidence on tackling the poverty-related attainment gap published in early 2021 (Robertson and McHardy, 2021).

This review provides a detailed picture of tutoring and mentoring for school aged children and young people living in poverty including:

- Current evidence on these interventions: where, when, how and with who are they used and relevant learning from existing interventions including identifying gaps in the existing evidence base.
- An overview of the current policy and practice landscape in Scotland in relation to delivery of these interventions.
- Identification of potential gaps in policy and practice as well as recommendations for further work in this area.

This rapid evidence review combines findings from peer reviewed empirical papers, existing reviews and grey literature reports largely drawing on UK-based evidence published in the last ten years.

1.1 Aims of the review

The review has two key aims: (1) to synthesise the evidence of mentoring and tutoring interventions around impact and success and (2) to examine the policy and practice landscape in Scotland. The review questions include:

Evidence about solution

- What is the evidence about how far this solution impacts on the poverty-based attainment gap?
- Where, when, how and with who does this solution work best?
- How do we recognise what 'good looks like' in this solution?

Policy and practice environment in Scotland

- What's the environment? Where are the gaps in evidence, policy and practice in Scotland to support this solution?
- What needs to happen to address these gaps?
- What organisations operate in this environment? Who supports this solution?
- What are other funders doing to support this solution?

1.2 Summary of definitions

Various definitions exist to define mentoring and tutoring. In particular, there is no commonly used definition of youth mentoring in either research or practice (Busse, Campbell and Kipping, 2018a). As Busse et al. (2018a) write, at the core of mentoring definitions is a focus on the establishment of a trusting and supportive relationship between the mentor and mentee. Mentoring programmes are also sometimes conflated with befriending; both focus on building a trusted and supportive relationship. However, mentoring programmes tend to differ from befriending as the role of the mentor is more focused on meeting objectives. In this review, we have adopted definitions of mentoring and tutoring used by the Education Endowment Foundation (EEF). However, the variability in definitions in the literature creates a difficulty in examining the evidence base as there are a range of types of programmes (Busse, Campbell and Kipping, 2018a). This review also adopts a broad understanding of attainment that goes



beyond academic outcomes in relation to school examinations and academic progress to highlight a wider body of evidence on other educational outcomes including social and emotional, attitudinal and behaviour outcomes.

Attainment: Attainment is the measurable progress which children and young people make as they advance through and beyond school, and the development of the range of skills, knowledge and attributes needed to succeed in learning, life and work (Education Scotland, 2020).

Mentoring: Mentoring in education involves pairing young people with an older peer or volunteer, who acts as a positive role model. In general, mentoring aims to build confidence, develop resilience and character, or raise aspirations, rather than to develop specific academic skills or knowledge.

One-to-one tutoring: One-to-one tuition involves a teacher, teaching assistant or other adult giving a pupil intensive individual support. It may happen outside of normal lessons as additional teaching – for example as part of extending school time or a summer school – or as a replacement for other lessons.

Peer tutoring: includes a range of approaches in which learners work in pairs or small groups to provide each other with explicit teaching support, such as:

- cross-age tutoring, in which an older learner takes the tutoring role and is paired with a younger tutee or tutees;
- peer assisted learning, which is a structured approach for mathematics and reading with sessions of 25 –35 minutes two or three times a week; and
- reciprocal peer tutoring, in which learners alternate between the role of tutor and tutee.

2. Methodology

2.1 Conducting the review

The review was conducted in August and September 2021 by the Poverty Alliance. Searches of four electronic databases were conducted (Applied Social Sciences Index and Abstracts (ASSIA), British Education Index, Child Development and Adolescent Studies and Proquest Educational Journals) as well as Google Scholar and the British Library. Grey literature was also searched for via relevant think tanks and research centres (see Appendix A). Several of the included papers were also identified through examining bibliographies. To examine the landscape of mentoring and tutoring provision in Scotland, we conducted searches via Google as well as searching government and organisational websites (see Appendix A).

The following search terms were used to search academic databases:

- Mentoring: child or children or girl* or boy* or adolescence* or teen* or youth* or young people or young adult* or young person or young men or young women AND mentor* AND poverty or low-income or low socioeconomic or disadvantaged
- Tutoring: child or children or girl* or boy* or adolescence* or teen* or youth* or young people or young adult* or young person or young men or young women AND tutor* AND poverty or low-income or low socioeconomic or disadvantaged

Mendeley referencing software was used to collate sources identified via the literature searches and titles and abstracts were screened based on the pre-set inclusion/exclusion criteria (see Appendix B). A data extraction



spreadsheet was devised to record empirical papers and systematic reviews including information about interventions (e.g. age, delivery organisation); aims of interventions; outcomes measured; academic and other educational outcomes; where, when, how and who interventions work best; and recommendations and research limitations. Given the short timescales and the limited scope of literature on mentoring and tutoring, a quality appraisal of individual studies was not conducted. However, the key limitations of the evidence base are discussed.

Inclusion and exclusion criteria

The review included systematic/rapid evidence reviews, peer reviewed journal articles and grey literature reports published in the UK in the last years (August 2011 – August 2021). Appendix B includes the full list of inclusion and exclusion criteria used during the screening process. A key criteria was the inclusion of interventions that specifically address the poverty-related attainment gap. Therefore, our search terms specifically included terminology in relation to poverty. Appendices C and D show that interventions included in this review either specifically focused on children and young people living in poverty or schools with high rates of pupils receiving free school meals.

A number of systematic reviews and meta-analyses have been conducted on mentoring and tutoring since 2011; mostly drawing on evidence from the U.S, and a decision was made to include these in the review. Papers were included if they adhered to the definitions of mentoring and tutoring outlined in section 1.2.

2.2 Literature included

Mentoring

19 papers were included in the review: 7 reviews, 9 grey literature reports (1 peer reviewed) and 3 peer reviewed journal articles.

Tutoring

15 papers were included in the review: 1 review, 13 grey literature reports (8 peer reviewed) and 1 peer reviewed journal article.

Most of the literature was sourced via Google and searches of think tanks and academic centres. Very few papers were identified via searches of the electronic databases; most of the identified literature was from the U.S. and so did not meet the review criteria.

2.3 Assessment of the evidence

It was beyond the scope of this rapid evidence review to critically appraise individual evaluations/studies. However, many of the tutoring interventions included in this review have undergone peer review by the EEF and rated moderate to high in terms of security¹. Additionally, this review also draws upon findings from seven published reviews on mentoring, four of which have been peer reviewed.

However, there are fairly consistent methodological challenges raised in the mentoring and tutoring literature. For example, several evaluations highlight fidelity issues around the implementation of tutoring and mentoring programmes (i.e. variability in how programmes were delivered and programmes not delivered as intended). Systematic reviews, as well as individual evaluations, also highlight limitations of randomised controlled trials and

¹ For more information, see:

https://educationendowmentfoundation.org.uk/public/files/Evaluation/Carrying_out_a_Peer_Review/Classifying_the_security_of_EEF_findings_2019.pdf



quasi-experimental designs regarding adequate control mechanisms (see, for example, Cummings et al. (2012)). Studies in the mentoring field have also been criticised for inadequately understanding the contextual influences within which youth mentoring programmes operate (e.g. how a programme works with partners) and how these factors affect how programmes are delivered (Busse, Campbell and Kipping, 2018b).

2.4 Limitations

There are several key limitations regarding the process for conducting this review. Firstly, it was outwith the scope of this review to appraise the quality of individual papers. As noted above, some of the included papers have been peer reviewed by the EEF and sections 3 and 4 point to limitations with the studies and evaluations included in the review. Secondly, a decision was made to specifically search journal databases using key terms related to disadvantage. This was the key focus of the review, but it will have impacted on the breadth of literature identified via the searches. Thirdly, the online search to identify current mentoring and tutoring provision in Scotland does not provide a complete picture of provision. The aim of the review was to examine the landscape and identify gaps, but caution should be taken when interpreting the findings as some of the information gathered online may not be up to date.



