



OECD Education Working Papers No. 241

Career ready? How schools
can better prepare young
people for working life in the
era of COVID-19

**Anthony Mann,
Vanessa Denis,
Chris Percy**

<https://dx.doi.org/10.1787/e1503534-en>

DIRECTORATE FOR EDUCATION AND SKILLS**Career Ready? How schools can better prepare young people for working life in the era of COVID-19****OECD EDUCATION WORKING PAPER NO. 241**

Anthony Mann (OECD), Vanessa Denis (OECD) and Chris Percy (Visiting Research Fellow, University of Derby).

This working paper has been authorised by Andreas Schleicher, Director of the Directorate for Education and Skills, OECD.

Anthony Mann (Anthony.mann@oecd.org)

JT03469692

Acknowledgements

This working paper was drafted by Anthony Mann (OECD) with statistical analysis undertaken by Vanessa Denis (OECD) and, with regard to new analysis of the British Cohort Study 1970 reported in Section four, by Chris Percy (University of Derby). Earlier versions of the paper benefited from the valuable feedback of Jonathan Barr, Yuri Belfali, David Blustein, Esther Carvalhaes, Anne Hampshire, Ed Hidalgo, Deirdre Hughes, Beth Nalter, Andreas Schleicher and Miho Taguma. The description of the Finnish School-to-Work Group Method benefited significantly from discussion with Petri Koivisto, Jukka Vuori and Raimo Vuorinen. Important discussions with Dave Turner and Barbara MacLennen aided understanding of the New Zealand WE3 programme. Editorial support for the paper was provided by Carrie Richardson and Rachel Linden.

The OECD gratefully acknowledges the support of our partners in this work: the Jacobs Foundation (Switzerland) and the National Center on Education and the Economy (United States).



OECD EDUCATION WORKING PAPERS SERIES

OECD Working Papers should not be reported as representing the official views of the OECD or of its member countries. The opinions expressed and arguments employed herein are those of the author(s).

Working Papers describe preliminary results or research in progress by the author(s) and are published to stimulate discussion on a broad range of issues on which the OECD works. Comments on Working Papers are welcome, and may be sent to the Directorate for Education and Skills, OECD, 2 rue André-Pascal, 75775 Paris Cedex 16, France.

This document, as well as any data and map included herein, are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.

The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

The use of this work, whether digital or print, is governed by the Terms and Conditions to be found at <http://www.oecd.org/termsandconditions>.

Comment on the series is welcome, and should be sent to edu.contact@oecd.org.

This working paper has been authorised by Andreas Schleicher, Director of the Directorate for Education and Skills, OECD.

Abstract

The focus of this working paper is on how secondary schools can optimise young people's preparation for adult employment at a time of extreme labour market turbulence. By reviewing academic analysis of national longitudinal datasets, it is possible to identify indicators of comparative adult success. How teenagers (i) think about their futures in work and what they do to (ii) explore and (iii) experience workplaces within and outside of schools is consistently associated with better than expected employment outcomes in adulthood. Data-driven career guidance will take such indicators into account within delivery. Analysis of the Programme for International Student Assessment (PISA) 2018 illustrates substantial variation in the extent of such career readiness between and within countries. Variation in career readiness is particularly associated with disadvantage. More effective education systems will ensure schools systematically address inequalities in teenage access to information and support in preparing for working life.

Table of Contents

Acknowledgements	2
Abstract	4
1. Introduction	8
1.1. Paper summary	8
1.2. Heading for a fall? Young people in the new labour market.	10
1.3. The capacity to aspire	14
1.4. The Future of Education and Skills 2030.....	16
1.5. Longitudinal data as a means of understanding what shapes employment outcomes	17
1.6. Career guidance in the pandemic.....	22
2. Thinking about the Future	23
2.1. What young people think about themselves matters.....	23
2.2. Career concentration and unrealistic expectations of the labour market	24
2.3. Longitudinal indicators of adult employment outcomes.....	26
2.4. Career ambition.....	31
2.5. Career misalignment.....	37
2.6. Career thinking and strategically important professions: two examples	38
2.7. The skilled trades and other professions typically accessed through VET	39
2.8. Nursing: Young people’s interests vary considerably between countries and are distorted by gender and social background.....	43
2.9. Implications for policy and practice.....	47
3. Exploring the future	50
3.1. Student agency in exploration of the labour market	50
3.2. Career conversations: Many teenagers, notably from disadvantaged backgrounds, do not speak to anyone about their job interests	53
3.3. Does participation in school-mediated career guidance improve young people’s employment outcomes?	59
3.4. How young people respond to career development activities: the case of career talks.	66
3.5. Three examples of effective practice in careers guidance	70
3.6. Implications for policy and practice.....	73
4. Experiencing the future	75
4.1. Introduction.....	75
4.2. Workplace experiences in PISA and longitudinal data.....	75
4.3. Part-time teenage working	75
4.4. Internships and short work placements.....	84
4.5. Student volunteering	88
4.6. Explaining long-term employment benefits linked to teenage experiences of the labour market	91
4.7. Implications for policy and practice.....	97
5. Conclusions	99
5.1. Preparing for working life.....	99
5.2. The unprecedented importance of career guidance.....	100

5.3. Good practice in career guidance.....	101
5.4. From good practice to effective delivery	101
5.5. Indicators of effective school to work transitions	102
5.6. The constrained capacity to aspire	104
5.7. The Future of Education and Skills	105
5.8. Next steps.....	105
Annexe A: Data tables for new British Cohort Study (BCS) analysis	106
References.....	115

Tables

Table 2.1. Highest and lowest levels of teenage career concentration. PISA 2018.....	25
Table 3.1. Participation in career development activities.....	61
Table 3.2. WE3 Continuum: examples of practical activities.	72
Table 4.1. Relationship between participation in school-mediated career development activities (CDA) and student likelihood of undertaking part-time work.	81
Table 4.2. Relationships between confidence in ability to adapt to changing situations and teenage participation in activities enabling experience of labour market.....	95
 Table A 0.1. Descriptive data (pre-imputation) – Outcome variables for men	106
Table A 0.2. Descriptive data (pre-imputation) – Outcome variables for women	106
Table A 0.3 Descriptive data (pre-imputation) – Predictor variables on primary analytical subsample	107
Table A 0.4. Descriptive data (pre-imputation) – Control variables on primary analytical subsample.....	107
Table A 0.5 Local area characteristics	107
Table A 0.6 Socio-demographic data, incl. financial circumstances	109
Table A 0.7 Academic level indicator data prior to the age of 16	110
Table A 0.8 School attitude and behaviour indicators	111
Table A 0.9 Attitude towards work	112
Table A 0.10 Model results – Employment outcomes at age 26*	113
Table A 0.11 Reporting current or prior paid work in term-time at age 16, compared to reporting no experience of paid term-time work.....	113
Table A 0.12 Reporting a useful school-organised work placement at age 16, compared to those not who did not report a placement	113
Table A A.13. Reporting experience of the labour market, comparison by gender	114

Figures

Figure 2.1. Teenage uncertainty in occupational expectations by country.....	29
Figure 2.2. Percentage of students uncertain about their occupational ambitions by student characteristics.	30
Figure 2.3. Changes in the level of teenage uncertainty in career expectations.	31
Figure 2.4. High performers who do not expect to be professionals or managers, by socio-economic status.....	34
Figure 2.5. High performers who do not expect to be professionals or managers, by gender.	35
Figure 2.6. Characteristics of students whose education and career expectations are not aligned. OECD average 2018.....	38

Figure 2.7. Characteristics of young people expecting to work in the skilled trades (ISCO 7000).	40
Figure 2.8. Young people's interest in the skilled trades (ISCO 7000) by gender. OECD countries. ...	41
Figure 2.9. Young people's interest in the skilled trades (ISCO 7000) by gender. Non-OECD countries.	42
Figure 2.10. Characteristics of young people expecting to work in nursing and midwifery. OECD average.....	45
Figure 2.11. Percentage of young people expecting to work in nursing and midwifery by the age of 30. OECD countries.	47
Figure 2.12. Percentage of young people expecting to work in nursing and midwifery by the age of 30. Non-OECD countries.	47
Figure 3.1. Percentage of students agreeing that they had talked to someone about the job they would like to do when they finish their education. OECD countries.	55
Figure 3.2. Percentage of students agreeing that they had talked to someone about the job they would like to do when they finish their education.....	56
Figure 3.3. Relationship between teenage career thinking and having spoken to someone about job interest. OECD average.	57
Figure 3.4. Relationship between participation in career development activities and uncertainty in occupational expectations.....	65
Figure 3.5. Relationship between volume of recalled participation in school-mediated employer engagement activities and satisfaction with school preparation for adult working life.....	69
Figure 4.1. Percentage of 15 year-olds who agree that they earn money by working outside of school hours (e.g. holiday job, part-time work).	76
Figure 4.2. Percentage of 15 year-olds who agree that they earn money from working in a family business	77
Figure 4.3. Percentage of 15 year-olds agreeing that they earn money from occasional informal jobs (e.g. babysitting or gardening).....	78
Figure 4.4. Percentage of young people agreeing they had worked in any form of part-time or temporary employment.....	79
Figure 4.5. Characteristics of teenage part-time working.	80
Figure 4.6. Participation in internships.....	85
Figure 4.7. Characteristics of student participants in internships.....	86
Figure 4.8. Student participation in volunteering.	89
Figure 4.9. Characteristics of student volunteers.	90

Boxes

Box 1.1. National longitudinal studies particularly drawn upon in this study.	19
--	----

1. Introduction

1.1. Paper summary

Young people suffer disproportionately in any recession and that initiated by the COVID-19 pandemic promises to be no exception. Lacking useful work experience, information and contacts, young people struggle to compete for available employment. Analysis of national longitudinal data shows however, that reliable indicators exist of young people's career readiness: better than anticipated adult employment outcomes are statistically connected to (i) what teenagers think about their futures in work, (ii) the extent to which they explore potential futures, and (iii) whether they gain workplace experience while still in school. Collectively, such data-driven indicators reveal greater student agency in approaching school-to-work transitions.

Thinking about the future

What secondary school students think about their future working lives is associated with outcomes in adult work. Students who are uncertain about the job they expect to do as an adult can generally anticipate lower earnings and employment than comparable peers who can name an expected occupation. Students with higher career ambitions can also expect to do better in work as can classmates whose educational plans align with their occupational expectations. The OECD Programme for International Student Assessment (PISA) shows that across the OECD:

- uncertainty has increased by 81% since 2000
- one-third of disadvantaged students have career and education plans that are misaligned and 28% possess the ability, but do not aspire to tertiary education
- young people exhibit increasing levels of career concentration: half of students expressing an aspiration now expect to work in one of ten jobs, a proportion rising to more than 70% in many countries.

PISA data show that young people commonly possess a distorted view of the labour market heavily shaped by social background, gender and migrant status. In many countries, few students express interest in (i) nursing or (ii) skilled occupations typically accessed through Vocational Education and Training, both areas of employment likely to maintain demand through the current global recession.

