



How do essential skills influence life outcomes?

An evidence review

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This report was written by the education and youth development 'think and action tank' The Centre for Education and Youth. The Centre for Education and Youth is a social enterprise - we believe that society has a duty to ensure children and young people receive the support they need in order to make a fulfilling transition to adulthood. We work towards this vision by helping education and youth organisations develop, evaluate and improve their work with young people. We then carry out academic and policy research and experience.

Chapter 1: Foreword

I'm thrilled to introduce this excellent new piece of work by the Centre for Education & Youth on behalf of the Skills Builder Partnership.

The Skills Builder Partnership works to ensure that one day, everyone builds the essential skills to thrive. We bring together more than 800 organisations towards that collective mission, including educators, employers and other impact organisations.

We all use the Skills Builder Framework to define what we mean by those essential skills, focusing on eight: teamwork, leadership, problem solving, creativity, speaking, listening, aiming high and staying positive. This common language and shared outcomes is critical for aligning and focusing our collective efforts to build these skills.

To date though, the wider evidence base has been fractured by the inconsistency with which we name and define these skills. As a result, it can be challenging to navigate or to add to evidence and thinking in this important field.

We hope this work will become the first in an important series which consolidates the existing evidence base for *why* and *how* to build those eight essential skills, and then expands that evidence base further.

This report paints a promising picture: Following a careful review by the team at the Centre, there is clear evidence that shows the link between building essential skills and academic outcomes, workplace success, and individual wellbeing.

The evidence of what works in building these skills also chimes with the Skills Builder Principles of best practice, and the previous work which supported their development.

There is a lot more to be done: future research should focus on evaluating the mid- and longer-term outcomes of building essential skills, the mechanisms of building these skills and their effectiveness, and in what combination those skills are most effectively taught.

For now though, I commend this report as an important step in that journey, and one that will support that collective mission: to ensure that one day, everyone builds the essential skills to succeed.

Tom Ravenscroft
Founder & CEO, Skills Builder Partnership

October 2020

Chapter 2: Introduction

The role of essential skills

Since 2009, the Skills Builder Partnership (formerly known as Enabling Enterprise) has focused on building essential skills.

The importance of developing a set of essential skills for individuals to thrive in education, employment and entrepreneurship has been long documented, from the CBI's landmark 1989 report¹ through to the Taylor Review in 2017².

These are the skills which 'almost everyone needs to do almost any job. They are the skills that make specific knowledge and technical skills fully productive' (UKCES, 2009).

There are also regular calls for these essential skills to be built through education. The Sutton Trust (2017) found that 94% of employers, 97% of teachers and 88% of young people saw these skills as being at least as important as academic grades to students' future success. Indeed, more than half of teachers surveyed (53%) felt that these skills were more important than academic achievements in future success.

Defining the essential skills

Too often this is an area where terminology is confused and confusing. From the outset, it is important to differentiate between:

- *Knowledge*: content which can be recalled, understood and explained
- *Character attributes*: the choices individuals make, manifested as attitudes or behaviours
- *Skills*: the ability to successfully enact a repeatable process

Whilst all three are critical to employability, our focus here is on the element of skills, within which we define three broad types of skills:

- *Technical Skills*: those skills which are specific to a particular sector or role, sometimes drawing off a particular body of knowledge. These skills are not easily transferred beyond the sector or role to which they relate.
- *Essential Skills*: those highly transferable skills that everyone needs to do almost any job, which support the application of specialist knowledge and technical skills.
- *Basic Skills*: these are literacy and numeracy, and basic digital skills.

There have been efforts in the education system and around employment to build these skills more effectively. However, these efforts are widely perceived to have fallen short. After a decade of regularly reviewing employers' views of those they recruit, the CBI's 2019 Education & Skills Survey still found that employers had real concerns about their employability. At the same time, the importance of these skills is growing. Nesta's Future Skills work in 2017 highlighted that the skills that would support a long and prosperous life in the future were those that could not be automated.

¹ Confederation of British Industry (1989) Towards a Skills Revolution: Report of the Vocational and Education Training Task Force.

² Taylor, M. (2017) Good Work: The Taylor Review of Modern Working Practices

Skills Builder Universal Framework

Over the last two years, the existing Skills Builder Framework was reviewed as part of a taskforce which also included the CIPD, the CBI, the Gatsby Foundation, Business in the Community, the Careers & Enterprise Company and the EY Foundation. The goal was to extend an approach that had mainly focused on education, to be used universally – by individuals of any age, and in any setting. This concerted effort has resulted in the launch of Skills Builder Universal Framework.

The Framework takes each of the eight essential skills, and breaks them down into 16 sequential steps which span from being an absolute beginner in the skills, to achieving a high level of mastery. It acts as a reflection tool for reviewing an individual’s current skillset and as a roadmap for further development.



Skills Builder Principles

In addition to the Framework, over the last ten years the Skills Builder Partnership has honed a set of Principles, which reflect best practice in building these skills. If the Framework provides the ‘what’, these Principles provide the ‘how’ of building essential skills.

- *Keep it simple:* Using a consistent language, and focusing on tangible steps.
- *Start early, keep going:* Working with individuals at stages of education and careers.
- *Measure it:* Understanding existing skills strengths and development areas.
- *Focus tightly:* Building essential skills explicitly and deliberately.
- *Keep practising:* Apply the skills in lots of settings and reflect on their use.
- *Bring it to life:* Link the essential skills to different elements of working life.

Working in Partnership

The Skills Builder approach has already been adopted by more than 800 organisations who collectively form the Skills Builder Partnership. Partners span the education sector, including primary and secondary schools, colleges, special schools and higher education institutions. They also include more than 100 employers from multinational corporations to smaller start-ups. Finally, they include other impact organisations who work to build essential skills in lots of different settings, and through many different approaches.

It is this collective approach that will ultimately support us to achieve that shared mission: ensuring that one day, everyone can build the essential skills to succeed.

Chapter 3: Executive summary

Background to this report

The Skills Builder Universal Framework and the wide partnership of organisations adopting it provide a new opportunity: to focus and consolidate the evidence base around essential skills – both *why* they matter, and *how* they can be most effectively built.

There are plenty of reports which emphasise the importance of building essential skills in light of structural changes in the labour market, including technological disruptions and changing work norms. But what is less available is a wide range of experimental, quasi-experimental, and high-quality qualitative research to investigate the links between essential skills development and education, employment and social outcomes.

The Skills Builder Partnership have developed a research strategy to build that evidence base. They will be using different methodologies to make a compelling case for developing essential skills by reviewing the current evidence and then conducting further primary and secondary research.

This rapid evidence review is a first step in evaluating the current evidence on the outcomes of essential skills development, the ways it is measured, and the underpinning theoretical frameworks, using the language of the Skills Builder Universal Framework.

Methodology

This rapid review followed a four-step process:



1. CfEY's researchers set the review's parameters and constructed the search syntax in collaboration with the team at Skills Builder Partnership.
2. Searches were conducted in Google Scholar and Web of Science, and we used inclusion criteria to identify and log relevant results. Along with articles recommended for inclusion by the Skills Builder Partnership, we collated titles from these searches into a long list and removed duplicate results.
3. We undertook an abstract review, extracting information about the studies including methodological design and results. We rated the studies' robustness using Hughes et al.'s (2016) four-level rubric (see the 'Methodology' section for further information).
4. Finally, we synthesised these results into our final report, presenting top-level findings alongside more in-depth reviews of the individual studies.

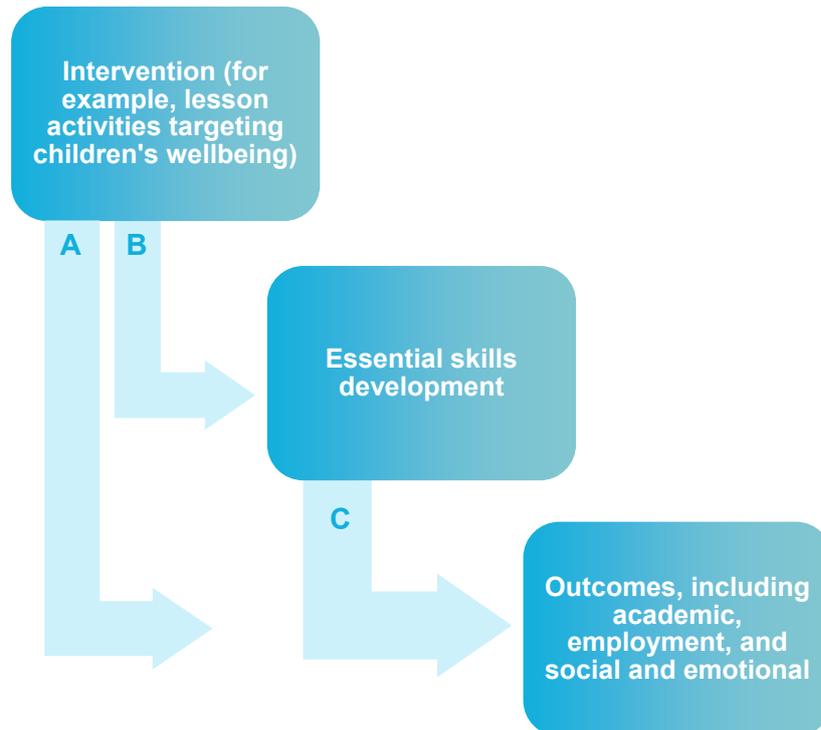
This review explores what the Skills Builder Partnership refers to as 'essential skills,' examining studies that describe the relationship between:

- a) interventions and outcomes;
- b) interventions, subsequent skills development, and outcomes, and;

c) skills development, and outcomes.

