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Local impact evaluation work of FutureHY

futurehy

OfS Uni Connect Programme

Summary

FutureHY is one of 29 Uni Connect partnerships funded by the Office for Students (OfS) to undertake a programme of outreach and intervention work aimed at increasing access to higher education among students from under-represented areas. Now in its fourth year, this report aims to provide a summary of the local evaluation that has taken place by FutureHY and its findings. Using a range of different methods and designs, data has been included in almost all of FutureHY's activity. Five formal examples of the work are presented. Evaluation work to date indicates a positive contribution to knowledge, confidence, study skills, and career aspirations. The most impactful activities are those that are career and employer engagement focused, and tailored to specific groups. The exercise of collating and reflecting on local evaluation has been valuable and will inform future local outreach and intervention work, and approaches to future evaluation.

Contents

1. Context

Against a backdrop of growing disparity in access to higher education (HE) between different groups of students, in 2017 HEFCE and the Office for Students (OfS) funded Uni Connect (then known as the National Collaborative Outreach Programme).

Uni Connect has aims to:

a. Reduce the gap in higher education participation between the most and least represented groups

b. Support young people to make well-informed decisions about their future education

c. Support effective and impactful local collaboration by higher education providers working together with schools, colleges, employers and other partners

d. Contribute to a stronger evidence base around 'what works' in higher education outreach and strengthen evaluation practice in the sector.

Office for Students, 2020

To meet its aims, Uni Connect consists of a consortium of 29 partnerships through which it seeks to deliver a sustained, progressive and intensive programme of support at a local level to students in Years 9 through 13. The support is focused in areas where participation in HE is lower than expected given GCSE attainment (referred to as target wards). There are 997 target wards across England.

Each partnership is made up of universities, colleges and other local stakeholders, and delivers a variety of widening participation outreach interventions. Partnerships vary in size and make-up, depending on the number of target wards, number of target students, and the number of HE institutions within their locality.

FutureHY is the York and North Yorkshire programme and is responsible for 10 target wards that includes approximately 3400 target students. The partnership consists of three universities and six HE in FE colleges, all situated in York and North Yorkshire. Additional partners are York City Council, North Yorkshire County Council, LEP/Careers Enterprise Company (CEC), National Citizen Service (NCS), North Yorkshire Coast Opportunity Area, NYBEP and York Cares. This is a relatively small partnership in contrast to others such as the North East Collaborative Outreach Programme (NECOP), for example, which consists of five universities and seventeen partner colleges, with over ninety allocated target wards (North East Collaborative Outreach Programme, 2018). It is also distinctive in that it not only delivers outreach to schools and colleges but also works with local community groups, the North Yorkshire Coast Opportunity Area and children from a military service background.

Each Uni Connect partnership is expected to evaluate the programme of outreach and intervention work. The evaluative work aims to provide evidence of the effectiveness of the outreach activities and improve practice at a local level while also contributing to the national formative and impact evaluations of Uni Connect. Each partnership has a local evaluation plan and submits evaluative work in response to central calls for evidence by CFE Research, on behalf of the OfS.

2. Aims

The aim of this report is to summarise the local impact evaluation work that has been undertaken to assess changes resulting from the outreach and intervention activity of FutureHY.

3. Activities

FutureHY has a *Core Prospectus* that offers free activity to target schools and colleges. The programme includes 33 different outreach and intervention activities.

Periodically, opportunities are also offered to target schools, colleges and community groups to bid for funding to deliver bespoke activity, tailored to meet needs of the organisation and local area.

Our activities are presented in Table 1. Each activity is catalogued and mapped onto (1) our progression framework objectives, (2) the Higher Education Access Tracker (HEAT), and (3) Gatsby benchmarks.

Higher Education Access Tracker (HEAT)

The Service provides collaborative and innovative solutions for widening participation (WP) outreach teams in the Higher Education sector. Outreach activities can be classified using this common approach so data and information can be shared with partners and contribute to a national database.

Gatsby Benchmarks

Developed by Sir John Holman, a former Headteacher and founder of the National STEM Learning Centre, for the Gatsby Charitable Foundation, these eight benchmarks provide a framework for schools to improve their career guidance system. All of the outreach and intervention work undertaken by FutureHY is mapped against the eight benchmarks. A summary of the benchmarks and the mapping is provided below.

Eight Gatsby Benchmarks

Benchmark	Title	Description
1	Stable Careers Programme	Every school and college should have an embedded programme of career education and guidance that is known and understood by pupils, parents, teachers and employers.
2	Learning from Career and Labour Market Information	Every pupil, and their parents, should have access to good-quality information about future study options and labour market opportunities. They will need the support of an informed adviser to make best use of available information.
3	Addressing the Needs of Each Pupil	Pupils have different career guidance needs at different stages. Opportunities for advice and support need to be tailored to the needs of each pupil. A school's careers programme should embed equality and diversity considerations throughout.
4	Linking Curriculum Learning To Careers	All teachers should link curriculum learning with careers. For example, STEM subject teachers should highlight the relevance of STEM subjects for a wide range of future career paths.
5	Encounters with Employers and Employees	Every pupil should have multiple opportunities to learn from employers about work, employment and the skills that are valued in the workplace. This can be through a range of enrichment activities including visiting speakers, mentoring and enterprise schemes.
6	Experiences of Workplaces	Every pupil should have first-hand experiences of the workplace through work visits, work shadowing and/or work experience to help their exploration of career opportunities, and expand their networks.
7	Encounters with Further and Higher Education	All pupils should understand the full range of learning opportunities that are available to them. This includes both academic and vocational routes and learning in schools, colleges, universities and in the workplace.
8	Personal Guidance	Every pupil should have opportunities for guidance interviews with a careers adviser, who could be internal (a member of school staff) or external, provided they are trained to an appropriate level. These should be available whenever significant study or career choices are being made. They should be expected for all pupils but should be timed to meet their individual needs.

Source: https://www.gatsby.org.uk/

4. Evaluation framework

What is presented here seeks to quantify and assess impact, and evidence the contribution of the activities of FutureHY to the goals of Uni Connect.

Our evaluation framework is based on the Network for Evaluating and Researching University Participation Interventions (NERUPI) Framework. We used this framework to design our programme and then evaluate its effectiveness.

NERUPI is a community of practise for those seeking to reduce inequalities in higher education access, participation and progression. It includes over 70 members who share expertise and novel approaches to evaluating impact of outreach and intervention in Higher Education.

Source: http://www.nerupi.co.uk/about/overview

The NERUPI Evaluation Framework was selected as it is widely used and known and grounded specifically in widening participation practice and research.

The framework is underpinned by theory that includes Bourdieu's concepts of habitus, capital and field, and Freire's notion of praxis. In this regard, design, delivery and evaluation is theoretically guided and informed, and sits within wider work adopting this theoretical lens.

It also provides an approach to programme design and evaluation that seeks to provide rigour without compromising the importance of context or imposing uniformity or prescription.

The NERUPI framework has five pillars:

Know - Develop students' knowledge and awareness of the benefits of higher education

Choose - Develop students' capacity to navigate Higher Education sector and make informed choices

Become - Develop students' confidence and resilience to negotiate the challenges of university life

Practise - Develop students' study skills and capacity for academic attainment

Understand - Develop students' understanding by contextualising subject knowledge

The intended outcomes of the FutureHY activities are linked to each of these sessions in the core prospectus, and mapped on the progression framework.

Our approach is formalised in our evaluation plan that includes our mission, vision, values and key outcomes. Using this plan we have sought to create a leadership structure that enables and promotes evaluation and ownership of our outreach work, with ongoing input from key stakeholders.

Our own plans for evaluation have evolved over time, influenced by the practice of others, the development of our own understanding of effective evaluation, and the view that evaluation of our work is a process, rather than endpoint. The NERUPI framework forms part of this reflexive evaluation cycle.

Our approach is also informed by CFE guidance for local evaluation of evidence that has explicit criteria against which evidence submitted is assessed. Notably, format, scope, minimum information, outcomes, specific methods, and results. In doing so, we hope to make a meaningful contribution to the meta-evaluation of Uni Connect.