Exploring the future

PISA 2018 shows that 25% of OECD 15 year-olds do not speak with anyone about their career ambitions. Student career conversations are linked statistically with lower levels of career uncertainty and misalignment and, by national longitudinal studies, with better than expected employment outcomes. Career guidance and occupational exploration programmes enable young people to develop critical thinking about the labour market and their potential roles within it. Benefits are driven by broadening young people's aspirations through multiple direct encounters with people in work, providing students with access to authentic, trustworthy information that challenges and refines career interests and expectations. Examples of programmes designed to enable young people to develop such critical thought are found in Finland, New Zealand and the United States. Across the

OECD, PISA 2018 shows that relatively few 15 year-olds participate in career development activities:

- 50% spoke with a guidance professional in school
- 41% took part in a workplace visit or job shadowing
- 39% attended a job fair

Participation rates in career development activities vary considerably across PISA countries. With compulsory schooling typically ending at 16 across the OECD, student engagement in career development needs to be substantially deepened in many countries.

Experiencing the future

Analysis of national longitudinal databases also reveals consistent evidence that better than expected adult employment outcomes can be linked to teenage participation in part-time work, internships and volunteering. Through activities that give students first-hand experience of the labour market, opportunity emerges for young people to develop knowledge, skills and social capital of long-term value. Statistical analysis shows that participation in such activities is significantly related with greater student confidence in being able to adapt to new circumstances – a characteristic of the emerging labour market. PISA 2018 data show considerable variation between countries in student participation in the labour market:

- 40% participate in the most formal types of part-time work
- 35% participant in internships
- 48% participant in volunteering.

Effective education systems will recognise the value of such engagements and put in place mechanisms that ensure that their students' first direct experience of the workplace is not after they have left full-time education.

Implications for policy and practice

This paper reviews existing academic literature from a number of countries to identify statistically significant associations between teenage career-related attitudes and experiences and later employment outcomes. Such indicators include:

- career certainty: ability to name a job expected at age 30
- career ambition: interest in progressing to higher education and professional/managerial employment
- career alignment: matching of occupational and educational expectations
- career conversations: speaking to an adult about a career of interest
- occupational preparation: participation in short occupationally-specific courses within general programmes of education
- school-mediated work exploration: participation in job fairs, job shadowing and workplace visits
- part-time employment: participation in paid part-time or seasonal work
- volunteering: participation in community-based volunteering

- internships: participation in school-mediated work placements.

Other indicators are also likely to emerge. Such pointers will enable practitioners and policy-makers to move from understanding of good practice in career guidance (around which there is now strong consensus) to determining effective delivery of interventions aimed at enhancing student career readiness. The concept of the capacity to aspire, developed by Indian sociologist Arjun Appadurai offers a helpful means of making sense of the data presented. It is not enough for young people to develop career ambitions, they must also have access to sufficient information and support to broaden ambitions and to inform self-awareness of what it takes to achieve their aspirations and enable progression towards career goals. The indicators identified in this paper help schools to gauge the extent of individual capacity to aspire. The paper establishes the foundations for further new analysis of longitudinal databases and PISA data which will inform new guidance for countries at a time of unprecedented post-war labour market turbulence. By closing the gap between education and employment and equipping young people to become critical thinkers about their prospective lives in work, many education systems and schools have substantial opportunity to better prepare young people for adulthood.

1.2. Heading for a fall? Young people in the new labour market.

In the global recession triggered by the COVID-19 pandemic, young people can expect transitions into employment to become more difficult. Young people are entering hostile labour markets with less work experience, less knowledge of how to find work and poorer networks to help them than older peers. International evidence shows however, that today's students possess unprecedentedly high occupational ambitions. This section describes conceptual and methodological approaches that underpin analysis which harnesses scientific data to better understand how secondary schools can optimise student transitions into work. Drawing on Arjun Appadurai's concept of the capacity to aspire, the section describes national longitudinal databases that allow for the identification of teenage attitudes and experiences which are statistically linked with better than expected labour market outcomes. Data from the OECD Programme for International Student Assessment, which allows for international comparisons of such student career readiness, is then introduced.

Young people are leaving education more qualified than ever before, but they are struggling to compete for available work and at growing risk of precarious employment

Across the OECD the young people who are now leaving education enter the labour market more qualified, with more years of schooling to their names, than any preceding generation in history (Musset, 2018^[1]). In every OECD country, young people are significantly more likely to be educated to tertiary level than their older peers. On average across the OECD in 2018, 45% of adults aged 25-34 had completed higher education compared to 27% of peers aged 55-64. In some countries such as Chile, Italy, Poland, the Slovak Republic and Turkey tertiary participation rates have more than doubled in a generation.¹ Outside of the OECD, similar trends are witnessed. The International Labor Organisation reports that the global youth enrolment in secondary education rose from 59% in 1999 to 76% in 2018 and in tertiary education from 18% to 38% (ILO, 2020^[2]). And yet, in spite of such increases

¹ OECD (2020), Population with tertiary education (indicator). <https://doi.org/10.1787/0b8f90e9-en>. (Accessed on 15 August 2020).

in education provision and qualification accumulation, young people face substantial challenges in moving smoothly into the labour market.

While it would be reasonable to expect a more qualified young workforce with greater apparent levels of human capital to compete more successfully than in the past for available employment, very often this is not the case (Hughes, 2020^[3]). As the ILO has reported:

The labour force participation rate of young people (aged 15–24) has continued to decline. Between 1999 and 2019, despite the global youth population increasing from 1 billion to 1.3 billion, the total number of young people engaged in the labour force (those who are either employed or unemployed) decreased from 568 million to 497 million. While this trend reflects growing enrolment in secondary and tertiary education, resulting in a better-skilled workforce in many countries, it also highlights the substantial numbers of young people who are not in employment, education or training (NEET), a large majority of whom are young women (ILO, 2020^[2]).

Globally in 2019, more than 20% of young people were NEET and they were more than three times more likely than adults aged over 25 to be unemployed with the ratio of youth-to-adult unemployment rising to more than six times in many parts of Asia. When in work, young people struggle to compete for attractive employment. Across the OECD, 35% of young people are employed in low-paid and insecure jobs compared to 16% of older workers (aged 51 or older) (OECD, 2019^[4]) and the work that young people do is at higher risk of automation (Nedelkoska and Quintini, 2018^[5]). While higher levels of education tend to protect against unemployment or underemployment, this is by no means always the case (Burning Glass Technologies and Strada Institute for the Future of Work, 2018^[6]) (World Economic Forum, 2012^[7]).

Why young people struggle to compete for good work on leaving education

While young people can typically demonstrate higher levels of education and qualifications to employers, systematically they lack experience of work. Employers so value experience because it gives them confidence of the capability of a potential recruit to undertake a specific job role. Without experience, young people appear more of a risk to employers as they will struggle to demonstrate how they can be personally effective in applying their certified skills and knowledge in work environments (OECD, 2010^[8]) (OECD, 2010^[9]).

Young people are becoming ever more educated around the world, but they still have lower human capital than adults because they lack work-related competences. These competences can only be acquired on the job, through general and job-specific work experience. This experience gap generates an experience trap as employers search for employees who already possess competences, but young people need work experience to acquire them (Pastore, 2018^[10])

(Pastore, 2018^[10]) illustrates his point by reviewing how young people living in countries with high performing systems of Vocational Education and Training rich in workplace experience, maintain their attractiveness to employers even in periods of economic downturn. This widely recognised phenomenon since the Great Financial Crisis of 2007/08 has inspired governments to greatly expand and reform school- and work-based programmes of vocational education and training (VET) (OECD, 2018^[11]).

However, more than skills training, experience of work brings with it comparative advantages in a wider range of domains. It is an opportunity to develop and practice applied skills, such as creativity, collaboration and problem-solving in real world environments,

developing a cultural familiarity with the demands of the workplace. The UK National Employer Survey for example, questions tens of thousands of employers of all sectors and sizes every few years about how well young recruits have been prepared for work. It consistently finds employers to be generally very happy with the academic preparation of young recruits, but identifies ‘lack of working world/life experience’ as a primary weakness.² As the International Labour Organisation has explained, three key practical reasons help to explain why young people have long been disadvantaged when it comes to finding work:

they have less work experience; they have less knowledge about how and where to look for work; and, they have fewer contacts upon which to call (ILO, 2010_[12]).

The full effect of such comparative disadvantage are revealed as competition for employment intensifies during a recession.

The ‘class of corona’: young people are now facing a significantly more hostile labour market

In any economic recession, young people can expect to be disproportionately affected. As demand contracts, the first instinct of employers is to reduce expenditure by halting hiring and cutting back on the training of new workers (Felstead, 2011_[13]) (Lüthi, 2020_[14]). As lay-offs follow, it is cheaper to make young people redundant than more experienced workers, and particularly easy to lay off precarious workers on temporary or zero-hour contracts who are disproportionately young. In the Great Financial Crisis of 2007/08, in most OECD countries unemployment increased for all, but at a much higher rate for young people (Dettling, 2016_[15]) (Scarpetta, Sonnet and Manfredi, 2010_[16]). It is unsurprising, therefore, that since the emergence of the coronavirus in early 2020, young people have been sharply effected by global economic slowdown (European Youth Forum, 2020_[17]) (Gustafsson, 2020_[18]) (ILO, 2020_[19]). As explained in the OECD Employment Outlook 2020 (OECD, 2020_[20]):

Young people risk being once more among the big losers of the current crisis, much like they suffered heavily during the global financial crisis (Carcillo, 2015_[21]) (OECD, 2016_[22]). This year’s graduates, sometimes referred to as the “Class of Corona”, are leaving schools and universities with often very poor chances of finding employment or work experience in the short run. Meanwhile, their older peers are already experiencing the second heavy economic crisis in their still young careers. The initial labour market experience has a profound influence on the later working life, and a crisis can have long-lasting scarring effects on employment and earnings perspectives (Bell, 2011_[23]) (Schmillen, 2017_[24]). First evidence of labour market data from the current crisis suggest that young workers have been heavily affected, as they generally hold less secure jobs and are overrepresented among workers in hard-hit industries such as accommodation and food services. In the United Kingdom, below-25-year-olds were about 2.5 times as likely as other employees to work in shut-down sectors, a figure that still excludes students in part-time jobs (Joyce, 2020_[25]). Youth employment numbers quickly took a dive: in Canada, the number of employed youth dropped by 33% from February to May 2020. In the United States, the teenage unemployment rate more than tripled from 7.7 to 25.2% in between February and May. During the global financial crisis, across the OECD, almost one-in-ten jobs held by under-30-year-olds had been destroyed, and the recovery was very slow,

² See: <https://www.gov.uk/government/collections/employer-skills-survey-2019> (accessed 13 November 2020).

particularly for the disadvantaged. It took a whole decade, until 2017, before the youth unemployment rate had gone back to its pre-2008 level. Even so, young people have seen a general decline in their labour market fortunes, with increases in the incidence of non-employment, low-pay and underemployment (OECD, 2019^[4]).

A scarred generation?

Concerns over youth unemployment are accentuated by growing understanding of the long-term consequences of poor starts into working life. Analysis of longitudinal data has shown that young people who experience difficult school-to-work transitions and/or who leave education during a recession can expect worse long-term outcomes than otherwise would be expected given their backgrounds and academic profiles. As well as poorer employment records and earnings particularly in the first decade of labour market experience, such young people can anticipate lower long-term life satisfaction, increased risks of social exclusion and psychological distress, and decreased levels of optimism for the future than comparable peers (Bell, 2011^[23]) (Eurofound, 2017^[26]; Clarke, 2019^[27]) (Helbling, 2014^[28]; Nilsen, 2014^[29]) (OECD, 2010^[9]) (Virtanen, 2014^[30]; Thern, 2017^[31]; Skans, 2011^[32]).