We summarise these relationships as Path A, B and C. However, some studies did not make it clear whether they were interrogating the relationship in Path A or Path B. Additionally, studies sometimes focused on causal relationships and sometimes on associations.

We reviewed studies irrespective of whether their conclusions indicated a positive, neutral, unclear or negative relationship between the interventions and skills, and outcome areas.



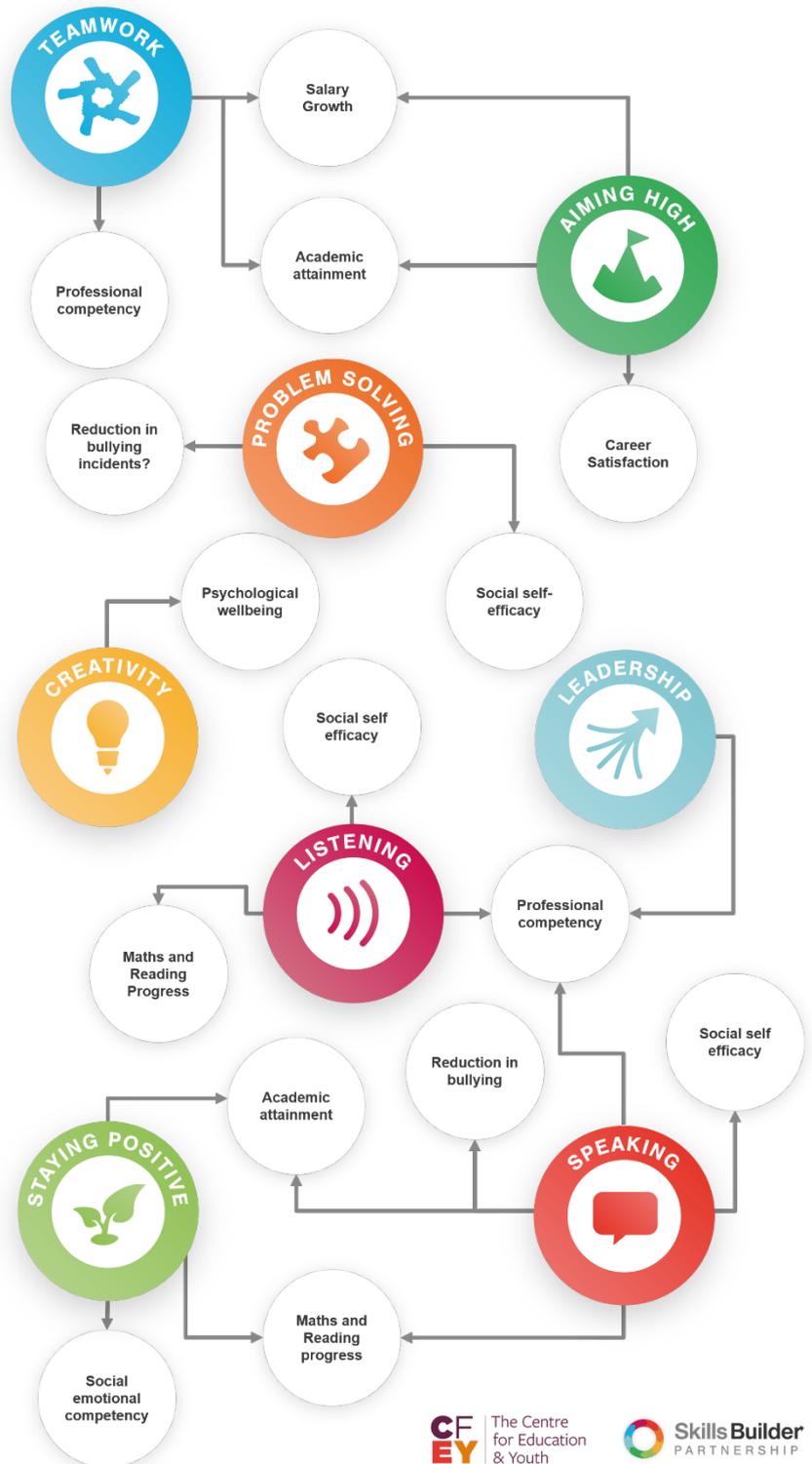
Key findings

The relationship between essential skills and academic outcomes

We identified four studies meeting evidence standards 3 or 4, and four studies meeting standard 2 or lower. Of these studies, five explored the relationship between interventions and academic outcomes (Paths A and B), and three examined the relationship between skills and outcomes (Path C). One large-scale study analysed longitudinal data, supporting the causal claim that aspirations for more highly skilled jobs support improved academic outcomes for young people with special educational needs (although this relationship is not as strong for young people without special needs). Two, less robust studies expand upon this, highlighting a correlation between young people possessing certain skills (such as suitably high academic goals) and academic outcomes.

The relationship between essential skills and employment outcomes

We identified four studies meeting evidence standards 3 or 4, and three at level 2 or lower. Of these, one examined the effect of skills interventions on young people's employment outcomes (Paths A and B), and six assessed the relationship between skills and outcomes (Path C). Of the most robust studies, one analysed longitudinal survey data and showed that for French secondary school-leavers, alongside educational level and field of specialism, perseverance, self-esteem, risk taking and communication lead to higher wages. This relationship was particularly marked amongst the highest earners, indicating these skills matter for accessing top jobs. Another study analysed 500 interns' performance to establish a strong correlation between better inter- and intra-personal skills, and interns' performance. The less robust studies corroborated these claims. Although the studies sought to identify the specific skills associated with particular outcomes (such as income in later life), they were unable to identify how these skills are best supported.



The relationship between essential skills and social and emotional wellbeing

We identified six studies meeting evidence standards 3 or 4, and four at level 2 or lower. Five studies examined skills interventions and their impact on young people's social and emotional outcomes (Paths A and B), and five examined skills' relationship with social and emotional outcomes (Path C). Robust studies examining skills interventions highlight a causal link between such interventions and improved social and emotional wellbeing among children and young people, as well as the prevention of negative behaviours. One study explored an intervention's impact on young autistic people's social competencies, and one study focused on the development of positive mindsets in diabetic young people.

Implications

This review highlights the need for future research to unpick the features of skills-focused delivery that generate the greatest benefits for children and young people.

However, where studies in this review explored the features of effective delivery, they indicated that essential skills interventions tend to be more effective when **regular, long term, explicit, embedded, structured, supported and targeted**. This is in line with the Skills Builder Partnership's principles³.

³ These principles are: 1. Keep it simple; 2. Start early, keep going; 3. Measure it; 4. Focus tightly; 5. Keep practising; 6. Bring it to life. More information is available on the Skills Builder Partnership's website: <https://www.skillsbuilder.org/principles>

Chapter 4: Methodology

This rapid evidence review addresses the following research questions:

- 1) **How do essential skills impact on outcomes for children and young people, during school and beyond?**
 - a) Which skills contribute the most to these outcomes?
- 2) **What tools and methods are used to measure the impact of essential skills development?**
 - a) What are the theoretical underpinnings for how skills are captured?
 - b) What are the applied approaches to capturing the impact of essential skills?

This paper draws on a range of studies in order to explore how essential skills can impact on three outcome areas for young people: education, transitions and employment, and social and emotional wellbeing. We draw primarily from studies with robust methodologies at levels 3 and 4 of Hughes et al.'s (2016) evidence standards (see Table 1, below).

The tools and methodologies used to measure both the development of skills and the impact of these skills are identified and discussed throughout, as are the theoretical underpinnings of the studies.

The studies we discuss tend not to frame skills using the language of the Skills Builder Partnership's eight essential skills. When discussing studies in detail, we refer to skills as the studies have described them. However, our summary tables identify how each study overlaps with Skills Builder Partnership's eight essential skills, which are:

- **Listening:** the receiving, retaining and processing of information or ideas
- **Speaking:** the oral transmission of information or ideas
- **Creativity:** the use of imagination and the generation of new ideas
- **Problem Solving:** the ability to find a solution to a situation or challenge
- **Staying Positive:** the ability to use tactics and strategies to overcome setbacks and achieve goals
- **Aiming High:** the ability to set clear, tangible goals and devise a robust route to achieving them
- **Leadership:** supporting, encouraging and developing others to achieve a shared goal
- **Teamwork:** working cooperatively with others towards achieving a shared goal

Judgements regarding how studies mapped against the Skills Builder Partnership's terminology were made in collaboration between the CfEY and Skills Builder Partnership teams.

Our approach

The following diagram sets out our approach to this research:



Setting review parameters

CfEY worked with the Skills Builder Partnership to set the parameters and approach for this review including the search strategy.