Table 1 - Evaluation data record summary

					NERUPI / Progression Framework Objectives					Gatsby Benchmarks								Evaluation		
Activity Title	**Activity Type (HEAT)**	**Activity**	**Year Group**	**Framework Level**	**Know**	**Choose**	**Become**	**Practise**	**Understand**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**Evaluation Type**	**Method**	**Number of Responses**
Project Dare	Skills and Attainment	Series of workshops/ Employer Engagement	YG10, YG12	2			1	1	1		1		1	1	1	1		Pre/Post	Survey – Quantitative – Outcome Star	49
Marginal Gains	Skills and Attainment	Series of workshops	YG10, YG11	2	1		1	1										Pre/Post	Survey – Quantitative	102
People Like Me	Skills and Attainment	Workshop	YG9, YG10, YG11, YG12, YG13	1	1	1			1		1	1	1	1	1	1		Pre/Post	Survey – Quantitative – Outcome Star	433
HE Campus Visit	HE Campus Visit	Campus Visit	YG9, YG10, YG11, YG12, YG13	1, 2, 3	1	1	1				1	1	1			1		Post	Survey – Quantitative – Qualitative	384
Exam Preparation	Skills and Attainment	Workshop	YG11, YG13	2,3			1	1								1		Pre/Post	Survey – Quantitative – Qualitative	390
Y11 Conference	Exhibition	Campus Visit (conference style)	YG11	2	1	1			1							1		Post	Survey – Quantitative – Qualitative	53
UCAS: The Application Process	General HE Information	Talk	YG12, YG13	3	1	1		1										Post	Survey – Quantitative – Qualitative	30
Flood a School	HE Subject Insight	Student Ambassadors visit school	YG 9, YG 10, YG 11	1,2	1	1	1		1				1			1		Post	Survey – Quantitative – Qualitative	25
Explore and Inspire (Drax)	HE Subject Insight	Employer Visit	YG 10	2	1	1								1	1			Pre/Post	Survey – Quantitative – Outcome Star	14
Mock Open Day	HE Campus Visit	Campus Visit	YG 12, YG 13	3	1	1	1									1		Post	Survey – Quantitative – Qualitative	128
Creative Forces Day	HE Subject Insight	Campus Visit (event for children from military service families)	YG 9, YG 10, YG 11	1,2	1	1	1					1				1		Post or (Pre/Post)	Survey – Quantitative – Outcome Star	92 or (18)
Family Uni-Wise Event	General HE Information	HE Fair	N/A	N/A	1	1	1				1	1	1			1		Post	Survey – Quantitative – Qualitative	60
Revision Residential	Summer School	Residential	YG 9	1	1	1	1	1	1									Pre/Post	Survey – Quantitative – Outcome Star	28
Choosing a Course: HE Day	General HE Information	Talk	N/A	3	1	1	1				1	1	1			1		Post	Survey – Quantitative – Qualitative	38
Small Steps, Big Difference	Skills and Attainment	Series of workshops	YG 10	2	1			1	1			1				1		Post	Survey – Quantitative – Qualitative	104
Y9 Mini Conference	HE Campus Visit	Campus Visit	YG 9	1	1	1			1							1		Post	Survey – Quantitative – Qualitative	21
Nestlé Careers and Values Day	Exhibition	Employer Visit	YG 12, YG 13	3	1		1	1			1			1	1			Post	Survey – Quantitative – Qualitative	16
Skills Yorkshire	Exhibition	HE, Careers & Apprenticeships Fair	YG 12, YG 13	3	1	1			1		1		1	1		1		Pre/Post	Survey – Quantitative – Outcome Star	42
Health Event (with Ahead Partnership)	HE Subject Insight	Careers Event (Health & Social Care)	YG 12	3	1	1	1		1		1		1	1				Post	Survey – Quantitative – Qualitative	1
Public Services Event	HE Campus Visit	Campus Visit	YG 12, YG 13	3	1	1	1		1				1			1		Post	Survey – Quantitative – Qualitative	31
Thackray Museum Visit	Exhibition	Museum Visit with lecture	YG 12, YG 13	3	1				1				1			1		Post	Survey – Quantitative – Qualitative	44
York Art Gallery Visit	Exhibition	Museum Visit	YG 12, YG 13	3	1		1		1						1			Post	Survey – Quantitative – Qualitative	42
UCAS Create Your Future	Exhibition	HE Fair	YG 12, YG 13	3	1	1	1		1		1		1	1		1		Post	Survey – Quantitative – Qualitative	32
Science and Media Museum Visit	Exhibition	Museum visit with workshop	YG 12, YG 13	3	1	1	1		1				1	1	1			Post	Survey – Quantitative – Qualitative	23
Gaming Workshop - Insight2Games	HE Subject Insight	Workshop	YG 12, YG 13	3	1	1	1		1				1	1	1			Post	Survey – Quantitative – Qualitative	28
Animal Management Workshops	HE Campus Visit	Campus Visit	YG 8	1	1	1	1		1							1		Post	Survey – Quantitative – Qualitative	11
Autosport International	Exhibition	Exhibition	YG 12, YG 13	3	1				1		1		1	1				Post	Survey – Quantitative – Qualitative	24
Skills Humber	Exhibition	HE, Careers & Apprenticeships Fair	YG 12, YG 13	3	1	1			1		1		1	1		1		Post	Survey – Quantitative – Qualitative	15
NYBEP Supported Internships	Employer Visit	Work Experience	YG 10	2			1	1						1	1			Pre/Post	Survey – Quantitative – Outcome Star	0
Fast Trackers HE Visit Day	HE Campus Visit	Employer and HE Engagement, Campus Visit	YG 12, YG 13	3	1		1				1		1	1	1			Post	Survey – Quantitative – Qualitative	16
Mentoring	General HE Information	One to One Mentoring	YG 10	2			1					1						Pre/Post	Survey – Quantitative – Outcome Star	13

5. Evaluation methodology

A range of methodologies were deployed as part of our local evaluations. As such, our approach can be broadly described as being mixed-methods and includes qualitative, pre-experimental, and quasi-experimental methodologies.

The data collection method most used for qualitative designs was interviews and the data collection method most used for the other designs was self-report surveys that generated quantitative data on closed response formats (e.g., reporting lower and higher scores on an interval scale of 1 to 5).

When using self-report surveys we typically distributed them before and after the activity (e.g., pre- and post-workshop).

When this was not possible, we typically distributed them immediately after activity (post-only). In these instances, to ensure insight into the impact of the event, questions were amended to include a temporal/reflective component (e.g., "After this event, I now feel…").

An evaluation lead within FutureHY oversees and records evaluation activity (Monitoring and Evaluation Officer).

Evaluation work was undertaken by members of FutureHY in partnership with academic staff at York St John University who were able to provide additional support and technical expertise when necessary.

6. Evaluation summary

Outreach and intervention activities were evaluated on 75 occasions from 2017 to 2020.

These Activities were provided to 23 schools and colleges: Northallerton School & Sixth Form College, Graham School (Scarborough), Scarborough TEC, Caedmon College (Whitby), Millthorpe School (York), Scarborough Sixth Form, Scarborough UTC, Richmond School & Sixth Form College, Harrogate College, Risedale Sports & Community College (Catterick Garrison), Eskdale School (Whitby), St Augustine's School (Scarborough), York High School, Selby High School, Harrogate High School, Selby College, Craven College, Scalby School (Scarborough), All Saints Roman Catholic School & Sixth Form (York), The Skipton Academy, Askham Bryan College (York), Huntington School (York), and St Francis Xavier School (Richmond).

Some activities were also delivered in partnership with other organisations; Autosport International, Drax Power Station, Insight2Games, Leeds Beckett University, Ahead Partnership, Cosmos Engagement, NYBEP, York Cares, Kingswood, Bradford Science and Media Museum, Prospects Events, Thackray Museum, UCAS, and York Art Gallery.