3. Findings: Mentoring

3.1 What is the evidence of how far mentoring impacts on attainment?

Evidence from meta-analyses show that mentoring can have a positive effect on academic and other educational outcomes including social, emotional, attitudinal and behavioural outcomes (DuBois et al., 2011; Raposa et al., 2019). Systematic reviews indicate that young people living in poverty benefit more from mentoring than their more advantaged peers (Cummings et al., 2012; Rodríguez-Planas, 2012). Overall, reviews indicate a positive but small impact of mentoring on academic outcomes (measures relating to grades and academic progression (e.g. reading comprehension) and skills attainment). However, academic outcomes are often not the main function of mentoring programmes and therefore often not reported (Renaisi, 2019). Mentoring provision typically aims to improve other outcomes, conceived of as other educational outcomes in this review, related to confidence or raising aspirations rather than to develop specific academic skills. Recently published reviews, which look beyond the UK, as well as UK-based evaluations, demonstrate a range of social/relational (e.g. relationships) and psychological/emotional outcomes (e.g. increased self-confidence and self-esteem) as well as changes to attitudes and behaviours. However, there is a lack of research that looks at different impacts of particular kinds or models of mentoring to be able to compare the effectiveness of one model with another.

3.2 Academic outcomes

The EEF's Learning and Teaching Toolkit states that the impact of mentoring varies but, on average, it is likely to have a small positive impact on attainment (Education Endowment Foundation, 2021a). Based on a review of international evidence, the EEF (2021a) concludes:

“While mentoring is not generally as effective in raising attainment outcomes as small group or one-to-one tuition, it is possible to target the approach to pupils from disadvantaged backgrounds and those with particular needs. Mentoring interventions may be more beneficial for these pupils, as the development of trusting relationships with an adult or older peer can provide a different source of support”.

Several international evidence reviews demonstrate consistent evidence of small but positive effects of mentoring on academic performance and achievement (see table 1) (Costello and Thomson, 2011; DuBois et al., 2011; Cummings et al., 2012; Rodríguez-Planas, 2012; Raposa et al., 2019; Armitage et al., 2020). A recent meta-analysis of mentoring outcome studies suggests that youth mentoring programmes are a “moderately effectively intervention for youth at-risk for a range of psychosocial and academic problems” [school engagement, academic achievement and extra-curricular activities] (Raposa et al., 2019, p. 440). Raposa et al. (2019, p. 440) conclude: “The current findings provide some support for the efficacy of one-on-one, caring relationships with adults, particularly as a low-cost intervention with the potential to reach large groups of youth and prevent more intensive treatments”.

Four of five evaluations of UK-based mentoring programmes that specifically measured academic performance and achievement highlight positive outcomes (Roberts and Weston, 2011; Renaisi, 2019; Biggs *et al.*, 2020; Bidey *et al.*, 2021). However, it should be noted that two of these programmes involved a mix of activities not just mentoring: IntoUniversity and the Mayor's Stepping Stones Programme. Evidence includes an evaluation of MCR Pathways, a school-based mentoring programme supporting care experienced young people in Scotland, which found statistically significant differences between the outcomes of young people who were mentored and those who were not: 70.7% of mentored pupils continued their education in S5 compared with 60.1% of their non-mentored peers and 87.8% of mentored pupils achieved at least one SCQF Level 5 qualification compared with 66.8% of their non-mentored peers (Biggs *et al.*, 2020).

A key aim of mentoring programmes is often to encourage young people to apply to further or higher education. Evidence has shown that mentoring can be an effective intervention for aiding young people to think about higher



education (Roberts and Weston, 2011; Hooley, Hutchinson and Neary, 2014; NatCen, 2016; Wilson, Hunter and McArthur, 2018).

3.3 Other educational outcomes

This section summarises the impacts of mentoring on other educational outcomes beyond academic achievement. All seven reviews (see table 1) focused on a range of other educational outcomes including social and emotional, behavioural and attitudinal outcomes. Aside from an international review and meta-analysis of school-based mentoring, which found no impacts on measured outcomes including attendance, behaviour and psychological outcomes (Wood and Mayo-Wilson, 2012), other reviews have demonstrated a range of social and emotional outcomes including better overall mental health, improved self-esteem, better relationships and increased social capital and perceptions of social support (Costello and Thomson, 2011; DuBois *et al.*, 2011; Raposa *et al.*, 2019; Armitage *et al.*, 2020). Cummings *et al.*'s (2012) best-evidence synthesis concludes that there is promising evidence of mentoring having an impact on attitudes and aspirations.

UK-based evaluations and studies largely demonstrate positive social and emotional and attitudinal outcomes as well as some indications of behavioural outcomes. For example, Demack *et al.*'s (2016) evaluation of Think Forward, a school-based mentoring programme delivered in London, found increases in confidence and self-belief amongst young people, particularly when their coach had helped them to work through personal problems. Interviews with coaches and school leads, a year and five months into the intervention, suggested that there had been changes in pupils' behaviours for pupils most engaged in the programme.



Table 1: Systematic review findings: impacts of mentoring on academic and other educational outcomes

Authors	No. of studies/papers	Outcomes measured	Evidence on outcomes
Armitage et al. (2020)	16	Access to meaningful employment/training/education; social capital/social networks; job searching skills; career readiness; employability; confidence; personal effectiveness and wellbeing	skills attainment; better familial relationships; positive school and work outcomes; and better overall mental and physical health.
Costello and Thomson (2011)	43	Developmental outcomes (e.g. leadership) and instrumental outcomes (e.g. improved academic results)	In general, mentoring programmes are effective in produced a range of positive developmental and instrumental outcomes including: increased social connection, development of life skills, increased self-confidence and resilience, increased capacity to develop and sustain relationships, enhanced academic performance and attainment, decreased truancy, improved health outcomes, improved peer and parental relationships and improved social competencies.
Cummings et al. (2012)	6 (and review of reviews)	Educational attainment and attitudes	Small, statistically significant effect sizes for educational attainment and attitudes.
Dubois et al. (2011)	73	Achievement motivation and prosocial attitudes (attitudinal/motivational category), social skills and peer relationships (social/interpersonal), depressive symptoms and self-esteem (psychological/emotional), drug use and bullying (conduct problems), standardized test scores and absences (academic/school), and repeat pregnancy and fat-free body mass (physical health)	Small, statistically significant effect on youth outcomes except physical health.
Raposa et al. (2019)	70	School functioning, social relationships, health, cognition, and psychological symptoms (and 15 sub-categories)	Small, statistically significant effects across all outcomes.
Rodriguez-Planas (2012)	6	Any reported effects of mentoring programmes on disadvantaged young people	Positive but modest effects on some young people. Most disadvantaged or at-risk seem to benefit the most.
Wood and Mayo-Wilson (2012)	8 (6 in meta-analysis)	Academic achievement, school attendance, attitude, behaviour and self-esteem	The mentoring programmes included in this review did not reliably improve any of the included outcomes.



3.4 Where, when, how and with who does mentoring work best?

Existing systematic reviews and evaluations/studies of UK-based mentoring programmes provide a detailed evidence base on where, when, how and with who mentoring works best.