Searches and screening

We conducted searches in Google Scholar and Web of Science, using pre-specified search syntax rooted primarily (but not exclusively) in the language of the Skills Builder Partnership's essential skills (see Table 2, below), and restricting the search to articles published between 2000 and 2020. We logged the total number of search results, and reviewed the first 10 pages of each search, sifting titles using the following pre-specified criteria to ensure we collected studies:

- That are published in English
- That relate to the UK, Europe, US or OECD countries
- That relate to, a), children and young people aged 0 to 30 or, b), to adults over 30 who received a relevant intervention whilst aged 0 to 30
- Where skills are the predictor/input, rather than the result/output
- That use a methodology meeting or exceeding Quality Level 3 (see Table 1, below)
- Where the skills concerned are teachable and malleable

We also received additional titles to include in the screening from the Skills Builder Partnership team. We collated the sifted titles into a long list, and removed duplicates.

Data extraction

We reviewed abstracts, recording information such as the outcome area, methodological design, and results. Wherever possible we captured information about methodological design, although this was not possible for some of the level 1 and 2 studies. We applied Hughes et al.'s (2016) evidence standards, identifying where – if at all – studies sat on this scale:

Table 1: Criteria for levels of evidence (Hughes et al., 2016)

Level	Description
Level 1	The study discusses impact (“the skill/s led to x, y, z”), but does not describe what would have happened had the intervention <i>not</i> taken place. The study only examines impact among groups receiving the intervention.
Level 2	The study discusses impact and compares outcomes for the group receiving the intervention with outcomes for groups who have not, although control groups do not form part of the study’s design. For example, impact may be compared against averages for the general population. The groups involved may have self-selected.
Level 3	The study incorporates statistical analysis such as multivariate or linear regression, and provides a control comparison through calculation.
Level 4	The study is based upon an experimental or quasi-experimental design, where one group received an intervention, and another group did not. These groups were randomly selected, and outcomes between the groups are compared.

During the abstract review we removed studies deemed not to be relevant.

Synthesis and reporting

Having completed our abstract sift and compiled our database, we summarised:

- How interventions and essential skills might relate to attainment, employment and social outcomes
- How impact varies according to young people’s characteristics
- The measurement tools and theoretical frameworks used to capture essential skills development

We reviewed studies irrespective of their conclusions, incorporating studies showing impact whether this be positive, unclear, neutral or negative. In each section, we discuss whether studies examined the impact of interventions, or of the skills themselves, on young people’s outcomes.

In some cases, in depth reading revealed that a study was no longer relevant to the research questions. In these cases, the studies were recorded to ensure that our search remains auditable.

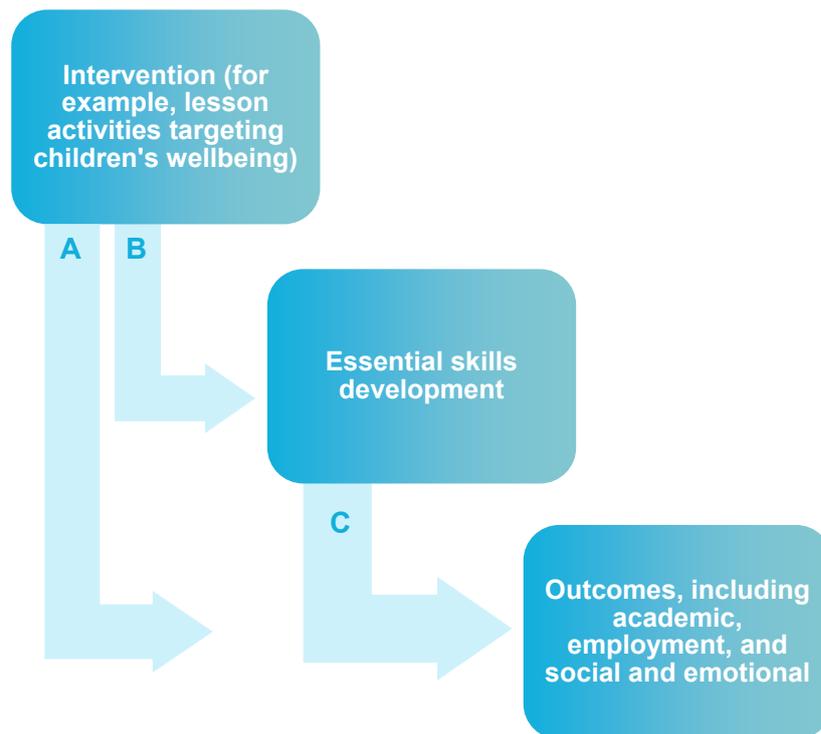
Common reasons for exclusion included:

- Studies framed skills as dependent rather than independent variables or, in other words, as outputs rather than inputs
- Studies did not relate to interventions staged with people aged between 0 and 30
- Studies did not relate to Skills Builder’s essential skills

Characteristics of the studies included

Our subsequent evidence review focuses mainly on studies that met Hughes et al.'s evidence standards at levels 3 and 4. However, we draw on studies at levels 1 and 2, or falling outside the framework, where there was a shortage of more robust evidence, and where these studies help to address our research questions. These studies, and the standards of evidence they met, are presented in the summary tables at the beginning of each section.

This review examines studies that describe the relationships between interventions, skills and outcomes in one of three ways:



Some of the studies we include make causal claims. In others, the claims highlight the association between interventions and skills, and a given outcome. Studies did not always make clear whether they were interrogating the relationship in Path A or Path B.

The following grid summarises the number of studies in each section of the report focusing on the influence of specific interventions on outcomes, or the influence of skills:

		Outcome area		
Focus of study	Study quality	Academic	Employment	Social and emotional
Intervention (Paths A and B)	L4 and L3	3	1	4
	L2, L1 and N/A	1	0	1
Skills (Path C)	L4 and L3	1	3	2
	L2, L1 and N/A	3	3	3

Table 2: Search syntax for title sift

Search focus	Platform	Search syntax
Listening skills	Google Scholar	impact OR outcome OR effect "listening" OR "communication" skills competencies
	Web of Science	TI=((listen* OR communicat*) AND (skill* OR competenc*) AND (impact* OR effect* OR outcome*))
Presenting skills	Google Scholar	impact OR outcome OR effect "presenting" OR "communication" skills competencies
	Web of Science	TI=((present* OR communicat*) AND (skill* OR competenc*) AND (impact* OR effect* OR outcome*))
Problem solving skills	Google Scholar	impact OR outcome OR effect "problem solving" skills competencies
	Web of Science	TI=(problem AND solv* AND (skill* OR competenc*) AND (impact* OR effect* OR outcome*))
Creativity skills	Google Scholar	impact OR outcome OR effect "creativity" skills competencies
	Web of Science	TI=(creat* AND (skill* OR competenc*) AND (impact* OR effect* OR outcome*))
Leadership skills	Google Scholar	impact OR outcome OR effect "leadership" skills competencies
	Web of Science	TI=(leader* AND (skill* OR competenc*) AND (impact* OR effect* OR outcome*))
Teamwork skills	Google Scholar	impact OR outcome OR effect "teamwork" skills competencies
	Web of Science	TI=(team* AND (skill* OR competenc*) AND (impact* OR effect* OR outcome*))
Staying positive	Google Scholar	impact OR outcome OR effect "staying positive" OR "self-management" impact OR outcome OR effect "staying positive"
	Web of Science	TI=(("staying positive" OR "self*manage*") AND (skill* OR competenc*) AND (impact* OR effect* OR outcome*)) TI=(("staying positive") AND (skill* OR competenc*) AND (impact* OR effect* OR outcome*))
Aiming high	Google Scholar	impact OR outcome OR effect "aiming high" OR "self-management" impact OR outcome OR effect "aiming high"
	Web of Science	TI=(("aiming high" OR "self*manage*") AND (skill* OR competenc*) AND (impact* OR effect* OR outcome*)) TI=(("aiming high") AND (skill* OR competenc*) AND (impact* OR effect* OR outcome*))
Essential skills	Google Scholar	impact OR outcome OR effect problem solving skills competencies
	Web of Science	TI=(essential AND (skill* OR competenc*) AND (impact* OR effect* OR outcome*))
Life skills	Google Scholar	impact OR outcome OR effect "life" skills competencies
	Web of Science	TI=(life AND (skill* OR competenc*) AND (impact* OR effect* OR outcome*))
Soft skills	Google Scholar	impact OR outcome OR effect "soft" skills competencies
	Web of Science	TI=(soft AND (skill* OR competenc*) AND (impact* OR effect* OR outcome*))
Transferable skills	Google Scholar	impact OR outcome OR effect "transferable" skills competencies
	Web of Science	TI=(transferable AND (skill* OR competenc*) AND (impact* OR effect* OR outcome*))
Interpersonal skills	Google Scholar	impact OR outcome OR effect interpersonal skills competencies
	Web of Science	TI=((interpersonal OR inter personal OR inter-personal) AND (skill* OR competenc*) AND (impact* OR effect* OR outcome*))
Future skills	Google Scholar	impact OR outcome OR effect "future" skills competencies
	Web of Science	TI=(future AND (skill* OR competenc*) AND (impact* OR effect* OR outcome*))
21st century skills	Google Scholar	impact OR outcome OR effect 21 st century skills competencies
	Web of Science	TI=((21 st century OR twenty-first century OR twenty first century) AND (skill* OR competenc*) AND (impact* OR effect* OR outcome*))
Employability skills	Google Scholar	impact OR outcome OR effect "life" skills competencies
	Web of Science	TI=((employability OR entrepreneur*) AND (skill* OR competenc*) AND (impact* OR effect* OR outcome*))



Chapter 5: Educational outcomes

Overview of the findings and studies

Of the 14 studies relating to educational outcomes that emerged from our title and abstract sift, we located four studies meeting evidence standards 3 or 4. These identified a significant effect of essential skills interventions on educational outcomes (see Table 3, below). We identified four studies meeting standard 2 or lower (see Table 4).