In total, 1917 students provided information as part of the evaluation of the outreach and intervention activities of FutureHY. This reflects approximately 56%, of our target students.

However, note that this number does include the same students undertaking different activities.

1917 students provided information as part of FutureHY local evaluations.

Five formal evaluations of impact and intervention activities are provided in this summary.

These five serve as illustrative examples of our ongoing assessment of the contribution of our programme to our local outcomes and NCOP outcomes; Project Dare, Marginal Gains, People Like ME, HE Campus Visit, and Exam Preparation.

Project Dare – An employer engagement programme delivered in partnership with York Cares and local employers. It is designed to improve confidence, aspirations, and career knowledge, as well as key transferable skills.

Marginal Gains – Sessions for boys delivered in partnership with Cosmos Engagement. It is designed to improve motivational resilience and self-regulation using goal setting.

People like me STEM workshop – Sessions for girls designed to encourage them to consider STEM courses and careers. This workshop is delivered by our partner NYBEP, with female STEM ambassadors from local employers.

HE campus visit – A campus visit aimed at increasing knowledge, confidence, and motivation regarding Higher Education. It included a campus tour led by student ambassadors, free lunch, and two workshops.

Exam preparation – A workshop for students taking formal exams that is aimed at increasing exam preparedness and likelihood of applying to Higher Education by addressing feelings of stress and teaching students how to prepare and plan.


CLASSIC

7. Evaluation 1: Project Dare

Background

Employer engagement is considered valuable in facilitating work-readiness as well as encouraging more general transferable skills such as punctuality and self-presentation (Haight, 2012). There is also evidence that formalised employer engagement can improve job prospects and earnings (Mann & Percy, 2014) and be a useful tool in raising aspirations for accessing Higher Education (Huddleston, Mann, & Dawkins, 2014).

In considering the latter, students report that employer engagement helps clarify the steps required to achieve their professional goals in a number of ways such as selecting a degree programme, understanding university admissions processes, and facilitating success when in higher education (Jones, Mann, & Morris, 2016).

Employer engagement is also valuable and useful for the employers themselves, as well as Higher Education providers. Such activities help maintain relationships that allow the co-creation of educational provision that is academically rigorous and meets the current and future needs of employers (Bennet & Kane, 2009).

Aim and scope of evaluation

Here we report the evaluation of the impact of part of the outreach intervention programme undertaken by FutureHY. The specific part of the outreach intervention programme is **Project Dare.**

Project Dare provides students with real-life experiences of both the workplace and a HE campus at a local employer as they problem-solve, offer solutions, in newly formed teams of other students.

Research questions / hypotheses

Our research question was; can taking part in a dare project improve confidence, aspirations, and career knowledge, as well as key transferable skills (communication, planning and teamwork)?

Involvement in Project Dare was designed to provide novel and challenging experiences to students in a supportive workplace context. It was expected that it would improve student confidence, aspirations, and career knowledge, as well as key transferable skills.

Characteristics of outreach

Detailed description	Project Dare An initiative delivered in partnership with a charity (York Cares) and facilitated by local employers who hosted a “dare” project on a voluntary basis. Project sessions were facilitated by student ambassadors from a FutureHY partner university. Sessions were delivered at the employer or HE provider site As each project was hosted by a different employer, the theme of the project and the tasks involved varied. However, the overarching structure of each project was the same: (1) a subject-related session which involved familiarisation with the subject area, (2) ice-breaker activities to form teams, (3) a group challenge with an accompanying brief, (4) a group presentation of the solution, and (5) a visit to the host organisation to learn about industry and meet employees from a range of job roles
Activity type	Skills and Attainment (other – employer engagement / workshops)
Timing, duration and frequency of activity	Project Dare usually takes place over three weeks, with one session per week, all usually the same day of the week and timings
Mode of delivery	Delivered on-site at work place or HE provider Face-to-face in a classroom setting Each dare project included a mix of students from different schools to encourage communication and teamwork with students they did not know
Target group or groups	Year 10 students (age 14-15)

Outcomes

Outcomes for NCOP / Uni Connect target learners	Ability to make informed choices about KS5 study to facilitate access to higher education Confidence in ability to succeed at higher education Likelihood of applying to higher education
Outcomes for parents	None
Outcomes for teachers / school staff	None

Methods used to evaluate impact of intervention

Type of evaluation	Type 2: Empirical Enquiry
Type of research approach	Primary quantitative (pre-test/post-test design)
Rationale	The approach was adopted for pragmatic reasons and the difficulty associated with creating a control or comparison group in the setting, as well as meeting expectations and time provided by partner schools
Data collection methods	Survey (pre/post intervention) Questions and response formats are reported in Table 1
Sampling and response rate	The current sample represents a subsample of the total students who received the workshop The survey was distributed to 81 students. Of these, 77 students completed all questions on both pre-test and post-test surveys The sampling strategy was one of convenience (based on availability and additional time to complete the survey) and purposeful (students undertaking a project) Students were from eight colleges and high schools in the North Yorkshire region
Timeframe for evaluation	Survey was completed immediately before and immediately after the project
Approach to data analysis	Descriptive statistics (means and standard deviations) Change scores (percentage change) Paired samples t-test Effect size to quantify the size of change (Cohen's d_z ; Lakens, 2013)

Table 1. Response format of the questions and scoring (1 to 10)

Question	1 Low	2	3	4	5	6	7	8	9	10 High
Your confidence										
Your aspiration to secure a good career in the future										
Your ability to work as part of a team										
Your knowledge of which jobs are available to you										
Your ability to communicate effectively through discussion and presentation										
Your ability to problem solve										
Strengths the weaknesses										
Your ability to develop and stick to a plan										
Would you recommend to a friend?	Yes		No							

Table 2. Scores for all respondents

Question	Respondents	Time 1 Mean	Time 1 SD	Respondents	Time 2 Mean	Time 2 SD
Your confidence	79	5.80	1.94	81	7.35	1.71
Your aspiration to secure a good career in the future	78	7.67	1.97	80	8.49	1.56
Your ability to work as part of a team	79	6.61	1.91	81	8.31	1.47
Your knowledge of which jobs are available to you	79	5.76	2.09	81	7.25	1.81
Your ability to communicate effectively through discussion and presentation	79	5.25	2.22	81	7.22	1.94
Your ability to problem solve	79	6.48	1.60	81	7.70	1.49
Strengths the weaknesses	79	6.33	1.94	81	7.42	1.73
Your ability to develop and stick to a plan	79	6.35	1.78	81	7.74	1.39
	Respondents	% Yes	% No			
Would you recommend this activity to a friend?	80	100	0			

Table 3. Scores for respondents that completed both pre and post workshops questions

Question	Respondents	Time 1 Mean	Time 1 SD	Time 2 Mean	Time 2 SD	% change	t	Effect size change
Your confidence	78	5.79	1.96	7.36	1.69	27	8.11*	0.92
Your aspiration to secure a good career in the future	77	7.66	1.98	8.53	1.55	11	6.63*	0.76
Your ability to work as part of a team	78	6.64	1.90	8.31	1.48	25	9.70*	1.10
Your knowledge of which jobs are available to you	78	5.73	2.09	7.29	1.82	27	8.55*	0.97
Your ability to communicate effectively through discussion and presentation	78	5.28	2.22	7.22	1.96	37	10.29*	1.17
Your ability to problem solve	78	6.47	1.61	7.72	1.50	19	8.25*	0.93
Strengths the weaknesses	78	6.35	1.95	7.46	1.75	17	7.01*	0.79
Your ability to develop and stick to a plan	78	6.35	1.79	7.74	1.39	22	7.93*	0.90

Note. *denotes a statistically significant difference between time 1 and time 2 scores ($p<.01$, two tailed). Effect size denotes the magnitude of change in units of standard deviation (Cohen's d_z; Lakens, 2013)

Results and conclusions

Results	Descriptive statistics for all respondents are reported in Table 2 Descriptive statistics for those who completed time 1 and time two questions are reported in Table 3, along with change scores (percentage change), results of pair-samples t-test, and effect size. Effect size is reported in units of standard deviation **Key findings:** • There was a statistically significant increase from pre-event to post-event in all questions • Ability to communicate effectively and work within a team improved the most
Impact achieved	Our evaluation indicates a positive impact of involvement in Project Dare on self-reported confidence, aspirations, career knowledge, and transferable skills
Contribution or attribution	We consider the evaluation to provide evidence of a contribution (not attribution of causality) to the observed changes due to the type of design (pre-test/post-test design)

Closing remarks

Our evaluation of Project Dare indicates that this part of our outreach intervention programme **has a positive impact** and contributes to increased confidence, aspirations, career knowledge, and transferable skills.