- **Setting:** The EEF (2021a) states that both community-based and school-based mentoring approaches can be successful. Where mentoring programmes are school-based, research has shown that provision is more likely to be effective in ‘non-judgemental spaces’; in separate rooms from standard classrooms (Bidey *et al.*, 2021).
- **Mentee characteristics:** There is mixed and little evidence on whether mentoring is more effective with young people depending on age and gender. Cummings *et al.*’s (2012) review concluded that all young people appear to benefit from mentoring but that there are some indications that girls benefit more than boys. On the other hand, Raposa *et al.*’s (2019) review found greater effects of mentoring on boys than girls. Their review did not find different effects of mentoring based on age but they highlight research which has demonstrated that older youth have less close and enduring mentoring relationships (Raposa *et al.*, 2019).
- **Mentor characteristics:** Evidence shows that the most effective mentoring programmes include mentors with a professional background. There is also evidence that mentors with expertise in mental health and social work are more likely to build strong relationships with mentees (Raposa *et al.*, 2019; Armitage *et al.*, 2020). There is also some evidence showing that mentoring programmes with a higher number of male mentors have a greater impact (Raposa *et al.*, 2019).
- **Length of the programme:** Research shows that longer term mentoring relationships are associated with better outcomes (Armitage *et al.*, 2020). Evidence also shows that positive benefits of mentoring tend not to be sustained once the relationship stops and therefore it is important to consider how pupils can be supported to retain positive changes in confidence and behaviour (Education Endowment Foundation, 2021a).
- **Matching process:** Evidence suggests that mentoring matches based on shared interests and values contributes positively to the effectiveness of mentoring as well as allowing mentees to have ‘choice and agency’ in matching (DuBois *et al.*, 2011; Armitage *et al.*, 2020). Being culturally sensitive to mentees when initiating matches is also associated with better outcomes but there is conflicting evidence on whether mentoring relationships are more effective when mentors and mentees share the same ethnic background or gender (Raposa *et al.*, 2019; Armitage *et al.*, 2020). Importantly, there is strong evidence of the risks associated with unsuccessful mentor pairings, which may have a detrimental effect on the mentee (Education Endowment Foundation, 2021a). As Wilson *et al.* (2018) write, careful understanding is needed to know how to support relationships and minimise the impact of those that do not succeed.
- **Structure:** Programmes which have a clear structure and expectations that provide training and support for mentors are associated with more successful outcomes (Education Endowment Foundation, 2021a). EEF (2021a) writes that conversations between mentors and mentees may address a range of issues such as attitudes to school, self-perception and belief and aspirations for future studies or career options. However, research also demonstrates that a level of flexibility is needed within mentoring programmes in terms of the focus of individual sessions (Renaissi, 2019). In terms of frequency of meetings, research shows that regular meetings between a mentor and mentee of once a week or more appear to be the most effective (Education Endowment Foundation, 2021a). Additionally, research shows that mentoring interventions delivered over an extended period of time enable mentors and mentees to develop a longer lasting, trusting relationship (Education Endowment Foundation, 2021a). Research on the IntoUniversity mentoring programme highlights several factors associated with increased impact of mentoring including: high quality relationships between mentor and mentee; pre-match and on-going training, support and supervision for mentors; structured activities for mentors and mentees; frequent and long-term contact; and driven by the needs and interests of the young person (Renaissi, 2019).



A recent rapid evidence review of mentoring programmes identified a range of factors which contribute to effective programmes (Armitage *et al.*, 2020). Figure 1 summarises recommendations for commissioners and providers made in this review.

Figure 1: Recommendations for commissioners and providers of youth mentoring programmes (Armitage *et al.*, 2020)

1. Allow time and resources to set up a programme, to recruit and train mentors, and to match them with mentees

- preparing and training mentors and mentees on expectations, aims and practical considerations
- consider including pre-programme information sessions, so that mentors and mentees are aware that successful relationships require commitment from both parties

2. Focus on the fundamental role that matching plays in successful programmes

- give agency to mentees as well as recognise the role that shared experience and cultural sensitivity can play in successful relationships

3. Balance giving agency to mentees in decisions around their mentors with the evidence that shared interests and backgrounds and cultural sensitivity produce better outcomes

- it is important to avoid making assumptions about which shared interests and backgrounds are important to mentees

4. Ensure that mentors and mentees are supported to develop and sustain longer-term mentoring relationships, as these lead to better outcomes

- more research is needed to understand why longer relationships result in better outcomes, and how this insight might affect programme design and delivery

5. Focus on how to measure progress and outcomes

- this might involve working closely with researchers and research commissioners
- other areas where more research is needed include the matching process, the quality and quantity of mentoring relationships, and the role that mentee agency plays in achieving outcomes.

3.5 Where are there evidence gaps?

A difficulty with measuring the outcomes of mentoring programmes is that whilst there is evidence that mentees can gain from positive relationships, this is difficult to measure in terms of specific outcomes on education and employment (Costello and Thomson, 2011; Armitage *et al.*, 2020). As outlined by Armitage *et al.* (2020), there are significant evidential challenges in assessing what makes mentoring programmes effective particularly as most of the research in this field is from the USA. There are only a small number of evaluations conducted in England and only a



few identified in Scotland. In relation to the UK-based evidence, there are also several key limitations. Firstly, the diversity of models of delivery of mentoring programmes (e.g., setting, length, characteristics of mentors) makes it difficult to pinpoint the effects on outcomes and what makes programmes effective. Secondly, where randomised controlled trials have been conducted they tend to have been based on small sample sizes effecting the generalisability of the results (Demack *et al.*, 2016; Biggs *et al.*, 2020). Some qualitative research has also been conducted with very small samples (Mtika and Payne, 2014; Wilson *et al.*, 2014; NatCen, 2016). In terms of further research, recommendations include examining the longevity of outcomes and determining which programme practices are more effective for different populations of mentors and young people (Rodríguez-Planas, 2012; Plunkett and Fowler, 2019; Raposa *et al.*, 2019; Renaisi, 2019).

3.6 Mentoring policy and practice landscape in Scotland

It is difficult to ascertain how widespread mentoring programmes are as an intervention for school-aged children and young people affected by the poverty-related attainment gap in Scotland. Some mentoring provision is commissioned at local authority or school-level via Scottish Attainment Challenge targeted funding. Pupil Equity Funding is allocated directly to schools and the funding is spent at the discretion of head teachers working in partnership with other organisations in their local authority (Scottish Government, no date). The main challenge examining how widespread mentoring is in Scotland is the lack of publicly available information on how local authorities and schools are using Scottish Attainment Challenge funding.

In March 2021, the Scottish Government announced a £19.4 million fund for mentoring programmes to support young people. This included funding for MCR Pathways to roll out its Young Scottish Talent mentoring programme as well as funding for the Leadership Academy for Young People delivered by Columba 1400 (Scottish Government, 2021b). In 2020, the independent review of the care system in Scotland, the Promise, recommended that mentoring should be offered to all young people who would benefit (Care Review, 2020). Following on from this, the Scottish Mentoring Network have been granted funding to map mentoring provision for care experienced children and young people in Scotland to identify gaps in provision (Scottish Mentoring Network, 2021).

An online mapping exercise was conducted to build a picture of mentoring provision focused on attainment, for school-aged children and young people, mainly using the Scottish Mentoring Network's website. The [Scottish Mentoring Network](#) is the membership body for mentoring projects in Scotland and their mentoring map shows the location of current projects under different themes (e.g. education, disability). Not all organisations providing mentoring to children and young people will be members of the Network and therefore not all providers will be captured in this overview. This exercise was specifically focused on exploring the policy and practice landscape around mentoring provision identifying which organisations and funders currently work in this environment.

The online mapping exercise identified 20 mentoring providers with a focus related to attainment (see Appendix E).

- **Overview of providers:** Charities are the main providers of mentoring programmes but there are also a few programmes delivered by local councils as well as colleges/universities. Most organisations provide mentoring alongside a range of other services.
- **Funding:** Where information is available, third sector organisations providing mentoring are supported by a range of funders including the National Lottery, BBC Children in Need, the Scottish Government as well as Charitable Trusts.
- **Programme setting:** most providers provide mentoring in community spaces (n = 13). Others provide mentoring in schools (n = 4), either in schools or in the community (n = 2) and in colleges/university (n = 2).
- **Mentors:** most mentoring providers use adult volunteers (n = 14). There are also a few providers who pay mentors including Glasgow Caledonian University's Outreach Programme, Light Up Learning, Moray Council



and West Dunbartonshire Council. A couple of mentoring programmes are delivered by volunteer young people including Lochaber Hope and The Rock Trust.

- **Young people:** most providers specifically provide mentoring to children and young people who are described as disadvantaged, vulnerable, struggling etc. Nine providers specifically deliver mentoring to care experienced children and young people. A few other providers mention supporting young carers, young people involved in offending or Black and Minority Ethnic Young People. This mapping indicates that most provision is for secondary aged school children.
- **Location:** There are two mentoring programmes providers who operate across numerous local authorities. MCR Pathways is currently delivered in 75 schools across 12 local authorities and the Intandem Mentoring Service is delivered by a range of third sector organisations across 19 local authorities. Other providers deliver mentoring at a local level.

There are a few other large-scale mentoring programmes in Scotland which do not focus specifically on attainment but aim to improve related behaviours (particularly those linked to offending) or attitudes including Mentors in Violence Prevention, Plusone Mentoring and Action for Children.