The most ambitious generation

Such difficulties in school to work transitions sits in uncomfortable contrast with young people's expectations for the future. The current generation of young people who are now entering the labour market can not only expect to be the most highly qualified in history, but also as teenagers they are the most ambitious. Since 2000, the OECD Programme of International Student Assessment (PISA) has asked representative groups of 15 year-olds around the world about their educational plans and the job they expect to do when they are 30 years old. Classifying jobs against the International Standard Classification of Occupations, analysis over time shows that young people are ever more determined on completing tertiary education and entering professional or managerial professions (Musset, 2018^[1]). In the PISA 2018 survey, more than two-thirds of young people across the OECD anticipated completing tertiary education and three-quarters who expressed an occupational expectation said that they would work in a professional or managerial occupation at age 30 (Mann, 2020^[33]) (OECD, 2019^[34]).

Career readiness: a different approach

This paper explores how schools can best prepare such ambitious young people as they approach risky transitions into a hostile and turbulent labour market. A particular emphasis is on students with low levels of achievement from disadvantaged social backgrounds whose chances of poor transitions are particularly high. The subject of this paper is consequently the capacity of secondary schools to enhance the employment outcomes of young people: their career readiness.³

³ In this paper, career ready used to describe the capacity of young people to approach labour market entry and imagine career progression from an informed and confident perspective based on critical engagement with the world of work. A distinction is made with work- or job- ready provision as is the common goal of programmes of Vocational Education and Training. The paper is intended to be relevant to all learners in secondary education, exploring how they can be successfully prepared for transitions into, and navigation through, future working lives, deploying the knowledge, skills and qualifications developed in education and training systems.

Over recent years, the OECD and other research organisations have devoted considerable energy to understanding good practice in career guidance (Hughes, 2016^[35]) (OECD, 2010^[36]; Musset, 2018^[1]) (NFER, 2014^[37]) (UNESCO, 2013^[38]). By consequence, there is now considerable agreement that career guidance should begin young, be delivered by well-trained, impartial professionals who respond to individual needs within mainstream education and training provision, helping and encouraging all students to access relevant labour market information and develop career management skills while reflecting on their talents, interests and potential. More than offering limited choices to students at the end of a programme of study, good practice will encourage learners to reflect on their aspirations and how they can shape their own futures. It recognises furthermore, that all young people can benefit from guidance, but more disadvantaged students will be expected to have the greatest needs (Cedefop, European Commission, European Training Foundation, OECD, ILO and UNESCO, 2019^[39]). This paper takes advantage of such foundational good practice to explore effective delivery of guidance interventions. The paper asks specifically: how can scientific data help education systems and schools to assure themselves that students are on track to optimise labour market outcomes, identifying young people in greatest need of additional support? In this regard, it is widely acknowledged that the primary service that schools can provide to young people lies in equipping them with higher levels of knowledge, skills and qualification. Though by no means guaranteeing smooth transitions into desirable work, more years of certified education do translate to improved employment outcomes. However, such qualification accumulation is not the focus of this paper.

Rather, the paper investigates the extent to which career-related thinking and experiences help to explain variation in the adult economic performances of students who share comparable levels of academic achievement and social characteristics. In doing so, it draws on a different literature to that commonly highlighted in comparable studies of career guidance and support which tend to focus on evaluations of specific intervention programmes. In such literature, which at times lacks complete independence and can be categorised by low participant numbers and methodologies lacking transparency, it is difficult to isolate the specific elements of provision that expected to enhance young people's outcomes. This paper explores teenage career readiness by reviewing evidence from national longitudinal datasets which follow young people through transitions from secondary education into adult employment. In so doing, it seeks to identify data-driven indicators of teenage preparation for smoother transitions into adult employment. Within secondary schools, a primary means of achieving such objectives are career guidance services and activities which are intended to assist individuals to make educational, training and occupational choices and to manage their working lives (OECD/The European Commission, 2004^[40]). This paper consequently builds on recent OECD and other international reviews of career guidance programmes aimed at young people (Hughes, 2016^[35]) (Musset, 2018^[1]). It also draws on conceptualisations of school-to-work transitions that recognise the substantially greater challenges faced by young people entering the labour market from a position of greatest disadvantage.

1.3. The capacity to aspire

Understanding of young people's thinking about their futures has led scholars to explore the concept of the capacity to aspire as a means of testing whether young people have received sufficient support to make informed decisions about their accumulation of knowledge, skills and qualifications and whether, in turn, economies are effectively signalling labour market opportunities to young people. As OECD PISA 2018 reveals, in

general terms, young people do not lack aspiration (Mann, 2020^[33]). In most countries, strong majorities of young people of all backgrounds anticipate attending university and then working in managerial or professional occupations. However, young people vary considerably in the extent to which they have access to resources which will allow them to make informed and confident decisions, to gain a realistic appreciation of the efforts required to achieve aspirations and to secure experience that will enable successful progression towards ambitions (Archer, 2014^[41]) (Blustein, 2001^[42]) (Bok, 2010^[43]) (Gardiner, 2020^[44]) (Smith, 2011^[45]). Indian sociologist Arjun Appadurai's concept of the capacity to aspire considers aspiration as a personalised cultural resource developed within a specific social context (Appadurai, 2004^[46]) (Hart, 2016^[47]). Developed, and particularly influential, within studies of social mobility in low-income countries (Bernard, 2014^[48]) (Chiapa, 2012^[49]) (Gardiner, 2020^[44]), the approach conceives career aspirations to be a consequence, rather than a cause, of poverty (Dalton, 2014^[50]). The capacity to aspire reflects the resources which allow an individual to make considered sense of how labour markets operate and relate their functioning to their own circumstances. The theorisation draws on social capital theory which highlights the importance of social relationships in enabling access to economic opportunities (Granovetter, 1995^[51]) (Mann, 2014^[52]) and bears close relation to the idea of critical consciousness defined by (Blustein, 2019^[53]) as the capacity to reflect on, and commitment to address, the causes of social inequality. As (Herberle, 2020^[54]) notes in a recent review of US academic literature, positive relationships have been found in a series of cross-sectional and longitudinal quantitative studies between critical beliefs and actions related to social inequality and injustice and better than expected career-related attitudes and outcomes, including earnings at age 26 (Diemer, 2011^[55]). Such studies explore the extent to which teenagers from ethnic minority backgrounds express understanding of patterns of racism within society, including the labour market, based on discussions with teachers, relatives and acquaintances and participate in activity designed to challenge inequalities. A critical teenage understanding of work in the context of social organisation consequently provides a foundation for more informed and ultimately more productive decision-making and accumulation of skills, experience and qualifications. Programmes of study, such as the Ethnographies of Work module delivered at Guttman College in New York State (discussed in Section 3) provide examples of teaching approaches which aim to build the contextual, critical knowledge of young people about work, serving to enhance cultural and social (and in turn human) capital (Hoffman, 2018^[56]).

Career guidance and inequality

Such theoretical approaches prompt educational institutions to recognise the pervasive and detrimental impact of inequality in shaping the career thinking of young people and their capacity to realise their ambitions. It cannot be taken for granted that that young people's aspirations are based on cool reflection of available information and data (Behavioural Insights Team, 2016^[57]). In reviewing data from OECD PISA 2015, with controls in place for academic ability (Musset, 2018^[1]) show that career ambitions are heavily distorted by student socio-economic status, gender and migrant background. Analysis of OECD PISA 2018 data demonstrates moreover that many young people, particularly from the most disadvantaged backgrounds, are confused about what they need to do to secure their job ambitions (Mann, 2020^[33]). (Primé, 2010^[58])'s study of 190 Italian students found no relationship between anticipated occupations and either broader career interests or perceived competence. Similarly, (Guyon, 2016^[59]) draw on a large dataset to illustrate the fact that French teenagers from lower socio-economic backgrounds commonly underestimate their own academic abilities, show poor awareness of educational pathways

and suffer negative academic consequences linked to lower than expected aspirations (given actual patterns of attainment). The current COVID-19 crisis intensifies the need for all young people to develop their capacity to aspire and to bring agency to their school-to-work transitions. As the pandemic brings deeper turbulence to labour markets and redefines the relative attractiveness of different occupations, the individual and social consequences of teenage career confusion and lack of access to relevant resources grow greater. Within secondary schools, it is primarily the role of career guidance to address such needs.

This paper draws on research literature that analyses longitudinal data to better understand practical indications of the capacity to aspire. Earlier studies have shown that students who express firm opinions about their occupational expectations, hold high ambitions for themselves, recognise the career opportunities which accompany their academic ability and plan on securing the education necessary to achieve their career goals are providing indicators of successful adult engagement in the world of work (see (Mann, 2017^[60]) for an example of such indicators in the United Kingdom context). The opposite is of course also the case: longitudinal studies show that young adults who demonstrated incomplete or confused thinking about the labour market as teenagers can be expected to work and earn less than peers from similar backgrounds and qualifications (Hughes, 2016^[35]) (Mann, 2020^[33]). What teenagers think about their working futures matter to their adult outcomes. It shapes the way that they perceive their daily classroom experiences and provides a compass for how education, skills and qualifications are mustered to access to personally satisfying adult employment. However, as a socially situated resource based on access to relevant and trusted information and experiences, it is open to change. As (Baillergeau, 2019^[61]) argues:

Although the capacity to aspire is largely conditioned by one's social, economic and cultural background, it is not a given: its development depends on how individual life trajectories and the accumulated experience of social interactions become resources to explore the future in a productive way.

1.4. The Future of Education and Skills 2030

An important OECD response to changing demands of economies and societies is the *Future of Education and Skills 2030* programme. Launched in 2015, the programme aims to help education systems determine the knowledge, skills, attitudes and values students need to develop in order to fulfil their potential and contribute to the well-being of their communities and the planet. The programme was created in response to the concern that educational provision will struggle to keep pace with societal and labour market change driven by the so-called megatrends such as technological innovation, globalisations and population ageing that influence the future of education (OECD, 2019^[62]).

At the heart of the Future of Education and Skills 2030 programme is the OECD Learning Compass 2030. This framework is built around three core foundations at the heart of individual effectiveness: cognitive foundations, which include literacy and numeracy; health foundations, including physical and mental health, and well-being; social and emotional foundations, including morality and ethics, and digital literacy and data literacy. Further, the programme identifies a number of key components that help determine the extent to which young people will thrive through their schooling, transitions and adulthood. For educationalists, the Future of Education and Skills 2030 framework offers a context for making sense of new challenges facing young people and schools in adapting to the post-COVID era.

Key components of the Future of Education and Skills 2030 framework⁴ of particular relevance to school-to-work transitions include:

Agency whereby young people develop the ability and will to positively influence their own lives and the world around them through their own development (and in co-operation with teachers, parents and communities). A well-developed sense of agency can help individuals overcome adversity.

Attitudes and values which are positioned as integral to the development of knowledge, skills and agency and as motivation for acquiring and using knowledge and skills.