Students reported that they felt significantly more confident, had more knowledge and ambition centred on a future career, and had improved their ability to communicate, plan and problem-solve, and work as part of a team following involvement in the project.

Recommendations

1. Employer engagement is a valuable part of outreach work seeking to improve knowledge and skills relating to aspirations and study success so should be included in programmes seeking to improve applications to Higher Education.
2. This type of activity is most likely to be effective when the engagement is meaningful, challenging, and enjoyable. The quality of the engagement (employer involvement, tasks, and facilitators) is vital in this regard.
3. More routine involvement and partnership between Higher Education providers and employers in integrating employer engagement events in other activities, such as open days, would be beneficial.

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8. Evaluation 2: Marginal Gains Programme

Background

Self-regulation and motivational resilience are essential for students. They reflect the ability to manage one's own learning and persevere in the face of setbacks and difficulties. If students are unable to do these things, they are unlikely to be able to persist long enough to develop the knowledge and skills required to be successful as they progress through their studies.

Central to both self-regulation and motivational resilience is the use of skills such as goal setting. The positive impact of goal setting on behaviour change and performance is evident in school and other settings such as the workplace and health (Epton, Currie, & Armitage, 2017). Goal setting is effective because it directs effort towards goal-relevant activities and away from competing activities, energises prolonged effort, and encourages beneficial intermediary steps such as acquiring new knowledge (Latham, 2004).

Goal-setting can be learned and improved with practice with research suggesting that such interventions can benefit education attainment. Notably, this includes addressing achievement gaps between different groups and raising achievement among males in areas in which they historically underperform (e.g., Schippers, Scheepers, & Peterson, 2015).

Aim and scope of evaluation

Here we report the evaluation of the impact of part of the outreach intervention programme undertaken by FutureHY. The specific part of the outreach work is a **Marginal Gains Programme** aimed at increasing key motivational resilience among young men.

Research questions / hypotheses

Our research question was; can a series of workshops improve reported motivational resilience (knowledge, goal-setting, and dealing with setbacks).

The content of the workshop was designed to provide a way of understanding motivation (marginal gains) to improve ability to use goal setting and deal with setbacks.

Characteristics of outreach

Detailed description	Marginal Gains Programme A series of three workshops based on the concept of Marginal Gains, making small improvements in a number of areas of your education and life The programme is specifically aimed at supporting young men to improve their educational attainment, through the use of relatable role models The content of the three workshops is: (1) marginal gains theory (theory, practice, and application to life and education), (2) goal setting (theory, principles and practice), and (3) resilience and growth mindset (success and perseverance) The programme is delivered by Cosmos Engagement who aim to deliver programmes for young people alongside meaningful research projects to empower long-term, positive change in the education sector
Activity type	Skills and Attainment (multiple workshops)
Timing, duration and frequency of activity	Three workshops Lasting approximately two hours each (six hours total)
Mode of delivery	Delivered on-site at school/FE colleges Face-to-face in a classroom setting The programme is designed to be delivered once a term, to give the pupils time to set goals and try and work on them over several weeks A small number of schools wanted more condensed delivery but there was always a minimum of two weeks between sessions to give participants chance to work on what they had learned
Target group or groups	Target group was male students Year 10 students (age 14-15) Year 11 students (age 15-16)

Outcomes

Outcomes for NCOP / Uni Connect target learners	Ability to make informed choices about KS5 study to facilitate access to higher education Confidence in ability to succeed at higher education
Outcomes for parents	None
Outcomes for teachers / school staff	None

Methods used to evaluate impact of intervention

Type of evaluation	Type 2: Empirical Enquiry
Type of research approach	Primary quantitative (pre-test/post-test design)
Rationale	The approach was adopted for pragmatic reasons and the difficulty associated with creating a control or comparison group in the setting, as well as meeting expectations and time provided by partner schools
Data collection methods	Survey (pre/post intervention) Questions and response formats are reported in Table 1
Sampling and response rate	The current sample represents a subsample of the total students who received the workshop A total of 97 students completed questions on both pre-test and post-test surveys The sampling strategy was one of convenience (based on availability and additional time to complete the survey) and purposeful (those who completed the programme) Students were from seven colleges and high schools in the North Yorkshire region
Timeframe for evaluation	Survey was completed immediately before the first workshop and immediately after the third workshop
Approach to data analysis	Descriptive statistics (means and standard deviations) Change scores (percentage change) Paired samples t-test Effect size to quantify the size of change (Cohen's d_z ; Lakens, 2013)

Table 1. Response format of the questions and scoring (1 to 10)

Question										
The Theory of Marginal Gains	1 Less	2	3	4	5	6	7	8	9	10 More
How to take small steps to achieve a bigger goal										
The difference between targets and goals										
How to set goals										
How to achieve goals										
How to deal with and overcome setbacks										
Approaches to use to stay on task										
How to apply all these approaches in my own life										
Would you recommend to a friend?	Yes		No							

Table 2. Scores for respondents

Question	Respondents	Time 1 Mean	Time 1 SD	Time 2 Mean	Time 2 SD	% Change	t	Effect size change
The "Theory of Marginal Gains"	97	1.81	1.54	7.47	1.91	313	23.91*	2.43
How to take small steps to achieve a bigger goal	97	5.01	2.55	8.20	1.63	64	14.78*	1.50
The difference between targets and goals	97	5.40	2.70	7.88	1.82	46	11.35*	1.15
How to set goals	97	5.74	2.83	7.95	2.05	39	10.27*	1.04
How to achieve goals	97	5.78	2.57	8.04	1.74	39	11.81*	1.20
How to deal with and overcome setbacks	97	4.81	2.42	7.51	1.86	56	15.02*	1.53
Approaches to use to stay on task	97	4.19	2.34	7.05	2.05	68	13.64*	1.38
How to apply all these approaches in my own life	97	4.21	2.26	7.32	1.99	74	14.66*	1.49
	Respondents	% Yes	% No					
Would you recommend to a friend?	83	92.8	7.2					

Note. * denotes a statistically significant difference between time 1 and time 2 scores ($p<.01$, two tailed). Effect size denotes the magnitude of change in units of standard deviation (Cohen's d_z; Lakens, 2013)

Results and conclusions

Results	Descriptive statistics for all respondents are reported in Table 2, along with change scores (percentage change), results of pair-samples t-test, and effect size. Effect size is reported in units of standard deviation Key findings: • There was a significant increase from pre-event to post-event in all questions • The biggest increase was for knowledge of the Theory of Marginal Gains (workshop one), followed by motivational resilience (workshop three), and goal-setting (workshop two) • Students recognised the value of the programme with almost all indicating they would recommend it to a friend
Impact achieved	Our evaluation indicates a positive impact of the Marginal Gains Programme on self-reported motivational resilience
Contribution or attribution	We consider the evaluation to provide evidence of a contribution (not attribution of causality) to the observed changes due to the type of design (pre-test/post-test design)

Closing remarks

Our evaluation of the Marginal Gains Programme indicates that this part of our outreach intervention programme has a positive impact and contributes to better motivational resilience.

Students reported that they better understood marginal gains theory, how to set goals, and persevere and deal with setbacks, following the workshop than before the workshop.

Recommendations

1. Workshops and programmes should be used to improve self-regulation and motivational resilience among those considering applying to Higher Education.
2. The importance of self-regulation and motivational resilience issues may not be well understood so a focus on understanding and knowledge, in addition to practical skills, is required.
3. The principles and practice of basic goal-setting is a key skill that can be acquired quickly – follow-up sessions and the inclusion of other skills (e.g., imagery and self-talk) may enhance the overall impact of these types of programmes.