3.6.1 Where are there gaps in mentoring provision?

A mapping of the mentoring landscape indicates gaps in provision geographically. This mapping suggests that there may be a lack of school-aged mentoring provision in several local authorities including Angus, Argyll and Bute, Comhairle nan Eilean Siar, Dumfries and Galloway, Orkney and the Scottish Borders. Also, whilst Intandem is currently being delivered by charities in 19 local authorities, it is only provided for young people who are looked after at home.

Official data shows that there are specific groups of children and young people living in deprived areas most affected by the attainment gap in Scotland including white boys, Gypsy/Travellers, care experienced learners and children with additional support needs (Robertson and McHardy, 2021). This mapping identified a lack of provision targeted at Gypsy/Travellers and also Black and Minority Ethnic children and young people. Whilst many of the programmes are targeted at all young people living in poverty, the evidence base shows being culturally sensitive to mentees when initiating matches is associated with better outcomes (Armitage *et al.*, 2020).

In terms of mentor characteristics, evidence shows that the most effective mentoring programmes include mentors with a professional background (Raposa *et al.*, 2019; Armitage *et al.*, 2020). It is outwith the scope of this mapping to scope the recruitment policies of mentoring providers and it would be interesting to examine the qualifications and experiences of mentors in Scotland, as well as the training and support they are provided with which is associated with greater impacts of mentoring (Renaisi, 2019).



4. Findings: Tutoring

4.1 What is the evidence about how far this solution impacts on attainment?

Generally, the literature suggests that tutoring programmes have a range of positive impacts on academic and social and emotional outcomes (mainly self-confidence). The international evidence synthesised by the EEF indicates that one-to-one tuition, where a student receives intensive tuition, and peer tutoring, involving a range of approaches in which learners work in pairs or small groups to provide each other with explicit teaching support, lead to high impacts on attainment (Education Endowment Foundation, 2021b, 2021c). The impacts of small group tuition have been found to be more moderate (Education Endowment Foundation, 2021d).

However, there are a limited number of evaluations of UK-based tutoring programmes specifically provided to children and young people affected by poverty. Based on a limited number of studies examining academic outcomes (n = 9), the evidence on academic outcomes is mixed. It is also difficult to disentangle the impacts of different types of tutoring programmes (one-to-one, group, peer) as research focused on these specific types is limited.

4.2 Academic outcomes

In the EEF's Learning and Teaching Toolkit, one-to-one tuition and peer tutoring interventions are found to have a high impact on attainment, delivering approximately five additional months' progress on average, based on extensive evidence (Education Endowment Foundation, 2021b, 2021c). The evidence is particularly strong for young learners who are behind their peers in primary school in reading and maths. Evidence synthesised by the EEF also shows that the effects of all three tutoring models on pupils living in poverty is particularly positive. There is less, although moderate, evidence on the impacts of small group tuition (one teacher, trained teaching assistant or tutor working with two to five pupils together in a group) and the existing evidence mainly relates to low-attainment pupils receiving additional support to catch up with their peers. Overall, studies indicate that the effects of one-to-one tuition on mathematics appear to be substantially lower than in literacy (Education Endowment Foundation, 2021b). On the other hand, the impacts of peer tutoring is similar for both maths and literacy (+5 months) (Education Endowment Foundation, 2021c). Largely drawing on literature from the U.S., evidence shows that tuition in reading tends to have more positive impacts in earlier grades, whilst maths tutoring tends to have more positive impacts on later grades (Nickow, Oreopoulos and Quan, 2020).

Apart from four online programmes, most of the UK-based evaluated tutoring programmes identified in this review are school-based. Programmes include a range of one-to-one or both one-to-one and small group tuition, mainly in maths and/or English/reading (see Table 2). On the whole, programmes are delivered by paid university students or recent graduates. Three programmes involve peer mentoring.

The majority of evaluations/studies of UK-based tutoring programmes included in this review examined academic outcomes, predominantly in English and maths (Topping *et al.*, 2012; Maxwell *et al.*, 2014; Buchanan *et al.*, 2015; Buchanan, Worth and Aston, 2015; Lloyd, Edovald, Kiss, *et al.*, 2015; Lloyd, Edovald, Morris, *et al.*, 2015; Lord *et al.*, 2015; Torgerson *et al.*, 2016, 2018; Lucchino, 2016; The Social Innovation Partnership, 2018; Plaister and Thomson, 2020). Table 2 summarises the evidence on outcomes of individual tutoring interventions revealing a mixed and complex picture. Limitations with quasi-experimental study designs means that a couple of studies do not provide a 'secure estimate of the impact of the project on pupil outcomes' based on EEF ratings (Buchanan *et al.*, 2015; Buchanan, Worth and Aston, 2015). In another evaluation of an online one-to-one tuition programme in maths, the sample size is too small to make any generalisations about impacts on attainment (The Social Innovation Partnership, 2018). Of the remaining nine programmes, five demonstrated positive impacts on children and young people's attainment (Topping *et al.*, 2012; Lord *et al.*, 2015; Lucchino, 2016; Torgerson *et al.*, 2018; Plaister and Thomson,



2020). Two of these evaluations adopted a randomised controlled trial (Lord *et al.*, 2015; Torgerson *et al.*, 2018) and three adopted a quasi-experimental design (Topping *et al.*, 2012; Lucchino, 2016; Plaister and Thomson, 2020). The four evaluations that did not find evidence on academic outcomes included a randomised controlled study of a school-based programme which aimed to improve the reading comprehension skills of pupils at transition from primary to secondary (Maxwell *et al.*, 2014); a clustered randomised controlled trial of a cross-age, school-based tutoring programme in maths tuition at primary school (Lloyd, Edovald, Morris, *et al.*, 2015); a clustered randomised controlled trial of a cross-age, school-based paired reading programme in secondary schools (Lloyd, Edovald, Kiss, *et al.*, 2015); and a randomised controlled trial of an online tutoring programme in maths provided by trained maths graduates to primary aged children (Torgerson *et al.*, 2016).

Only three papers specifically examined peer tutoring outcomes. Evaluations of an EEF funded school-based paired reading programme for secondary age pupils and an EEF funded school-based maths tutoring programme for primary aged children found no evidence of impacts on reading or maths attainment (Lloyd, Edovald, Kiss, *et al.*, 2015; Lloyd, Edovald, Morris, *et al.*, 2015). Whist teachers perceived that the maths peer tutoring intervention benefited young people in terms of their confidence in maths, concerns were raised about the accessibility of the programme for lower ability pupils and pupils with English as an Additional Language or with Special Educational Needs (Lloyd, Edovald, Morris, *et al.*, 2015). Contrastingly, a two-year study of a peer (including cross-age and same-age) paired reading intervention, delivered by a council in Scotland, found significant pre-post gains in reading attainment for cross-age tutoring amongst 8 and 10-year-olds, compared to a comparison group (Topping *et al.*, 2012). Cross-age tutoring had significant effects over a longer period for younger students whilst same age tutoring did not (Topping *et al.*, 2012).

4.3 Other educational outcomes

In comparison to the mentoring literature, most research on tutoring provision tends to focus on academic outcomes. However, there is consistent evidence that tutoring provision for children and young people living in poverty leads to increased self-confidence in the subject tutored in (see Table 2). Some studies have also demonstrated positive impacts on pupils' aspirations (Buchanan *et al.*, 2015), motivation and enjoyment of learning (Maxwell *et al.*, 2014; Marshall *et al.*, 2021).

Table 2: UK-based tutoring programmes: academic and other educational outcomes

Tutoring programme	Type of tutoring	Tutors	Young people characteristics	Evidence on outcomes
Tutor Trust (Buchanan et al., 2015)	School-based, small group and 1:1 tuition in maths and English	University students and recent graduates (paid)	Disadvantaged pupils aged 14-16	EEF security rating: very low Quasi-experimental design found no statistically significant differences in outcomes on English and maths. Qualitative evidence of positive impacts on pupils' confidence and raising pupils' aspirations.
Tutor Trust (Buchanan et al., 2015)	School-based, small group and 1:1 tuition in maths and English	University students and recent graduates (paid)	Disadvantaged pupils aged 10-12	EEF security rating: very low Quasi-experimental design found no statistically significant differences in outcomes on English and maths.



