Widening Access to Higher Education for Students from Economically Disadvantaged Backgrounds

What works and why?

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This report outlines what the national government and other stakeholders can do to reduce inequality in access to higher education in Scotland. It examines policy and programme interventions that widen access to higher education (HE) for students from economically disadvantaged backgrounds. While this study focuses specifically on access, it is important for equity in HE to also take account of attainment, retention, and labour market outcomes.

The report:

- Explores the nature and consequences of inequality in access to HE for young people from higher and lower-income households in Scotland;

- Sets the scene by identifying policies that have sought to increase access to HE;

- Examines whether there has been a significant change in access for students from economically disadvantaged backgrounds over time;

- Summarises evidence about what works to widen access to HE;

- Explores the nature of barriers to access to HE for young people from economically disadvantaged backgrounds;

- Explores the impact of the Schools for Higher Education Programme (SHEP), a national outreach initiative, in helping school pupils to overcome some of these barriers;

- Identifies what different stakeholder groups can do to increase access in Scotland.

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Executive Summary

In Scotland, there are significant social inequalities in regards to access to higher education. Students from the most disadvantaged households are less likely to enter higher education (HE), and when they do, they are more likely to go to college, rather than university. Within the UK context, where school allocation is based on neighbourhood proximity, the HE access gap is also evident through school differences, especially in urban areas. Evidence suggests that life chances in terms of labour market success as well as social, emotional and health outcomes are closely related to the level of education achieved. Although estimates vary, there is no doubt that, in general, the higher the qualifications obtained, the greater the financial benefits and improved socioeconomic standing. Differences in earnings associated with a higher education qualification contribute to a cycle of income inequality, and HE systems can function as both engines of social mobility and inequality in a 'merit' based society.

Over the last two decades there have been various attempts to tackle the educational access gap associated with economic disadvantage in Scotland. A key plank of the access policy is free tuition for all Scottish domiciled students attending a Scottish university. Additionally, a range of policies, including outcome agreements and ring-fenced places for applicants with low-socioeconomic status, have been introduced. Furthermore, the Scottish Funding Council (SFC), universities, colleges and various charities have funded several outreach programmes to assist and guide students from disadvantaged backgrounds to overcome barriers to access. For instance, the Schools for Higher Education Programme (SHEP) is a national outreach initiative funded by the SFC. There are also some limited bursaries and grants available to the most disadvantaged students. In 2016, the Scottish Government set up a Commission on Widening Access (CoWA), which published A *Blueprint for Fairness: The Final Report of the Commission on Widening Access* in March 2016.

This report includes findings from a systematic review of literature on the effectiveness of widening access initiatives around the world by focusing on studies that specifically examine actual enrolment to HE. The findings are placed within a Scottish context, with an investigation of trends in access to HE in Scotland; barriers to access for students from disadvantaged backgrounds; and the impact of the Schools for Higher Education Programme in supporting students to overcome these barriers to access. It concludes with recommendations for different stakeholders on what can be done to increase access to HE for students from low income households. It is the first systematic review of interventions to

increase actual enrolment to higher education for young people from economically disadvantaged backgrounds. It is a timely contribution to helping Scotland achieve the goals of the Commission on Widening Access.

What are the most effective widening access interventions?

Evidence from the secondary data analysis indicates that **mandating higher education institutions (HEIs) to widen access**, coupled with **funding more places for students from disadvantaged backgrounds** has a significant impact on the higher education progression rates of these individuals.

Evidence from the systematic review indicates that **grants and scholarships are a necessary condition for widening access** for those from low income households and essential for increasing access to high status institutions. Enhancing the affordability of higher education through direct financial support that reduces the burden on disadvantaged individuals is an essential condition for widening access.

Overall, **guidance and outreach at all stages are important vehicles for improving access to HE**. When counselling and guidance support is provided to students who are unfamiliar with the application process, they are more likely to successfully apply to higher education. Individuals who benefit most from outreach interventions are those who were not previously considering higher education and therefore may not be selected for inclusion in targeted schemes. With respect to access to high status institutions, provision of outreach and guidance alone may not be sufficient to widening access.

Contextual admissions may contribute to widening access, but our evidence was inconclusive. Attribute-based admission criteria should ensure that the attributes required are attainable for young people from disadvantaged backgrounds.

What do trends in Scottish data tell us about widening access?

- While low progression schools have a significantly lower higher education progression rate (HE PR) compared to medium to high progression ones, these schools recorded a significantly higher increase in progression to HE (including college and university) over the three years examined (2011-12 to 2013-14);
- Trends between the different types of schools suggests a 7.1% growth in HE PR in low progression schools compared to 0.83% in medium to high progression ones;

- **There is still significant inequality in access to HE**. Across all the time points examined, schools with large concentrations of students from the lowest deprivation quintile recorded significantly lower numbers of students going to HE;
- There are a small number of schools with **persistently low HE progression** over the period examined. It appears these schools have significant underlying difficulties associated with deprivation;

The significant increases observed in HE PR for students attending low progression schools coincided with **a 1% growth in HE places** over the period, the **mandating of higher education institutions to widen access** and **funding of additional HE places** specifically for young people from low income backgrounds. The combination of these factors, and possibly other interventions focused on widening access during the period examined, appear to be catalysts for improved educational equity in Scotland.

What are the barriers to access to HE?

Several factors hinder access to HE for students from low income households in Scotland. These include:

- Low academic attainment;
- Grade-based admissions;
- Requirements for personal statements and interviews;
- The cost of going to university;
- Concerns about the perceived costs of university and the burden of debt;
- Family and teacher knowledge and understanding of HE;
- Confidence levels and fears of 'not fitting in';
- Subject choices made at school.

How does SHEP support young people to overcome these barriers?

The Schools for Higher Education Programme (SHEP) undertakes a range of activities to alleviate some of the effects of the barriers to access. These activities take place throughout S3-S6 (age 14-18) and include:

- Giving one-to-one guidance to pupils connected to their aims and goals;
- Giving information about HE options to pupils;
- Giving one-to-one application support to pupils to construct personal statements;
- Inviting university admissions staff to talk in schools;
- Helping teachers understand the admissions process;

- Providing information about student finance and loans;
- Using student volunteers to give relevant, peer-led guidance;
- Offering alternative qualifications that can be used to compensate for lower grades;
- Giving study skills advice;
- Improving students' interview skills;
- Advocating of behalf of students in communication with universities

What impact does SHEP have?

Overall, participants' experiences of SHEP were very positive. The **main impacts** of SHEP as reported by pupils, students and teachers are:

- Improving personal statements;
- Securing admission for students;
- Improving teacher knowledge of application process;
- Increasing understanding of the student funding system;
- Increasing awareness of programme options;
- Supporting informed choices;
- Motivating and enabling pupils to achieve;
- Increasing teacher knowledge;
- Developing confidence and familiarity around HE;
- Providing alternative qualifications;
- Increasing awareness of college and supporting students to transition to university.

SHEP, like other outreach programmes and interventions, cannot be the sole vehicle for widening access. However, our evidence suggests that outreach programmes *can* help young people from disadvantaged backgrounds to take advantage of other widening access opportunities provided to them.

What can be done to improve equity of access to HE?

We make several recommendations:

1) **Increase ring-fenced university places:** Additional protected places will be needed to achieve the long-term goals of equity of access.

2) **Encourage HEIs to increase access:** Negotiating with or mandating Higher Education Institutions (HEIs) to increase access to school leavers from disadvantaged backgrounds may contribute to the development of sustained access and improved representation of people from disadvantaged backgrounds at university.

3) **Address the attainment gap:** The attainment gap between the most and least disadvantaged young people is a significant barrier to accessing higher education.

4) **Increase access to scholarships and grants:** Funding is a necessary consideration for widening access for those from low income households. More scholarships and grants should be made available to young people from low income households.

5) **Improve articulation:** It is essential for colleges and universities to work co-operatively to support a smooth articulation process from college to university.

6) **Examine the effectiveness of contextual admissions:** Contextual admissions approaches were endorsed by many of our participants, but the evidence of their efficacy from the systematic review is extremely limited. The use and effectiveness of contextual admissions needs to be examined.

7) **Provide both school-wide and targeted outreach:** A targeted approach to outreach can be a vehicle for improving access to higher education. This should be complemented with the provision of school-wide outreach and guidance because these schemes may act as a motivator for academic attainment and the development of aspirational post-school plans for all pupils.

8) **Select pupils for inclusion in outreach appropriately:** While outreach programmes make efforts to select pupils for inclusion based on individual characteristics, there is no comprehensive data on the socioeconomic, biographical and academic characteristics of those taking part. Data should be collected and analysed to ascertain the profile of those benefiting from programmes.

9) **Improve teacher knowledge of HE:** Teachers play an important role in pupils' decision-making. It is important for teachers to be knowledgeable about both the HE application process and the different pathways available.

10) **Ensure guidance is impartial:** Young people must be able to make optimum choices based on their own interests with the support of impartial guidance.

11) **Develop parity of outcome for pupils involved in SHEP:** Whilst some SHEP programmes have credit-bearing outcomes and others have formal progression agreements with universities, these are not consistent and transferable across programmes and institutions. The value of these programmes for consideration in contextual admissions should to a large extent be equal across programmes.

12) **Streamline the widening access landscape:** The complexity of widening access initiatives with multiple providers and stakeholders means the picture is unclear. The absence of co-ordination means that schools are experiencing 'outreach fatigue'. A streamlined and

coordinated approach is required in order to derive the optimum benefit from widening access outreach programmes without affecting students' learning and attainment.

What further research is needed to guide policy and practice in widening access?

- **Trends in progression:** A longitudinal research evaluation strategy is required to monitor and identify the impact of programmes on higher education progression rates. This should be externally commissioned to ensure that outreach staff can focus on the core activity of providing outreach.

- **Impact of outreach schemes:** A systematic approach is needed to researching the impact of outreach schemes through the collection and integration of well-defined outcome measures, including pupil-level characteristics, school-level data and actual enrolment to HE.

- **Identification of outreach participant characteristics:** It is not clear whether the pupils who take part in outreach programmes are the most disadvantaged or advantaged in those schools. Pupil-level data is necessary to determine if widening access programmes contribute to patterns of under-representation in terms of gender, ethnicity and disability.

- **Attainment gap:** Our evidence indicates that attainment is a significant barrier to access, but no studies were identified that aim to improve educational attainment in secondary education with an explicit aim of widening access to higher education. Considering that attainment is an important barrier to access, and with current interventions in Scottish education focused on raising attainment, it will be important for such interventions to systematically track and evaluate their impact on progression to higher education.

- **Articulation:** Our evidence indicates that levels of awareness and impact of articulation pathways are unclear. Currently there are no high quality studies evaluating the college pathway or its role in widening access to HE. Considering the important role played by the sector, research on the role of colleges in widening access is urgently warranted.

- **Contextual offers:** Whilst comprehensive guidelines for best practice in contextual offers are available, rigorous research does not exist relating to the impact of contextual criteria and whether lowering entry requirements for students from disadvantaged backgrounds results in more equitable access to higher education. Research is needed.

- **Graduate outcomes:** A research priority should be to explore whether the outcomes of the so-called 'graduate premium' have the same effect independent of the level of outcome or route (college or university) via which 'higher education' is obtained.

1.   Introduction

This research examined policy and programme interventions that aim to widen access to higher education for students from economically disadvantaged backgrounds. We undertook a systematic review of literature on the effectiveness of widening access initiatives around the world, focusing on studies specifically examining actual enrolment to higher education (HE). To place our findings within a Scottish context, we investigated trends in access to HE in Scotland, by which we mean studying at a university or at Higher National Certificate (HNC) or Higher National Diploma (HND) level. We identified barriers to access for students from disadvantaged backgrounds, and explored the impact of the national outreach scheme, Schools for Higher Education Programme (SHEP), in supporting young people to overcome barriers to access. We conclude with recommendations for different stakeholders on what can be done to widen access to HE.

Structure of the report

1. Introduction

We set the policy scene by identifying the levers available to government to encourage inclusion and diversity within higher education. This is based on an analysis of recent government policy documents and research. We also present the approaches we used to undertake our research.

2. Trends in widening access in Scotland

We present findings from data analysis on trends in progression to higher education across Scotland and examine whether there has been a significant change in access for students from economically disadvantaged backgrounds over time.