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9. Evaluation 3: FutureHY Campus Visit

Background

Typically regarded as an early opportunity to provide prospective students with experiential knowledge of the setting, they can include single or multiple visits and a range of accompanying activities. These include: meeting with students and staff, content focused on specific subjects or general study, information giving and the development of attributes associated with college success (eg. study confidence).

Research suggests that campus visits are an effective way of engaging with students, with those who take part in these visits reporting higher knowledge and confidence about further study than those who simply receive information about further study (e.g., Swanson et al., 2021). Some of the reasons why the are consider effective are that they allow Higher Education providers to communicate directly with prospective students, increase familiarity, reduce anxiety, and contribute to a greater sense of readiness for further study.

There is also evidence that campus visits can be particularly useful in regards to raising aspirations and recruitment into subjects where applications are lower (e.g., STEM; Kitchen et al., 2020) as well as among underrepresented groups (e.g., Quarterman, 2008). As such, campus visits may offer a valuable way of engaging with prospective students in an effective way and aid them in making well-informed decisions regarding pursing study in Higher Education.

Aim and scope of evaluation

Here we report the evaluation of the impact of part of the outreach intervention programme undertaken by FutureHY. The specific part of the outreach intervention programme is a **campus visit to a HE provider** aimed at increasing knowledge, confidence, and motivation regarding Higher Education.

Research questions / hypotheses

Our research question was; can a campus visit to a local HE provider increase knowledge, confidence, and motivation regarding Higher Education?

The campus visit included an itinerary of a campus tour led by student ambassadors, free lunch, and two workshops.

Characteristics of outreach

Detailed description	FutureHY Campus Visit The visit aimed to increase participant familiarity with the HE setting The content included a campus tour, free lunch and two workshops. The workshops focused on HE and the university generally, as well as the UCAS process, finance and budgeting, and social aspects of university life. The focus was not subject specific. The campus visit was designed to be interactive with student ambassadors involved throughout the day to answer questions informally.
Activity type	HE Campus Visit
Timing, duration and frequency of activity	A standalone session Lasting 4 hours Delivered once
Mode of delivery	Delivered on university campus Face-to-face in a classroom setting and tour
Target group or groups	Target group was all students leading up to selection of GCSE, A-level/BTEC, and HE course selections Year 9 students (age 13-14) Year 10 students (age 14-15) Year 11 students (age 15-16) Year 12 students (age 16-17) Year 13 students (age 17-18)

Outcomes

Outcomes for NCOP / Uni Connect target learners	Knowledge about higher education Ability to make informed choices about KS5 study to facilitate access to higher education Confidence in ability to succeed at higher education Understanding of the benefits of higher education relative to other progression routes Likelihood of applying to higher education Likelihood of accepting a place at higher education Likelihood of enrolling on a programme of higher education
Outcomes for parents	None
Outcomes for teachers / school staff	None

Methods used to evaluate impact of intervention

Type of evaluation	Type 2: Empirical Enquiry
Type of research approach	Primary quantitative
Rationale	The approach was adopted for pragmatic reasons, the difficulty associated with creating a control or comparison group in the setting, as well as accessing the participants ahead of the event. Questions were created to allow post-event measurement only.
Data collection methods	Survey Questions and response formats are reported in Table 1
Sampling and response rate	The current sample represents a subsample of the total students who took part in the campus visit A total of 333 students completed the questionnaire: year 9 (228), year 10 (45), year 12 (8), and year 13 (27). 25 students did not provide this information The sampling strategy was one of convenience (based on availability and additional time to complete the survey) Students were from nine high schools in the North Yorkshire region
Timeframe for evaluation	Survey was completed at the end of the campus visits
Approach to data analysis	Descriptive statistics (means and standard deviations) We also compared pre-16 (aged 15 and below) and post-16 (aged 16 and above) responses aligned with our overall mapping of evaluation activities To do so, we used percentage difference, independent t-tests with estimate of statistical significance ($p < .05$), and effect sizes (comparisons were corrected in the presence of unequal variances) Effect size to quantify the size of change (Cohen's d_s ; Lakens, 2013)

Table 1. Response format of the questions and scoring

Question						
I feel more knowledgeable about Higher Education after today	Strongly disagree (1)	Disagree (2)	Neither agree nor disagree (3)	Agree (4)	Strongly agree (5)	Don't know/ unsure
I feel more knowledgeable about what student life would be like						
I am more motivated to do well in my studies						
I feel that higher education is for people like me						
I know more about student finance and additional financial support						
I feel more confident about meeting new people after today						

How likely are you to apply to Higher Education?	Definitely won't apply (1)	Very unlikely (2)	Fairly unlikely (3)	Fairly likely (4)	Very likely (5)	Definitely will apply (6)	Don't know/ unsure
Has this event in anyway affected your decision?			Yes	No			
Would you recommend this activity to a friend?			Yes	No			

Table 2. Scores for all respondents

Question	Respondents	Mean	SD
I feel more knowledgeable about Higher Education after today	333	4.18	0.80
I feel more knowledgeable about what student life would be like	332	4.23	0.76
I am more motivated to do well in my studies	258	4.03	0.95
I feel that higher education is for people like me	330	3.85	1.28
I know more about student finance and additional financial support	192	4.08	0.90
I feel more confident about meeting new people after today	115	3.65	1.00
	Respondents	**Mean**	**SD**
How likely are you to apply to Higher Education?	255	4.55	1.47
	Respondents	**% Yes**	**% No**
Has this event in anyway affected your decision?	242	99.20	0.80
Would you recommend this activity to a friend?	254	66.90	33.10

Results and conclusions

Results	Descriptive statistics for all respondents are reported in Table 2 **Key findings:** • Attendees reported that they felt more knowledgeable, confident, and motivated regarding Higher Education following the event • Typically attendees reported that they were "fairly likely" to apply to Higher Education • Over two-thirds of attendees indicated that the event had influenced their decision • Almost all attendees indicated that they would recommend the event to a friend • Comparison of pre-16 and post-16 attendees revealed two statistically significant differences: Pre-16 attendees were significantly more likely to report that they felt like Higher Education was for them and more likely to apply to Higher Education
Impact achieved	Our evaluation indicates a positive impact of the campus visit on knowledge, confidence, and motivation regarding Higher Education The positive impact was most evident in pre-16 attendees and less evident in post-16 attendees
Contribution or attribution	We consider the evaluation to provide evidence of a contribution (not attribution of causality) to the observed changes due to the type of design (post-test only design)

Closing remarks

Our evaluation of the campus visit indicates that this part of our outreach intervention programme **has a positive impact** and contributes to knowledge, confidence, and motivation regarding Higher Education.

Students typically reported that the event positively influenced their decision to apply to Higher Education.

However, it was less effective for students aged 16 and above who were less likely to feel university was for people like them and less likely to apply.

Recommendations

1. Campus visits are a valuable way to introduce and familiarise students with Higher Education environments therefore outreach programmes should, where possible, include these types of visits.
2. Student focused sessions offer the most authentic and relatable experience for prospective students.
3. Campus visits may be most effective among students pre-16 years of age. While knowledge and confidence might be improved in older students, motivation and likelihood of attending Higher Education are less affected by this type of outreach activity.

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10. Evaluation 4: People Like Me STEM Workshop

Background

There continues to be a STEM skills gap in the UK with demand for STEM qualified individuals in areas such as engineering, healthcare and accountancy outweighing those currently pursuing STEM careers (STEM Learning, 2018). In this regard, work is sorely needed to better understand how more young people can be encouraged to study STEM subjects in Higher Education.

This work also intersects with efforts to increase participation in Higher Education among under-represented groups. Notably, in this regard, the All-Party Parliamentary Group on Diversity and Inclusion in Science, Technology, Engineering and Maths (STEM) was established in 2018 with the aim of promoting greater inclusion in STEM and have repeatedly called for greater equity in learning opportunities in STEM for all students and an increase in the number of under-represented groups pursuing STEM careers, especially females.