Of these studies, four discussed the relationship between interventions and academic outcomes (Paths A and B), and four examined the relationship between skills and outcomes (Path C). One large-scale study analysed longitudinal data, supporting the causal claim that heightened aspirations support improved academic outcomes for young people with special educational needs (although this relationship is not as strong for young people without special needs, raising questions regarding generalisability). Two less robust studies expand upon this, highlighting a correlation between young people possessing certain skills (such as suitably high academic goals) and academic outcomes.

Table 3: Level 3 and 4 studies exploring educational outcomes

Authors	Title	Year	Quality level	Measurement	Characteristics of pupils	Country	Relevant essential skills
Ashdown and Bernard	<i>Can explicit instruction in social and emotional learning skills benefit the social-emotional development, well-being, and academic achievement of young children?</i>	2012	L4	Surveys and teacher reported reading level	Reception and Year 1 pupils	Australia	Staying positive, teamwork
Linares, Rosbruch, Stern, Edwards, Walker, Abikoff, and Alvir	<i>Developing cognitive-social-emotional competencies to enhance academic learning</i>	2005	L4	Classroom observations, questionnaires, semi-structured interviews, and school records at baseline and over two years	Aged 8 to 11 years	USA	Problem solving, listening, teamwork
Gutman and Schoon	<i>Aiming high, aiming low, not knowing where to go: Career aspirations and later outcomes of adolescents with special educational needs</i>	2017	L3	GCSE points and employment outcomes	Autistic young people, aged 14 to 20 years	UK	Aiming high
Vidic	<i>Impact of Problem-based Statistics Course in Engineering on Students' Problem solving Skills</i>	2011	L3	Pre- and post-test questionnaires about statistical knowledge	High school and university students	Slovenia	Problem solving, teamwork

Table 4: Level 2 and lower studies exploring educational outcomes

Authors	Title	Year	Quality level	Characteristics of pupils	Relevant essential skills
Rodriguez	<i>The impact of academic self-concept, expectations and the choice of learning strategy on academic achievement: the case of business students</i>	2009	L2	University business students	Aiming high
Roebken	<i>The influence of goal orientation on student satisfaction, academic engagement and achievement</i>	2007	L2	University students	Aiming high
Jaeger	<i>Job competencies and the curriculum: An inquiry into emotional intelligence in graduate professional education</i>	2003	L1	Graduates	Talking, listening, problem solving
Gutman and Schoon	<i>The impact of non-cognitive skills on outcomes for young people</i>	2013	n/a	Children and young people	Staying positive, aiming high

In-depth review of the studies

Studies examining the impact of skills-focused interventions on educational outcomes

In their small-scale, quasi-experimental study, Linares et al. explored how the development of cognitive-social-emotional competencies might enhance academic learning amongst children. 119 pupils in the intervention school, who were aged 9 to 11 years old, were supported to develop social and emotional skills such as self-efficacy, problem solving, listening and teamwork. This involved a 30-minute lesson each week based on a manual-based classroom curriculum. Pupils were assessed using a combination of classroom observations, questionnaires, semi-structured interviews and school records, at baseline and over two years. The study examined what impact the intervention had on the classroom social climate, as well as students' problem solving abilities, behaviour in the classroom, and report-card grades and test scores. Compared to students in the control school, pupils in the intervention school who took part in the programme showed improvement in their maths (effect size .42) and reading grades (.24), as well as in their assessed self-efficacy (.55) and problem solving (1.01). The researchers argued that the intervention was the most likely explanation for the difference in improvement.

Ashdown and Bernard's small-scale study researched the impact of explicit social and emotional skills instruction on 99 children in Reception and Grade 1 classes. They used a control group design to explore the impact of a social and emotional learning skills programme on pupils' social-emotional development, wellbeing, and academic achievement. The researchers used surveys to assess social-emotional skills, such as resilience, speaking and listening, and recorded participants' teacher assessed reading grade at baseline and endpoint. The programme was delivered to children in one Preparatory (Reception) and one Grade 1 (Year 1) class in Melbourne, Australia, over a period of 10 weeks. The classes were both randomly selected, with the other Preparatory and Grade 1 classes providing a control. The research reported some positive impact on less advanced readers in Grade 1's reading achievement, as well as on the social and emotional wellbeing of children in both the Preparatory and Grade 1 classes.

Vidic's 2011 small-scale quasi-experimental study examined the impact of 'problem-based learning' ('PBL', which emphasises complex problem solving tasks rather than desk-based 'right/wrong' tests) on university undergraduates' ability to solve statistical engineering tasks. Randomly allocating students into treatment and control groups (n=76), Vidic found that the PBL intervention – which involved students solving problems in groups of five – resulted in improved statistical problem solving among the treatment group compared to the control group, who had instead solved problems individually for homework. Vidic administered pre- and post-intervention questionnaires containing questions about statistics, in order to measure students' academic outcomes.

Jaeger (2003) used a survey-based methodology in a small-scale US study examining the impact of an 'emotional intelligence' (EI) curriculum on the EI scores of 158 graduates. The curriculum involved explicit discussion of how EI (defined in terms of intra- and inter-personal skills, adaptability, and stress management) relates to and can be deployed by managers. Jaeger disseminated pre- and post-test surveys, to assess and compare the emotional intelligence of graduates on EI and non-EI courses, finding that, a), emotional intelligence can be positively influenced by classroom and, b), that improved emotional intelligence is linked with improved academic performance. However, the author noted that despite high correlation between the EI curriculum and study outputs, it did not establish a causal relationship.

Studies examining skills' impact on educational outcomes

Gutman and Schoon's large-scale (n=9,966) longitudinal study (2017) investigates the role of early career aspirations in predicting the later educational and occupational outcomes of young people attending mainstream school with SEND, in comparison with their non-SEND peers. The researchers' definition of 'aspirations' encompasses goal-setting⁴:

"Career aspirations represent adolescent's conceptualization of their own talents, goals and interests and serve as a vehicle through which they may actualize their emerging vocational identity. Career aspirations, therefore, can act as compass to navigate one's occupational trajectory."

Gutman and Schoon, 2017

Using a sample based on the Longitudinal Study of Young People in England, the researchers looked at early career aspirations of participants at the age of 14, and their education and employment outcomes up to the age of 20. They found that having high career aspirations at the age of 14 was a predictor of positive educational and employment outcomes from ages 16 to 20. They wrote that:

- 'Aiming high' is predictive of positive future outcomes for young people with SEND;
- Young people who reported aspiring to 'professional/managerial' career aspirations achieved significantly higher GCSE scores than young people who reported aspiring to 'skilled, unskilled or uncertain career aspirations', with an average difference of -13.67 GCSE points.
- For young people without SEND, career aspirations appeared to make little difference to their GCSE scores.

Gutman and Schoon's (2013) systematic literature review examines the impact of non-cognitive skills such as motivation and perseverance on young people's development. Reviewing experimental and quasi-experimental studies, the authors suggest that while there are 'signs' that developing non-cognitive skills can positively impact young people, "causal evidence of impact on long-term outcomes is so far limited", and no single non-cognitive skill predicts long-term outcomes. They argue that less is known about how far it is possible to develop a young person's non-cognitive skills through interventions.

Roebken's analysis (2007) of large-scale (n=2,309), longitudinal survey data examined the impact of Californian students' goal orientation towards academic work on their experiences of university education and academic outcomes. The study compares the influence of students' self-assessed goal-orientation towards 'mastery' (denoting a desire to 'master' academic knowledge and skills), 'performance' (desire to demonstrate skills relative to other students), and work-avoidance (avoiding failure with as little effort as possible). The study found that stronger mastery and performance goal-orientation correlated with improved experiences of education and improved educational performance, as measured by Grade Point Average. Students prone to work-avoidance did less well academically.

⁴ The Skills Builder Partnership defines 'aiming high' as 'the ability to set clear, tangible goals and devise a robust route to achieving them.' Gutman and Schoon's definition of 'aiming high' is broader, encompassing a wider range of processes. However, their study acknowledges the importance of goal-setting (aiming for particular types of job/career path), and consequently we include the research in this review.

Rodriguez (2009) also examined how learning approaches influence skills development among undergraduate business students in one US college, and how this in turn affects academic outcomes. Using surveys to assess students' attitudes to learning and academic outcomes (n=131 undergraduates), the study found that higher academic self-concept and 'deep learning' (engaging in complex business problems) was associated with improved academic outcomes. However, the lack of a control group and focus on one setting alone means this study does not demonstrate causality (i.e., that self-concept improves academic outcomes, as opposed to vice versa), and limits the extent to which findings might apply in other contexts.