Competencies and skills in relation to three primary areas:

- *Creating new value means innovating to shape better lives, such as creating new jobs, businesses and services, and developing new knowledge, insights, ideas, techniques, strategies and solutions, and applying them to problems both old and new. When learners create new value, they question the status quo, collaborate with others and try to think “outside the box”.*
- *Reconciling tensions and dilemmas means taking into account the many interconnections and inter-relations between seemingly contradictory or incompatible ideas, logics and positions, and considering the results of actions from both short- and long-term perspectives. Through this process, students acquire a deeper understanding of opposing positions, develop arguments to support their own position, and find practical solutions to dilemmas and conflicts.*
- *Taking responsibility is connected to the ability to reflect upon and evaluate one’s own actions in light of one’s experience and education, and by considering personal, ethical and societal goals.*

Learning about, through and for the workplace presents an important field consequently within the ongoing development of education.

1.5. Longitudinal data as a means of understanding what shapes employment outcomes

OECD PISA data is clear that schools in many parts of the world can do much more to better prepare young people for their navigation into working life by helping them to become critical thinkers about the operation of the labour market as it relates to their own imagined future economic lives – and so develop their own capacity to aspire (Mann, 2020^[33]) (Musset, 2018^[1]). This study draws initially on academic studies of national longitudinal datasets to identify teenage attitudes and experiences that help explain adult employment outcomes. Through analysis of longitudinal datasets, it is possible to identify young people who do better than would be expected, given their qualifications and social backgrounds, in securing employment, in their earnings and in their happiness in career progression. The paper then draws upon OECD PISA data, notably the 2018 wave, to explore the extent to which young people in countries across the globe are expressing attitudes and engaging in experiences that are likely to be conducive to better employment outcomes.

⁴ See: <https://www.oecd.org/education/2030-project/> (Accessed on 15 August 2020)

As cohorts of young people enter the labour market, individuals experience disparate economic outcomes in terms of their success in finding employment. Longitudinal databases, which track large numbers of young people over years sometimes decades, allow for empirical analysis of school-to-work transitions. Statistical controls can be put in place to take account of the characteristics that commonly shape economic outcomes such as mathematics ability, academic achievement, qualification acquisition, socio-economic status, gender, migrant status and geographic location (OECD, 2016_[63]). Analysis of longitudinal data allows researchers to compare the fortunes of young people who are alike except for specific characteristics or interventions in their lives. In the analysis that follows, the paper reviews and presents evidence from longitudinal studies with regard to three coherent elements of teenage lives:

1. what young people think about their futures in education, training and work
2. how young people explore potential futures, through discussions and participation in career development activities, and
3. what first-hand experiences they develop of potential future workplaces through part-time work, internships and volunteering.

Reviewing relevant longitudinal literature, through like-for-life comparisons, it becomes possible to identify young people who are doing better than anticipated in the labour market and understand what it is about their lived experiences that appears to be driving the difference. This paper represents a first attempt to review international longitudinal datasets through consideration of published academic literature. While such datasets are very valuable to researchers, comparative international analysis is constrained by the small number and the concentration of published analysis of datasets in a number of countries. Consequently, the paper represents a foundation upon which analysis can be built from a wider range of countries.

Longitudinal datasets drawn upon in this paper

The longitudinal datasets which are predominantly drawn upon in this study are listed in Box 1.1. Such datasets are concentrated, but not exclusively found, in English-speaking countries. While literature from across the OECD (and non-OECD countries) is drawn upon in this paper, the disproportionate focus on data from English-speaking nations represents a limitation in identification of universal attributes of career readiness. There is need for future research exploring a wider range of datasets. There is also need to instigate new longitudinal studies asking questions of relevance to age appropriate cohorts. By their definition, longitudinal studies are dated – a study which reveals outcomes at age 25 must take place at least a decade after young people in their mid-teens lived the experiences the impact of which is being measured. The Longitudinal Surveys of Australian Youth⁵ (LSAY) provide a particularly welcome example of practice and warrant greater global consideration. Between 1995 and 2015, LSAY has tracked new samples of 15 year-olds, now aligning with the PISA data collection, and followed wave after wave of thousands of young people into adulthood. The model allows for assessment of educational initiatives and for recognition of young people's initial experiences within changing labour markets.

⁵ See: <https://www.education.gov.au/longitudinal-surveys-australian-youth>. Accessed 15 August 2020.

Box 1.1. National longitudinal studies particularly drawn upon in this study.

Australia

Longitudinal Study of Australian Children (LSAC) is also known as Growing Up in Australia and follows 10 000 people. The survey began in 2004 tracking two cohorts of young Australians: 5 000 children aged 0-1 and 5 000 aged 4-5. Data is collected on the two samples every two years. Study participants also include parents and teachers. More information: <https://growingupinaustralia.gov.au/about-study>.

Longitudinal Surveys of Australian Youth (LSAY) track young people from ages 15 to 25. Since LSAY was initiated in 1995, six cohorts of 15 year-olds have been followed: 1995, 1998, 2003, 2006, 2009 and 2015. Each cohort consists of approximately 10 000 young people. Since 2003, participants have been recruited from schools which take part in the OECD Programme of International Student Assessment (PISA) study. More information: <https://www.lsay.edu.au/>.

Germany

National Education Panel Study (NEPS) has a multi-cohort sequence design, beginning in 2009 with recruitment of 60 000 participants, including young people aged 5, 11 and 15. The cohorts have since been interviewed regularly since. More information: <https://www.neps-data.de/>.

Ireland

Growing up in Ireland began following two cohort of children aged 9 months (10 000) and 9 years old (8 000) in 2004. Information is collected from teachers, parents and the children themselves. Follow up waves were undertaken for the older cohort at ages 13, 17 and 20. More information: <https://www.growingup.ie/>.

United Kingdom

British Cohort Study 1970 (BCS70) follows the lives of approximately 17 000 people born in England, Scotland and Wales in the same week in 1970. Following an initial gathering of data at birth, eight surveys of participants have been undertaken including waves at ages 5, 10, 16, 26 and 34. At ages 5, 10 and 16, the sample was augmented with participants who had been born in other countries during the relevant week and subsequently moved to Great Britain. More information: <https://cls.ucl.ac.uk/cls-studies/1970-british-cohort-study/>.

British Household Panel Survey (BHPS) was launched in 1991. It follows a representative sample of some 10 000 individuals in 5 500 UK households over 18 waves. From 1994, children aged 11-15 completed interviews within the survey. More information: <https://www.iser.essex.ac.uk/bhps/>

Longitudinal Study of Young People in England (LSYPE), also known as *Next Steps*, follows the lives of approximately 16 000 people born in 1989-90. The study began in 2004 when participants were aged 14. The sample was surveyed annually to 2010 and then at age 25 (2015-16). More information: <https://cls.ucl.ac.uk/cls-studies/next-steps/>.

National Child Development Study (NCDS) follows the lives of an initial 17 415 people who were born in England, Scotland and Wales in a single week in 1958. Participants have been surveyed in eleven subsequent sweeps, including waves at 7, 11, 16, 23 and 33. More information: <https://cls.ucl.ac.uk/cls-studies/1958-national-child-development-study/>.

United States

Education Longitudinal Study (ELS:2002) launched in 2002 tracking a cohort of some 12 500 students aged 15-16. Follow up surveys were undertaken in 2004, 2006 and 2012. More information: <https://nces.ed.gov/surveys/els2002/>

National Education Longitudinal Study of 1988 (NELS88) was launched in 1988 with an initial sample of 24 599 young people aged 13-14, one parent of each student participant, two of their teachers and their school principal. Four follow up survey waves were undertaken in 1990, 1992, 1994 and 2000. Surveys include student assessments in reading, mathematics and science. More information: <https://nces.ed.gov/surveys/nels88/>.

National Longitudinal Study of Adolescent to Adult Health (Add-Health) collected data on 90 000 young Americans aged between 11 and 17 years in 1994-95. Parents were also interviewed. Follow up waves were undertaken in 2001-02 (when participants were aged 18 to 26 years old) and 2008-09 (ages 24-32). More information: <https://www.icpsr.umich.edu/web/DSDR/studies/21600>.

Youth Development Study (YDS) began collecting data in 1987-88 with a panel of 1 139 young people aged 14-15 randomly selected from schools in St Paul, Minnesota. In total, 19 waves of the survey collected information on participants up to age of 38 in 2011. More information: <https://www.icpsr.umich.edu/web/ICPSR/studies/24881>.

The opportunity to extend PISA 2018 to track young people into the COVID labour market

As countries respond to the Covid-19 pandemic and its accompanying employment crisis, scope exists to compare the experiences of young people in different national educational, societal and economic environments to better understand the effectiveness of interventions on transitions into the world of work. Comparative data has been used extensively for example to establish the clear benefits of high quality Vocational Education and Training in the aftermath of the Great Financial Crisis of 2008.⁶ Opportunity exists now to deepen understanding of why some young people can expect to do better than their comparable peers in securing more attractive employment – and how schools can optimise their chances of success – by following the cohort of 15 year-olds who were the subject of the PISA 2018 study into the COVID-19 labour market.

OECD Programme for International Student Assessment (PISA): measuring indicators of career readiness

This study also draws heavily on results from the OECD Programme for International Student Assessment which since 2000 has assessed the academic proficiency and gathered background data about young people in dozens of countries. This paper makes particular use of the 2018 survey wave which includes a range of questions related to teenage attitudes, experiences and skills relevant to the career thinking and progression of young people. Representative samples of more than 650 000 students aged 15 years took part in PISA 2018, providing new data on their attitudes, capabilities and experiences of relevance to adult economic outcomes. While students from 79 countries and economic areas

⁶ See: <https://oecdutoday.com/school-work-during-coronavirus-2008-global-financial-crisis> (Access 15 August 2020).

completed the *Student Questionnaire* which provides the core of the PISA results, students from smaller numbers of countries took part in two focused surveys: the *PISA Career Education Questionnaire* and *PISA Financial Literacy Questionnaire*. In addition, school principals from all 79 areas completed the *PISA School Questionnaire*.

The *PISA 2018 Student Questionnaire* asks young people about their occupational expectations and educational plans. It was completed by young people in 79 countries and economic territories: Albania, Azerbaijan (Baku City only), Argentina, Australia, Austria, Belarus, Belgium, Bosnia and Herzegovina, Brazil, Brunei Darussalam, Bulgaria, Canada, Chile, China (People's Republic of), Colombia, Costa Rica, Croatia, Cyprus⁷, Czech Republic, Denmark, Dominican Republic, Estonia, Finland, France, Georgia, Germany, Hong Kong (China), Hungary, Iceland, Indonesia, Ireland, Israel, Italy, Japan, Jordan, Kazakhstan, Korea, Kosovo, Latvia, Lithuania, Luxembourg, Macao (China), Malaysia, Malta, Mexico, Moldova (Republic of), Montenegro, Morocco, the Netherlands, North Macedonia (Republic of), New Zealand, Norway, Panama, Peru, Philippines, Poland, Portugal, Qatar, Romania, Russian Federation, Scotland (United Kingdom), Serbia, Singapore, the Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Chinese Taipei, Thailand, Turkey, Ukraine, United Arab Emirates, the United Kingdom (excluding Scotland), the United States, Uruguay and Vietnam.

The *PISA Career Education Questionnaire* explores student participation in ten common career development activities, invites students to assess their own career readiness and influences on their career thinking and share plans for age 20. In 2018, the questionnaire was completed by young people in 32 countries and economic territories: Albania, Australia, Austria, Belgium, Bulgaria, Brazil, Brunei, Costa Rica, Croatia, Denmark, Germany, Greece, Hong Kong (China), Hungary, Iceland, Ireland, Italy, Kazakhstan, Korea, Lithuania, Malta, Morocco, New Zealand, Panama, Poland, Serbia, the Slovak Republic, Slovenia, Spain, Chinese Taipei, Thailand, the United Kingdom (excluding Scotland).