3. Key factors influencing access to higher education

We present findings from a systematic review on what works to widen access to HE. We juxtapose these findings with outcomes of our research into the factors that hinder access to HE for students from low income households in Scotland, and the impact of SHEP in supporting young people to overcome these barriers.

4. Conclusions

In this section we summarise the main findings from the research and identify what different stakeholder groups can do to increase access in Scotland.

Background: Inequality in access to higher education

There are significant social inequalities in access to higher education internationally.[1] Put simply, university populations fail to reflect their broader societies, with the vast majority of entrants coming from middle class or privileged backgrounds. Students from the most disadvantaged backgrounds remain persistently under-represented in higher education.[2] In Scotland, students from the most disadvantaged households are less likely to enter higher education (HE), and when they do, they are more likely to go to college, rather than university.[3] For instance, evidence on access to HE in the academic year 2012-13 indicates that there is a significant association between living in a disadvantaged area and access to HE (Figure 1).[4]

Examination of Scottish Index of Multiple Deprivation data shows that while only 18% of students from the most deprived areas (SIMD Decile) entered higher education (HE course at college and university), about 61% of students from the richest postcodes enrolled on an HE course*. In other words, those from the most affluent areas are three times more likely to directly enrol from school to HE than their peers living in the most economically disadvantaged areas.
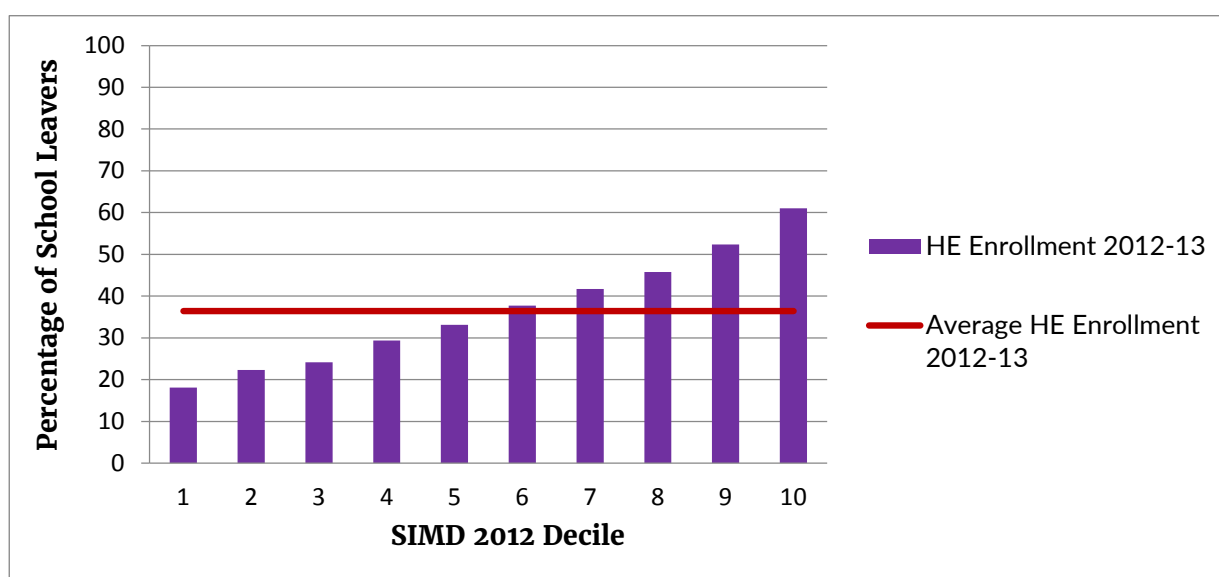

Figure 1: Percentage of school leavers from publicly funded secondary schools in Scotland enrolling in HE by SIMD Decile, 2012-13.

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* The Scottish Index of Multiple Deprivation (SIMD) identifies small area concentrations of multiple deprivation across all of Scotland. Further information is available here:
http://www.gov.scot/Topics/Statistics/SIMD/BackgroundMethodology

Within the UK context, where school allocation is based on neighbourhood proximity, the HE access gap is also evident through school differences, especially in urban areas. For instance, while the average national progression rate in 2014 in Scotland was 39%, a school in the poorest postcode (SIMD quintile**) in one local authority reported that around 8% of their young people entered higher education, whilst another in the most affluent postcode of the same local authority had a progression rate of around 87%.[5]

A review of the existing literature suggests that several factors account for the HE access gap associated with economic disadvantage. Studies have demonstrated that a large proportion of the gap in HE access can be explained by social class differences in educational attainment at the end of upper secondary school.[6] While this suggests a so-called 'pipeline problem' with disproportionately few students from low-income households qualifying to enter university[7], others have argued that there are inherent structural inequalities that prevent low income students from progressing to university. One example is admission criteria that tend to favour relatively wealthy students, who are able to afford to gain the prior experiences required by most programmes, and are more able to write personal statements and applications that 'highlight their skills and minimize their flaws'.[8] Attention has also been drawn to differences in information and counselling support available to students from different socio-economic strata[9], subject choice at secondary school[10], and real and perceived financial constraints[11], low motivation, and cultural preferences associated with socioeconomic circumstances.[12]

Consequences of unequal access to higher education

Evidence suggests that life chances in terms of labour market success as well as social, emotional and health outcomes are closely related to the level of education achieved.[13] Estimates in the UK suggest that over a lifetime, a university degree typically results in earnings of over £100,000 greater than those of an individual with only high school qualification.[14] Other estimates go further, calculating that the average lifetime earnings difference between graduates and non-graduates is around £400,000 and could be closer to £600,000, depending on national productivity growth figures.[15] While the figures vary, depending on the background variables taken into account, there is no doubt that, in general, the higher the qualifications obtained, the greater the financial benefits and improved socioeconomic standing. Differences in earnings associated with a higher education

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** Scottish Government (2013). Guidance on the definition of SIMD quintiles is available at:
http://www.gov.scot/resource/0043/00439496.pdf

qualification contribute to a cycle of income inequality. It has been argued that these differentials account for the loss of middle class status for those who do not have qualifications beyond high school.[16] In other words, HE systems can function as engines of both social mobility and inequality in a 'merit' based society.[17]

Widening access policies and initiatives in Scotland

Widening access to higher education is considered part of a broader issue of equity in education in Scotland, which includes access, retention and progression, as well as outcomes relating to labour market success.[18] Over the last two decades there have been various attempts to tackle the educational access gap in Scotland.[19] A key plank of the access policy is free tuition for all Scottish domiciled students attending a Scottish university, in comparison to England where tuition fees are covered by student loans. The First Minister of Scotland, presenting the Scottish Government's ambitions around widening access in November 2014, stated that:

> *I want us to determine now that a child born today in one of our most deprived communities will, by the time he or she leaves school, have the same chance of going to university as a child born in one of our least deprived communities. That means we would expect at least 20% of university entrants to come from the most deprived 20% of the population.*[20]

Recommendations of a Commission on Widening Access set up by the government to achieve these ambitions were published in 2016.[21]

However, focus on widening access predates current government ambitions. For instance, several widening access outreach initiatives were funded by the Scottish Funding Council (SFC) across the country through the Widening Access Regional Fora. The Scottish Funding Council's 2005 report, 'Learning for All', is considered one of the first major reviews of widening access work in Scotland with its recommendations leading to the prominence of widening access policies and interventions.[22] In 2011, the Scottish government published a pre-legislative paper, 'Putting Learners at the Centre', and for the first time, specifically identified widening access as a key priority.[23] This pre-legislative paper culminated in the signing of 'Outcome Agreements' between the SFC and HE institutions in 2012-13 academic year. Amongst other measures, the outcome agreements tied funding for universities to concrete targets to increase intake of students from deprived background. The intentions set out in the pre-legislative policy were passed in the Education (Scotland) Act 2013 and this introduced both incentives and penalties for institutions that do not meet their statutory widening access goals. In the 2013-2014 outcome agreements, the SFC provided funding for HE institutions to offer additional places for students from deprived backgrounds. These

policies and legislations also resulted in all universities endorsing a commitment to widening access, a growing legitimacy of using contextual data to guide admissions decisions, and expansion of articulation pathways to enable transition of students from further education (FE) colleges, who tend to be disproportionately from disadvantaged backgrounds, to universities.[24] Additionally, the SFC, universities and various charities have funded several outreach programmes to assist and guide students from disadvantaged backgrounds to overcome barriers to access.

What constitutes higher education in the Scottish context?

It is important to consider the different ways in which different stakeholders define higher education, and as a result, widening access to higher education in Scotland. The Scottish Funding Council and Scottish Government often include qualifications obtained through Further Education (FE) college (Higher National Certificates [HNC], and Higher National Diploma [HND]), alongside undergraduate degrees obtained through university as successful completion of HE. Thus, data on progression to higher education consist of school leavers going to study at Scottish Credit and Qualifications Framework (SCQF) level 7 in FE college or university. In contrast, some policymakers and other organisations consider higher education as undergraduate study in university. In other words, policymakers, academics and practitioners appear to understand 'higher education' differently. This has led to different conclusions about whether or not access to higher education is improving in Scotland. Clarity is needed on the definition of what constitutes higher education.

The varying definitions of higher education are also significant, because claims around the so-called 'graduate premium' are based on the acquisition of a university degree. If successful outcomes in Scotland are defined more comprehensively to include HNC and HND, more evidence is needed to identify whether these assumptions hold, irrespective of the type of higher education qualification obtained.

Schools for Higher Education Programme (SHEP)

The Schools for Higher Education Programme (SHEP) is a national outreach initiative funded by the SFC, comprised of four regional partnerships: FOCUS West, LIFT OFF, ASPIRE North and LEAPS, all of whom work in schools with historically low progression rates to higher education.[25] While three of the SHEP programmes are primarily funded by the SFC, LEAPS receives funding from local councils partner HEIs, as well as the SFC. These geographically bound outreach programmes involve partnerships of schools and universities, and emerged from Widening Access Regional Fora (2000-2011) established to bring the relevant sectors

together to improve access within regions. The purpose of the SHEP is to help increase the number of pupils from low progression schools accessing HE through outreach initiatives focused on pupils in the senior years of secondary education (S3 to S6). Low progression schools were defined using a five year HE progression average, with schools having a progression rate of less than 22% qualifying to be part of SHEP.

The selection of pupils for involvement in the SHEP schemes are based on teacher and SHEP staff identification of pupils who meet the criteria of being 'at risk of not achieving their full potential' or pupils who are 'achieving but do not recognise their potential for progression to HE.' Other criteria specified by SHEP staff include Scottish Index of Multiple Deprivation (SIMD) and free school meal data, information about pupil backgrounds (e.g. first in family, parental mental health or drug and alcohol abuse), academic criteria such as the number of qualifications being studied, the Middle Years Information System (MidYIS) and Secondary On Screen Computerised Assessment (SOSCA) test results which predict attainment. Pupils who are too high or low in achievement, aspiration and attitude to learning are typically not included in the programme. The criteria for inclusion are considered holistically and have been evolving over the period. In 2013-14, ASPIRENorth worked with 10 schools, FOCUS West with 37, LEAPS with 19 and LIFT OFF with 14, as their core provision.

SHEP activities include: one-to-one action planning for pupils; campus visits and taster days; graduate workplace links; residential events; preparation for application to Higher Education; interview preparation; development of study skills; and preparation for student life. Through these activities SHEP aims to increase the aspirations, confidence and skillset of young people from economically disadvantaged backgrounds to improve their chances of successfully entering higher education.

In its latest review of SHEP programmes, the SFC concluded that 'SHEP is a successful access initiative which is directly assisting the SFC in meeting its access ambitions.'[25] While modest progress has been observed with respect to the increase in number of disadvantaged students entering university and for those attending SHEP initiatives (SFC, 2015), the extent to which this represents a statistically significant increase in HE PR is not clear. Systematic research on the barriers to access in Scotland, the extent to which SHEP support students to overcome these barriers, and the impact of these on students' ability to progress to HE, is necessary to widen access.

Research Approach

Widening access to higher education is a complex issue in which a wide range of institutions and programmes have a role to play throughout the whole educational journey. Issues include attainment, access, retention, success and positive destinations. This study focuses specifically on the issue of access to HE. It aimed to identify what works and why in widening access to higher education for young people from the most disadvantaged backgrounds. To place our study within a Scottish context, we investigated trends in access to HE education in Scotland; barriers to access for students from disadvantaged backgrounds; and the impact of the SHEP national outreach programme in supporting students to overcome these barriers to access.