The theory of skills development for educational outcomes

Gutman and Schoon's study of young people with SEND's career aspirations and the impact this has on attainment and employment draws on motivation theories as well as the theory of circumscription and compromise. According to this theory, young people's career choices and aspirations are shaped not only by their personal identities and interests, but also by perceived barriers such as effort needed to complete relevant training or access to employment. As in other countries, in the UK - where this study was conducted - young people with SEND, on average, achieve worse educational and employment outcomes than their peers without SEND. The authors suggest that young people with SEND experience more barriers to achievement, which may result in lower career aspirations. Their findings can be understood in relation to an expectancy-value model, with the study indicating that young people's self-concept of ability, combined with parental and school expectations, were significant predictors of future outcomes.

Linares et al. explain their findings from a social cognitive perspective, arguing that pupils' self-efficacy is vital to their ability to sustain effort, attention and concentration. This in turn supports pupils as they persevere with tasks and regulate their emotions. These abilities, along with the skills needed to solve interpersonal problems, may result in improved learning. Ashdown and Bernard's study corroborates this and it therefore seems plausible that interventions targeting social and emotional skills might positively impact on pupils' academic achievement.



Chapter 6: Transitions and employment outcomes

Overview of the findings and studies

Of the 37 studies relating to transition and employment outcomes that emerged from our title and abstract sift, we identified four studies meeting evidence standards 3 or 4 (see Table 5), and three at level 2 or lower (see Table 6). Of these, one examined the effect of skills interventions on young people's employment outcomes (Paths A and B), and six assessed the relationship between skills and outcomes (Path C). Of the most robust studies, one analysed longitudinal survey data showing that among French secondary school-leavers, alongside educational level and field of specialism, perseverance, self-esteem, risk taking and communication affect wages. This was particularly the case among the highest earners (indicating these skills matter for accessing top jobs). Another study analysed 500 interns' performance, demonstrating a strong correlation between better inter- and intra-personal skills, and interns' performance. Several level 1 and 2 studies corroborated these claims. Although the studies sought to identify the specific skills associated with particular outcomes (such as income in later life), they were unable to pinpoint the exact mechanisms by which these skills were supported.

Table 5: Level 3 and 4 studies exploring transitions and employment outcomes

Authors	Title	Year	Quality level	Measurement	Characteristics of pupils	Country	Relevant essential skills
Yedia, Gillespie, Kachur, Schwartz, Ockene, Chepaitis, Snyder, Lazare and Lipkin	<i>Effect of communications training on medical student performance</i>	2003	L4	Assessments at the beginning and end of participants' third year	University medical students	USA	Speaking, listening
Albandea and Giret	<i>The effect of soft skills on French post-secondary graduates' earnings</i>	2018	L3	Large-scale survey analysis	Master's degree graduates	France	Staying positive, speaking, listening
Galvan, Casman, Fisher, Nair and Small	<i>Assessing the Role of 21st Century Skills on Internship Outcomes in a Steel Multinational Enterprise</i>	2014	L3	Intern performance data was evaluated using a tool designed for use within the company	Young interns	Mexico and USA	Problem solving, creativity, speaking, listening, teamwork, leadership
Gutman and Schoon	<i>Aiming high, aiming low, not knowing where to go: Career aspirations and later outcomes of adolescents with special educational needs</i>	2017	L3	GCSE points and employment outcomes	Autistic young people, aged 14 to 20 years	UK	Aiming high

Table 6: Level 2 and lower studies exploring transitions and employment outcomes

Authors	Title	Year	Quality level	Characteristics of pupils	Relevant essential skills
Finch, Hamilton, Baldwin and Zehner	<i>An exploratory study of factors affecting undergraduate employability</i>	2013	L1	Graduates	Problem solving, speaking, listening
Teijeiro, Rungo and Freire	<i>Graduate competencies and employability: The impact of matching firms' needs and personal attainments</i>	2013	L1	Graduates	Speaking, listening, problem solving
van Dierendonck and van der Gaast	<i>Goal orientation, academic competences and early career success</i>	2013	L1	Business school graduates	Aiming high

In-depth review of the studies

Studies examining the impact of skills-focused interventions on employment outcomes

Yedia et al.'s 2003 study found that taking part in communication training significantly improved third-year medical students' overall communications competence, as well as other beneficial skills such as relationship building, negotiation and shared decision making/organisation and time management. The study used a comparison group design in which medical students from three different US medical schools took part in communication skills training over the course of their third year of study. This training was conducted using an established educational model to teach and practise core communication skills and self-reflection. The study used Objective Structured Clinical Examinations (OSCE) at baseline and endpoint to assess the patient care skills of the 155 randomly-selected students who had participated in the training and the 138 students in the comparison group. Their findings demonstrate effect sizes that range from moderate (0.45) to large (0.90) for overall OSCE score.

Studies examining skills' impact on employment outcomes

Albandea and Giret's 2018 study examines the impact of soft skills – perseverance, self-esteem, risk-taking, communication with others and sociability – on the wages of young post-secondary graduates in France. The study drew on two data sources. The first was a 2013 survey of young people who left education in 2010. Survey responses were collected from young people with a range of education levels, and the sample was nationally representative (n=33,000). The researchers combined this with survey data from university graduates (n=1,291) collected in 2013 and 2014. The data focused on their earnings, and 'soft skills'. The study deployed quantile analysis, comparing the relative influence of different skills on different wage brackets. The research found that 'soft skills' help to explain pay differentials amongst young post-secondary students. Alongside educational level and field of specialism, perseverance, self-esteem, risk taking and communication are linked to wages and that the association is particularly strong amongst the highest earners (indicating these skills matter for accessing top jobs).

Albandea and Giret's 2018 study has a number of limitations. Firstly, it was unable to pinpoint where or how skills were acquired. The researchers noted that skills were 'declarative', meaning the young people surveyed may have felt they have the skills, rather than actually possessing them. Furthermore, the study demonstrates association rather than causality given that it is possible that different forms of employment may develop different skills.

Galvan et al. (2014) sought to identify skills that might be related to internship performance, using measured performance outcomes for 500 individuals participating in an internship programme with a multinational steel company. Intern performance data (based on tutors' feedback in questionnaire responses) was collected over four years, and analysed against a list of 21 '21st Century skills'⁵.

⁵ The National Research Council defined three categories of '21st Century' skills that were used in this study: (1) Cognitive skills: problem solving (non-routine), critical thinking, systems thinking, information/ ICT literacy, creativity, and learning to learn/meta-cognitive skills; (2) Interpersonal skills: complex communication, social skills, teamwork/collaboration, social-cultural sensitivity, responsibility, tolerance for diversity, emotional/social intelligence, and leadership; and (3) Intrapersonal skills: self-management, time management, self-development, self-regulation, adaptability, flexibility, executive functioning, core self-evaluation, work ethic, persistence, study skills, ethics and integrity, and citizenship.

These skills included problem solving, critical-thinking, creativity, complex communication, teamwork, leadership emotional/social intelligence and self-development. Internship outcomes were predicted using linear regression, and overall internship performance was predicted using ordered logistic regression. The researchers found that while cognitive skills were necessary, having these skills was not sufficient for interns to be successful. Nonetheless, interpersonal and intrapersonal skills were significantly associated with better internship outcomes and professional performance, although the study does not explore *how* these skills can be best cultivated.

As well as exploring educational outcomes, Gutman and Schoon's work (2017), discussed in section 5.2, also examined employment outcomes. The authors measured the association between high career aspirations and employment outcomes of young people who have SEND. The authors found that, amongst young people with SEND, high career aspirations at age 14 are a predictor of fewer months spent Not in Education, Employment or Training (NEET) by age 20.

Teijeiro et al. (2013) deployed questionnaires to examine the link between graduate competencies and employability. 1,052 graduates from a Spanish university completed a questionnaire asking about their backgrounds, and about their self-perceived competence in 19 different skills areas, including 'instrumental skills' (for example, decision making and problem solving), interpersonal skills (for example, teamwork) and 'systemic skills' (for example, ability to learn, adaptability and motivation). The researchers compared these results with 907 responses from local employers, who were asked which skills they value most highly. The study indicated that while there was a mismatch between graduates' competencies and those required by employers, graduates who believed they had stronger 'systemic' skills were more likely to be employed after graduation. However, the study's reliance on self-report and correlational nature means it provides limited information about the extent to which these skills resulted in improved employment outcomes.

Finch et al.'s 2013 study of graduate employability also examined the importance of soft skills to employers, and involved a two-stage methodology. The first stage entailed 30 interviews with company hiring managers; the second stage involved surveying 115 employers, who ranked the importance of 17 employability factors including academic credentials and skills such as creativity, critical thinking, listening, communication, and leadership. This study found that 'soft skills' (particularly listening and interpersonal skills) were especially important to employers, and may therefore shape graduates' employment prospects⁶. However, because the study focused solely on employers' perceptions, it did not examine graduates' actual transitions between university and employment.

Van Dierendonck and van der Gaast's research (2013) exploring the impact of goal orientation on the early careers of 247 business school graduates found that goal orientation was associated with later career success. This study used two measures of success: salary growth and subjective career satisfaction, and found that, amongst the sampled graduates, a desire to master a specific skill or topic was enough to buffer the potentially negative influence of low academic grades.

⁶ This aligns with the findings of other employer surveys, for example the Pearson/CBI annual skills surveys.