The *PISA Financial Literacy Questionnaire* asks questions about participation in volunteering, part-time employment, discussion of occupational aspirations and interest in self-employment. In 2018, the questionnaire was completed by young people in 20 countries: Australia, Brazil, Bulgaria, Canada, Chile, Estonia, Finland, Georgia, Indonesia, Italy, Latvia, Lithuania, Peru, Poland, Portugal, Russia, Serbia, the Slovak Republic, Spain and the United States.

The *PISA School Questionnaire* is completed by school principals. In 2018, the questionnaire asked about the delivery of career guidance and whether it was compulsory, voluntary or not available in school. Respondents from all 79 countries and territories completed the survey.

⁷ Note by Turkey - The information in this document with reference to "Cyprus" relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Turkey recognises the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of the United Nations, Turkey shall preserve its position concerning the "Cyprus issue".

Note by all the European Union Member States of the OECD and the European Union - The Republic of Cyprus is recognised by all members of the United Nations with the exception of Turkey. The information in this document relates to the area under the effective control of the Government of the Republic of Cyprus.

OECD PISA 2018 questionnaires are available at: <https://www.oecd.org/pisa/data/2018database/>.

1.6. Career guidance in the pandemic

The COVID-19 pandemic has raised specific concerns over the career progression of three distinct groups of young people within secondary education:

- Students completing programmes of secondary education and due to enter the labour market. For such students, access to jobs has become quickly and substantially more difficult: many employers have ceased recruiting and apprenticeships have been cancelled or postponed. Many students have responded by attempting to continue in education at a higher level in order to build human capital during the crisis, making decisions at short notice about what and where to study while others compete with more experienced workers for available employment. For many students, exit examinations from periods of secondary study have been seriously disrupted, creating greater uncertainty.
- Students reaching key transition points within secondary education. Such students are faced with a turbulent labour market whereby patterns of labour demand have changed rapidly and may in some cases continue to be distorted by the coronavirus over a long period of time. In this case, the crisis represents an important challenge for students who are required to narrow or change the focus of their education amid considerable confusion and uncertainty about the value of qualifications in the post-COVID labour market.
- For all students (in primary, secondary and tertiary education), motivational risks are high in the context of rapidly rising youth unemployment and damage to the perceived relationships between educational success and labour market outcomes.

For all three groups of students, the crisis has increased the need for effective career guidance and for the gap between education and employment to be closed. For many governments, however, prioritisation of guidance activities amid the unprecedented demands of school closures has been a challenge. The OECD-Harvard Graduate School of Education survey of government officials in 36 countries, undertaken in the early summer of 2020 showed for example that only 23% of national respondents felt to a great extent (and a further 42% to some extent) that career guidance had been maintained through the initial phases of the pandemic, ranking guidance 15th out of 20 potential areas of focus within education continuity strategies (Reimers, 2020^[64]).

2. Thinking about the Future

National longitudinal studies show that it matters what students think about themselves and their potential futures in work. Teenagers who are uncertain, confused or who lack ambition can be expected to do worse as young adults in the labour market than comparable peers. PISA 2018 data show that growing numbers of students are uncertain about their plans. Aspirations which are held provide a poor reflection of labour market demand, are increasingly narrow and often distorted by social background. It is students from the lowest socio-economic backgrounds and achievement levels who exhibit thinking that generates greatest concern. Two examples, nursing and the skilled trades, are illustrative of how attitudes shape behaviour. For schools, longitudinal data provide indicators of value in assessing young people's critical thinking about the labour market and future roles within it. Schools should help students to reflect on the assumptions and expectations that inform their career ambitions.

2.1. What young people think about themselves matters

Recent survey evidence from the United Kingdom highlighted significant pessimism among young people about their prospects in a labour market distorted and weakened by the effects of the coronavirus. In a poll of 2 000 young people aged 16 to 24, 44% reported that their occupational aspirations had fallen as a result of the pandemic, 41% felt that their job ambitions were now “impossible to achieve” and 43% agreed that “I expect I will never have a job I really love” (Prince's Trust, 2020^[65]).

Education researchers are clear that what young people think about themselves can be expected to have long-term impacts on their adult outcomes. The concepts of self-efficacy and the growth mind-set for example have become highly influential within educational debates and underline the notion of student agency in the OECD Learning Compass 2030, mentioned above. When young people express belief in their ability to succeed educationally or that intelligence is something that can be trained and developed rather than being fixed, positive consequences can be expected (OECD, 2019^[66]). The OECD Future of Education and Skills 2030 project highlights the significance of learners' attitudes to their wider success in education and life. Attitudes and values are defined as the principles and beliefs that influence an individual's choices, judgements, behaviours and actions on the path towards individual, societal and environmental well-being. Around the world, attitudes and values are increasingly being integrated into curriculum frameworks which seek to develop a broader range of applied skills (such as creativity, collaboration and problem-solving) than has been the case in the past (OECD, 2019^[67]). In this section, national longitudinal datasets are explored to investigate the relationships between teenage attitudes and assumptions about jobs and careers and adult outcomes in employment.

The long-term impacts of teenage attitudes and assumptions about future employment

Longitudinal studies in a number of countries have questioned young people about their career-related attitudes. Through regression analysis, opportunity exists to test the long-term impacts of young people's thinking about the labour market on their later experiences of it. In this section, research literature is reviewed in relation to three particular aspects of teenage thinking (career uncertainty, career ambition and career misalignment) in relation

to adult outcomes. PISA data provide insight into variations within and between countries. Worked examples of teenage thinking about two occupational areas of current strategic importance i) jobs in nursing and in ii) the skill trades accessed through vocational education and training (VET) complete the section.

The constrained capacity to aspire: gender, ethnicity and socio-economic status

Section One of this paper introduced the concept of the capacity of aspire as initially developed by Indian sociologist Arjun Appadurai. (Appadurai, 2004^[68]) explores the relationship between the occupational aspirations of young people and adult outcomes and conceives of unnecessarily low or confused aspirations as a symptom (more than a cause) of inequality. Where young people lack the capacity to aspire, they lack access to the information, support and resources that will allow them to imagine and achieve ambitions in the working world (Archer, 2013^[69]). The concept is readily understandable within the wider literature on young people's career aspirations which highlights the systematic ways in which ambitions are distorted by gender, ethnicity/migrant background and socio-economic status (Mann, 2020^[33]) (Musset, 2018^[1]). As (St. Clair, 2013^[70]) argue from the basis of a survey of 490 British children aged between 13 and 15 living in areas of significant deprivation, even in “communities struggling with poverty, [aspirations] are very high—the missing element is the knowledge of how to make these aspirations concrete and obtainable” (see also (Goodman, 2010^[71]) and (Gutman, 2008^[72])). Teenage thinking about the labour market can be seen to have detrimental long-term impacts on young people. In analysis of data from the UK Millennium Cohort Study for example, (Centre for Longitudinal Studies, 2017^[73]) shows that while girls demonstrate higher ambitions for university study and work in managerial or professional occupations than boys, overall girls aspire to jobs that pay on average 27% less than those anticipated by boys. Or as (Jeon, 2019^[74]) illustrates, migrants and refugees in countries with attractive apprenticeship systems face additional barriers to native peers in understanding the role and function of VET systems within host countries – and feeling welcome within them (Chadderton, 2014^[75]).

2.2. Career concentration and unrealistic expectations of the labour market

Earlier OECD analysis drew on PISA data to explore the concept of career concentration (Mann, 2020^[33]). From the turn of the century, students have been asked through the OECD PISA study what job they expect to be working in at age 30. Across 41 countries with comparable data, the proportion expecting to work in one of the ten most popular choices of job in their country rose between 2000 and 2018 from 49% to 53% for boys and from 44% to 47% for girls. In numerous countries immediately prior to the 2020 coronavirus pandemic, more than 70% of boys and/or girls expected to work at age 30 in one of just ten jobs.⁸ In many education systems more than one girl in five expressing a preference about her occupational expectation anticipated becoming a doctor by the age of 30: Brazil (23%), Colombia (21%), Costa Rica (27%), Dominican Republic (25%), Jordan (21%), Kazakhstan (20%), Kosovo (20%), Lebanon (27%), Morocco (20%), Qatar (28%), Turkey (24%), United Arab Emirates (26%), United States (22%). In Saudi Arabia, a remarkable 38% of girls stated that they expected to be a doctor. Such high levels of career

⁸ Full details of the top ten occupational expectations of girls and boys from the 79 countries and territories participating in PISA 2018 are available at: <https://www.oecd-forum.org/posts/a-class-apart-the-career-aspirations-of-the-covid-generation-on-the-eve-of-the-pandemic>

concentration is an indication of weak labour market signalling and poor understanding of the labour market and individual prospects within it.

On average across the OECD, the most concentrated occupational expectations are found among young people who are higher performers (54%); foreign-born (52%); of high socio-economic status (54%); living in urban areas (50%); and without access to career guidance in their schools (55%). Since the turn of the century, the occupational expectations of boys, disadvantaged students and lower performers have become notably more concentrated (Mann, 2020^[33]). Career concentration provides a convenient means for countries or schools to test the strength of labour market signalling and the effectiveness of career guidance interventions in broadening the occupational interests of young people.

Table 2.1. Highest and lowest levels of teenage career concentration. PISA 2018

Highest	Girls	Boys
Baku (Azerbaijan)	71	63
Brunei Darussalam	76	76
Indonesia	73	68
Jordan	75	69
Kosovo	77	63
Lebanon	71	70
Morocco	75	72
Philippines	78	74
Qatar	74	75
Turkey	77	61
Saudi Arabia	83	82
United Arab Emirates	69	75
Lowest		
Austria	54	40
Czech Republic	50	40
France	43	40
Germany	51	40
Hungary	39	46
Netherlands	47	37
Switzerland	49	38

Source: OECD PISA 2018 Database - <https://www.oecd.org/pisa/data/2018database/> (accessed on 20 January 2020).

The influence of social background on career thinking speaks to variation in the extent to which young people possess a capacity to aspire. Overly narrow career aspirations suggest lack of full access to the information and support required to make sense of academic potential and the breadth of labour market opportunity. Available data suggests many young people provide little evidence that they are in a position to critically consider their potential future within the labour market. Indeed, a growing number find it impossible to articulate an occupational future at all.

2.3. Longitudinal indicators of adult employment outcomes

Teenage career uncertainty

Over the last decade, scholars have dedicated important new attention to the phenomenon of uncertain teenage occupational aspirations. Making use of longitudinal surveys in Australia, the United Kingdom and the United States, researchers have explored the characteristics of secondary school students who are unable to articulate a career ambition and investigated whether such thinking is associated with long-term consequences. Studies find that teenage uncertainty is commonly linked to worse adult employment and earnings than would be expected, particularly in comparison to peers with clear ambitions for professional employment.