To achieve these aims, we applied a mixed methods approach consisting of: a systematic review of literature to identify effective approaches for widening access around the world; a quantitative secondary data analyses of higher education progression statistics to determine trends in widening access in Scotland; documentary analysis of annual reports produced by SHEP to identify outreach initiatives; and interviews to explore the perceptions and experiences around widening access of SHEP staff, teachers, students and pupils.

Document analysis

Through document analysis we systematically analysed the annual reports of all four SHEP schemes from 2011/12, 2012/13 and 2013/14, to identify the nature of activities undertaken by the SHEP programmes.

Secondary data analysis

To identify whether recent policy-level interventions and the SHEP programmes have a quantitatively significant effect on widening access to higher education, we analysed administrative data to examine trends in progression rates to HE. Specifically, we examined whether there has been a significant increase in the number of pupils attending low progression schools entering university over a three year period (2011/12 to 2013/14***). Additionally, we examined whether observed trends in the number of pupils from SHEP schools entering HE represent a statistically significant increase in HE PR over time. More details on the methodology for the statistical analysis are presented in Appendix B. The findings of the secondary data analysis are presented in Chapter 2.

*** Period for which school level data on HE PR exists (2011/12 to 2013/14). As at the time of the analysis, the Scottish Government's Statistical Analytic Unit was still in the process for compiling similar school level data for previous years to enable accurate comparison.

Systematic review

We conducted a systematic review of interventions that work to increase access to university-level education for young people from low socioeconomic backgrounds. Our strategy involved selecting high quality studies that have evaluated the impact of specific interventions on actual enrolment to HE for students from economically disadvantaged backgrounds. We focused on only actual enrolment, as we consider this to reflect the optimum level of success of access interventions. Studies which measure intentions to enrol in HE were not considered, because of the gap between intention and actual behaviour.

We applied a set of strict inclusion and exclusion criteria to ensure our search and filtering processes were consistent. To ensure relevance to current HE policy developments, we examined only studies published from 2008. Overall, 10 high quality studies met our criteria for inclusion. Disappointingly, no UK study within our specified timeframe met the quality benchmark for inclusion. The methodology for the systematic review is presented in Appendix A. The findings from the systematic review are reported in Chapter 3.

Stakeholder interviews

We conducted 36 interviews with four stakeholder groups: 10 pupils currently involved in SHEP activities; 7 HE students who were involved in SHEP schemes when they were at school; 8 teachers involved in the co-ordination of SHEP in their school; and 11 members of SHEP staff. Interviews with pupils and students focused on what they considered to be the main barriers and facilitators of access to higher education in their own contexts and their experiences of SHEP. With respect to teachers, we explored their perceptions of the barriers to access, their experiences of the extent to which SHEP supports pupils to progress to HE. Finally, interviews with SHEP staff focused on barriers to access and the nature and justifications of activities undertaken to facilitate access to HE for young people from disadvantaged backgrounds. The topics covered in the interviews are outlined in Appendix C. Thematic analysis of interview data formed the basis of the themes presented in section 3.

In the next section we statistically examine trends in progression rates to identify whether the SHEP programmes and policy-level interventions can be identified as having quantitatively demonstrable success on widening access to higher education.

2. Trends in widening access in Scotland

The impact of overall policy and practice initiatives on Higher Education Progression Rates

Recent policy initiatives in Scotland suggest a drive to widen access to HE for students from low income households. In this section we examine the extent to which these policies, overall, have leveraged access for students from disadvantaged backgrounds. These policy interventions have, however, predominantly targeted low progression schools on the assumption that such schools have a higher concentration of students from disadvantaged backgrounds. While several reports have documented positive trends[26], the statistical significance of these trends has not been explored.

We used data provided by the Scottish Government analytics service on higher education progression rates (HE PR) in Scotland over a three year period (2012 to 2014). This data contained the proportion of students in each school entering higher education (at both further education college and university) over the time period. To define low-progression schools, we used the average 2012 HE progression rate (36.98%) as our reference point. Low progression schools were specified as schools that had progression rates of 1 standard deviation (12.93) below the 2012 average (36.98%). Thus, schools with progression rates below 24.1% were classified as low progression schools. This figure is close to the 22% threshold used by the SFC in defining low progression schools and for the purposes of deciding whether these schools form part of widening access initiatives such as SHEP. Overall, the proportion of low progression schools in 2012, 2013 and 2014 were 15.6%, 14.4% and 11.6% respectively.

Our goal was to statistically examine trends in progression rates over this period and to test whether there was a significant growth in the number of students from low progression schools entering HE, compared with medium to high progression schools (those with HE PR of 24.1% and above). We controlled for the effect of school level deprivation and cohort size. Latent growth modelling, a robust statistical approach, was employed to determine the significance of observed trends. An explanation of latent growth modelling is provided in Appendix A.

Results from our analysis (Appendix A) indicate the following:

- Analysis suggested about a 1% increase in overall HE PR during the period;

- While low progression schools had a significantly lower HE PR compared to medium to high progression ones in 2012, these schools recorded significantly higher progression rates over the three year period compared to medium to high schools;
- Trends between the different types of schools suggests a 7.1% growth in HE PR in low progression schools compared to 0.83% in medium to high progression ones (Figure 1);
- There is still significant inequality in access to HE. Across all the time points examined (2012-2014), schools with large concentrations of students from the lowest deprivation quintile recorded significantly lower numbers of students going to HE;
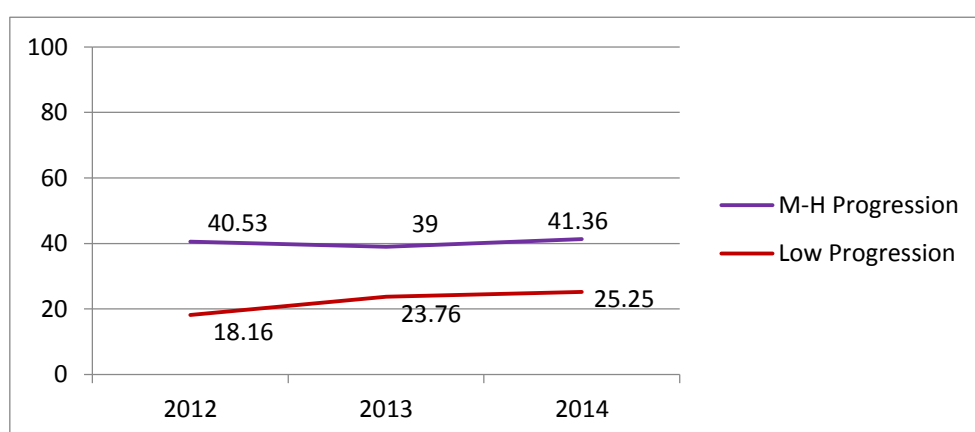

Figure 1: Average HE progression rates between SHEP and Non-SHEP schools

- A careful examination of the data suggests that there are a small number of schools with persistently low HE progression over the period examined. It appears these schools have significant underlying difficulties associated with deprivation which must be addressed in order to enable students in these schools to progress to higher education.

Examination of these trends and policy initiatives over the period suggests that the significant increases observed in HE PR for students attending low progression schools coincided with the introduction of Outcome Agreements that encouraged and mandated HEIs to widen access, as well as the funding of additional HE places specifically for people from low income backgrounds. The combination of a growth in HE places, additional protected HE places for students from disadvantaged backgrounds, the mandating of higher education institutions to widen access, and possibly other interventions focused on widening access during the period examined, appear to be catalysts for educational equity in Scotland.

Limitations of our findings

It is important to note that while the majority of students attending low progression schools come from disadvantaged backgrounds, this is by no means the case for all students. Using

school level data does not enable us to determine whether increases in progression are benefiting the most disadvantaged in those schools. It therefore may instead be the case that progression rates are increasing for the most advantaged students attending low-progression schools. The collection of pupil level data would go a long way to enabling us to determine whether this is the case. It is also important to consider our findings with respect to the type of data we used for our analysis. Our HE progression data includes entry to both HE courses in college and degree programmes in university. This data suggests an increase in access to HE for students from low progression schools in Scotland. However, there are differing views on what constitutes access to HE. For instance, other studies[28] and recent Universities and Colleges Admissions Service (UCAS) data using only enrolment to university as a measure of HE PR, suggest there has been a decline in access to HE in Scotland. Reports on access therefore appear to differ depending on the type of data and method of analysis used.

The impact of SHEP on Higher Education Progression Rates

A key focus of the current research was to examine the impact of SHEP on HE PR in low progression schools, as this is the key remit of these programmes. Using the same data set and methodology above, we examined whether or not there was a significant increase in HE PR in SHEP schools over a three year period, and whether the rate of change was any different for non-SHEP schools. (SHEP schools are selected for inclusion in the scheme due to their historically low progression rates and make up 72% of all low progression schools by our definition above.)

Results from the secondary data analysis indicate the following:

- SHEP schools have higher concentration of students from the lowest deprivation quintile compared to non-SHEP schools (43% vs 13%).
- In 20% of SHEP schools, about 70% of students came from the most deprived quintile, a phenomenon that was not present in any of the non-SHEP schools.
- While SHEP schools recorded an average increase of 4.1% in HE PR over the period compared to 1.3% for non-SHEP schools (Figure 1), these differences were not statistically significant when we control for level of deprivation and cohort size.
- There is still a significant inequality in access to HE between students attending schools involved in the SHEP initiative and those attending non-SHEP schools.
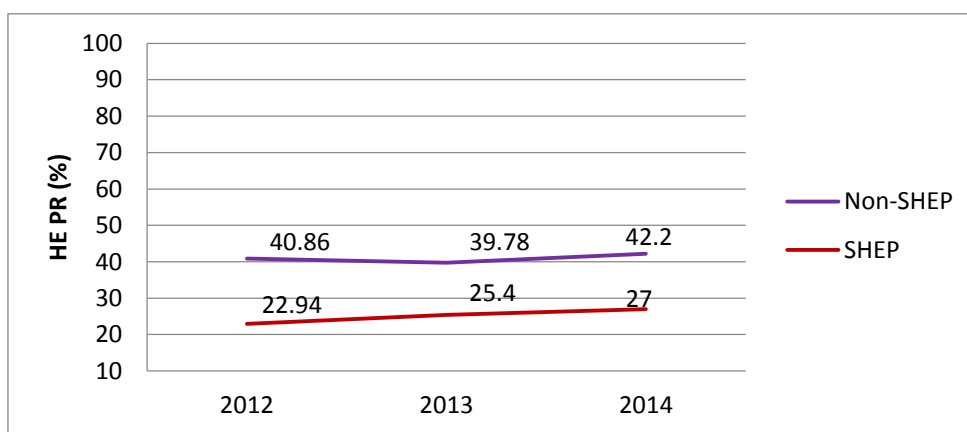
Figure 2: Average HE progression rates between SHEP and Non-SHEP schools

Whilst the precise impact of SHEP on HE PR is not clear from the quantitative data, it can be argued that such outreach programmes may enable students from disadvantaged backgrounds to take advantage of other widening access initiatives such as protected places, progression agreements and application support.

Limitations of our findings

There are several limitations of using these data. First, some schools that were previously SHEP eligible are no longer so, due to increases in progression rates. Our classification of non-SHEP schools does not take into account previous SHEP involvement, thus the data and our analysis may underestimate the impact of SHEP on HE PR. Second, with regards to analysis of the impact of SHEP, some SHEP activities are equally delivered to non-SHEP schools by some of the programmes. Thus, non-SHEP schools do not represent a 'pure' control group and any nonsignificant difference between schools may to some extent be due to the fact that some non-SHEP schools in our control sample equally benefited from SHEP outreach support. Third, our data for examining the effect of SHEP is not ideal. We used school-level data which cannot specifically tell us whether any observed changes are directly attributable to pupils who participated in SHEP. Fourth, in addition to SHEP, there were other widening access policy interventions during the timeframe of the data used (2011-2014). Examples include outcome agreements between the SFC and universities to increase the number of students from disadvantaged backgrounds (2012/13) and funding of extra places for students from households with the lowest 40% of income (2013/14).[29] Causal relations cannot therefore be imputed, and care is needed in the interpretation of the results. Recognising these limitations with the available data, we employed qualitative methods to investigate the perceptions of students and pupils who have taken part in the SHEP initiatives in order to document the impact SHEP had on their experiences.