The theory of skills development for employment outcomes

As noted in section 5.3 Gutman and Schoon use a theory of circumscription and compromise in their study, suggesting that young people with SEND experience more barriers to achievement, which may result in lower career aspirations. Galvan et al.'s study hypothesises that, by developing a wide range of skills – such as teamwork, the ability to understand clients' needs and being proactive – that are not directly related to the technical abilities necessary to perform tasks in the workplace interns develop an ability to execute more complex professional tasks. The authors therefore argue that while cognitive skills are important and necessary, interpersonal and intrapersonal skills are vital for success in the workplace.



Chapter 7: Social and emotional outcomes

Overview of the findings and studies

Seventeen studies relating to social, emotional and wellbeing outcomes emerged from our title and abstract sift. Of these, we included six studies meeting evidence standards 3 or 4 (see Table 7), and four at level 2 or lower (see Table 8). Five studies examined skills interventions and their impact on young people's social and emotional outcomes (Paths A and B), and five examined skills' relationship with social and emotional outcomes (Path C). Robust studies examining skills interventions highlight a causal link between such interventions and improved social and emotional welfare among children and young people, as well as the prevention of negative behaviours. We identified one study that explored the benefits of interventions on young autistic people's social competencies, and one study that examined the benefit of positive mindsets on diabetic young people.

Table 7: Level 3 and 4 studies exploring social, emotional and wellbeing outcomes

Authors	Title	Year	Quality level	Measurement	Characteristics of pupils	Country	Relevant essential skills
Ashdown and Bernard	<i>Can explicit instruction in social and emotional learning skills benefit the social-emotional development, well-being, and academic achievement of young children?</i>	2012	L4	Surveys and teacher reported reading level	Reception and Year 1 pupils	Australia	Staying positive, teamwork
Kargar, Ajilchi, Choreishi and Zangene	<i>The Effect of Teaching Critical and Creative Thinking Skills on the Locus of Control and Psychological Well-Being in Adolescents</i>	2013	L4	Questionnaires and assessment at baseline and endpoint (Locus of control scale, questionnaires of psychological well-being, critical thinking skills test, creativity inventory)	Male pupils, aged 15 years	Iran	Creativity, problem solving
Lynch, Geller and Schmidt	<i>Multi-Year Evaluation of the Effectiveness of a Resilience-Based Prevention Program for Young Children</i>	2004	L4	Statistical analysis of data from multiple quasi-experimental evaluations	Preschool and elementary school pupils	USA	Staying positive
Matschek-Jauk, Krammer and Reicher	<i>The life-skills program Lions Quest in Austrian schools: implementation and outcomes</i>	2018	L4	Paper and pencil questionnaires filled out by participants before and after the programme	Pupils aged 9 to 15 years	Austria	Listening, speaking, problem solving
Reynolds and Baird	<i>Is there a downside to shooting for the stars? Unrealized educational expectations and symptoms of depression</i>	2010	L3	Two national longitudinal studies	Young adults pre university	USA	Aiming high
Shardlow and Madsen	<i>The Downside of Aiming High: The Relationship Between Career Aspirations Difficulty and Depression</i>	2016	L3	Data from the Wisconsin Longitudinal Study (WLS), and participants used the Center for Epidemiologic Studies' Depression Scale ("CESD")	High school graduates	USA	Aiming high

Table 8: Level 2 and lower studies exploring social, emotional and wellbeing outcomes

Authors	Title	Year	Quality level	Characteristics of pupils	Relevant essential skills
Erozkan	<i>The effect of communication skills and interpersonal problem solving skills on social self-efficacy</i>	2013	L2	High school pupils	Listening, speaking, problem solving
Karakullukçu	<i>The effect of communication competence on alienation in sports: A research on university students</i>	2020	L2	University students	Listening, speaking
Connor, Sung, Strain, Zeng and Fabrii	<i>Building Skills, Confidence, and Wellness: Psychosocial Effects of Soft Skills Training for Young Adults with Autism</i>	2020	L1	Autistic young people, aged 17 to 25 years	Speaking, listening, teamwork
Lord, Rumburg, and Jaser	<i>Staying positive: Positive affect as a predictor of resilience in adolescents with type 1 diabetes</i>	2015	L1	Teenagers	Staying positive

In-depth review of the studies

Studies examining the impact of skills-focused interventions on social and emotional outcomes

Matschek-Jauk, Krammer, and Reicher (2018) deployed a quasi-experimental research design to investigate the effectiveness of a life-skills programme which was delivered over two years to 363 pupils aged 9 to 15, across 16 classes in three Austrian schools. The intervention – “*Lions Quest*” – originated in the US and is delivered by classroom teachers as part of discrete activities, targeting children’s wellbeing including their self-confidence, emotional regulation and relationship skills. The programme used over 75 structured lessons to teach pupils skills such as communication, assertiveness, problem solving and social skills. Pupils in both control and intervention groups took baseline and endpoint tests. The tests assessed class climate (including factors such as bullying) and psychosocial health. Matschek-Jauk et al. reported improvements in class climate in the treatment classes, with a reduction of reported bullying and fighting between pupils. They therefore concluded that the intervention had had a positive impact. However, no significant effect was found on pupils’ psychosocial health.

While Kargar et al.’s study (2013) was conducted in Iran (not an OECD country), it is included here despite not meeting our inclusion criteria because of its particular relevance. This small-scale quasi-experimental study involved 40 male students from one high school in Tehran. Pupils were randomly selected, and divided into treatment and control groups. The students completed pre-test ‘locus of control’ questionnaires, examining their psychological wellbeing. The treatment group then took part in ten sessions (totalling 20 hours of lesson time) in which they were taught creative and critical thinking skills. Post-test questionnaires assessed students’ critical thinking, creativity and locus of control, and indicated significant increases in creative thinking, critical thinking and psychological wellbeing ($p < 0.05$).

Ashdown and Bernard’s small-scale research into the impact of explicit social and emotional skills instruction, including skills such as resilience, speaking and listening, on children in Reception and Grade 1 classes – discussed in section 5, above – used a control group design to explore the impact of a social and emotional learning skills programme on pupils’ social-emotional development, wellbeing, and academic achievement. They reported that students in the study who took part in the social and emotional skills teaching programme displayed significantly greater gains in their teacher-rated levels of social-emotional competence (measured using observations of positive self-orientation and positive work-orientation), and their social skills (assessed by observations of co-operation, assertion, and self-control), than the students in the control group.

Connor et al.’s (2020) study reported findings from a small-scale quasi-experimental pilot, examining the impact of eight ‘soft skills’ training sessions on young adults ($n=26$) aged 17 to 25 with high-functioning autism. The training was delivered weekly during 90 minute sessions to small groups of three to six students, and focused on participants’ communication, attitude and enthusiasm, teamwork, networking, problem solving, and professionalism. Pre-test meetings were conducted with the participants, and based around validated scales assessing social cognitive and social functioning, self-efficacy and mental wellbeing. Immediate post-test meetings took place within two weeks of programme completion, and follow-up meetings within ten weeks. Although the study was small scale in nature it reported significant and sustained impact on the young people’s

social functioning and self-efficacy, statistically significant reductions in anxiety, and a trend toward lessening depressive symptoms.

Lynch, Geller and Schmidt (2004) analysed data from multiple, quasi-experimental pilot evaluations (each involving over 200 children) and replication trials of a US-based, year-long programme designed to increase children's resilience in preschool through to elementary grades. The programme was called 'Al's Pal's: Kids Making Healthy Choices', and was delivered twice weekly in 15- to 20-minute sessions by classroom teachers. Each session involved activities including puppet-led discussions and role-play, reinforcing pro-social behaviours. Evaluations suggested that the intervention had a statistically significant impact on children's prosocial behaviours, social interaction and coping skills. Preliminary analyses of the replication trials data also indicated an apparent preventative effect on the children receiving the intervention, in relation to reduced anti-social and aggressive behaviours.

Studies examining skills' impact on social and emotional outcomes

Concerns are sometimes raised that traits such as 'aiming high' might have a negative impact on wellbeing where goals are frustrated or unmet. This has been explored in a number of studies. When looking at the impact of aspirations on later mental health outcomes, Shardlow and Madsen wrote that individuals who set themselves challenging aspirations tended to achieve higher incomes later in life. The study defined aspirations as "career-related goals", and conceptualised aspirations as a form of planning and goal-setting⁷. Shardlow and Madsen identified this association by analysing data from the Wisconsin Longitudinal Study of adults who graduated from Wisconsin high schools in 1957 and who were in full time employment in 1992-93 (n=4,330). They examined participants' career aspirations when leaving school alongside their incomes, and experiences of depression in adulthood, using the Center for Epidemiologic Studies Depression Scale to assess depressive symptoms. Their analysis suggested that those who do not reach their goals – especially those anticipating high prestige career pathways – are more likely to experience depression.

However, Reynolds and Baird's (2010) large-scale study reached a different conclusion, suggesting that while low academic attainment has negative impact on mental health in adulthood, there is very little evidence that 'shooting for the stars' has an emotional cost later on in life, once educational attainment is taken into account. This study used longitudinal datasets and regression analyses to explore the impact of 'aiming high' on two cohorts of American high school students' mental health as they progressed into early adulthood. Participants aged 14 to 22 in 1979 were interviewed annually between 1979 and 1994, and biennially from 1996 to 2009. Reynolds and Baird analysed interview data from 5,257 participants, contrasting educational expectations in high school with educational attainment and then with mental health in early to middle adulthood. In contrast to Shardlow and Madsen's conclusion, according to their analysis, holding high unmet aspirations did not result in a higher likelihood of experiencing depression later in life.