Long-time economic costs associated with teenage career uncertainty

Two US cohort studies have looked for, and found evidence of, adult economic penalties linked to teenage career uncertainty. Analysis by (Staff, 2010^[76]) of the US National Education Longitudinal Study which follows thousands of young people aged 13-14 (1988) to young adulthood (2000), finds that compared to young people with professional ambitions at 16, uncertain teenagers experience significantly lower wages at age 26. For young women, the wage penalty is also apparent in comparison to classmates who aspired to non-professional careers (Staff, 2010^[76]). In a related study, Mike Vuolo and colleagues make use of the US Youth Development Study to track young people into adulthood through the 1990s and 2000s. They find that young people who are uncertain about their occupational expectations can expect lower earnings and to spend more time unemployed than comparable peers in their mid-thirties. Teenage ambition, they argue, provides an insulating function, protecting young people as they enter and progress through the labour market (Vuolo, 2012^[77]). From a related perspective, (Mortimer, 2017^[78]) and (Morgan, 2012^[79]) use the US Education Longitudinal Study (2002 to 2006) to demonstrate that young people who are uncertain about their occupational plans as teenagers in secondary school experience lower than anticipated levels of progression to university study.

Recent Australian analysis concurs. (Sikora, 2018^[80]) makes use of the Longitudinal Surveys of Australian Youth to follow young people between the ages of 16 (2006) and 26 (2016) and demonstrates that teenage uncertainty with regard to occupational ambitions predicts lower lifetime earnings (see also (Sikora, 2011^[81]) and (Thomson, 2010^[82])). (Sikora, 2018^[80]) finds that wage penalties are strongly associated with uncertainty at age 23 which is, in turn, driven by uncertainty at age 16, a predictive relationship also found by (Staff, 2010^[76]). The Australian analysis finds that the lost earnings attributable to teenage occupational uncertainty are considerable: 6% or \$100 000 in 2011 Australian dollars (the equivalent of approximately €70 000 in 2020) over the working life times of the young adults (Sikora, 2018^[80]).

Analyses of United Kingdom's longitudinal databases have also found economic penalties linked to teenage uncertainty. With controls in place for social background and academic achievement, (Yates, 2010^[83]) use the British Cohort Study (BCS70) to find that students who were occupationally uncertain at 16 (the last year of compulsory schooling) were three times more likely than comparable peers to spend at least six months NEET (Not in Education Employment or Training) between the ages of 16 and 18. Other explorations of the BCS70 have found similar evidence of difficulty in transitions out of secondary schooling linked to uncertainty (Gutman, 2014^[84]). From a longer perspective, (Sabates Aysa, 2017^[85]) and (Sabates, 2010^[86]) find that teenage uncertainty links with lower than

anticipated earnings at age 34. (Gutman, 2018^[87]) make use of a more recent cohort study, the Longitudinal Study of Young People in England (LSYPE), to explore the outcomes of young people with disabilities born in 1990/91. Focusing specifically on students with special educational needs, the authors find that uncertain young people whose needs had been recognised officially were more likely to spend time NEET before the age of 19 than comparable peers who aspired to enter professional employment.

When uncertainty is not a problem

Of the longitudinal datasets identified in this paper, analysis of one finds no evidence of long-term negative economic impacts linked to teenage career uncertainty. Studies of the LSYPE by (Gutman, 2014^[84]) and (Schoon, 2012^[88]) look at a slightly younger group than other studies: young people (without disabilities) aged 13 to 15 years. The authors note that the negative consequences of indecision for this group reduce significantly when account is taken of parental expectations for their children, school motivation, academic ability and access to career guidance which has been found to be useful. In such cases for what tend to be more advantaged students, uncertainty is seen as a positive as it is connected with young people staying in education longer than might otherwise be expected, securing higher levels of qualifications that prove to be of value in the adult labour market (Sabates Aysa, 2017^[85]).

Floundering through transitions or exploring the future labour market?

Teenage career uncertainty therefore has been generally viewed by scholars of longitudinal datasets as an indicator of poorer employment prospects than would otherwise be expected. To (Sikora, 2018^[80]), there is “little doubt that occupational uncertainty is associated with discernible wage penalty for respondents, both men and women.” However, as she and other researchers stress, individual circumstances are important. As (Baxter, 2017^[89]) explains also from an Australian perspective:

to what extent having an unknown career aspiration is a problem is likely to depend on child characteristics, sources of support and whether there are key transition points emerging, for which having some career plan may be helpful (Schoon, 2011^[90]). Many adolescents [at 16] would be beginning to make subject choices that can enable or limit their post-secondary education options. Adolescents are likely to be thinking about their career aspirations, if they have any, or relying on their interests and perceived abilities when choosing school subjects (Tripney, 2010^[91]). In the absence of career aspirations, basing decisions on interests and abilities, in itself, may not be problematic, given that future occupations are also likely to be related to these characteristics. The career uncertainty may actually be beneficial, as it means adolescents might explore a range of options, rather than being locked into one pathway that for various reasons may prove unsuccessful. It may be a less positive experience, however, for adolescents who are less motivated to explore different options, who are less certain about their own abilities, whose school outcomes are poorer, or who do not have access to supports that could help them identify career options (Schoon, 2011^[90]) (Staff, 2010^[76]).

Baxter’s own analysis of a large dataset – the Longitudinal Study of Australian Children which has followed 10 000 young people from their birth around 2000 - suggests uncertainty is much more often a matter of concern than of comfort. Around half of the young Australians in her sample who expected to complete no education after secondary schooling were uncertain about their career ambitions.

Teenage career uncertainty is routinely associated with disadvantage

Studies find that teenage uncertainty is more commonly associated with low academic performance (Gore, 2015^[92]) (Gutman, 2012^[93]) (Gutman, 2014^[84]) (Schoon, 2012^[88]) (Morgan, 2012^[94]) and with low socio-economic status (Gore, 2015^[92]) (Gutman, 2012^[93]) (Gutman, 2014^[84]) (Schoon, 2012^[88]) (Yates, 2010^[83]). Rather than deferring choices or exploring options from a position of support and confidence, uncertain young people can be conceived more often therefore as floundering through their school-to-work transitions, making decisions about the accumulation of education and training in a comparatively aimless fashion (Sikora, 2018^[80]) (Staff, 2010^[76]) (Vuolo, 2012^[77]). PISA 2018 finds that, on average across the OECD, 16% of 15 year-olds anticipate being in tertiary education at age 20 because they did not yet know what they wanted to do. A sizeable minority of these teenagers are making decisions about their future education and training without a clear view of how such investments will apply in the world of work. Consequently, occupational uncertainty in mid-teenage years is a flag of concern demanding investigation by career guidance professionals.

PISA 2018 and teenage career uncertainty: considerable variation between countries

A number of important themes relating to career uncertainty are explored in the PISA 2018 dataset. The PISA questionnaire asks young people “What kind of job do you expect to have when you are about 30 years old?” One in four students (25.4%) within OECD countries either did not answer the question or gave a vague answer (such as “a good job” or “in a hospital”) or explicitly indicated that they were undecided (“I don’t know”) (OECD, 2019^[95]). Cross referencing of answers in previous PISA surveys shows that such respondents near universally provided details of their educational plans for the future and completed other write-in questions, such as parental occupations (Sikora, 2018^[80]). Consequently, the quarter of 2018 students designated here as occupationally uncertain are likely to have been genuinely uncertain, rather than unwilling to provide an answer.

As set out in Figure 2.1, the variation in teenage uncertainty across the countries and economic areas completing PISA 2018 is considerable. At one extreme, more than one in three young people express uncertainty in Bulgaria, Denmark, Dominican Republic, Germany, Israel, Lebanon, Panama, and Belgium where, remarkably, 67% of respondents were unable to name an occupational expectation. By contrast, fewer than one in eight participants expressed uncertainty in Albania, Costa Rica, Indonesia, Korea, Macao (China), Malaysia, Moldova, Romania, Turkey and Viet Nam.

In almost all countries and economies, disadvantaged students were less likely than advantaged students to provide an answer to the question about what they want to do in the future. In the Dominican Republic, Lebanon, Mexico, Panama and Peru, the gap between advantaged and disadvantaged students was wider than 15 percentage points (OECD, 2019^[95]). As Figure 2.2 shows, on average across OECD countries, uncertainty was higher among boys than girls, and the least advantaged quartile of students than their more advantaged peers. Lower performers were less likely to be certain about their occupational expectations than their higher performing classmates. Foreign-born students were also more uncertain than native-born classmates. Students enrolled in schools described by their principals as offering no formal career guidance were the most likely to be certain of their career ambitions (28.4% of such students). As explored in Section three, students taking part in career development activities within schools were consistently less likely to be uncertain in their career ambitions than peers.

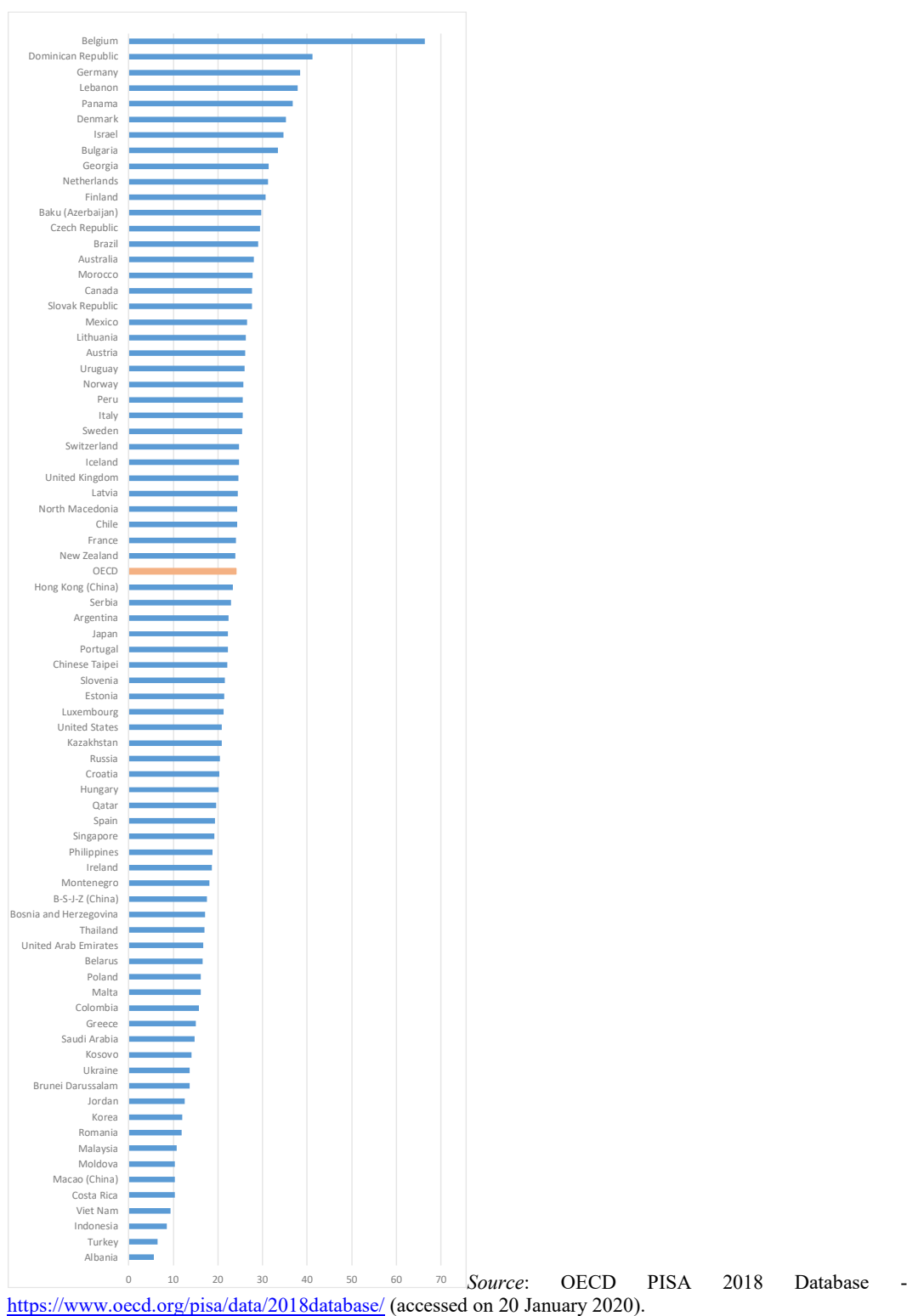
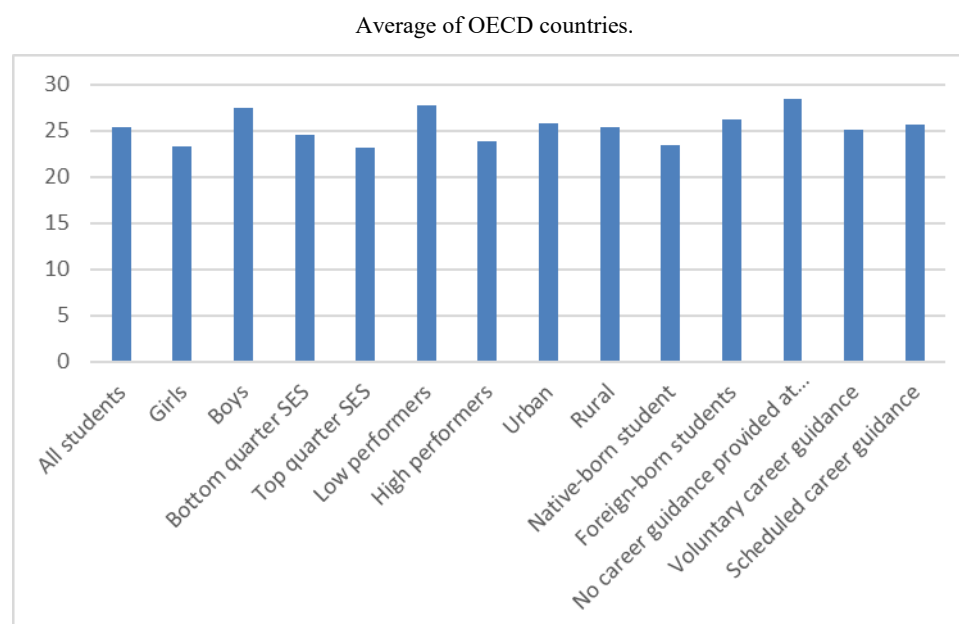
Figure 2.1. Teenage uncertainty in occupational expectations by country.