				Qualitative evidence of positive impacts on pupils' self-esteem and confidence.
Perry Beeches Coaching Programme (Lord et al., 2015)	School-based, small group and 1:1 sessions in reading and writing	Mainly graduates (paid)	Pupils who had not reached level 4c in English aged 11-12	EEF security rating: moderate RCT found positive impact on pupils' attainment in reading, spelling and grammar, equivalent to approximately five additional months' progress. Qualitative evidence of positive impacts on pupils' confidence.
Action Tutoring (Lucchino, 2016)	School-based, small group tuition in maths and English	Various, mainly students	Schools with more than double the national average of pupils eligible for FSM GCSE pupils aged 14-16	Quasi-experimental design found higher GCSE point scores for tutored pupils compared to comparison groups. Results suggest a somewhat larger effect on students tutored in maths compared to those tutored in English.
The National Online Tutoring Programme (Marshall et al., 2021)	Online tuition in a mix of subjects	Various depending on organisation (paid and unpaid)	Disadvantaged children and young people aged 11-17	Mixed methods evaluation found evidence of increased enjoyment of learning, confidence and subject knowledge.
TextNow Transition Programme (Maxwell et al., 2014)	School-based 1:1 coaching in reading	Mix of teachers, teaching assistants, community volunteers or older year-group pupils (volunteer)	Pupils not achieving Level 4 in English at the end of Key Stage 2 aged 11-12	EEF security rating: moderate RCT did not find statistically significant differences in reading comprehension or in enjoyment of reading and motivation to read.
The Access Project (Plaister and Thomson, 2020)	School-based 1:1 tuition in a range of subjects	Graduate and university students (volunteer)	Disadvantaged young people aged 15-16 and 17-18 years	Quasi-experimental design found statistically significant positive effects on GCSE attainment for year 11 pupils in their tutored subject but no clear evidence on A-Level attainment for Year 13 pupils.
Tutorfair (The Social Innovation, 2018)	Online 1:1 tuition in maths	Online app	Targeted at schools where over 50% of students are entitled to free school meals	Sample size too small to ascertain impacts on attainment and confidence.



Tutor Trust (Torgerson et al., 2016)	Online 1:1 tuition in maths	Full-time employees and graduates in maths or maths-based subject, working in Third Space Learning academic centres in India and Sri Lanka (paid)	Targeted at schools with high proportion of pupils eligible for free school meals. Young people aged 10-11	EEF security rating: moderate Impact evaluation found no evidence that the intervention had an impact on Key Stage 2 maths, compared with 'business as usual' teaching and support in Year 6. Process evaluation evidence on improved comprehension, verbal fluency and confidence in maths.
Tutor Trust (Torgerson et al., 2018)	School-based, small group and 1:1 tuition in maths	University students and recent graduates (paid)	Young people aged 10-11 working below age-expected levels in maths Schools in the trial had twice the national average of pupils eligible for free school meals	EEF security rating: high RCT found some evidence that small group tutoring led to benefits for children receiving tutoring in comparison to the control group. Process evaluation evidence on increased pupil confidence.
Tutorfair Foundation (2020)	Online 1:1 tuition in maths and English (summer school)	Mix of undergraduates, graduates and qualified teachers (volunteer)	Children and young people aged 13-15 Prioritised for disadvantaged children and young people	Increased self-confidence in subject as well as in returning to school
Paired reading (Topping et al., 2012)	School-based 1:1 peer tutoring in reading	Peers (cross-age and same-age)	Children aged 8-10	Significant pre-post gains in reading attainment for cross-age tutoring.
Durham Shared Maths Project (Lloyd et al., 2015)	School-based 1:1 peer tutoring in maths	Peers aged 10-11	Children aged 7-9	EEF security rating: moderate to high Clustered RCT did not find statistically significant differences in maths attainment or attitudes towards school. Some qualitative evidence from teachers of improvements in confidence in maths.
Paired reading	School-based 1:1 peer tutoring in reading	Peers aged 13-14	Young people aged 11-12	EEF security rating: moderate to high



(Lloyd et al., 2015)

Schools were selected where the proportion of pupils eligible for free school meals was above the national average.

Clustered RCT did not find a statistically significant difference on pupils' reading ability.

4.4 How, where, when and with who do tutoring programmes work best?

Evaluations/studies of UK-based tutoring programmes provide a detailed evidence base on where, when, how and with who tutoring works best.

- **Setting:** Most of the tutoring programmes included in this review are school-based. The literature identifies the need for a 'suitable learning environment'; one that is quiet, stimulating and comfortable (Lord *et al.*, 2015).
- **Tutor characteristics:** Research shows that tutoring programmes are most effective where tutors possess strong pedagogical skills and subject knowledge (Buchanan *et al.*, 2015; Buchanan, Worth and Aston, 2015) and effects are stronger on average for teacher and paraprofessional tutoring than for nonprofessional or parent programmes (Nickow, Oreopoulos and Quan, 2020). It is also important that tutors are committed, reliable and flexible to changing needs. Research also shows that where tutors are of poorer quality, this can have negative impacts on their tutees (Buchanan *et al.*, 2015; Buchanan, Worth and Aston, 2015).
- **Tutee characteristics:** There is some, albeit minimal, mixed evidence in relation to whether impacts of tutoring are associated with gender. Two studies, both for similar age groups (late primary school), one peer-led tuition and other provided by university students and recent graduates, found better outcomes for girls than boys (Topping *et al.*, 2012; Torgerson *et al.*, 2018). On the other hand, primary school teachers felt that boys benefitted the most from the Tutor Trust maths/English programme (Buchanan, Worth and Aston, 2015). An evaluation of the Access Project, a school-based tutoring programme for young people aged 14 to 18 found greater positive effects on GCSE grades for male students (Plaister and Thomson, 2020).
- **Length of the programme:** There is a lack of research that has examined length of tutoring programmes in relation to outcomes. A study of a 2-year tutor programme, the Access Project, found that students who took part in the project across two academic years were more strongly affected than those who took part for just one year (Plaister and Thomson, 2020). There was also a stronger effect on academic grades in the tutored subject for students who took part in more tutoring sessions (Lucchino, 2016; Plaister and Thomson, 2020).
- **Structure:** Existing evidence suggests that highly structured tutoring programmes provide the best effects on outcomes. Highly structured programmes include thorough training, timetabled sessions and a focus on specific reading skills. In terms of frequency, evidence shows that impacts of one-to-one and small group tuition are higher where tuition is provided via short, regular sessions (about 30 minutes three to five times a week) over a set period of time (up to ten weeks) (Education Endowment Foundation, 2021b, 2021d). Evidence also shows that programmes work most effectively when tutors have a good knowledge of the curriculum and work in conjunction with the relevant department and teachers (Buchanan *et al.*, 2015; Buchanan, Worth and Aston, 2015; Lord *et al.*, 2015; Torgerson *et al.*, 2018; Marshall *et al.*, 2021). Existing, largely U.S. based, evidence also shows that tutoring programmes conducted during school hours tend to



have larger impacts than those conducted after school (Nickow, Oreopoulos and Quan, 2020). An independent evaluation of Tutor Trust's English and math's tuition programme provided by university students and recent graduates recommended that the Trust should address variations in tutor quality to ensure that all tutors are up to a required standard of conduct and performance through quality audits or establishing more formal feedback or performance reviews (Buchanan, Worth and Aston, 2015).