3. Key factors influencing access to higher education

In this section we discuss key factors that influence access to HE, by drawing on findings from the systematic review, as well as results of our qualitative research into barriers to access, how SHEP initiatives intervene to overcome these barriers, and the impact of their intervention on pupils, students and teachers who have experienced a SHEP initiative. To ensure the validity of the evidence on the impact of SHEP, we only drew on the experiences reported by pupils, students and teachers.

We employed a thematic approach to categorise our findings based on specific issues associated with access. This approach enabled us to discuss evidence of what works to widen access as reported in the literature alongside what is happening within the Scottish context.

Attribute-Based and Contextual Admissions

There is well-established evidence showing that, as a result of the various disadvantages associated with low income, students from these contexts generally obtain fewer qualifications and lower grades.[30] Admission criteria that do not take into consideration these contextual factors act as a barrier to equitable access to higher education. Thus, to widen access, some HEIs use alternative approaches for selecting students who may not meet competitive grade cut-off points. The assumption is that students from disadvantaged backgrounds who often do not meet grade requirements may possess critical attributes that will enable them to succeed at HE.

Two main approaches exist. The first, attribute-based approach, involves selecting participants on the basis of specified attributes. The second, contextual admissions, takes into account the context in which grades were obtained by requiring lower entry grade-points for students who attend low progression schools or come from a disadvantaged background. Contextual admissions tend to relate to the minimum academic performance and knowledge necessary for admission to a particular programme. This 'threshold' level is often lower than standard entry rates that are competitive.

Findings from systematic review: attribute-based and contextual admissions

Several studies have discussed the effect of contextual and attribute-based admissions on widening access to HE. However, only the study by O'Neill, Vonsild, Wallstedt and Dornan[31] met our inclusion criteria of studies based on good quality evidence. They employed prospective cohort study to test whether the type of admission criteria used (traditional

grade-based vs attribute-based) influences access to medical school for young people from low SES backgrounds in Denmark. The attribute-based criteria consisted of: verbal and written communication skills; knowledge of the profession; quantity of previous work experiences; past educational qualifications; foreign exchange experiences; volunteering experiences; interpersonal and social skills; the ability to cope with stress; general knowledge; subject interest; expectations; maturity for age; stress tolerance; empathy; and 'general interview behaviour'.

Results from the study indicated that the type of criteria used (grade-based or attribute-based) did not have an impact on the sociodemographic composition of those admitted. However, our assessment suggests that the attribute-based criteria used are less likely to be obtainable by applicants from low SES backgrounds. This is borne out in the statistical data provided which indicates that there was an *increase* in the success rate of applicants whose parents were doctors when the attribute-based method was used. Thus, the criteria favoured advantaged groups.

While this study does not provide conclusive evidence on the impact of contextual admissions, we argue that attribute-based criteria that take into account socioeconomic disadvantage may have an impact on the sociodemographic composition of the applicants admitted. Several institutions in Scotland currently use attribute-based and contextual admissions. We did not find any robust studies evaluating the effect of these on widening access. It is therefore important in light of our findings to investigate the extent to which these initiatives are increasing access for students from disadvantaged backgrounds.

Findings from Scottish research: issues around admissions

Our qualitative findings on widening access within the Scottish context uncovered barriers associated with admissions, how SHEP initiatives help students to navigate these difficulties, and the impact of this in leveraging access for students who undertook the SHEP initiative.

Barriers associated with admissions

Grade-based admissions: Participants in our study identified that admissions criteria based on grades tend to be beyond the reach of disadvantaged young people. According to one participant, '*entry requirements for universities continuing to sort of rocket, making it very difficult for those from disadvantaged background to enter HE access*' (SHEP Staff 4). This means that sometimes *students who 'miss out by just one grade don't get into university'* (SHEP Staff 11).

Requirements for personal statements and interviews: Prospective applicants also need to demonstrate specific attributes, and related work experience during application through personal statements. Participants indicated that those from a disadvantaged background sometimes '*cannot demonstrate these experiences due to cost*' (Teacher 6). Even when they have these experiences, they are unable to craft convincing personal statements or articulate these effectively through pre-entry interviews, due to absence of support from someone familiar with the process.

SHEP interventions to support admission

SHEP attempts to address barriers associated with admissions through the following:

- Giving one-to-one application support to pupils to construct personal statements;
- Offering alternative qualifications that can be used to compensate for a low grade-point. However, this was not consistent across programmes and was not accepted by all HE institutions;
- Advocating of behalf of students in communication with universities;
- Helping teachers understand the admissions process (which, in the UK, is completed through an online process administered by UCAS;
- Improving students' interview skills.

Impact of SHEP admission support

Improving personal statements: Students reported that their personal statements improved as a result of support from SHEP staff on how to include relevant information in their application. For instance, a student recounting their experience stated: '*my personal statement would be nowhere near what it was if they hadn't helped me through that sort of stuff. They helped a lot through the whole of the UCAS application, making sure your statement was up to par, and they'd helped me to make sure that I was putting in the information that I should*' (Student 5).

Students also reported that they were advised by SHEP staff to include their participation in the programme on their application form. They were convinced this influenced their chance of admission: '*I didn't meet the required grades and I didn't initially get in.*' But they were advised by SHEP staff to '*Just phone and say, 'can you reconsider it' and that's what I'd done, and that's how I ended up getting in*' (Student 4).

Securing admission for students: Participants noted that SHEP staff directly interceded on behalf of students to secure admissions for them. Evidence of this was recounted by a teacher who noted that '*a couple of years ago, we had two kids with identical grades who applied*

for the same course at the same university. One of them got an offer – unconditional – the other one got rejected. So, I got on the phone to the SHEP staff straight away, and they were like, 'that doesn't sound right to me'. They contacted the admissions people, who'd overlooked the fact that one of the kids was [SHEP] eligible and they sent out a revised offer, unconditional. What a result. That shows you the impact of [SHEP] involvement' (Teacher 8).

Improving teacher knowledge of application process: Teachers discussed how the SHEP staff help them to understand the UCAS process and understand the importance of writing strong references for pupils, which they reasoned had an impact on progression rates through increasing applicants' chances of success. They reported that SHEP had helped teachers ensure the references they write align with the UCAS checklist through providing advice and feedback. They reported having a *'much better understanding of the whole process'* (Teacher 3), which results in better references, better personal statements and more consistent advice to pupils.

Summary

Scottish universities are at the forefront of both the practical application of contextual admissions, with many now routinely taking account of key contextual indicators such as school performance, parental experience of higher education and time spent in care. However, **rigorous research does not yet exist relating to the impact of contextual criteria** and whether the lowering of entry requirements for students from disadvantaged backgrounds results in more equitable access to higher education.

Cost and Affordability

A critical issue associated with access to HE is cost and affordability. In Scotland, Scottish domiciled students studying full-time in Scotland are not required to pay tuition fees if studying for a first degree or equivalent. Students may also be eligible to apply for an income assessed bursary and student loan to help with living costs. Scottish domiciled students wishing to study outwith Scotland, at an institution elsewhere in the UK, are entitled to a non-income-assessed loan of up to £9,000 a year towards the cost of their tuition fees. They may also be eligible to apply for an income assessed bursary and student loan to help with living costs from the Student Awards Agency for Scotland (SAAS).

Despite the availability of loans, evidence suggests that actual and perceived costs and concerns around the burden of debt associated with attending university deter students from low income households from applying for HE.[32] It has also been found that students and

parents from low income households overestimate the cost associated with HE. Even where grants and scholarships are available, they may be unaware of them or the complexity of the application process serves as a deterrent.

Financial support interventions aim to address cost and perceived affordability through direct award of grants and scholarships, support for students in applying for grants, and provision of information on the actual cost of HE attendance.

Evidence from systematic review: financial support

In our systematic review, we came across high quality intervention studies addressing cost and affordability. Myers, Brown and Pavel[33], in their quasi-experimental study assessed the impact of the Washington State Achievers (WSA) Program, which provides financial, academic, and college preparation support on access to HE for low income students. They compared two groups:

a) Funded participants – received financial support for going to college (between $4,350 and $9,700 for fees for selected colleges) as well as an outreach intervention;

b) Non-funded participants – received no funding but an outreach programme intervention.

Their results showed that funded participants were 12 times more likely than non-funded participants to go to four year college, and three times more likely to go to higher status institutions. Thus, **funding significantly influenced low income students' ability to gain access to HE**.

Pharris-Ciurej, Herting and Hirschman[34] also evaluated the effects of the WSA programme on students from three different schools using pre- and post-intervention surveys. Findings on the impact of the WSA programme on progression to HE were mixed. Students in one of the three schools in the study outperformed the control schools in terms of enrolment to HE, in spite of the former being a lower income school than the controls. However, no consistent evidence of change in college-going was found in the other two schools. The rationale for this differential effect was not investigated.

Dynarski and Scott-Clayton[35] reviewed experimental, quasi-experimental and non-experimental literature to investigate the impact of financial aid on college enrolment. Four main conclusions were drawn: First, **financial aid has an impact on college access**. For instance, the availability of grant aid increases enrolment at college and the removal of grant aid decreases enrolment at college. Grant aid has been found to increase enrolment at elite institutions. Second, **the effectiveness of aid programmes is dependent on the complexity of the application process**. The most successful schemes have easy to understand eligibility

rules and application procedures. More complex processes act as a barrier to access. Third, **financial incentives have been found to improve academic performance and increase initial enrolment at college**. Fourth, **the impact of loans on college enrolment is unclear**. In comparison to grants, loans are less likely to increase college enrolment. This may be due to debt aversion and the variation in types of loan available.

Bettinger, Long, Oreopoulos, & Sanbonmatsu's[36] experimental study investigated the effect of providing assistance to families from low income backgrounds on access to HE for their children in the US. The study specifically sought to increase grant applications and awards by providing expert personal assistance to families to complete the form at a convenient time and place. Three groups were examined:

1) Expert Support Treatment Group – received expert personal assistance from tax consultants to complete grant application forms based on their tax return data, as well as information about the cost of tuition;
2) Information Only Treatment Group – received information on eligibility for grants, how much they could receive, and information about the cost of tuition;
3) Control Group – no intervention was provided.

There was a marginally significant effect of expert support on completion of grant application forms on access to HE. There was a 4 percentage point difference between the expert support treatment group and the control group with respect to attendance at four year colleges. The expert support treatment group was also 11 percentage points **more likely to receive a grant** within one year post-treatment than the control groups and retention rates of students in the expert support treatment group were 8 percentage points higher compared to the control groups.

Summary of systematic review findings on financial support

The key conclusions from these studies is **that funding is a necessary condition for widening access for those from low income households and essential for increasing access to high status institutions**. Enhancing the affordability of higher education through direct financial support that reduces the burden on disadvantaged individuals is an essential condition for widening access. Additionally, **the provision of assistance from experts** in completing application processes, **rather than the provision of information alone**, can widen access to HE. Finally, the impact of financial support may a have different effect depending on the demographics and characteristics of student cohorts. These **potentially varying effects** should be examined and taken into account by widening access programmes and policy-makers.

Within the Scottish context, although first undergraduate degree fees are covered by the SFC, living costs are not covered. Students are entitled to a loan from SAAS to cover living expenses. The government, higher education institutions, charities and other organisations also provide a range of bursaries, scholarships, and other forms of financial support to students from disadvantaged backgrounds to cover the costs associated with going to university. However, these vary in amount and there are generally few available, and the remaining costs that are not covered by grants may act as a disincentive, particularly for people from low income backgrounds due to fear of taking on a 'huge debt'.

Findings from Scottish research: issues around affordability

Our research in Scotland uncovered barriers relating to actual and perceived affordability of HE. We also identified interventions undertaken by SHEP to overcome some of the barriers, and explored the impact of these interventions.

Barriers associated with cost and affordability

Actual cost of university: Concerns around the inability to afford to go to university were identified by participants as a contributing factor in decisions not to apply to university. Participants were of the view that a lot of families have financial concerns and although there are no fees for higher education in Scotland, there are other costs associated with attending HE. They reported that when such students do not get any sort of bursary, they have to take on a student loan, which needs to be paid back and that can be a significant burden. This they reasoned usually leads *to 'pressure on many high school graduates to get work immediately'* (SHEP Staff 4).

Bursaries and scholarships were considered to be a valuable source of financial support. One student who was in receipt of a bursary and a scholarship reported: *'I think that's an incredible thing because the university is showing that they believe in me and it believes I can do well. I know that I've got the university's backing, and it helps me pay for my monthly bus into the university and buying my essentials'* (Student 7).