Karakullukçu's 2020 study used partial least squares (PLS) and structural equation modelling (SEM) to examine the effect of communication competence on the alienation of students who play sport.

⁷ Shardlow and Masden's study does not conform exactly to the Skills Builder Partnership's definition of 'aiming high', but does conceptualise 'aspirations' in terms of goal-setting and planning. Consequently, we have included this study in our review.

The sample was drawn from two universities in Ankara, Turkey, and the authors concluded that communication competence plays a role in ensuring that students do not feel socially alienated from their peers. Another Turkish study conducted by Erozkan (2013) looked at the predictive role of communication skills and interpersonal problem solving skills on high school students' social self-efficacy. 494 students were randomly selected, and answered questionnaires based on validated scales including the Communication Skills Inventory and Social Self-Efficacy Scale for Adolescents. The author interrogated the relationships between the different skill areas, and found that communication and problem solving skills were significantly correlated with social self-efficacy. However, the study did not establish causation, instead demonstrating the inter-related nature of the skills in question.

Lord et al. (2015) used surveys, observations and medical records to assess the impact of positivity on the health and wellbeing of young people with diabetes (n=93 at baseline with attrition of 12 by follow-up six months later). The study reported that positive mood (both self-reported and observed) was associated with positive health outcomes related to diabetes, and also with improved psychological symptoms, and quality of life.

The theory of skills development for social and emotional outcomes

Reynolds and Baird's study tested the relevance of self-discrepancy theory, according to which, gaps between an individual's actual and ideal identity and experience can be harmful. Thus, the theory hypothesises that aiming high but not experiencing success might cause a conflict between an individual's ideal identity and their experience, resulting in poor wellbeing. However, their findings demonstrate that gaps between individuals' desired and actual achievements may not result in worse mental health. The authors proposed this can be explained in part by 'adaptive resilience', a concept within social psychology and child development research which theorises that individuals are often able to problem solve and adapt to unplanned circumstances, using them as opportunities for development and growth.

Ashdown and Bernard's findings indicate that the explicit teaching of social and emotional skills may support children to feel more confident developing relationships, managing emotions and resolving conflict and that this may in turn support increased competence.

Chapter 8: Conclusion

What skills are linked with improved outcomes for young people?

Robust studies included in this review indicate that the possession of essential skills, and their development through interventions, can be beneficial for children and young people in terms of their educational, employment and social and emotional outcomes.

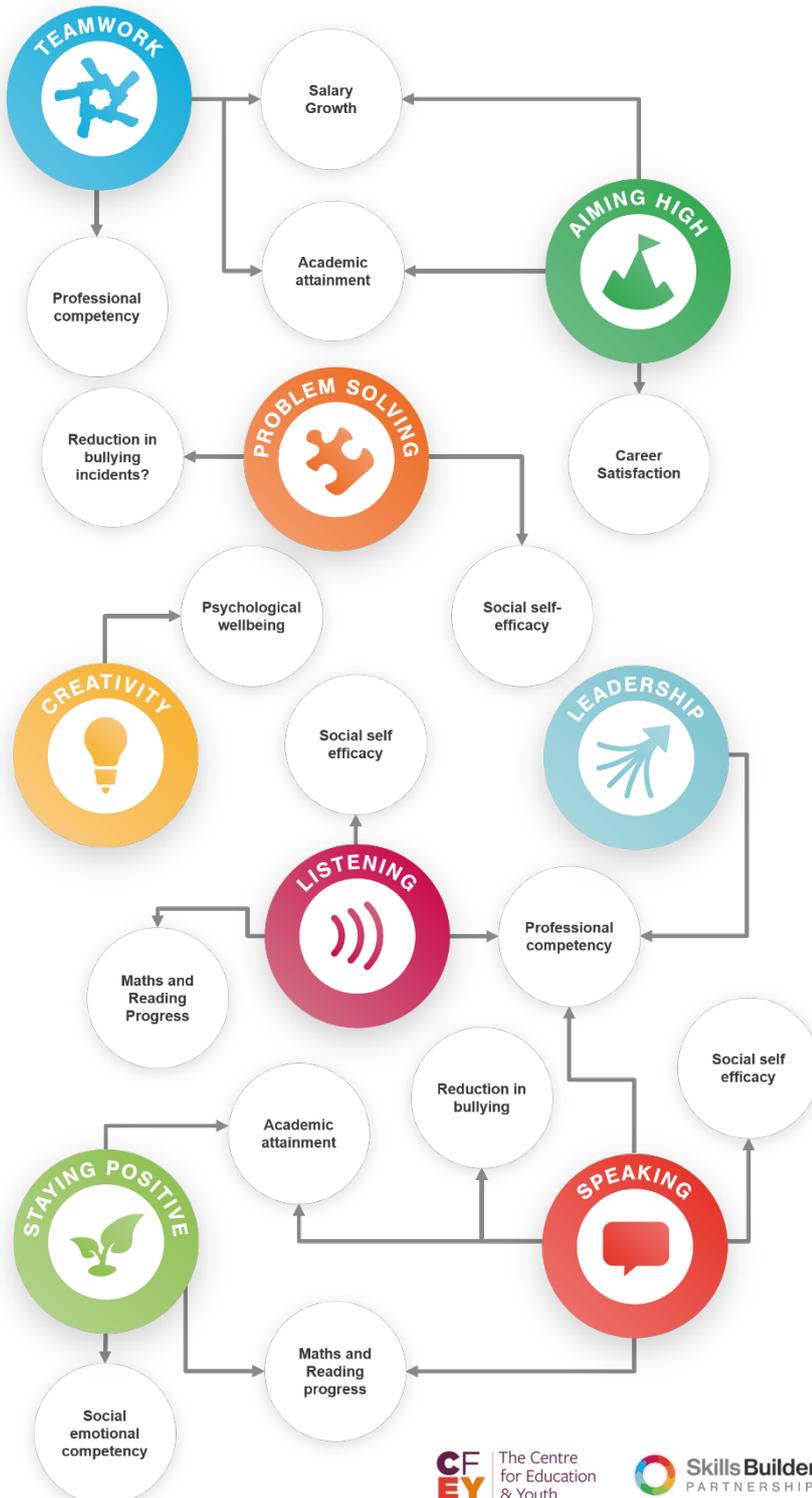
There is a wide range of existing evidence pointing towards numerous, overlapping links and interactions between interventions, skills and outcomes. The evidence indicates that interventions focused on pupils' social and emotional wellbeing can – if well implemented – improve children and young people's emotional competencies (including self-regulation and self-esteem), and social competencies (including relationship building). We also found evidence that the possession of skills such as verbal communication and perseverance can positively influence young people's employment prospects, although the evidence is less clear on how these skills are best developed (or from where they originate). There was some evidence that the possession of essential skills, and interventions targeting these skills, improve young people's academic outcomes, although this evidence tended to be less robust, reliant on smaller-scale studies. In most cases, the evidence for causal links and associations between particular interventions, the development of particular essential skills, and the realisation of particular outcomes for young people, rested on a small number of robust studies.

Due to the wide variety of ways in which particular skills are defined in the literature, we have used the Skills Builder Partnership's eight essential skills as a typology to draw overall conclusions from multiple studies.

The literature suggests that interventions designed to teach and model social and emotional skills, such as **listening**, **speaking** and **staying positive**, are associated with improved attainment amongst younger pupils in school. Furthermore, young people's propensity to **aim high** at school and university appears to be causally linked to improved academic performance for pupils with special educational needs. Aiming high also appears to be predictive of success in employment, defined by salary growth and career satisfaction, although there is disagreement in the literature about the extent to which not meeting high aspirations can result in poorer mental health.

Research suggests that young people's ability to **stay positive** may be linked to increased academic attainment. The development and possession of **teamwork** and interpersonal skills is associated with improved academic attainment, as well as with high performance in internships and the workplace. **Leadership** skills have also been linked to success in the workplace among young adults.

Communication skills, including **speaking** and **listening**, are linked to a number of positive educational and employment outcomes for young people, including academic attainment and professional competency. There is also evidence that teaching and developing these skills could



support young people’s social and emotional wellbeing, through improved social self-efficacy, reduction of bullying in class and alienation when participating in sport, and reduction of symptoms of anxiety and depression for Autistic young people.

Research on interventions supporting young people’s **problem solving** skills suggest that development of these skills is associated with positive social and emotional wellbeing outcomes, including a reduction of bullying incidents in the classroom, reduction of symptoms of anxiety and depression amongst Autistic young people and improved social self-efficacy. The teaching of skills for **creativity** has also been linked to improved psychological wellbeing for young people.

Research suggests that the ability to **stay positive** is a skill that supports the social and emotional wellbeing of young people. The studies discussed here indicated that staying positive can improve young people’s social-emotional competence.

Implications for practice

This review highlights the need for future research to unpick the features of skills-focused practices that generate the greatest benefits for children and young people. However, some underlying features of effective interventions did emerge from the literature. Three of these principles in particular align closely with the Skills Builder Partnership's principles⁸, outlined in the introduction, namely that interventions should be:

- **Regular**, implemented on at least a weekly basis⁹.
- **Long term**, helping children and young people develop skills over time¹⁰.
- **Explicit**, making the skills themselves the focus of teaching activities¹¹.
- **Embedded**, where possible highlighting skills as they arise during subject¹². teaching, and across the school curriculum rather than in classroom siloes¹³.