4.5 Where are there evidence gaps?

The key gap in terms of evidence on the outcomes of tutoring for children and young people is the lack of research in the UK. In comparison to the mentoring literature, our review identified only one systematic review and meta-analysis examining the effects of tutoring on learning outcomes which included tutoring interventions for all children and young people (Nickow, Oreopoulos and Quan, 2020). This review identified only 14 evaluations/studies of tutoring programmes published in the UK in the last ten years (see Appendix D). Whilst this is a small number, eight of the tutoring programmes have been funded and evaluated by the EEF. Examining the outcomes of differing types of tutoring provision in the UK (e.g. one-to-one, group, peer) is not possible given the limited number of studies. Recommendations for further research include exploring the effects of different models of delivery (e.g. different group sizes, whether tuition is in addition to or a replacement for subject lessons, the length of the programme) on outcomes and what types of tutoring work best (Buchanan *et al.*, 2015; Lord *et al.*, 2015; Lucchino, 2016). In relation to online tutoring, a recent evaluation of the National Online Tuition Pilot recommended future research focus on a range of issues including identifying the most effective tools and approaches for communicating with schools, parents and learners and understanding how to best reach and benefit groups of learners with particular needs (Marshall *et al.*, 2021).

4.6 Tutoring policy and practice landscape in Scotland

In February 2021, a £45 million fund for local authorities to aid education recovery was launched by the Scottish Government to meet additional funding needs including targeted support (Scottish Government, 2021a). There is no published information to show how much of this might have been used on catch-up tutoring programmes, although calls have been made to replicate the National Tutoring Programme introduced in England and Wales (Who Cares? Scotland, no date).

An online mapping exercise was conducted to build a picture of current tutoring provision for children and young people living in poverty in Scotland. This exercise was focused on exploring the policy and practice landscape around tutoring, specifically identifying which organisations and funders currently work in this environment.

Unlike mentoring, there is no tutoring network in Scotland, and much of the provision is often localised through homework clubs for example. Tutoring will also be provided in many primary and secondary schools, particularly through paired reading provision. An online search identifies a small number of providers.

- The [Volunteer Tutors' Organisation](#), in Glasgow, provides one-to-one and group tutoring to children and young people who experience difficulties with their education. In existence since 2003, it typically provides provision in a child's home or in a homework club and has moved online since the pandemic.
- [Stretch a Nickel](#), a Glasgow-based charity, provides a range of support to children and families. Their Bright Sparks programme provides group tuition to mainly upper primary school pupils living in areas of deprivation in Glasgow and surrounding areas, working in conjunction with schools. The project has also run a pilot with secondary school aged children. The charity works with a range of funders and partners including The National Lottery, Glasgow City Council and the SCVO.
- The [Brilliant Club's](#) Scholars Programme is an online and in-person small-group tutoring programme available to schools across the UK. Delivered by PhD tutors, the aim of the programme is to widen access to



highly-selective universities for pupils from underrepresented backgrounds. The Scholars' Programme is delivered to young people from late primary to the end of secondary school. Partner universities in Scotland involved in delivery Brilliant Club's programmes include the University of Aberdeen, the University of Edinburgh and the University of Strathclyde.

- The East Lothian Tutoring Initiative, provided via online tutoring organisation MyTutor, delivers English and maths support to pupils in S4 to S6 across secondary schools in East Lothian (Seith, 2021). The programme is delivered via tutors hired by Queen Margaret University and all tutors are required to be graduates with prior experience of tutoring or working with young people. The scheme is funded by the STV Children's Appeal and others.

The evidence suggests that free tutoring provision for children and young people affected by the poverty-attainment related gap in Scotland is sparse. Although this is not a complete picture, and there is likely provision via homework clubs and councils not identified via our search, there has not been a targeted commitment to tutoring provision as part of the Covid education catch-up plans in Scotland.



5. Conclusions and recommendations

This review highlights the potential of mentoring and tutoring programmes as solutions to the poverty-related attainment gap. To conclude, we have outlined some key recommendations for further work to support the rollout of mentoring and tutoring provision for all school-aged children and young people impacted by poverty in Scotland. These recommendations are directed at commissioners/funders and providers as well as educational bodies and institutions.

Mentoring

- To reduce the possibility of causing harm to young people and to support improvements in academic and other educational outcomes, mentoring provision needs to be underpinned by evidence on where, when, how and with who provision is likely to be most effective, as outlined in this review (see also Armitage et al., 2020).
- This review does not give a full picture of mentoring provision in Scotland. Additional mapping with local authorities and schools would provide a more up-to-date picture of gaps in provision in Scotland.
- A key finding in this review is that mentoring provision is more likely to lead to positive outcomes when delivered by mentors with a relevant professional background (e.g. mental health, social work). Therefore, additional mapping could be undertaken to examine the qualifications and experiences of mentors in Scotland.
- Whilst there has been a growth in the evidence base in recent years, from a research standpoint, there is a need for more research in the UK context.

Tutoring

- This review concludes that free mentoring provision across Scotland is sparse. We recommend more intensive mapping with schools and local authorities as well as examining the barriers to more large-scale provision of free tuition in Scotland.
- As the evidence shows that tutoring programmes are more likely to be effective when provided in collaboration with schools, a key message from the review is the need for developing partnerships and buy-in from schools.
- As more positive effects are associated with tuition provided by tutors with teaching experience and subject knowledge, providers, alongside funders and commissioners, need to ensure that tutors are of a high quality and are supported.
- Similarly to mentoring, there is a lack of UK-based literature, although there is even less consolidated evidence on what makes tutoring programmes effective. Therefore, there is a need for more research on the effectiveness and outcomes of tutoring programmes in the UK.



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Appendix A: Review literature sources

Public bodies	Scottish Parliament Education and Skills Committee, Education Scotland, Scottish Government, Convention of Scottish Local Authorities (COSLA), Association of Principal Psychologists, Trade Union (Education Institute of Scotland), General Teaching Council, the Improvement Service
Third sector/civil society organisations	Action Tutoring, Children in Scotland, Children and Young People's Commissioner Scotland, Children's University, Scottish Mentoring Network, Tutor Trust, Youthlink Scotland, Young Scot
Academic centres	CELCIS (Strathclyde), Scottish Poverty and Inequality Research Unit (GCU), the Robert Owen Centre for Educational Change (Glasgow), Centre for Research in Educational Inclusion and Diversity (Edinburgh)
Think tanks/funding bodies	Centre for Education and Youth, Education Endowment Foundation, Education Policy Institute, Fair Education Alliance, FFT Education Datalab, Impetus, Joseph Rowntree Foundation, NatCen, National Children's Bureau, National Foundation for Educational Research, Nuffield Foundation, Scottish Mentoring Network, Sutton Trust, Youth Futures Foundation

Appendix B: Inclusion and exclusion criteria

Inclusion criteria

- Tutoring and mentoring as activities that support attainment at school and therefore are aimed at young people who are of school age (5-18).
- Secondary sources of information from the last 10 years including academic and 'grey' literature.
- Evidence, policy and practice chiefly focused on Scotland and the other UK nations.
- Activities/interventions in non-formal educational settings, but only where there is a clear intention to improve engagement/attainment within formal educational settings.

Exclusion criteria

- Interventions and policy that don't focus on addressing poverty/trauma or poverty related attainment gap.
- Whole population approaches to educational engagement.
- Engagement with education past school age (5-18).
- Evidence, policy and practice from outside of the UK unless international comparisons are considered very useful.



Appendix C: List of included mentoring papers

Table 1: Review papers

Authors	Year	Type of review	Review aims	Specific population	No. of studies included
Armitage et al.	2020	rapid evidence review	To understand whether youth mentoring programmes are effective and to identify which factors contribute to effective programmes.	no	16
Costello and Thomson	2011	synthesis	The Victorian Youth Mentoring Alliance commissioned this synthesis report to provide current evidence on the costs and benefits of youth mentoring programs to support a credible assessment of the value of future funding of these programs.	no	43
Dubois et al.	2011	meta-analysis	To examine the typical effectiveness of mentoring programs as well as the conditions required for them to achieve optimal positive outcomes for participating youth.	no	73
Raposa et al.	2019	meta-analysis	The current study aims to address these gaps in the existing literature by conducting a comprehensive meta- analysis of all mentoring outcome studies written in the English language to-date, with a focus on intergenerational, one-on-one mentoring programs that are consistent with a developmental conceptual model of youth mentoring.	youth at risk	70
Rodriguez-Planas	2012	literature review	Reviews theoretical motivation and empirical evidence of 3 interventions used to improve school performance of disadvantaged youths. Most of these interventions involve one of the combination of the following services: a mentoring component, an educational component and a financial incentive component.	disadvantaged young people	6
Cummings et al.	2012	best evidence synthesis	Evaluates research evidence from five groups of interventions with children and parents: parent involvement, extra-curricular activities, mentoring, volunteering and peer education, and interventions with a primary focus on changing attitudes	disadvantaged young people	6 interventions alongside review of reviews
Wood and Mayo-Wilson	2012	systematic review and meta-analysis	To evaluate the impact of school-based mentoring for adolescents on academic performance, attendance, attitudes, behaviour and self-esteem.	no	8