Perceived cost of university and concerns about the burden of debt: The perceived cost of going to university and associated debt that must be incurred through student loans were identified as barriers to access. One student described how although loans may be available, cost is still perceived as a significant barrier:

> *Even though in Scotland tuition's paid, financially it still is quite a big thing going to university. When a lot of people, out of our friends we've spoken to, don't get any sort of bursary, maybe a student loan, but that still needs to be paid back and it*

doesn't absolutely cover everything, especially when most people, I think, would prefer to live away. So there's still going to be a lot of costs, and if you don't live away at uni, you'll still have all the travelling and things, so that puts people off.
(Pupil 8)

With regard to the burden of debt, participants argued *that 'for a lot of parents, the thought of their kids taking loans out and having to pay that back is a big drawback for them.'* The effect of this debt burden was expressed by a student who noted that *'the thought of paying back the loan is there in the back of mind. It's scaring me a bit'* (Student 1). Additionally, a member of SHEP staff noted:

> *One of the barriers is a lot of people decide not to go into higher education because they don't want to take on the debt and the burden, and even if you give them the information about how SAAS works, how the student loan works, they're still frightened about that. They're still frightened about that huge amount of money. They are gonna be in this significant amount of debt when they leave? And regardless of the fact that we know that the loan system is paid back, and to not have a detrimental effect on your salary, it's still a huge barrier. (SHEP Staff 6)*

However, some participants reasoned that a lack of knowledge and understanding of the loan system and financial support available discourages students from disadvantaged backgrounds from viewing university as affordable (Teacher 1, SHEP Staff 11). They also pointed to media reports about the English and Welsh HE system on the cost of HE as a contributing factor that increases concerns about the debt burden. For instance, one participant stated that 'the money thing is a huge issue because a lot of the media report is about students coming out with debt of over *'£40,000 and more, and that just puts them off'* (SHEP Staff 7). This is not accurate in relation to the cost of higher education in Scotland, and it is of some concern that disadvantaged young people and their families' decisions around university are influenced by discussions of the cost of university in other parts of the UK.

SHEP intervention relating to cost and affordability

SHEP provides support to overcome barriers of cost and affordability through:

- Providing information about student finance and loans.

Impact of SHEP intervention

Increasing understanding of the student funding system: Some students indicated that the information provided by SHEP developed their understanding of the student loan system and funding opportunities available. University therefore seemed more affordable. For instance, a student noted that *'I guess with the SAAS funding, I knew it existed, but I didn't think I will get it. I*

didn't know how it worked, so they explained all of that to me and it made me consider that I may be able to afford it' (Student 4).

It is important to state that whilst issues of cost and affordability of university are significant barriers to access, and although information, advice and guidance are within the remit of SHEP, actual funding is not. This is not, therefore, an issue SHEP can be expected to address.

Summary

Evidence suggests that both actual costs, and concerns around the burden of debt associated with attending university, deter students from low income households from applying for HE. This is a very real problem that cannot be addressed through any method other than providing financial support. It also suggests that outreach with funding attached is significantly more likely to increase actual enrolment to university, and thus significantly enhances economically disadvantaged young people's ability to access higher education.

Outreach and Guidance Programmes

Outreach and guidance programmes are the most popular approaches employed around the world to widen access to HE. They are based on the rationale that multiple barriers hinder the ability of students from low income households to enter university. Knowledge about the application process, selection of institutions and programmes, and financial support available are resources which influence the ability of students from disadvantaged backgrounds to successfully gain access to HE. These resources are more accessible to students from more affluent backgrounds. Furthermore, those from disadvantaged backgrounds are less likely to have access to support throughout the application process.[36] The complexity and unfamiliarity of the college application process deters many students without a family history of HE attendance from applying to higher education, and contributes to the enrolment gap between higher and lower income students.[38] Thus, supporting disadvantaged individuals through developing familiarity with the university environment is viewed as an appropriate way to seek to widen access to higher education.

Outreach and guidance programmes consist of a set of multifaceted interventions which aim to increase access to higher education with the provision of guidance at the centre of such interventions. Activities usually consist of campus visits, summer schools, information sessions, one-to-one coaching, mentoring, character and leadership training, and parental services.[39]

Evidence from systematic review: outreach and guidance

There were several studies on the effect of outreach and guidance programmes which met our criteria of high quality studies.

Stephan and Rosenbaum[40] employed secondary data to identify whether coaching had an impact on enrolment in four year college. Coaches were assigned to schools to assist school staff and students with applying for multiple colleges, financial aid, and scholarships as well as non-academic tasks required to navigate college enrolment processes. The coaching programme also focused on increasing enrolment in four year rather than two year colleges. Coaches were from outside the school environment and had direct experience of working with disadvantaged young people in their communities.

Their findings revealed a **significant effect of coaching on access to HE for students from disadvantaged backgrounds**. Those attending a coach school were 13 percentage points more likely to enrol in a four year college. Importantly, low income students attending coach schools were 27 percentage points more likely to enrol in HE compared to their peers who received no coaching. No significant impact was found between attendance at coach schools and enrolment in elite universities. It is important to note that the intervention did not focus on attendance at elite institutions.

Castleman, Arnold, & Lynk Wartman's[41] experimental study explored the impact of targeted counsellor support during the school summer break in the United States. Two counsellors were employed full time to help students address any gaps between their financial aid package and the total cost of attendance at their intended institution. They also lobbied HE institutions for additional grant assistance for students, addressed information barriers around paperwork, and helped students with social and emotional barriers to enrolment. Counsellors were paid for their time.

The study found that **having counsellors actively intervene with low income students led to significant increases in overall enrolment to HE** - specifically, 41% percent of the treatment group enrolled at universities, compared with 26% of the control group. Students in the treatment group were also more likely to enrol full-time.

Avery[42], in a randomised experiment, investigated the effects of college counselling on access to high status institutions for high-achieving, low-income students in the US. The intervention consisted of the provision of information and expertise to students to help them write high quality applications to colleges that were good matches for their interests and qualifications, and to help them understand that they may be able to afford to attend

selective colleges through the use of financial aid. The counselling focused on the choice of college, completion of application forms, and personal statements. The counselling was delivered flexibly in terms of times and locations. Each student received ten hours of counselling from a local high school counsellor. The counsellors were paid for their time.

The study found no significant impact of counselling on application quality or enrolment in high status institutions. Consideration should be given to the fact that students in the study were already high achieving, and about 70% of both control and treatment group gained admission to HE.

Domina[43] employed longitudinal secondary data to investigate the impact of participation in US-based outreach programmes on educational outcomes for young people from disadvantaged backgrounds. Two forms of outreach programmes were analysed: a) programmes available to all students in a school; and b) targeted programmes for a selected students.

They found that students who were not actively engaged in researching HE, and attended schools where outreach was available to all students, were about seven percentage points more likely to enrol in HE than their peers in schools where outreach was not available. This difference was marginally significant. However, no statistically significant difference was found in enrolment in HE between participants involved in targeted outreach programmes and matched controls. There was also no statistically significant difference in enrolment to HE between students in high schools that make outreach available to all students and those that offer no outreach.

Seftor, Mamun and Schirm[44], in a randomised experiment evaluated the impact of the Upward Bound outreach programme on access to higher education in the United States. The outreach was provided by two-year (college), four-year (university) institutions, and community organisations. The services include instruction, tutoring, counselling and financial guidance, campus visits, and a six-week residential summer school. Students may be involved in the programme for up to four years (from the age of 14/15 to 17/18), but are typically involved for around 20 months.

The study found **that students who stayed in the programme over a longer time period were more likely to enrol in a four year programme**. Additionally, the programme had a modest positive effect on students who entered the program with low educational expectations. However, when all intervention and control groups were analysed, Upward Bound was found to have no statistically significant effect on enrolment to higher education.

Summary of systematic review findings on outreach and guidance

Overall, outreach is an important vehicle for improving access to HE. When counselling and guidance support is provided to students who are unfamiliar with the application process, they are more likely to successfully apply to higher education. When studies have considered the timeliness of interventions, these have been found to have more of an impact.

Outreach programmes appear to have differential effects on students. These potential differential effects should be examined and taken into account by widening access programmes and policy-makers. Individuals who benefit most from outreach interventions are those who were not previously considering higher education and therefore may not be selected for inclusion in targeted schemes. The policy of outreach programmes mainly targeting those with higher expectations may need to be reconsidered. School-wide provision should complement selective ones. With respect to access to high status institutions, provision of outreach and guidance alone may not be sufficient to widening access to these institutions. Our findings on cost and affordability indicate that funding is an essential element for increasing access to high status institutions.

Considering the prevalence of outreach initiatives in the UK, we did not find high quality studies investigating the impact of these programmes on access to HE. High quality studies are needed to help ascertain the extent to which such programmes lead to increases in actual enrolment to HE.

Findings from Scottish research: Outreach and guidance

Our research on widening access in the Scottish context revealed several barriers associated with guidance, steps taken by SHEP to address these barriers, and the impact of widening access for students from disadvantaged backgrounds.

Barriers associated with guidance and counselling

Family knowledge and understanding of HE: Participants identified a lack of family knowledge and understanding of higher education as a barrier for young people from disadvantaged backgrounds. They explained that students from disadvantaged backgrounds generally do not have family members who have been to university. The absence of familial experience can affect students' aspirations for HE. For instance, a student noted: '*I come from a working class background. When I was young, I always imagined it was the middle class, rich kids that were going to university. I didn't think about working class people going'* (Student 1).

Confidence and fear of 'not fitting in': The absence of family experience may result in students from disadvantaged backgrounds having low confidence and developing a fear of *'not fitting-in'* at university. For instance, a student noted: *'Academically I can do well, but I felt, I wouldn't fit in enough. I felt like, in terms of background, I wasn't in the same league. When I went to the university open day, I was overwhelmed by a sense of, would I get looked down upon? Because I come from a working class background?'* (Student 1)

Teacher knowledge and understanding of HE: Students and pupils identified teachers as significant influences on their aspirations, motivations and decision-making around going to university. The experiences classroom teachers share serve as a catalyst for pupils and influence how pupils feel about their potential and their options. Almost every pupil and student interviewed talked about the influence of one or more subject teacher on their choices about post-school options. One student noted: *'My chemistry teacher really sparked my interest in chemistry so from second year, I was more interested. I ended up taking chemistry all the way up to [upper secondary] which kinda brought me on to forensics. As soon as she found what I wanted to do, it kind of sparked her interest, and kind of interacted with me to make sure I got there'* (Student 5).

However, gaps in teachers' knowledge and understanding of the higher education application process were identified as a barrier to access for students from disadvantaged backgrounds. This is because such students may not have immediate family members who can compensate for absence of school guidance. Participants noted that some *'teachers weren't up to date with the whole UCAS [university] application process'* (SHEP Staff 5) and *'understanding of the appropriateness of register of tone of language in terms of making a formal application to university'* (SHEP Staff 7). One student stated: *'We started applying for university, we got a different guidance teacher, and it was her first time in the post, so she didn't really have much idea of what we were doing. So I found that quite tough. I was lucky that I had SHEP staff to help me, because otherwise I definitely wouldn't have got here'* (Student 4). The lack of up to date knowledge was acknowledged by a teacher who stated that *'it's very difficult to keep up to date with it all, in many ways we are the experts in our subject. We are not necessarily at the other end, at the entry [to HE]'* (Teacher 3).

Pressure on teachers' time: Some participants noted the perception that even where there was a guidance teacher at school, there was pressure on their time due to the amount of students they have to support. As noted by one student: *'You have guidance teachers in the school, but the amount of people they had to care for was a lot, so it wasn't like you always got a lot of time with them. It felt like they were making time for you but they were still busy. When I had*

questions about university I'd go to SHEP staff a bit more. I felt I could ask them rather than the guidance teacher' (Student 1).

SHEP guidance and counselling interventions

SHEP is an outreach initiative which employs multifaceted approach to widen access for students from disadvantaged backgrounds. Guidance is offered through a wide range of approaches, including:

- One-to-one interviews with pupils;
- Inviting university admissions staff to talk in schools;
- Giving information about options to pupils;
- Using student volunteers to give relevant, peer-led guidance.