Research has found that female students tend not to study STEM subjects for various reasons that include differences in academic confidence in studying STEM and lower sense of belonging and identification with STEM subjects. Underlying these reasons are thought to be stubborn sociocultural processes such as gender-STEM stereotyping and gendered socialization (Eddy & Brownell, 2016).

Intervention work designed to redress gender disparities and encourage more females to pursue STEM in higher education has produced mixed feelings. However, the most effective interventions are those that focus on increasing knowledge, ability, motivation and feelings of belonging in STEM, and may include the use of mentors and role models (van den Hurk, Meelissen, & van Langen, 2019).

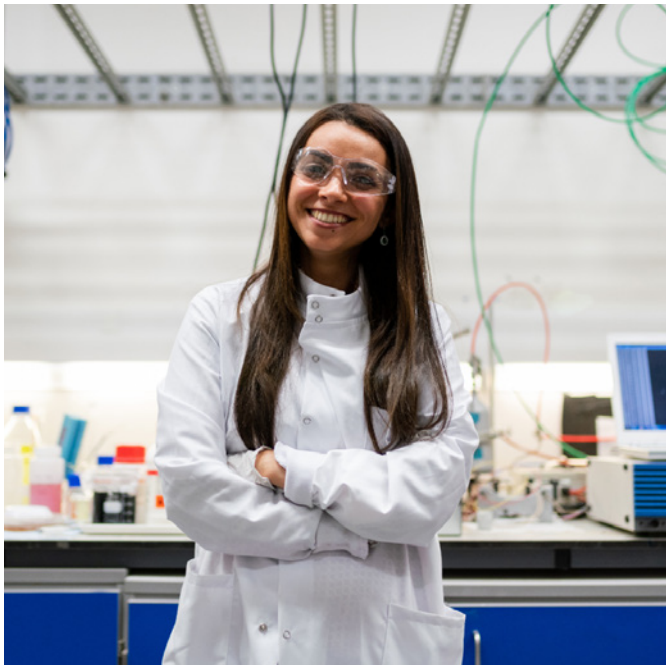
Aim and scope of evaluation

Here we report the evaluation of the impact of part of the outreach intervention programme undertaken by FutureHY. The specific part of the outreach intervention programme is the People Like Me STEM workshop aimed at increasing knowledge, confidence, and aspirations associated with a career in STEM among young females.

Research questions / hypotheses

Our research question was; can a short workshop improve reported knowledge, confidence, and aspirations associated with a career in STEM in young females?

The content of the workshop was designed to increase familiarity with STEM and STEM subjects, improve basic knowledge of STEM employment and employers, offer positive female examples, and reinforce accessibility of STEM as an area of study and focus of a career.



Characteristics of outreach

Detailed description	People Like Me STEM workshop The workshop aimed to increase girls' (i) knowledge of STEM subjects and STEM jobs, (ii) confidence in planning a future career, and (iii) aspirations to pursue a STEM job The workshop was facilitated by North Yorkshire Business and Education Partnership Ltd (NYBEP) and delivered by local employers from STEM The content focused on local employers providing information regarding their company, related careers and skills, and their own personal career journey Additional information included highlighting STEM subjects, STEM career salaries, areas of possible employment and employers, and women case studies in STEM
Activity type	Skills and Attainment (Workshop)
Timing, duration and frequency of activity	A standalone session Lasting approximately two hours Delivered once
Mode of delivery	Delivered on-site at school/FE colleges Face-to-face in a classroom setting
Target group or groups	Target group was female students Year 9 students (age 13-14) Year 10 students (age 14-15)

Outcomes

Outcomes for NCOP / Uni Connect target learners	Knowledge about Higher Education Confidence in ability to succeed at higher education Ability to make informed choices about KS5 study to facilitate access to higher education Understanding of the benefits of higher education relative to other progression routes Likelihood of applying to higher education
Outcomes for parents	None
Outcomes for teachers / school staff	None

Methods used to evaluate impact of intervention

Type of evaluation	Type 2: Empirical Enquiry
Type of research approach	Primary quantitative (pre-test/post-test design)
Rationale	The approach was adopted for pragmatic reasons and the difficulty associated with creating a control or comparison group in the setting, as well as meeting the expectations and time provided by partner schools
Data collection methods	Survey Questions and response formats are reported in Table 1
Sampling and response rate	The current sample represents a subsample of the total students who received the workshop The survey was completed by 378 year 9 and year 10 girls (age 13-15) Of these, between 354 to 364 completed questions on both pre-test and post-test surveys The sampling strategy was one of convenience (based on availability and additional time to complete the survey) and purposeful (all students who had completed the workshop) Students were from twelve colleges and high schools in the North Yorkshire region
Timeframe for evaluation	Survey was completed immediately before and immediately after the People Like Me STEM workshop Workshops were delivered in February, March, May and June, 2020
Approach to data analysis	Descriptive statistics (means and standard deviations) Change scores (percentage change) Paired samples t-test Effect size to quantify the size of change (Cohen's d_z ; Lakens, 2013)

Table 1. Response format of the questions and scoring (1 to 10)

Question										
How do you feel about the following...?										
Your knowledge of the STEM jobs available to you	1 Lower	2	3	4	5	6	7	8	9	10 Higher
How your skills and abilities can be applied to subjects and careers										
Your understanding of the benefits of studying a STEM subject										
Your confidence speaking to people about their career and your future										
Your knowledge of the variety of STEM subjects available to study										
Your ability to apply existing knowledge to problem solving										
Your aspiration to work in a STEM career in the future										
The importance of thinking about your future										
A career in STEM is for people like me										
Was the information presented in a way which was clear and easy to understand?				Yes		No				
Would you recommend this activity to a friend?	Yes		No							

Table 2. Scores for all respondents

Question	Respondents	Time 1 Mean	Time 1 SD	Respondents	Time 2 Mean	Time 2 SD
Your knowledge of the STEM jobs available to you	374	3.93	2.16	363	7.65	1.88
How your skills and abilities can be applied to subjects and careers	370	4.60	2.30	361	7.38	1.83
Your understanding of the benefits of studying a STEM subject	376	4.52	2.45	364	7.43	2.03
Your confidence speaking to people about their career and your future	378	4.18	2.49	364	6.34	2.37
Your knowledge of the variety of STEM subjects available to study	372	4.26	2.21	364	7.33	1.91
Your ability to apply existing knowledge to problem solving	375	6.42	2.47	359	7.82	2.03
Your aspiration to work in a STEM career in the future	377	4.33	2.41	364	6.51	2.33
The importance of thinking about your future	376	7.61	2.32	359	8.49	1.90
A career in STEM is for people like me	376	4.35	2.47	363	6.64	2.39

	Respondents	% Yes	% No
Was the information presented in a way which was clear and easy to understand?	361	98.9	1.1
Would you recommend this activity to a friend	346	97.7	2.3

Table 3. Scores for respondents who completed questions on both pre-event and post-event

Question	Respondents	Time 1 Mean	Time 1 SD	Time 2 Mean	Time 2 SD	% change	t	Effect size change
Your knowledge of the STEM jobs available to you	359	3.91	2.17	7.69	1.83	97%	31.31*	1.65
How your skills and abilities can be applied to subjects and careers	354	4.60	2.25	7.38	1.82	60%	25.76*	1.37
Your understanding of the benefits of studying a STEM subject	362	4.53	2.45	7.43	2.03	64%	24.48*	1.29
Your confidence speaking to people about their career and your future	364	4.14	2.47	6.34	2.36	53%	20.35*	1.07
Your knowledge of the variety of STEM subjects available to study	359	4.27	2.21	7.34	1.91	72%	27.08*	1.43
Your ability to apply existing knowledge to problem solving	357	6.45	2.41	7.81	2.03	21%	13.61*	0.72
Your aspiration to work in a STEM career in the future	364	4.38	2.41	6.51	2.33	49%	20.09*	1.05
The importance of thinking about your future	357	7.61	2.27	8.48	1.90	11%	10.29*	0.54
A career in STEM is for people like me	362	4.37	2.45	6.65	2.39	52%	20.40*	1.07