Table 2a: Empirical papers: mentoring only

Author/organisation	Year	Title	Location	Age group	Specific population	Mentors (professionals, volunteers etc.)	Delivered by	Aim of mentoring programme
Axford et al.	2020	The Effectiveness of a Community-Based Mentoring Program for Children Aged 5–11 Years: Results from a Randomized Controlled Trial	London	5-11-years-old	children with reported behavioural difficulties	volunteer	Chance UK	One-to-one volunteer mentoring program designed to improve behavioral and emotional outcomes in children aged 5 to 11 years who have teacher- and parent/carer-reported behavioral difficulties
Biggs et al.	2020	MCR Pathways Social Bridging Finance Initiative for Educational Outcomes - Evaluation Report	Glasgow	Secondary 3 onwards	care experienced and disadvantaged young people	volunteer	MCR Pathways (third sector)	To improve young people's school attendance and participation, educational attainment and post-school positive destinations
Demack et al.	2016	Think Forward: Evaluation report and executive summary	London	14-16-year-olds	targeted at pupils who have been identified as being at high risk of not being in education, employment or training (NEET) following the completion of compulsory education	Trained coaches	Developed by Impetus Private Equity Foundation	ThinkForward's ultimate outcome is to support young people to progress into sustained employment or training after they graduate from the programme.



Hooley et al.	2014	Building Motivation, Achievement and Progression Online: Evaluating Brightside's Approach to Online Mentoring	England	not known	disadvantaged young people	trained mentors - mainly university students	Brightside (charity)	Ultimately Brightside seeks to support young people to achieve their potential.
NatCen Social Research	2016	Mosaic Secondary School Group Mentoring Programme	5 regions - London, NW, SE, West Midlands and Yorkshire	11-18-year-olds	no	local professionals	Prince's Trust	The programme is designed to increase the long-term employability of young people by linking them to supportive role models in the form of Mosaic mentors.
Roberts, A. and Weston, K.	2011	Making a difference through mentoring: an evaluation of the impact of mentoring practices undertaken through the Aimhigher programme in Hertfordshire Schools	Hertfordshire	14-19-year-olds	schools where participation in HE is low	trained university students	Hertfordshire University	National Mentoring Scheme programme was set up to provide practical support and encouragement for students who had the potential to do well at school but who were not currently fulfilling that potential.
Wilson et al.	2014	Mentoring into higher education: A useful addition to the landscape of widening access to higher education?	Scotland	S5 and S6 pupils	highest achieving pupils from communities experiencing social and economic disadvantage	professional experience recruited via a university	secondary school	Pilot project - main aim of the project was to support and have a positive impact on those S5 and S6 pupils taking their Highers and considering progressing to higher education.



Scandone et al.	2021	Ascents 121 Support for Science	England	15-16-year-olds	disadvantaged pupils	university students (unpaid)	University of Lincoln in collaboration with University of Leeds, Liverpool, York and UCL	The ASCENTS 121 Support for Science programme aims to improve pupils' GCSE science attainment, targeting Year 11 pupils who are eligible for free school meals and predicted to achieve a grade 3–5 in their double award science GCSE.
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Table 2b: Empirical papers: mentoring alongside other interventions

Author/organisation	Year	Title	Location	Age group	Specific population	Mentors	Delivered by	Aim of mentoring programme
Bidey et al.	2021	Evaluation of the Mayor's Stepping Stones Programme	London	11-12-year-olds	vulnerable young people in their transition from primary to secondary school	Peer and community mentoring by external organisations	Schools, Gangs Unite (third sector) and Greater London Authority	The Stepping Stones programme aims to support vulnerable young people in their transition from primary to secondary school.
Mtika and Payne	2014	Student-adult mentoring relationships: experiences from a school based programme	Scotland	16-17-year-olds	Rural local authority with limited opportunities for employment. Trend for school leavers to go directly into employment rather than aspire to FE or HE in LA.	Mentors drawn from science, health and education sectors	local authority	The project's objectives were to provide students with guidance on careers, academic work and FE/HE; and to increase students' confidence in their own abilities.



Plunkett and Fowler	2019	Quarriers Coaching for Life	Scotland	16-25	care experienced young people	paid staff	Quarriers (charity)	The Coaching for Life service aims to provide more opportunities to care experienced young people aged 16-25 years old.
Renaisi	2021	Understanding IntoUniversity's impact on attainment: a qualitative research study	UK	7-20-year-olds	children and young people living in areas with high levels of social and economic disadvantage	University student volunteers or volunteers from business	IntoUniversity (third sector)	IntoUniversity is a charity that aims to advance the education of children and young people living in areas with high levels of social and economic disadvantage and increase participation in Higher Education or support students towards another destination of their choice.

Appendix D: List of included tutoring papers

Author/organisation	Year	Title	Location	Age group	Specific population of children/young people	Types of tutors	Delivery organisation	Aim
Buchanan et al.	2015	Tutor Trust Secondary Evaluation report and Executive summary	Manchester	14-16-year-olds	disadvantaged pupils	university students and recent	Tutor Trust (charity)	The Tutor Trust is a Manchester-based charity that aims to



						graduates (paid)		provide affordable small group and one-to-one tuition, predominantly to disadvantaged pupils in schools in challenging communities.
Buchanan et al.	2015	Tutor Trust Primary: Evaluation report and Executive Summary	Manchester	10-12-year-olds	disadvantaged pupils	university students and recent graduates (paid)	Tutor Trust (charity)	""
Lord et al.	2015	Perry Beeches Coaching Programme Evaluation report and Executive summary	England	11-12-year-olds	academic pupils who had not reached level 4c in English	mainly graduates	schools	The Perry Beeches Coaching Programme aimed to improve the reading and writing skills of Year 7 pupils with low levels of attainment in four English secondary schools.
Lucchiano	2016	Action Tutoring's small group tuition programme	England	14-16-year-olds	intervention was directed at schools with more than double the national average of pupils eligible for FSM	Tutors are required to be educated to or working towards a degree or to have other relevant qualifications /experience. Large proportion are students.	Action Tutoring (charity)	-



Marshall et al.	2021	The National Online Tuition Programme	England	10-17-year-olds	disadvantaged pupils	varies by organisation - mixture of paid and unpaid	Action Tutoring, MyTutor, The Access Project, Tutor Trust	The National Online Tuition Pilot aimed to support disadvantaged pupils by providing fully subsidised tuition during the summer of 2020, during and following the Covid-19 school 'closures'.
Maxwell et al.	2014	TextNow Transition Programme Evaluation Report and Executive Summary	England	11-12-year-olds	pupils not achieving Level 4 in English at the end of Key Stage 2	volunteer coach (mix of teachers, teaching assistants, community volunteers or older year-group pupils)	Unitas (charity)	The TextNow Transition Programme aimed to improve the reading comprehension skills of pupils at the transition from primary to secondary school by encouraging engagement in, and enjoyment of, reading.
Plaister and Thomson	2020	Evaluation of The Access Project tuition on attainment at GCSE and A-Level	England	15-16 and 17-18-year-olds	disadvantaged pupils	graduate and university students (volunteer)	The Access Project	The ultimate aim of the project is to support students in gaining access to top universities.
The Social Innovation Partnership	2018	Tutorfair Foundation On-demand Tutoring Evaluation	England	-	targeted at schools where over 50% of students are entitled to FSM	online app	Tutorfair Foundation (charity)	The main aim of the app, and of tutoring in general, is to support students to increase their knowledge and skills as reflected in improved exam results.