Impact of SHEP guidance and counselling interventions

Increasing awareness of programme options: Students reported an increased awareness of 'what the different universities offer' and programme options, the different subjects on offer, and their course contents as a result of guidance and information provided by SHEP staff. They reported that they 'had no idea' and 'never heard of' some programmes and career options, and that SHEP helped them 'to realise that there are lots of options.' A teacher noted that their SHEP programme '*opens up all the usual careers like teaching, doctor, dentist, lawyer, whatever you want to be, engineer, but also more of the weird and wonderful things, as well as the more obscure career paths that are out there*' (Teacher 1).

SHEP support was noted to compensate for the absence of familial knowledge and support. For instance, a student noted that '*because I don't know anyone beforehand that had gone to university, I could speak to anyone and get their feedback. So [university] was a completely new thing to me. And that was something that I found out through the [SHEP] programme, and would have been clueless without it'* (Student 5).

Supporting informed choices: Students and teachers also noted that SHEP staff helped pupils to make informed choices. Some current school pupils noted that they were 'pretty clueless about anything' and were just thinking of completing their high school exams and would 'wait and just see what they are going to do next'. They noted that 'it was good knowing what's out there and what you can do'. For instance a student stated: '*I don't think I'd have picked up on engineering if I had not attended my Access course, because I wasn't really certain of anything. I was just going to go to Uni, but the residential made me think about engineering a lot more'* (Student 2).

A critical element of SHEP guidance that the students valued was the opportunity of one-to-one meetings. A student confirmed that '*I found that really helpful, because even though I knew what I wanted to do and kind of knew the grades, I didn't know how lenient they were, what specific subjects they needed. [SHEP staff] are able to phone up the connections at these universities, and kinda see*' (Student 5).

Motivating and enabling pupils to achieve: Experiencing university life through involvement in SHEP residential programme, campus visits, and being informed about what would be expected of them was reported by students and pupils as motivation for them to plan ahead and do well at school. According to a current secondary school pupil, '*SHEP has taught me what uni might be like, how hard it is to get into, what you need to do to maybe ensure you're going to get in. I've learned that if I want to do what I want to do, I need to give it my all*' (Pupil 4). Another pupil noted that '*going to the university and actually seeing the students, they look like they're enjoying it, and it looks like a time that I would enjoy. It's just made me really want to do so well*' (Pupil 6).

Increasing teacher knowledge: Teachers talked about how SHEP staff have up to date, accurate knowledge about post-school options, with which schools are not always equipped. Teachers reported that they felt confident that SHEP staff will be able to answer their questions and will provide expert advice to pupils about subject choice and choice of post-school destination, in ways that teachers often cannot because of their lack of knowledge in this area.

Developing confidence and familiarity around HE: A key element of SHEP outreach is to build confidence and familiarity by taking students on campus visits. Students noted that this experience enabled them to get a sense of 'what the university looked like' and they 'see the university as a place they can go to' and not 'feeling like they were going into the deep end.' One student recounted that '*I found the whole uni thing really scary to think about, so [SHEP's] helped me, it's kind of not the unknown anymore*' (Pupil 8). A teacher noted that students from disadvantaged backgrounds '*do not go to university open days because they don't have the money or parental background. Those university trips were very important to the youngsters, actually, really opened their eyes, made them see what was possible*' (Teacher 4). Another stated that '*I have had them coming back and saying, 'That was great', they really do love the experience...I think for a lot of them, it's so outwith their normal experience, that when they do experience it, they kind of go, 'Yeah, life could be like this, you know, I could do this*' (Teacher 4).

Student volunteers were identified as valuable members of SHEP programmes, whose experiences and insights were viewed as beneficial. Participants described how mentors' backgrounds and experiences helped them to feel like university was a realistic possibility for them too and how the advice given to them was relatable. Participants reasoned that student volunteers may seem more approachable to pupils and feel able to ask them questions about student life that they would not ask teachers or SHEP staff.

Summary

Considering the importance of class room teachers in relation to pupils' decision-making, it is important for teachers to be knowledgeable about both the HE application process and the different pathways to enhance access to higher education for pupils from disadvantaged households. Keeping up to date and knowledgeable about these processes was identified as a challenge by some teachers.

Attainment

Research suggests that a major explanation for the gap in HE access is low educational attainment associated with economic disadvantage. School attainment is the principal measure used by Scottish higher education institutions to evaluate and select applicants. For this reason, it is the single most important factor in determining whether an applicant will be offered a place at university.[45] Students from disadvantaged backgrounds generally have low educational attainment and therefore do not meet the grade-point requirement for admission. This leads to a so-called 'pipeline problem' whereby few students from low income households apply to enter HE. Improving attainment will therefore increase the pool of applicants from disadvantaged backgrounds and subsequently access to HE.

Evidence from systematic review: attainment

Despite the significance of attainment in access to HE, we did not find any high quality studies exploring interventions aimed at improving educational attainment to widen access.

Findings from Scottish research: issues around attainment

Our research within the Scottish context uncovered how attainment and subject choices serve as a barrier to access, what SHEP initiatives do to overcome these barriers and their impact on widening access.

Barriers associated with attainment and subject choice

Attainment: Participants in our study identified one barrier associated with access to higher education as attainment. They noted that although students from disadvantaged backgrounds tend to have high aspirations, *'the attainment to meet those aspirations is generally unavailable'* (SHEP Staff 9). SHEP staff noted that *'in many of the schools we work with, attainment is low'* (SHEP Staff 1), and if *'students are not getting the grades, then HE is not going to be an option'* for them (SHEP Staff 4). According to a teacher, *'the obvious thing is their achievement, passing the qualification. So, we find a lot of our kids do apply, but probably only handful get the qualifications to get in to what they want to do'* (Teacher 7).

Parental education: Several factors were identified by participants as contributing to the low attainment for students from disadvantaged backgrounds. According to participants, low parental education hinders parents' ability to support their child's learning at home. According to one teacher: *'Families who had further higher education experience have a better idea of how to support their children with things like homework or revision. Youngsters that don't come from that kind of background, even though their parents want to support them, when you ask them to help with doing chemistry homework, they say 'I have no idea how to start''* (Teacher 3).

Pressure on teacher time: Students also identified perceived pressure on teacher time as a barrier to attainment. They noted *that 'teachers don't get the chance to speak to a person and say, 'Oh, you're struggling here, well, let me help you' because there isn't that time for one on one'* (Student 7).

Resource poverty: Additionally, a lack of access to resources was reasoned to account for low attainment. They noted that students from low income households *'may not be able to buy the same sort of supportive resources. A good number of families from my school could barely put enough food on the table'* (Teacher 3).

Work responsibilities: The work responsibilities of young people from low income households can contribute to low attainment because of a reduced time for revision and study if they need to work part time to support themselves or their families. According to a teacher, inflexibility in working hours for these students mean that they tend to *'struggle to do homework'* (Teacher 3).

Home learning environments: The home situation of some young people was associated with economic disadvantage hinder attainment. Participants noted that some students from low income households live in *'a crowded flat, maybe sharing a bedroom with two brothers and a sister. They've got nowhere to do homework and the local libraries are all shut down'* (SHEP Staff

5). Participants recommended that these students need help and support in the form of *'space where they can go and do their homework in peace'* (SHEP Staff 5).

Subject choices: Closely linked to attainment is the inability of students from low income households to take the adequate number of subjects or appropriate subject combinations to pursue their desired programme at HE. On average, pupils from more disadvantaged backgrounds study fewer of the subjects identified as those which facilitate access to higher education.[46] There are a number of reasons why this may be the case; for example, issues around disadvantage and attainment mean that the pupil's prior attainment may not be high enough for them to study a subject at a higher level. The Commission on Widening Access suggest that this variation in subjects studied based on socioeconomic background may reflect the overall attainment gap between the most and least disadvantaged young people.[46] Another reason may be a lack of awareness about the importance of certain subjects in access to HE as the result of limited guidance from families.

Participants noted that some schools do not offer certain subjects at senior level of secondary school due to the low number of pupils expressing a desire to take the subject, small class size and unavailability of subject expertise within the school. Teachers noted that schools navigate the difficulties they face through 'ferrying' pupils to other schools, and in some cases pupils have to take online courses (Teacher 7, SHEP Staff 6). These factors do not only affect students' ability to obtain the right combination of subjects but also attainment associated with subject expertise within the school.

SHEP interventions around attainment and subject choice

SHEP provides support to overcome barriers to attainment through:

- Programmes offering alternate qualifications;
- Giving study skills advice.

Impact of SHEP interventions around attainment and subject choice

Providing alternative qualifications: SHEP programmes in a very small way contribute to overcoming difficulties associated with low attainment through provision of alternative qualifications that some universities take into account to make admission offers. However, the acceptability of these qualifications is localised to specific institutions that have signed an agreement with a SHEP programme. These qualifications are not accepted by all institutions. Additionally, the importance of these qualifications differs across programmes and harmonisation is required.

On the whole, the issue of attainment is not within the remit of outreach programmes, but is a problem that policy makers, schools and education authorities need to address. It is noticeable that this is currently top of the policy agenda in Scotland. Tracking how these interventions leverage access will provide the necessary evidence that is currently lacking in the literature.

Summary

No studies were identified that aim to improve educational attainment in secondary education with an explicit aim of widening access to higher education. Considering that attainment is an important barrier to access, and with current interventions in Scottish education focused on raising attainment, it will be important for such interventions to systematically track and evaluate their impact on progression to higher education. It is important to indicate that improving attainment is, and should be the responsibility of educational authorities and schools. It is not something outreach programmes like SHEP can significantly address.

Articulation and the role of colleges

Articulation is the process whereby students progress from college with an HNC/D qualification and enter a university undergraduate programme with Advanced Standing (which means that full credit is given for prior study at HN level), Advanced Progression (which means that partial credit is given for prior study at HN level) or Progression (which means that no credit is given for prior study at HN level).[48] Rates of articulation are available through the National Articulation Database, which was developed by merging higher education institution (Higher Education Statistics Agency), college (Further Education Statistics) and Scottish Qualification Authority (SQA) records, and applying algorithms to try to identify which of these matches related to articulating students.[49]

Evidence on post school destination in Scotland shows that the majority of young people from disadvantaged households transition from school to FE colleges.[50] Young people from the most disadvantaged backgrounds are less likely than their counterparts from the least deprived backgrounds to enter higher education direct from school.[51] In 2013/14, 23% of HE college students were from SIMD20 backgrounds (an increase of 3.5 percentage points since 2009/10. The number of students articulating from college to university with either advanced standing (full credit) or advanced progression (partial credit) increased by 21% from 3,584 in 2009/10 to 4,321 in 2013/14.[52]

Evidence from systematic review: articulation

Despite the significance of articulation in access to HE, we did not find any high quality studies exploring interventions aimed at improving equity of access through articulation routes or their international equivalents.

Findings from Scottish research: articulation and the role of colleges

SHEP attempts to address barriers associated with admissions through the following:

- Providing guidance about articulation.

Guidance through articulation: Fundamentally, the SHEP outreach initiative was established to increase progression rates to HE. However, SHEP staff noted that majority of the students they work with are guided to use the college pathway to articulate to university when they do not meet the university admission grade requirements. They see college as 'a very good stepping stone' for some of the students they work with. According to a member of SHEP staff, '*because of the entry requirement, the way the admissions to university are done, and that real focus on subjects and actual grades, the attainment of these pupils is sometimes a huge barrier. So they maybe miss out by one grade, that's it, we don't get into the university of choice. And that's where that backup mechanism of going through the 2+2 through an access route has to be known to that pupil. And because if it's not known, they think that's the door shut, that we can't go any further*' (SHEP Staff 11).

Impact of SHEP articulation guidance

Increasing awareness of college and supporting students to transition to university:
Students and teachers reported that that they became aware of the articulation pathway through SHEP, and knew of specific students who used the articulation route to progress to degree-level study at a university. For instance, a student claimed that *'SHEP made sure that you knew your different paths to get there, it didn't have to be high school to university. They helped one of my friends...she kind of got stuck in a trap of she didn't know what to do once she'd changed her mind, and they kind of helped and were like, 'Okay, you've maybe not got the grades to do this course that you want to do, but, if you want to go through college for two years, and then you can like get a connection to this university'* (Student 5). *A teacher also noted that one of their students with difficult circumstances* 'came back from a SHEP summer school a different person. She has gone on to college and I spoke to her this summer, and she's hoping then that that's going to lead her on to her third year at university' *(Teacher 5).*

Summary

Evidence on post school destinations in Scotland shows that the majority of young people from disadvantaged households transition from school to FE colleges.[53] Our evidence from stakeholder interviews indicates that awareness of articulation pathways could be improved, and that where pupils from disadvantaged backgrounds learn about the possibility of alternative routes to higher education, their sense that higher education could be a possibility for them is increased. However, currently there are no high quality studies evaluating the college pathway or its role in widening access to HE. Considering the important role played by the sector, research on the role of colleges in widening access is urgently warranted.