Figure 2.2. Percentage of students uncertain about their occupational ambitions by student characteristics.



Source: OECD PISA 2018 Database - <https://www.oecd.org/pisa/data/2018database/> (accessed on 28 January 2020).

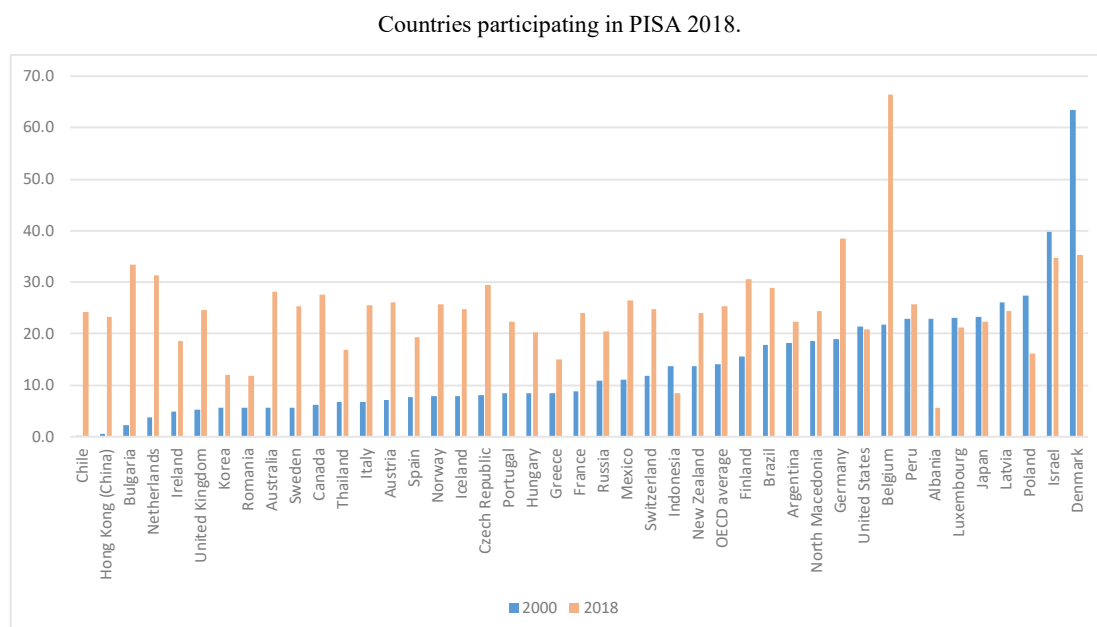
Uncertainty has grown considerably among young people since 2000

Comparison of PISA data for 2000 and 2018 shows that uncertainty has become substantially more common among young people (Figure 2.3). At the turn of the century, an average 14% of 15 year-olds across the OECD were unable to name a job that they expected to do at age 30. By 2018, the average had increased by 81% to 25.4%. In Australia, Canada, Chile, the Czech Republic, Hong Kong (China) and the Netherlands, the increase was more than 20 percentage points, in Bulgaria more than 30 percentage points and in Belgium 40 percentage points. Of the 45 countries for which data is available between 2000 and 2018, the level of uncertainty decreased in nine overall and in three by more than 10 percentage points (-11% in Poland, -17% in Albania and -20% in Denmark). Such falls warrant further investigation, exploring potential relationships between school interventions and changing patterns of attitudes.

Looking at the social composition of youth between the two dates, uncertainty has increased among all social groups and demographics, but has been particularly rapid among young people from the highest socio-economic backgrounds (+92%) and the highest quartile of academic performers (+105%). For such groups, it may be that more privileged family backgrounds and higher levels of attainment serve protective functions, mitigating the worse consequences of teenage uncertainty. In 2018 however, while gaps with more advantaged youth are closing, it remained disadvantaged and low-achieving youth who were most likely to be uncertain. Breaking down the data, two specific groups exhibit especially high levels of uncertainty: low-performing boys (31% of whom were uncertain on average across the OECD uncertain in 2018) and low-performers from the highest Socio-Economic Status (SES) background (30%). For such groups, attitudes towards future employment may be confused by assumptions linked to gender and social background. Career certainty at 15 remains an important indicator of potential confusion

in understanding of the labour market and the relationships between educational achievement and employment and confidence in navigating transitions from the classroom to the workplace.

Figure 2.3. Changes in the level of teenage uncertainty in career expectations.



Source: OECD PISA 2018 Database - <https://www.oecd.org/pisa/data/2018database/> (accessed on 28 January 2020).

2.4. Career ambition

When young people do express opinions about their occupational expectations, what they think carries meaning. Analysis of data from national longitudinal studies shows that even though young people's aspirations are often a poor reflection of ability and distorted by gender, socio-economic background and migrant status, they still have a significant influence on adult employment outcomes.

Higher teenage career ambitions are associated with better outcomes in the adult labour market

In a recent study, Australian academic Joanne Sikora summarised international research literature on the importance of higher levels of teenage career ambition:

Studies systematically find that the more ambitious youth succeed in securing higher educational credentials and more prestigious jobs and that this holds even when [teenage] academic ability, socio-economic origin, ethnicity, or gender differences are taken into account (Sikora, 2018^[80]).

Sikora is thinking in part of earlier Australian analysis of the Longitudinal Surveys of Australian Youth (Sikora, 2011^[81]) and evidence from UK longitudinal data. (Croll, 2008^[96]) (Green, 2018^[97]) (Schoon, 2002^[98]) (Schoon, 2011^[90]) (Schoon, 2012^[88])

collectively make use of the British Household Panel Survey, National Child Development Study, British Cohort Study 1970 and the Longitudinal Study of Young People in England to evidence consistently positive relationships between higher teenage occupational expectations and better than expected adult employment outcomes. The data show that, after taking into account factors which strongly influence outcomes such as social background and academic attainment, a teenage student who expects to work as a professional or manager has a greater chance of becoming one than a less ambitious but otherwise comparable peer. Impacts can be long-lasting, being related to higher wages at age 42 in the study by (Green, 2018^[97]). From a United States perspective, (Vuolo, 2012^[77]) argues “numerous studies show that adolescent educational and occupational aspirations predict longer term educational and occupational attainment” and find an association between high teenage aspirations and higher than anticipated earnings at age 33. Longitudinal studies by (Mello, 2008^[99]) and (Mortimer, 2017^[78]) both follow young people between the ages of 14 and 26 and also identify economic benefits relating to higher levels of initial aspiration (see also (Kim, 2019^[100])). (Mello, 2008^[99]) concludes that teenage occupational “expectations had a similar magnitude of association as did academic achievement” on adult outcomes.

Higher teenage ambition drives greater educational attainment

In such studies, higher levels of teenage ambition are seen to drive adult outcomes (higher earnings, reduced unemployment, greater job satisfaction) in significant part by encouraging greater engagement in education (Green, 2018^[97]) (Schoon, 2011^[90]). Cohort studies using data from France (Guyon, 2016^[59]), Peru (Pasquier-Doumer, 2015^[101]) and the United States (Heckhausen, 2009^[102]), all find significant statistical relationships between student occupational ambitions and ultimate academic achievement with controls in place for prior attainment. (Pasquier-Doumer, 2015^[101]) for example, make use of the Young Lives longitudinal dataset to find that the higher occupational aspirations of indigenous Peruvians at age 12 are positively related to language acquisition between the ages of 12 and 15. Young people with high ambitions are more likely to stay in education longer and progress to tertiary education. Moreover, recent studies of longitudinal data have concluded that young people who over-estimate the education required to secure their occupational ambition go on to earn more in adulthood than comparable peers (Kim, 2019^[100]) (Schmitt-Wilson, 2016^[103]).