Note. *denotes a statistically significant difference between time 1 and time 2 scores ($p<.01$, two tailed). Effect size change denotes the magnitude of change in units of standard deviation (Cohen's d_z; Lakens, 2013)

Results and conclusions

Results	Descriptive statistics for all respondents are reported in Table 2 Descriptive statistics for those who completed time 1 and time 2 questions are reported in Table 3, along with change scores (percentage change), results of pair-samples t-test, and effect size. Effect size is reported in units of standard deviation **Key findings:** There was a significant increase from pre-event to post-event in all questions The biggest increase was for knowledge of STEM subjects and jobs available
Impact achieved	Our evaluation indicates a positive impact of the People Like Me STEM workshop on the knowledge, understanding and aspirations of participants in regards to STEM subjects
Contribution or attribution	We consider the evaluation to provide evidence of a contribution (not attribution of causality) to the observed changes due to the type of design (pre-test/post-test design)

Closing remarks

Our evaluation of the People Like Me STEM workshop indicates that this part of our outreach intervention programme has a positive impact on participants.

Students' reported knowledge, confidence, and aspirations associated with a career in STEM was significantly higher following the workshop than before the workshop.

Recommendations

1. The People Like Me STEM workshop is a valuable addition to resources aimed at increasing interest in studying and pursuing careers in STEM subjects for young females so should be utilised widely.
2. The workshop was especially good at increasing knowledge about STEM subjects and careers so would be particularly useful when this is the aim.
3. The inclusion of the female case studies and role models was considered essential in addressing gender-stereotypes in an authentic way and could be integrated into similar interventions for other under-represented groups.

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11. Evaluation 5: FutureHY Exam Preparation Workshop

Background

School-work related anxiety is common among teenagers, particularly in regards to exams. In one large international survey of conducted by the Organisation for Economic Co-operation and Development (OECD, 2015), for example, one in two teenagers reported that they are worried and anxious about exams. Interestingly, teenagers in the UK appear particularly susceptible to this type of worry and anxiety and were found to report higher levels than that was typical in other countries.

The consequences of higher levels of anxiety are likely to be poorer academic performance, as well as a less positive educational experience and affinity with learning. With research indicating that perceptions that university would be stressful common and among the barriers for not attending university (e.g., Hutchings & Archer, 2001), experiences of this kind will also likely have an adverse impact on teenagers' attitudes towards further study.

In regards to addressing this issue, research has illustrated that resourcefulness, and having effective problem-solving and planning skills, can ameliorate academic stress, making better performance and attainment more likely (e.g., Akgun & Ciarrochi, 2003). In turn, one can expect a more positive learning experience overall. In keeping with this thinking, academic resourcefulness of this kind has been found to be positively related to reasons for attending university (e.g., Kennett, Reed, & Stuart, 2013).

Aim and scope of evaluation

Here we report the evaluation of the impact of part of the outreach intervention programme undertaken by FutureHY. The specific part of the outreach intervention programme is an exam preparation workshop aimed at increasing exam preparedness and likelihood of applying to Higher Education.

Research questions / hypotheses

Our research question was; can a short exam preparation workshop improve reported preparedness for exams and likelihood to apply to Higher Education?

The content of the workshop was designed to improve understanding of stress and introduce strategies for managing stress, it was therefore expected that it would improve how prepared students reported they felt and, in turn, create more positive intentions towards further study.

Characteristics of outreach

Detailed description	Exam preparation workshop The workshop aimed to provide participants with (i) a better understanding of stress and anxiety, (ii) examples of ways to cope and manage academic work, and (iii) different strategies to prepare and plan for the future The content covered signs of stress (feelings and behaviours), factors that contribute to more and less stress (demands and resources), realistic goals (versus perfectionism), and preparation strategies (self-management, positive thinking and reflection, positive self-talk, mindfulness and goal setting)
Activity type	Skills and Attainment (Workshop)
Timing, duration and frequency of activity	A standalone session Lasting approximately an hour Delivered once
Mode of delivery	Delivered on-site at school/FE colleges Face-to-face in a classroom setting
Target group or groups	Target was group-level for students undertaking practice and summative exams that academic year Year 11 students (age 15-16) undertaking GCSEs Year 13 students (age 17-18) undertaking A-levels or equivalents

Outcomes

Outcomes for NCOP / Uni Connect target learners	Develop confidence in their potential to progress onto and succeed at university / Higher Education Develop revision techniques and skills Likelihood of applying to Higher Education
Outcomes for parents	None
Outcomes for teachers / school staff	None

Methods used to evaluate impact of intervention

Type of evaluation	Type 2: Empirical
Type of research approach	Primary quantitative (pre-test/post-test design)
Rationale	The approach was adopted for pragmatic reasons and the difficulty associated with creating a control or comparison group in the setting, as well as meeting expectations and time provided by partner schools
Data collection methods	Survey (pre/post intervention) Questions and response formats are reported in Table 1
Sampling and response rate	The current sample represents a subsample of the total students who received the workshop The survey was distributed to 390 students. Of these, 309 completed all questions on both pre-test and post-test surveys The sampling strategy was one of convenience (based on availability and additional time to complete the survey) and purposeful (all students who had exams that academic year and completed the workshop) Students were from five colleges and high schools in the North Yorkshire region
Timeframe for evaluation	Survey was completed immediately before and immediately after the exam preparation workshop Delivery in November/early December ahead of mock exams (December) Delivery in March in preparation for summer exams (June)
Approach to data analysis	Descriptive statistics (means and standard deviations) Change scores (percentage change) Paired samples t-test Effect size to quantify the size of change (Cohen's d_z ; Lakens, 2013)

Table 1. Response format of the questions and scoring (1 to 6)

Question							
How likely are you to apply to Higher Education?	Definitely will apply (1)	Very likely (2)	Fairly likely (3)	Fairly unlikely (4)	Very unlikely (5)	Definitely won't apply (6)	Don't know / unsure
I feel confident about my exams	Strongly disagree (1)	Disagree (2)	Neither agree or disagree (3)	Agree (4)	Strongly agree (5)	Don't know / unsure	
I feel prepared for my exams							
I am not anxious about my exams							
I feel motivated to do well in my exams							
I feel that Higher Education is for people like me							
I could get the grades I need for further education							

Table 2. Scores for all respondents

Question	Respondents	Time 1 Mean	Time 1 SD	Respondents	Time 2 Mean	Time 2 SD
How likely are you to apply to Higher Education	352	2.45	1.49	330	2.47	1.53
I feel confident about my exams	353	3.17	1.01	352	3.41	0.94
I feel prepared for my exams	361	3.08	0.96	347	3.29	0.94
I am not anxious about my exams	365	2.89	1.21	351	3.15	1.14
I feel motivated to do well in my exams	362	3.84	1.00	351	3.91	0.94
Total exam preparedness	343	3.26	0.79	333	3.44	0.80
I feel that Higher Education is for people like me	NA	NA	NA	342	3.44	1.11
I could get the grades I need for further education	NA	NA	NA	345	3.82	0.96