4. Conclusions

What are the barriers to access to HE?

Several factors hinder access to HE for students from low income households in Scotland. These include:

- Low academic attainment;
- Grade-based admissions;
- Requirements for personal statements and interviews;
- The cost of going to university;
- Concerns about the perceived costs of university and the burden of debt;
- Family and teacher knowledge and understanding of HE;
- Confidence levels and fears of 'not fitting in';
- Subject choices made at school.

What are the impacts of SHEP?

While analysis of secondary data suggests the potential role of SHEP programmes in facilitating access to HE, these findings were not conclusive, due to the absence of good quality quantitative data. A concurrent qualitative approach exploring students, pupils and teachers experiences of SHEP, however, provided indications of the impact of these programmes in helping young pupils gain access to HE.

SHEP seems to enhance opportunities to gain access to higher education. It provides outreach and advocacy and makes a difference to individuals. The **main impacts** of SHEP as reported by pupils, students and teachers are:

- Improving personal statements;
- Securing admission for students;
- Improving teacher knowledge of application process;
- Increasing understanding of the student funding system;
- Increasing awareness of programme options;
- Supporting informed choices;
- Motivating and enabling pupils to achieve;
- Increasing teacher knowledge;
- Developing confidence and familiarity around HE;
- Providing alternative qualifications;
- Increasing awareness of college and supporting students to transition to university.

SHEP, like other outreach programmes and interventions, cannot be the sole vehicle for widening access. However, our evidence suggests that outreach programmes can help young people from disadvantaged backgrounds to take advantage of widening access opportunities provided to them.

What are the most effective widening access interventions?

Evidence from the secondary data analysis indicates that **mandating higher education institutions (HEIs) to widen access**, coupled with **funding more places for students from disadvantaged backgrounds** has a significant impact on the higher education progression rates of these individuals.

Evidence from the systematic review indicates that **funding is a necessary condition for widening access** for those from low income households and essential for increasing access to high status institutions. Enhancing the affordability of higher education through direct financial support that reduces the burden on disadvantaged individuals is an essential condition for widening access.

Overall, **guidance and outreach are important vehicles for improving access to HE**. When counselling and guidance support is provided to students who are unfamiliar with the application process, they are more likely to successfully apply to higher education. Individuals who benefit most from outreach interventions are those who were not previously considering higher education and therefore may not be selected for inclusion in targeted schemes. With respect to access to high status institutions, provision of outreach and guidance alone may not be sufficient to widening access.

Contextual admissions may contribute to widening access, but our evidence was inconclusive. Attribute-based admission criteria that do not take into account the socioeconomic factors that may influence the acquisition of said attributes are unlikely to be successful.

Recommendations

We make several recommendations:

Increasing ring-fenced university places

Our analysis of trends in access in Scotland suggests that there was a significant impact on progression rate for students to HE from low HE PR schools when additional protected places were provided for these applicants. Additional ring-fenced protected university places will be needed to achieve the long-term goals of equity of access. Furthermore, negotiating

with or mandating Higher Education Institutions (HEIs) to increase access to school leavers from disadvantaged backgrounds may contribute to the development of sustained access and improved representation of people from disadvantaged backgrounds at university.

Closing the attainment gap

As reported by several studies[55] and the Commission on Widening Access (CoWA)[56], **the attainment gap between the most and least disadvantaged young people is a significant barrier to accessing higher education**. The reasons for the attainment gap identified by the participants of this study included issues associated with deprivation, pressure on teachers, a lack of guidance around and availability of subject choices, and removal of public resources such as libraries and other work spaces.

A careful examination of the HE PR data shows that there are schools with **persistently low progression rates**. Such schools tend to have high proportions of pupils from low income backgrounds, which are perceived as having a *'culture that do not assume that the students will go to HE'* (SHEP Staff 4). A more comprehensive support that addresses the underlying problems of deprivation and low attainment is needed to make impact of progression rates to HE of these schools.

Scholarships and grants

Consistent with the findings of CoWA, our evidence suggests that **one of the most significant barriers to accessing higher education is the ability to afford it**. Findings from our systematic review indicate that the successful interventions to increase access include an element of funding through scholarships and grants. Although a lack of clarity and some misinformation around student finance is a concern that can be addressed through providing accurate information to people from disadvantaged backgrounds, the actual ability to afford to go to university and concern around the risk of taking on debt will continue to be an issue for the most disadvantaged. **Funding is therefore a necessary consideration for widening access for those from low income households**, and is a particularly essential element for increasing access to high status institutions. More scholarships and grants should be made available to young people from low income households. While we are aware that a number of programmes exist aiming to increase access to high status institutions, our evidence so far suggests that such initiatives are mainly effective when backed by the provision of scholarships and grants. We speculate that this might be due to the fact that the cost of living associated with attendance at high status institutions is likely to be higher than at other institutions.

Articulation

In line with other recommendations from the Commission on Widening Access, we recommend that attention be paid to articulation to university via college. Our evidence from stakeholder interviews indicates that awareness of articulation pathways could be improved. As colleges are the main route to higher education for young people from disadvantaged backgrounds, it is essential for colleges and universities to work co-operatively to support a smooth articulation process for students from college to university.

Contextual admissions

Contextual admissions approaches were endorsed by many of our participants, but the evidence of their efficacy from the systematic review is extremely limited. This may reflect the nature of contextual admissions as being very new and their efficacy under-researched. The use and effectiveness of contextual admissions needs to be examined.

School–wide and targeted outreach

Our evidence suggests that a targeted approach to outreach can be a vehicle for improving access to higher education. However, this should be complemented with the provision of school-wide outreach and guidance. This is because support offered to whole schools has the potential to also have an impact on the pupils who may not be identified by teachers and outreach staff as having the potential to go on to higher education. These pupils may benefit from the information, advice and guidance provided by outreach schemes, and these schemes may act as a motivator for academic attainment and the development of aspirational post-school plans.

Appropriate selection of pupils and schools

The selection of pupils for involvement in the SHEP schemes is based on a measurement of group disadvantage at the school level rather than individual disadvantage. This has implications for the equity of the schemes. While our own analysis of school data suggests that SHEP schools have a higher concentration of pupils from the lowest deprivation quintile, there is currently no comprehensive data on the socioeconomic, biographical, and academic characteristics of those taking part. SHEP staff reported that they do not have access to this type of data and are therefore unable to determine the characteristic of students in their programme. Considering that not all children in low progression schools come from disadvantaged background, data on the characteristics of participants need to be collected and analysed in order to ascertain the profile of pupils benefiting from the programme. In

addition, consideration should be given to **supporting disadvantaged students in medium to high progression schools** in order to achieve equity of widening access initiatives.

Pupils who are selected to be involved in the SHEP programme have to be attending low progression schools. However, there are pupils who will be attending middle to high progression schools from disadvantaged backgrounds who do not have an opportunity to be involved in these programmes. The selection of pupils based on school-level higher education progression rates may not be appropriate for disadvantaged pupils living in rural communities. To ensure equity and widening access, the **provision of support should be based on pupil-level characteristics in the first instance**. It may therefore be necessary to redefine what 'support' for disadvantaged pupils looks like, to ensure that disadvantaged pupils from every part of the country are able to receive support.

Teacher knowledge of HE

Considering the importance of class room teachers in relation to pupils' decision-making, **it is important for teachers to be knowledgeable about both the HE application process and the different pathways** to enhance access to higher education for pupils from disadvantaged households.

Impartiality of guidance

Our research findings suggest that there are concerns around the impartiality of guidance that students may receive. Participants expressed concern about the 'mixing of marketing and recruitment with access' due to competing interests within the access landscape. The effect of this is that in some cases, when students express initial interest in studying for a specific programme another access outreach initiative comes to *'convince them that there is another course at a particular institution that will be good for them'* (SHEP Staff 5). It is important to ensure that young people are able to make **choices based on their own interests**, and that **information, advice and guidance is provided to them impartially** to enable them make an optimum decision.

Parity of outcome for pupils involved in SHEP

There is a need for equity of outcome for participating in each SHEP programme. Whilst some SHEP programmes have credit-bearing outcomes and others have formal progression agreements with universities, these are not consistent and transferable across programmes and institutions. The value of these programmes for consideration in contextual admissions should to a large extent be equal across programmes. Whether programmes are credit rated

or not, pupils who participate in these programmes should derive the same benefits in terms of the value of participating in the programmes for enhancing admission.

Duplication of outreach programme content

The widening access landscape is complex, with multiple providers and stakeholders, and the picture is unclear. One theme that regularly emerged from the interviews was that SHEP is only one of many widening access outreach activities taking place in Scotland. This sometimes causes confusion with regards to which organisation, university or college is running which activity or intervention leading to duplication of content. The **absence of co-ordination** means that *'schools are getting a bit fatigued'* (SHEP Staff 11). This is not unique to Scotland; Hoare and Mann also reported a 'proliferation and overlapping nature of much that goes under the *outreach* banner' when studying the impact of Aimhigher in England, which means that students experience a combination of activities and initiatives, and the impact of them individually cannot be assessed.[57]

The **large number of access initiatives on offer** can sometimes lead to challenges for teachers when pupils are required to spend time out of the classroom for widening access projects, particularly given the pressure on teachers to improve attainment. **A streamlined and coordinated approach is required** in order to derive the optimum benefit from widening access outreach programmes without affecting students' learning and attainment.

Further necessary research

It is currently not possible to identify the proportion of SHEP participants who progress to HE as a result of participating in SHEP. A systematic approach is needed to researching the impact of SHEP through the collection and integration of **well-defined outcome measures**, including pupil-level characteristics, school-level data and actual enrolment to HE.

Whilst it is clear that SHEP programmes work in schools with high concentrations of pupils from low income households, the available data does not allow us to identify the characteristics of pupils participating in SHEP programmes to identify whether pupils with additional needs or from marginalised groups are being adequately represented in these schemes. **It is not clear whether the pupils who take part in SHEP are the most disadvantaged or advantaged in those schools.** It is also not clear whether the selection of pupils for participation contributes to patterns of under-representation in terms of gender, ethnicity and disability. This has implications for equity.

There is no systematic data tracking the long-term destinations of young people who took part in SHEP programmes. For instance, SHEP staff identified that the majority of pupils they work with are supported to transition to college with a view to progressing to university. This may increase access to higher education, however, we lack the data to identify whether this is the case. **A longitudinal research evaluation strategy is required to monitor and identify the impact of programmes** – this should be externally commissioned to ensure that SHEP staff can focus on the core activity of providing outreach.

In line with recommendations from other studies[58], our study also emphasises the need **for better data gathering and more effective use of existing data sources** to analyse trends in progression to higher education for young people from disadvantaged backgrounds. There are issues in accessing data about students taking higher education courses in colleges and through private provision, as well as articulating from college to university. There are currently no high quality studies evaluating the college pathway or its role in widening access to HE. Considering the important role played by the sector, **research on the role of colleges in widening access is urgently warranted**.

The evidence of the efficacy of contextual admissions is also extremely limited.[59] This may reflect the nature of contextual admissions as being very new and their efficacy under-researched. **The use and effectiveness of contextual admissions needs to be examined.**

Additionally, the Scottish Government's focus on **narrowing the attainment gap** will be central to improving the equity of access to higher education. This must be led by robust research to track the impact of narrowing the attainment gap on improving access to HE. Finally, considering that the measurement of access to HE encompasses both HNC/HND and degree-level study, an exploration of whether the outcomes of the so-called 'graduate premium' has the same effect independent of the route (college or university) via which 'higher education' is obtained, is warranted.