Meanwhile, the literature suggests that successful interventions are also underpinned by three additional principles, namely that interventions should be:

- **Structured** (but not rigid), breaking the skills down into chunks, highlighting what 'success' looks like and how skills can be utilised across different aspects of life, and helping children and young people identify how they can improve¹⁴.
- **Supported**, giving teachers and other adults working with children and young people the resources and training they need to implement essential skills teaching effectively, perhaps with the support of a dedicated coordinator¹⁵.
- **Targeted**, ensuring that children and young people who need additional help get it, and that the teaching of skills is responsive to needs including special educational needs and disabilities¹⁶.

Implications for research

Based on our review, we believe there is a need for research that:

- Evaluates outcomes across a range of areas, including education, employment and wellbeing, over time incorporating shorter- and longer-term metrics.
- Evaluates outcomes across a range of areas, including education, employment and wellbeing across different age groups and education settings.
- Evaluates the impact of interventions and skills on school-age children.

⁸ These principles are: 1. Keep it simple; 2. Start early, keep going; 3. Measure it; 4. Focus tightly; 5. Keep practising; 6. Bring it to life. More information is available on the Skills Builder Partnership's website: <https://www.skillsbuilder.org/principles>

⁹ Ashdown and Bernard, 2012; Linares et al., 2005; Vidic, 2011; Yedidia et al., 2003; Maticsek-Jauk, Krammer, and Reicher, 2018; Kargar et al., 2013; Connor et al., 2020; Lynch, Geller and Schmidt, 2004.

¹⁰ Linares et al., 2005; Maticsek-Jauk, Krammer, and Reicher, 2018; Connor et al., 2020; Lynch, Geller and Schmidt, 2004.

¹¹ Ashdown and Bernard, 2012; Linares et al., 2005; Jaeger, 2003; Yedidia et al., 2003;; Maticsek-Jauk, Krammer, and Reicher, 2018; Kargar et al., 2013; Connor et al., 2020; Lynch, Geller and Schmidt, 2004.

¹² Vidic, 2011; Rodriguez, 2009; Yedidia et al., 2003.

¹³ Ashdown and Bernard, 2012; Linares et al., 2005; Vidic, 2011; Rodriguez, 2009; Jaeger, 2003; Yedidia et al., 2003; Maticsek-Jauk, Krammer, and Reicher, 2018; Kargar et al., 2013; Connor et al., 2020; Lynch, Geller and Schmidt, 2004.

¹⁴ Ashdown and Bernard, 2012; Linares et al., 2005; Vidic, 2011; Rodriguez, 2009; Jaeger, 2003; Yedidia et al., 2003; Maticsek-Jauk, Krammer, and Reicher, 2018; Kargar et al., 2013; Connor et al., 2020; Lynch, Geller and Schmidt, 2004.

¹⁵ Ashdown and Bernard, 2012; Jaeger, 2003; Yedidia et al., 2003; Connor et al., 2020; Lynch, Geller and Schmidt, 2004.

¹⁶ Ashdown and Bernard, 2012; Yedidia et al., 2003; Maticsek-Jauk, Krammer, and Reicher, 2018; Connor et al., 2020; Lynch, Geller and Schmidt, 2004.

- Maps the mechanism for change (how skills were developed) against young people's outcomes over time.
- Examines the comparative benefits of teaching individual skills versus clusters of skills simultaneously, and the opportunity costs associated with teaching skills explicitly versus not doing so.
- Evaluates the premiums associated with higher levels of essential skills compared to higher qualification levels in terms of employment outcomes and transitions to adulthood.

Further reading

You may find the following helpful in learning more about essential skills, and the Skills Builder Partnership:

- Ravenscroft, T.M. (2017) *The Missing Piece: The essential skills that education forgot*, Woodbridge: John Catt Educational Ltd.
- Ravenscroft, T.M. & Baker, L. (2020) *Towards a Universal Framework for Essential Skills*, London: Essential Skills Taskforce
 - At: <https://www.skillsbuilder.org/towards-a-universal-framework-for-essential-skills>
- Ravenscroft, T.M. (2020), *Skills Builder Universal Framework of Essential Skills*, London: Skills Builder Partnership
 - At: <https://www.skillsbuilder.org/universal-framework/listening>

Chapter 9: References

- Albandea, I., Giret, J.F. (2018) 'The effect of soft skills on French post-secondary graduates' earnings'. In: International Journal Of Manpower
- Ashdown, D.M. & Bernard, M.E. (2012) 'Can Explicit Instruction in Social and Emotional Learning Skills Benefit the Social-Emotional Development, Well-being, and Academic Achievement of Young Children?'. In: Early Childhood Education Journal
- Connor, A., Sung, C., Strain, A., Zeng, S. and Fabrizi, S. (2020) 'Building Skills, Confidence, and Wellness: Psychosocial Effects of Soft Skills Training for Young Adults with Autism'. In: Journal Of Autism And Developmental Disorders
- De Grez, L., Valcke, M. and Roozen, I. (2009) 'The impact of goal orientation, self-reflection and personal characteristics on the acquisition of oral presentation skills'. In: European Journal Of Psychology Of Education
- Erozkan, A. (2013) 'The effect of communication skills and interpersonal problem solving skills on social self-efficacy'. In: Educational Sciences: Theory and Practice
- Finch, D.J., Hamilton, L.K., Baldwin, R. and Zehner, M. (2013) 'An exploratory study of factors affecting undergraduate employability'. In: Education + Training
- Galvan, J.A., Casman, E., Fisher, E., Nair, I. and Small, M.J. (2014) 'Assessing the Role of 21st Century Skills on Internship Outcomes in a Steel Multinational Enterprise'. Carnegie Mellon University Press
- Gutman, L.M. and Schoon, I. (2013) 'The impact of non-cognitive skills on outcomes for young people'. Education Endowment Foundation
- Gutman, L.M. and Schoon, I. (2017) 'Aiming high, aiming low, not knowing where to go: Career aspirations and later outcomes of adolescents with special educational needs'. In: International Journal of Educational Research
- Hughes, D., Mann, A., Barnes, S., Baldauf, B. and McKeown, R. (2016) 'Careers education: International literature review'. [Accessed at: <https://www.educationandemployers.org/wp-content/uploads/2016/07/Careers-review.pdf>]
- Jaeger, A.J. (2003) 'Job competencies and the curriculum: An inquiry into emotional intelligence in graduate professional education'. In: Research in higher education
- Karakullukçu, O.F. (2020) 'The effect of communication competence on alienation in sports: a research on university students'. In: Acta Medica Mediterranea

Kargar, R.F., Ajilchi, B., Choreishi, K.M. and Zangene, Z.Z. (2013) 'The Effect of Teaching Critical and Creative Thinking Skills on the Locus of Control and Psychological Well-Being in Adolescents'. In: World Conference On Psychology And Sociology 2012

Linares, L. O., Rosbruch, N., Stern, M.B., Edwards, M.E., Walker, G., Abikoff, H.B. and Alvir, J.M.J. (2005) 'Developing cognitive-social-emotional competencies to enhance academic learning'. In: Psychology in the Schools

Lord, J.H., Rumburg, T.M. and Jaser, S.S. (2015) 'Staying positive: Positive affect as a predictor of resilience in adolescents with type 1 diabetes'. In: Journal of Pediatric Psychology

Lynch, K.B., Geller, S.R. and Schmidt, M.G. (2004) 'Multi-Year Evaluation of the Effectiveness of a Resilience-Based Prevention Program for Young Children'. In: Journal of Primary Prevention

Matschek-Jauk, M., Krammer, G. and Reicher, H. (2018) 'The life-skills program Lions Quest in Austrian schools: implementation and outcomes'. In: Health Promotion International

Reynolds, J.R. and Baird, C.L. (2010) 'Is there a downside to shooting for the stars? Unrealized educational expectations and symptoms of depression'. In: American Sociological Review

Roebken, H. (2007) 'The influence of goal orientation on student satisfaction, academic engagement and achievement'. In: Electronic Journal of Research in Educational Psychology

Rodriguez, C.M. (2009) 'The impact of academic self-concept, expectations and the choice of learning strategy on academic achievement: The case of business students'. In: Higher Education Research & Development

Shardlow, T. and Madsen, P.M. (2016) 'The Downside of Aiming High: The Relationship Between Career Aspirations Difficulty and Depression'. Academy of Management Proceedings

Teijeiro, M., Rungo, P. and Freire, M.J. (2013) 'Graduate competencies and employability: The impact of matching firms' needs and personal attainments'. In: Economics of Education Review

van Dierendonck, D. and van der Gaast, E. (2013) 'Goal orientation, academic competences and early career success'. Rotterdam School of Management

Vidic, A.D. (2011) 'Impact of Problem-based Statistics Course in Engineering on Students' Problem solving Skills '. In: International Journal Of Engineering Education

Yedidia, M.J., Gillespie, C.C., Kachur, E., Schwartz, M.D., Ockene, J., Chepaitis, A.E., Snyder, C.W., Lazare, A. and Lipkin Jr, M. (2003) 'Effect of communications training on medical student performance'. In: Jama



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