Torgerson et al.	2018	Tutor Trust: Affordable Primary Tuition Evaluation Report and executive summary	Manchester/ Leeds	10-11-year-olds	children working below age-expected levels in maths	University students and recent graduates (paid)	Tutor Trust (charity)	Aims to provide affordable small group and one-to-one tuition.
Togerson et al.	2016	Affordable Online Maths Tuition Evaluation report and executive summary	Online Tuition	The intervention was targeted at Year 6 pupils who were working at Key Stage 2 level 3 or an insecure KS2 level 4.	Recruitment of schools preferentially targeted schools with high proportions of pupils eligible for free school meals (FSM) and high proportions of children achieving level 3 or an insecure level 4 in maths in KS2.	All tutors are full-time employees who work from academic centres in India or Sri Lanka. Every tutor is a maths, or maths-based, graduate (e.g. physics, computer science, engineering).	Third Space Learning	The intervention aims to help improve pupils' maths skills while they are in their final year at primary school (Year 6), especially the maths skills of pupils who are not making expected progress (defined in this trial as working at Key Stage 2 level 3 or an insecure KS2 level 4).
Topping et al.	2012	Outcomes and process in reading tutoring	one local authority in Scotland	8-10-year-olds	no	peer	local council	



Tutorfair Foundation	2020	Upward Bound and Tutorfair Foundation's Summer School	England	13-15-year-olds	<p>Year 9/ Year 10 Students are selected for inclusion on the programme according to the following priorities:</p> <ul style="list-style-type: none"> • They are predicted GCSE level 4 in Maths or English • They are eligible for Free School Meals/Pupil Premium • They are Looked-After Children • They have Special Educational Needs or receive English as an Additional Language support • They are First Generation University attendance or from groups under-represented at Universities. 	Undergraduates, Graduates and Qualified Teachers who all surpassed academic requirements to tutor their chosen subject at a given level (volunteer)	Upward Bound and Tutorfair Foundation's Summer School	The primary aim of the project was to improve students' confidence ahead of a potentially daunting return to school in September.
Lloyd et al.	2015	Durham Shared Maths Project Evaluation report and Executive summary	England	7-9-year-olds	<p>It was intended that around 40 per cent of schools in the study sample were to be or have been below the government performance floor target threshold at some time in the last three years (i.e. 2010, 2011 and possibly 2012); and; 2. it was intended that schools in the study sample would be from areas of high deprivation (e.g. high proportion of FSM/low IDACI rankings).</p>	peer (older pupils 9-11-years)	Teachers in schools in four local authorities	-



Lloyd et al.	2015	Paired Reading Evaluation report and Executive summary	England	11-12-year-olds	schools selected where the proportion of pupils eligible for FSM is above the national average	Peer (older pupils aged 13-14 years)	Schools	The Paired Reading programme aims to improve pupils' general literacy in addition to speaking and listening skills.
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Appendix E: Mentoring programmes in Scotland focused on attainment

Mentoring programme/service	Funder	Programme setting	Type of mentor	Children and young people	Provision
Aberlour Child Care Trust	Range of funders	Community	Adult volunteers	Disadvantaged, excluded and vulnerable young people aged 12-25 (Moray Youthpoint) Care-experienced children and young people aged 8-18 (Renfrewshire Attain Mentoring Service)	Moray, Renfrewshire
Action for Children Aberdeen Priority Families	Range of funders	Community	Adult volunteers	Children and young people living in difficult situations	Aberdeen
Day1 Mentoring	Social enterprise and sponsors	Community	Adult volunteers	Disengaged young people aged 14-17	Highlands
Intandem Mentoring Service (Inspiring Scotland)	Scottish Government	Community	Adult volunteers	Children and young people aged 8-14 years who are looked after at home	Aberlour (East Dunbartonshire and Inverclyde), Action for Children (Highlands), Barnardo's (North, South and East Ayrshire), Befriend a Child (Aberdeen), COVEY (South Lanarkshire), Kirkcaldy YMCA (Fife), Move On (Edinburgh, East Lothian, Midlothian and West Lothian), Quarriers (Stirling, Falkirk and Clackmannanshire), Volunteer Glasgow (Glasgow), Y people (Glasgow and North Lanarkshire), YMCA Edinburgh (Edinburgh), Y Sort It (West Dunbartonshire)
Forth Valley College – Time4Me Mentoring Project	The Robertson Trust	College	College staff volunteer	Young people who are care experienced, young carers/young adult carers and young people	Forth Valley College



			one hour a week	who reside in regeneration areas (SIMD20)	
GCU Outreach (Glasgow Caledonian University)	-	Schools/colleges and on campus	Paid students	Focused on widening access to university	Glasgow
Girvan Youth Trust Solo Mentoring Programme	Range of funders	Community	Adult volunteers	Young people who require a higher and more intense level of support in one or more areas of their personal development	Girvan, South Ayrshire
Go! Youth Trust Sparks 121 Coaching	Range of funders including The Robertson Trust, Henry Duncan Trust, Tesco Bag of Help, Ground works and the Hugh Fraser Trust	Schools and community	Adult volunteers	Children and young people aged 8–14 who are struggling, for example, to deal with trauma, with emotions resulting in behavioural concerns or struggling due to problems with peer relationships	Falkirk
Helensburgh and Lomond Carers SCIO Mentoring Service	Range of funders including Argyll and Bute Integration Joint Board, National Lottery, BBC Children in Need, The Robertson Trust, the Armed Forces Covenant Fund, the Corra Foundation and Carers Trust	Community	Adult Volunteers	Young carers	Helensburgh and Lomond area
Intergenerational Mentoring Network (University of Strathclyde)	University of Strathclyde, Glasgow City Council, National Lottery	School	Volunteer older adults and retirees	Secondary and primary school aged pupils – focused on widening access to higher education	Glasgow, Glenrothes Help a Child Learn to Read (two primary schools in Glasgow)



Light Up Learning	Bank of Scotland, KPE4 Charitable Trust and private donors	School	Paid adult mentors	Secondary school aged pupils eligible for free school meals and experiencing disengagement in the traditional classroom setting	Edinburgh and the Lothians
Lochaber Hope	Trusthouse Charitable Foundation, National Lottery and The Robertson Trust	Community	Volunteer young people	Young people experiencing challenging life circumstances	Inverness-shire
MCR Pathways	Range of funders including Scottish Government, Council, Trusts and National Lottery	School	Adult volunteer	Care experienced and disadvantaged young people from S3 onwards	Delivered in more than 75 secondary schools in 12 local authorities (Aberdeen, Aberdeenshire, Clackmannanshire, Edinburgh, Glasgow, Highland, North Ayrshire, Perth and Kinross, Sheltand, South Lanarkshire, West Dunbartonshire). Also being introduced in Dundee, Falkirk and Fife.
Moray Council Mentoring Young Talent	-	School and community	Adult council employee working in locality	Care experienced young people aged 12 to 16 currently enrolled in school Young people aged 16-26 from any background, starting at the stage of preparing to leave school, college etc. who may have difficulty identifying and maintaining a full-time destination like employment, education or training	Moray
Stirling Council	-	Community	Adult volunteers	Care experienced aged 16-25 years	Stirling
Peeblesshire Youth Trust	National Lottery	Community	Adult volunteers	Supports 10–14-year-olds to build their confidence and self-esteem	Peebles



The Rock Trust	Range of funders	Community	Volunteer peer mentors with experience of the homelessness and care system	Care experienced young people aged 15-21 who are homeless or at risk of becoming homeless	Edinburgh
West Dunbartonshire Council Youth Mentoring and Befriending Service	-	Community	Paid adults	Mentoring support to young people in the community, looked after and accommodated young people, young people involved in offending and other young people with an identified support need	Across West Dunbartonshire
Youth Community Support Agency Young People Look Forward	Range of funders including BBC Children in Need, Comic Relief, The Robertson Trust and the Scottish Government.	Community	Adult volunteers	Supports Black and Minority Ethnic young people aged 14-18 most impacted by lockdown, cancellation of exams, and disruption to their education. It is aimed to give them back hope for the future, increase confidence, widen their choices, develop soft skills needed for employability, and help prepare them for positive destinations in life beyond school.	Glasgow South
Y Sort It	Life Changes Trust	Community	Adult volunteers	Children and young people aged 8-14 who are looked after at home	West Dunbartonshire