Key levers and agents of change

Table 2: Actions for different bodies to widen access to higher education

	SG	SFC	Local authorities	Universities	Colleges	Schools	SHEP	Other outreach	Researchers
Increase ring-fenced university places to achieve long-term goals of equity of access	✓	✓							
Encourage HEIs to increase access to school leavers from disadvantaged backgrounds for sustainable improvement	✓	✓		✓					
Address the attainment gap, which is one of the most significant barriers to access	✓		✓			✓			✓
Increase scholarships and grants; funding is a necessary consideration for those from low income households	✓								
Improve articulation to support a smooth transition from college to university	✓	✓		✓	✓				
Provide school-wide *and* targeted outreach; schemes may act as a motivator for attainment and development of aspirational post-school plans for all pupils	✓	✓	✓	✓	✓	✓	✓	✓	
Select outreach participants based on pupil-level characteristics	✓	✓		✓	✓	✓	✓	✓	
Teachers play a key role in pupils' decision-making: improve teacher knowledge of HE			✓	✓		✓	✓	✓	
Ensure guidance is impartial so young people can make optimum choices based on their interests				✓	✓	✓	✓	✓	
Develop parity of outcome for SHEP pupils through consistent and transferable outcomes		✓		✓			✓		
Streamline the widening access landscape to derive the optimum benefit and efficiency from widening access outreach programmes	✓	✓	✓	✓	✓		✓	✓	
Further research on trends in progression, impact of outreach schemes, participant characteristics, the attainment gap, the use of articulation and contextual offers and the equality of graduate outcomes for college and university HE routes	✓	✓		✓	✓	✓	✓	✓	✓

Acknowledgements

Abbreviations

- FE: Further education
- HE: Higher education
- HEI: Higher education institution
- HE PR: Higher education progression rate
- SAAS: Student Awards Agency for Scotland
- SFC: Scottish Funding Council
- SHEP: Schools for Higher Education Programme
- SIMD: Scottish Index of Multiple Deprivation
- SOSCA: Secondary On Screen Computerised Assessment
- UCAS: Universities and Colleges Admissions Service

Appendix A: Analysis of secondary data

Analytic Procedure

Latent growth modelling (LGM) technique was used to explore trends in HE progression rates between 2011/12 and 2013/14. This procedure enabled us to explore within school and between school changes over time.[60] The analysis followed two logical steps. First, we examined the nature of HE PR among all schools. Second, we explored there was a significant growth in the proportion of students from low progression schools entering HE compared with peers from medium to high progression schools after controlling for the effects of school level deprivation and cohort size. A similar analysis was also undertaken to compare trends in progression between SHEP and non-SHEP schools. All models were tested using Mplus version 7.4 with the robust maximum likelihood estimation (MLR) procedure.

Results

Table 3: Result of the unconditional growth model for trends in HE PR in Scotland over time

Growth Parameter	Unconditional Model Estimates		
	B	*SE*	*t*
Intercept	36.23	0.71	51.01***
Slope	0.96	0.22	4.41***
Var(intercept)	129.81	13.78	9.42***
Var(slope)	-4.24	4.69	-0.90^{ns}
cov(intercept and slope)	0.36	5.47	0.07^{ns}

Model Fit indices: X^2=11.23, *df*=1; CFI=.98; TLI=.94. ***p<.001; ^{ns}nonsignificant

Table 4: Unstandardised estimates for trends in progression rates (HE PR) in low progression schools controlling for deprivation (SIMD) and cohort size

Predictors	Conditional Model		
	B	SE	t
Intercept on			
Low progression schools	-17.25	0.92	-18.68***
Slope on			
Low progression schools	3.27	0.70	4.60***
Time Varying Control Variables			
HE PR 201/12 *on* SIMD 2011/12	-0.19	0.02	-9.43***
HE PR 2012/13 *on* SIMD 2012/13	-0.16	.02	-7.02***
HE PR 2013/14 *on* SIMD 2013/14	-0.18	0.03	-6.64***
HE PR 201/12 *on* Cohort size 2011/12	0.01	0.01	-0.68^{ns}
HE PR 2012/13 *on* Cohort size 2012/13	-0.01	0.01	0.23^{ns}
HE PR 2013/14 *on* Cohort size 2013/14	-0.00	0.01	0.95^{ns}

Model Fit indices: X^2=65.13, *df*=14; CFI=.95; TLI=.92. ***p<.001; ^{ns}nonsignificant

Table 5: Unstandardised estimates for trends in progression rates (HE PR) in SHEP schools controlling for deprivation (SIMD) and cohort size

Predictors	Conditional Model		
	b	SE	t
Intercept on			
SHEP schools	-12.49	1.24	-10.09***
Slope on			
SHEP schools	0.65	0.68	0.33^{ns}
Time Varying Control Variables			
HE PR 201/12 *on* SIMD 2011/12	-0.16	0.03	-5.04***
HE PR 2012/13 *on* SIMD 2012/13	-0.12	0.02	-5.33***
HE PR 2013/14 *on* SIMD 2013/14	-0.13	0.03	-4.45***
HE PR 201/12 *on* Cohort size 2011/12	0.01	0.01	1.55^{ns}
HE PR 2012/13 *on* Cohort size 2012/13	-0.00	0.01	-0.49^{ns}
HE PR 2013/14 *on* Cohort size 2013/14	-0.00	0.01	0.17^{ns}

Model Fit indices: X^2=48.75, *df*=14; CFI=.97; TLI=.94. ***p<.001; ^{ns}nonsignificant

Appendix B: Systematic review methodology

Search of academic databases

Preliminary searches to identify appropriate databases were undertaken. In the final search we used:

- Australian Education Index
- British Humanities Index
- Applied Social Sciences Index and Abstracts (ASSIA)
- British Education Index
- Education Abstracts
- Education Resources Information Center (ERIC)
- OmniFile Full Text Select

We built and refined the search strategy based on the ECLIPS search model:

- **E**xpectation: what is the information for? This systematic review aims to identify which widening access initiatives have been successful, with a view to improving policy and practice in Scotland
- **C**lient: This search focused on interventions for people of secondary school age from economically disadvantaged backgrounds
- **L**ocation: This search focused on interventions taking place in educational institutions.
- **I**mprovement: What would constitute success? How is this measured?
- **P**rofessional: who is involved in providing/improving the service. In this context this category was adapted to incorporate all stakeholders (outreach staff, teachers, parents, guardians, carers) and potential interventions they undertake
- **S**ervice: for which service are you looking for information? In this context the 'service' is the category or type of intervention (outreach, information, advice, guidance, etc.)

We developed keyword searches based on these concepts and terms accordingly, applying Boolean and wildcard operators where necessary.

Client	Location	Improvement	Professional	Service
Socioeconomic	Higher education	Wider access	Teacher	Access
Young people	Secondary school	Widening access	Staff	agreement
Teenagers	High school	Widening	Parent	Intervention
Youth education	College	participation	Carer	Initiative
Disadvantage	University	College readiness	Guardian	Summer school
Poverty		Transition	Outreach	Outreach
Nontraditional		Entering HE		Support
Under-represented		Progression		Guidance
		Participation in		Information
		learning		Advice
		Equity		Finance
		Equality		Bursary
		Educational		Scholarship
		equalisation		Compensatory
		Diversity		education
		Social mobility		
		Access to		
		education		

Search of websites and grey literature

We searched several key websites for relevant reports and associated grey literature:

- What Works Clearing House http://www.w-w-c.org/
- The Urban Institute http://www.urban.org/
- MDRC http://www.mdrc.org/
- Community Research and Development Information Service (CORDIS) http://cordis.europa.eu/home_en.html
- Joseph Rowntree Foundation http://www.jrf.org.uk/
- Gateway to Research http://gtr.rcuk.ac.uk/
- HEA Academy http://www.heacademy.ac.uk/heav/widening-participation

Additionally, we utilised our widening access networks to identify key studies that may have been missed.

Studies were selected through importing the search results to Endnote and we removed any duplication of results.

Screening

We screened the titles against our inclusion and exclusion criteria. The inclusion and exclusion criteria are presented below:

Table 7: Systematic review inclusion and exclusion criteria

	Inclusion criteria	Exclusion criteria
Topic	Studies which report on a strategy for widening participation to higher education from secondary level education.	Studies that do not report on whether a strategy has been successful or unsuccessful in widening participation in higher education for young people from economically disadvantaged backgrounds. Studies that do not report an intervention, programme or policy about progression to HE.
Study design	Primary studies or systematic reviews reporting on interventions in widening participation.	Studies that are not primary studies or systematic reviews reporting on interventions in widening participation. Studies that do not measure changes to the level of access to higher education. which are not evaluative. Studies that do not report on whether a strategy has been successful or unsuccessful in widening participation in higher education for young people.
Participants	Studies which include young people between the ages of 14 and 18, in secondary education, and from low income or deprived backgrounds.	People younger than 14 and older than 18, or who are not in secondary education, and who are not identified as being from low income or economically disadvantaged backgrounds.
Interventions	Studies evaluating interventions which focus on improving: awareness and aspiration; information; and/or enabling progression to HE.	Studies that do not evaluate interventions focusing on access to HE. Interventions, programmes or policies not specifically aimed at widening participation in HE among economically disadvantaged young people.
Date of	Studies published between 2008 and	Studies published before 2008.

publication	2015. This is based on the rationale that Aim Higher, an umbrella group of widening participation initiatives was closed at the end of the academic year in 2010/11, so these dates will ensure the inclusion of studies emerging from these initiatives. The earliest date was pushed back to 2008 to ensure that US and Australian studies were included in the search results – these countries have been active in widening participation for slightly longer than the UK.	
Outcome	Studies that measure the efficacy of interventions on improving access to higher education. 'Improving access' in the context of this review is a measurement of whether the individuals have been successful in entering HE, not only intention to apply to university.	Studies that do not measure the efficacy of interventions on improving access to higher education.
Language	Available in English	Not available in English
Version	Most current version of the document	Document was a draft or summary version or has been replaced with another document.
Format	Journal articles, reports, reviews.	Newsletters, news releases, memorandums, research summaries, theses.

We excluded results that definitely did not meet our criteria and discarded them. We retained results when it was not clear if they met our criteria. We undertook a second stage of screening to analyse the abstracts and executive summaries of the remaining results. At this stage we discarded results when it became clear they did not meet our criteria.

Analysis and synthesis

This phase involved a synthesis of findings from the review using a structured protocol: a) identifying the factors and processes that facilitate access to higher education for students from low income households; b) documenting and highlighting why interventions were successful. We obtained full copies of the papers for inclusion in the review and coded these using a set of pre-defined criteria against which to assess the evidence presented in the reports. At this stage, some further reports were discarded when it became apparent that they did not meet our standards for methodological and analytical rigour. We coded papers using the following coding scheme:

Table 8: Systematic review coding scheme

Report characteristics	Reference number	Purpose/ theme	Focus of the study	Research site	Study location	Funding
Intervention characteristics	Intervention	Intervention category	Aims to improve...	Cost	Target group size	Key ingredients for success
Methodological characteristics	Type of study	Type of data	Collection methods	Sample size	Quality of data	Outcome measures
Participant characteristics	Socio-economic status	Age group	Protected characteristics	Sex/gender		
Analysis characteristics	Methods of analysis	Outcomes	Generalisability	Limitations (identified by authors)		
Assessment of quality	Study design	Clarity of purpose, measures, outcomes	Quality of data collection	Quality of data analysis	Plausibility of claims	Potential bias
Assessment of relevance	Relevance to the Scottish context					

The table below indicates the number of search results and how many documents were reviewed throughout the process:

Table 9: Systematic review filtering process

Stage	Number remaining
Literature search • Database: 1755 • Handsearch: 53 • Websites and grey literature: 167	1975
Removal of duplicates: 950	1025
Filtering by title	662
Filtering by abstract	145
Filtering by content	44
Final inclusion in systematic review	10

Papers included in the systematic review

- Avery, C. (2010). 'The effects of college counseling on high-achieving, low-income students'. National Bureau of Economic Research Working Paper No. 1635.9 http://www.nber.org/papers/w16359

- Bettinger, E. P., Terry Long, B., Oreopoulos, P., & Sanbonmatsu, L. (2012). 'The role of application assistance and information in college decisions: results from the H&R block FAFSA experiment'. *The Quarterly Journal of Economics*, first published online April 18, 2012. DOI:10.1093/qje/qjs017.

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Appendix C: Interview topics for stakeholder interviews

Table 10: Interview schedule topics for stakeholder groups

Questions	SHEP staff	Teachers	Pupils	Students
Barriers to access to higher education	✓	✓	✓	✓
What can be done to support access to HE for disadvantaged young people	✓	✓	✓	✓
Experience of participation in SHEP programme, benefits/problems		✓	✓	✓
Perceived key ingredients for success, impact of SHEP		✓	✓	✓
Factors influencing decisions around HE			✓	✓
Role of school/teachers in supporting progression to HE	✓	✓		
Rationale for development of initiatives	✓			

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