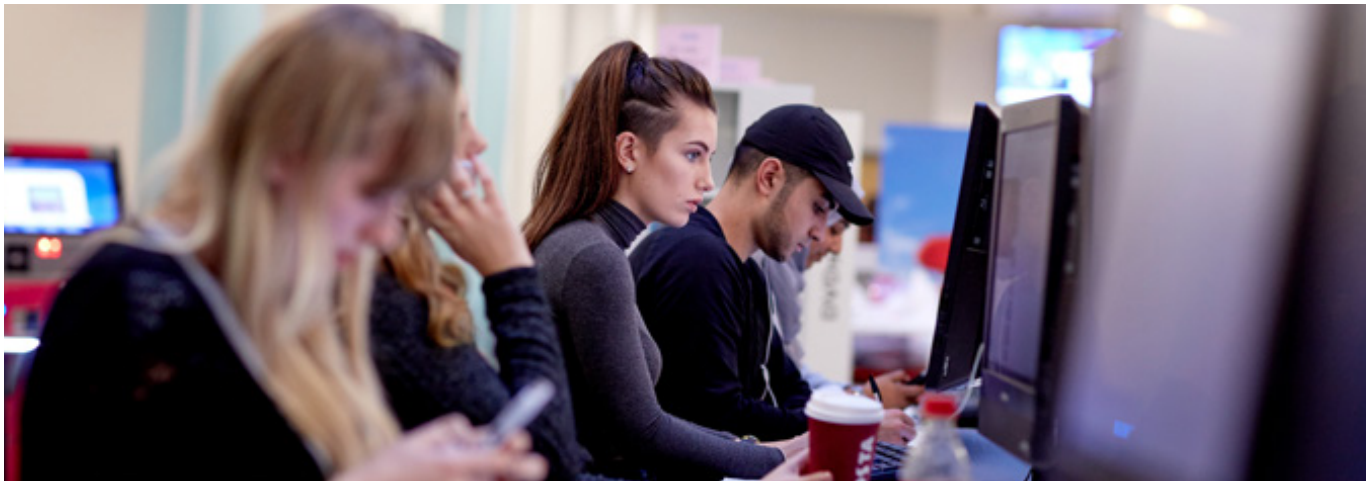
Table 3. Scores for respondents who completed questions on both pre-test and post-test survey

Question	Respondents	Time 1 Mean	Time 1 SD	Time 2 Mean	Time 2 SD	% change	t	Effect size change
How likely are you to apply to Higher Education	315	2.38	1.45	2.42	1.50	2%	1.35	0.08
I feel confident about my exams	327	3.19	1.02	3.41	0.95	7%	5.23*	0.29
I feel prepared for my exams	330	3.10	0.96	3.28	0.94	6%	4.89*	0.27
I am not anxious about my exams	336	2.90	1.21	3.14	1.15	8%	5.52*	0.30
I feel motivated to do well in my exams	333	3.84	1.00	3.90	0.95	2%	1.28	0.07
Total exam preparedness	309	3.27	0.80	3.44	0.80	6%	5.57*	0.32

Note. *denotes a statistically significant difference between time 1 and time 2 scores ($p<.01$, two tailed). Effect size change denotes the magnitude of change in units of standard deviation (Cohen's d_z; Lakens, 2013)

Results and conclusions

Results	Descriptive statistics for all respondents are reported in Table 2 Descriptive statistics for those who completed time 1 and time two questions are reported in Table 3, along with change scores (percentage change), results of pair-samples t-test, and effect size. Effect size is reported in units of standard deviation Key findings: • Total preparedness for exams significantly increased pre-test to post-test • The increase was evident for self-reported confidence, preparedness, and anxiety • There was no statistically significant change for self-reported likelihood of applying to Higher Education
Impact achieved	Our evaluation indicates a positive impact of the exam preparation workshop on self-reported exam preparedness The impact of the exam preparation workshop on self-reported likelihood of applying for Higher Education is inconclusive
Contribution or attribution	We consider the evaluation to provide evidence of a contribution (not attribution of causality) to the observed changes due to the type of design (pre-test/post-test design)



Closing remarks

Our evaluation of the exam preparation workshop indicates that this part of our outreach intervention programme has a positive impact and contributes to better exam preparedness.

Students reported that they felt significantly less anxious, and more confident and prepared, following the workshop than before the workshop.

Recommendations

Exam preparation sessions are a valuable addition to the support provided to students undertaking exams and who are considering applying to Higher Education.

The focus of the workshops should include normalising the experience of stress and anxiety, and giving students the skills and strategies to cope with and manage academic stress.

Some strategies that may be most effective are self-management, positive thinking and reflection, positive self-talk, mindfulness and goal setting.

Understanding the role of these types of workshop as part of a wider sustained and progressive programme of support is an important area of future work.

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12. Evaluation findings

Impact on different **outcomes**

Our evaluation work provides evidence of a positive contribution of our outreach and intervention work. Notably, across our evaluative work we have evidence of changes in knowledge of HE, careers, and courses; improvements in confidence and study skills; and career aspirations. Increases in **knowledge** were the largest impacts we observed.

Impact of different **interventions**

Our evaluation work suggests that the positive contribution is evident for the different types of interventions we have used – notably campus visits, career and employer engagement workshops, and study skills sessions. The effectiveness of each differed with all providing evidence of some positive effects. **Career and employer engagement** workshops were the most impactful. Some interventions had a positive impact on some outcomes but not others (e.g., exam preparation workshop).

Impact on different **learners**

Our evaluation work suggests that the positive contribution is evident for different types of learners– boys and girls from Year 9 through to Year 13. This includes outreach and intervention tailored specially for particularly groups. **Events for specific groups** were the most impactful. Campus visits were more impactful for pre-16 students than post-16 students.

13. Reflections and evaluation lessons

1. Our most effective intervention includes targeted work with specific groups in specific contexts.

   Increasingly our work will focus on more tailored intervention activity – that reflects our strengths as a partnership, local needs and settings, and our most effective areas of work.

2. Our evaluation has focused primarily on students. We did collect data from teachers and parents in some cases. However, this was collected less routinely in smaller amounts, making analysis difficult.

   Future intervention and evaluation should include a heavier focus on teachers and parents, as well as other stakeholders such as employers.

3. Capacity and capability for undertaking evaluative work is required to embed it routinely across the wards. There is opportunity to increase capacity and capability for evaluative work within schools and colleges through structured CPD for staff. This provides a long-term means of ensuring sound evaluative work accompanies future work beyond the lifespan of Uni Connect.

   FutureHY will provide and co-ordinate CPD for staff within schools and colleges aimed at increasing awareness and skills associated with evaluation.

4. We adopted a range of methodologies and methods as a means of assessing the local impact of our work in multiple complementary ways. However, we did not design or attempt to utilise an RCT design.

   Future evaluation should consider including a “flagship” RCT project that models the work of other consortia (e.g., NEACO) and builds on the most effective areas of intervention so far (e.g., girls and STEM).

14. Concluding comments

5. Our evaluation work to date includes a focus on assessment of short-term changes and subjective experiences.

   Longer-term impacts in more discrete and objective indicators (e.g., actual progression to HE) is an important focus for future evaluation both in terms of increasing the rigour of assessment, but also verifying the impacts already observed (e.g., whether changes in knowledge or reported intentions lead to increased applications).

6. The renewal of our evaluation activities will come hand-in-hand with the revision and further development of our progression framework.

   As our progression framework is revised and refined reflecting the outcomes of our evaluation work, evaluative activities and the methods we use will become more integrative and complementary across activities. Evaluation exercises are themselves useful as a form of intervention for both students and our stakeholders and our future practice will reflect this utility.

This report is provided to summarise the local impact evaluation work that has been undertaken to assess changes resulting from the outreach and intervention activity of FutureHY.

In doing so, we seek to better inform future local practice and contribute to a better understanding of the impact and effectiveness of outreach and intervention work at a national level.

Our evaluation work suggests that the work undertaken to date has had a positive contribution on the knowledge, confidence, study skills, and career aspirations in the target wards.

Couched within the NERUPI framework, we have evidence of changes in social and academic capital – as students tell us they are better informed and able to make decisions regarding their future in HE – habitus – as students internalise a positive view of themselves in a HE context – and skills and subject capital – as they develop new skills and knowledge that underpin perceptions of likely success and achievement of career goals.

Cutting across these changes is the ability of FutureHY intervention work to increase the sense of affinity, value, and belongingness to HE, as well as increased personal agency and confidence among students.

Future outreach and intervention work will be guided by our evaluative work with an increased focus on local context, inclusive of key influencers (parents and teachers), increasing evaluation capacity, use of flagship methods, and longer-term outcomes (e.g., progression to HE).

Note: This report was prepared by Professor Andrew Hill, Laura Fenwick, Rebecca Harland, and Helen Smith.

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