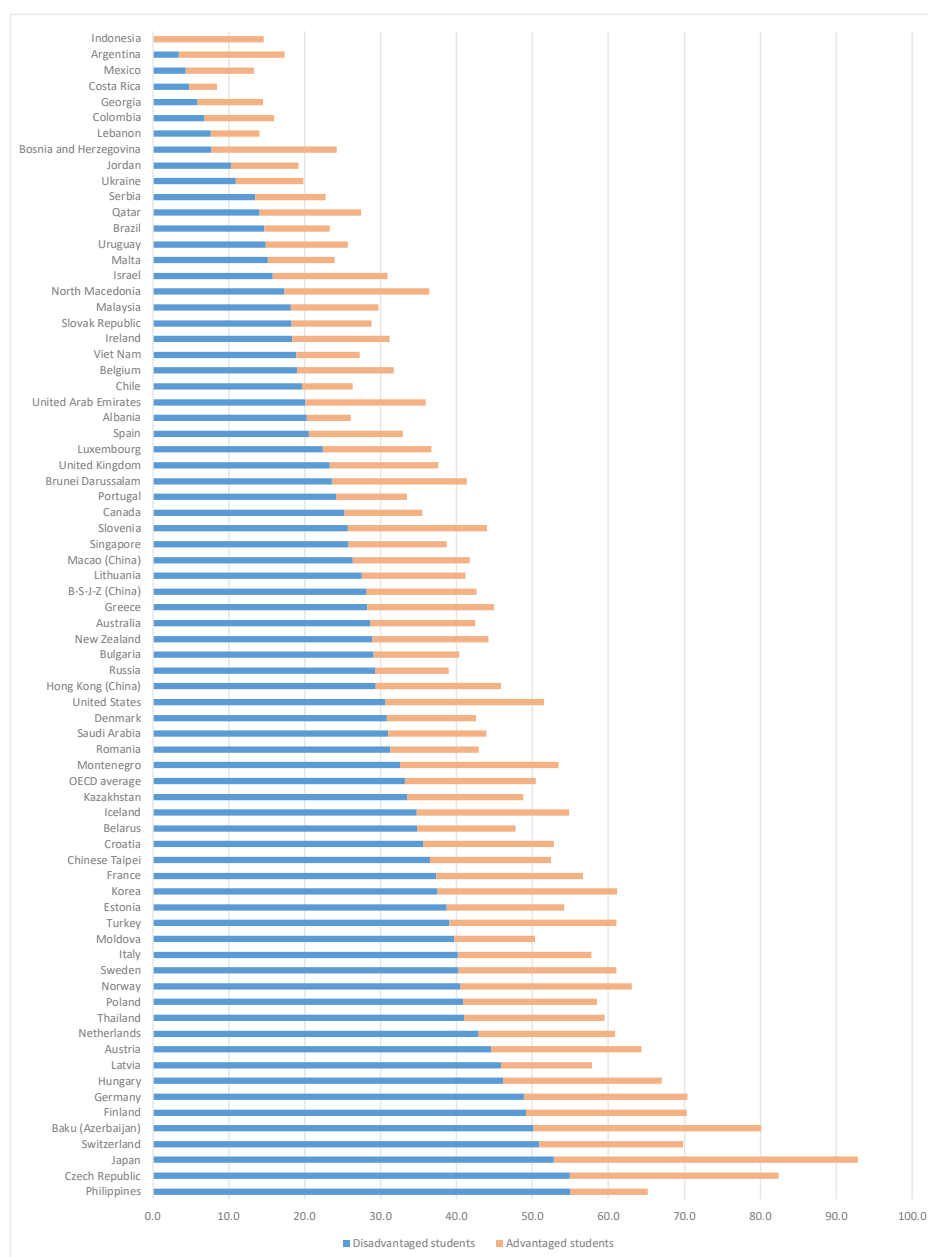
Teenage occupational expectations are often a poor reflection of academic ability

While high aspirations are in general a good thing for a young person, they can bring problems with them. Over the last generation, the career aspirations of young people have risen considerably (Musset, 2018^[1]). Across the OECD, on average three-quarters of 15 year-olds now expect to complete an undergraduate degree, with the proportion more than 85% in Canada, Korea, Peru, Singapore, Turkey, Ukraine and the United States (OECD, 2019^[34]). While this is a positive phenomenon in many ways, it also raises concerns. Many young people fix their ambitions on achieving a level of education that they will struggle to achieve, running higher risk of drop out and potentially preventing serious consideration of, and preparation for, other education and training pathways (OECD, 2019^[34]). While employment boosts are in general terms associated with higher education, this is by no means always the case (Cellini, 2018^[104]) (ILO, 2020^[2]) and there is some evidence that returns to university degrees have flattened (Musset, 2018^[1]).

PISA 2018: able young people from disadvantaged backgrounds who do not aspire to tertiary education

As set out in (Mann, 2020_[33]), PISA also shows that not all young people with the ability to study at university express such an intent. Analysis of PISA 2018 shows that whereas on average across the OECD 14.6% of students who achieved results in proficiency tests on reading, mathematics and science indicating ability to progress to higher education, do not expect to complete tertiary education. For young people from the most disadvantaged quartile, the percentage is nearly double at 28.4%. More than four in ten disadvantaged students in Austria, Finland, Germany, Hungary, Italy, New Zealand, Poland and Switzerland with the ability to progress to higher education do not plan to (Mann, 2020_[33]) (Schleicher, 2019_[105]). The data suggest that many disadvantaged teenagers, particularly boys (Mann, 2020_[33]), may possess a poor conception of their own abilities or lack confidence in continuing in education (Bandura, 2001_[106]). Similarly, as illustrated in Figure 2.4 and Figure 2.5, socio-economic status and gender consistently influence the occupational expectations of young people. On average, one-third of high performing young people from disadvantaged backgrounds across OECD countries do not expect to be managers or professionals, compared to 17% of their similarly achieving, but more advantaged peers. In many countries, the aspiration gap between the two groups is more than 10 percentage points. Variation in occupational expectations by gender are less pronounced, but still substantial: 18% of high performing girls do not expect to work in managerial or professional roles, compared to 29% of comparable boys.

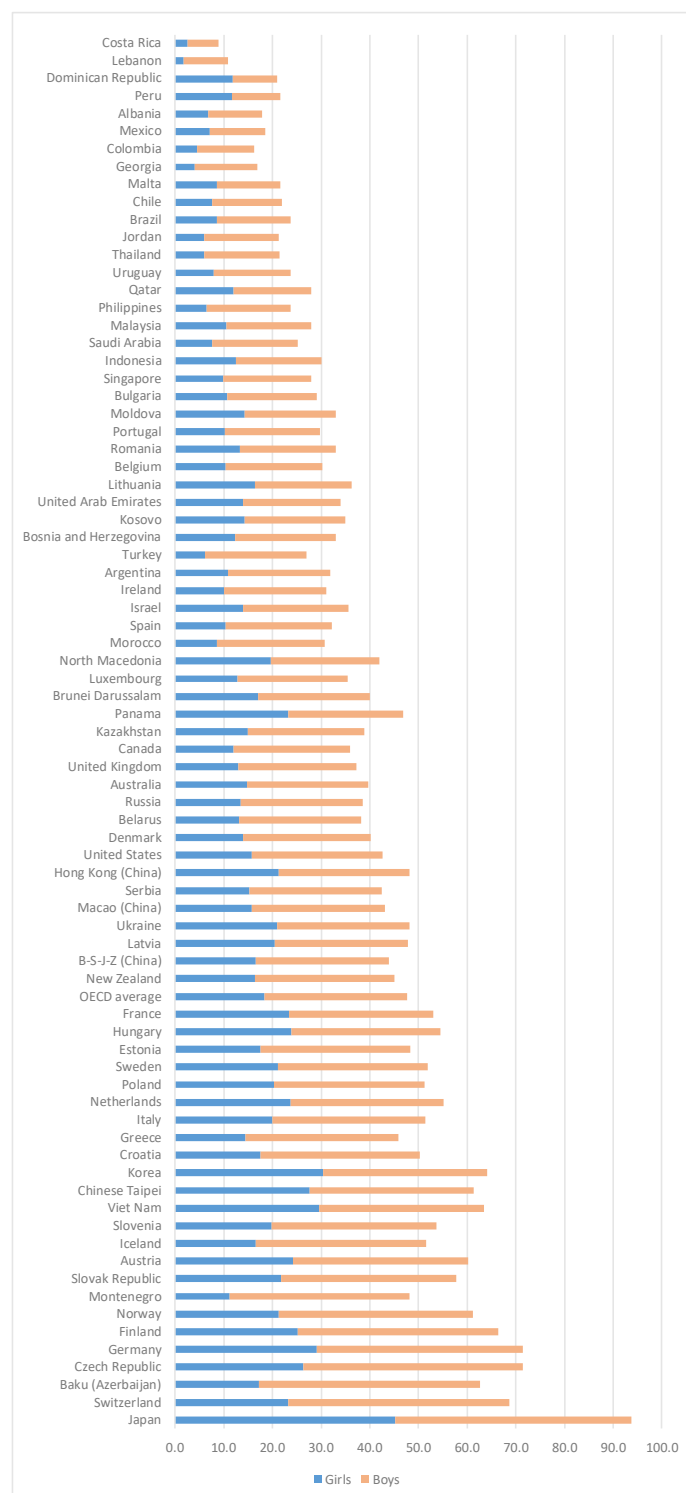
Figure 2.4. High performers who do not expect to be professionals or managers, by socio-economic status.



Note: Percentage of students amongst those who have attained at least minimum proficiency (Level 2) in the three core PISA subjects and are high performers (Level 4) in at least one subject.

Source: OECD PISA 2018 Database - <https://www.oecd.org/pisa/data/2018database/> (accessed on 12 December 2019).

Figure 2.5. High performers who do not expect to be professionals or managers, by gender.



Note: Percentage of students amongst those who have attained at least minimum proficiency (Level 2) in the three core PISA subjects and are high performers (Level 4) in at least one subject.

Source: OECD PISA 2018 Database - <https://www.oecd.org/pisa/data/2018database/> (accessed on 12 December 2019).

Comparable results were found earlier in analysis of PISA 2015 data (Musset, 2018^[1]) and in studies of national longitudinal datasets by (Ashby, 2010^[107]), (Croll, 2008^[96]), (Gemici, 2014^[108]), (Gore, 2015^[92]), (Marjoribanks, 2003^[109]) and (Schoon, 2011^[90]). Such studies, as work by (Pasquier-Doumer, 2015^[101]) from a Peruvian perspective and (Sheng, 2014^[110]) from a Chinese perspective, highlight the very strong influence of socio-economic background and parental expectations on young people's educational and occupational plans. In the study of 3 415 French students aged 14 by (Guyon, 2016^[59]), such assumptions are linked as well to a lack of academic confidence.

We find clear evidence of large social differences in aspirations that are not only due to differences in academic capacity and school environment. Students exhibit excessively fatalistic views on the extent to which future academic success is determined by social background, overestimating this link compared to reality. Secondly, students of low Socio-Economic Status (SES) – in particular the high-achievers – have lower current scholastic self-esteem compared to equally-achieving high-SES classmates (Guyon, 2016^[59]).

As (Grodksy, 2010^[111]) among many other scholars illustrate, many young people from an early age develop aspirations for the future on the basis of assumptions and constraints which are substantially linked to social backgrounds (Archer, 2005^[112]) (Archer, 2014^[41]) (Musset, 2018^[1]) (Irwin, 2013^[113]). Socially driven assumptions may rule out progression to higher education as something that 'people like us' do not do, or lead a young person never to question the family expectation that they would follow a specific educational pathway, regardless of ability or suitability.

They do not arrive at the [university] application decision by carefully weighing the costs and benefits of a post-secondary credential but rather by default; attending college is something they always just assumed would occur (Grodksy, 2010^[111]).

For families, notably those lacking cultural familiarity and social networks relevant to higher education, decision-making about the relative costs and benefits of attending university is difficult. OECD PISA 2018 finds that on average only 43% of disadvantaged students at age 15 reported knowing how to get information about student financing, such as loans or grants, for higher education – with students more likely to report that they had acquired any such knowledge outside of school (OECD, 2019^[34]) (Schleicher, 2019^[105]). In one study undertaken by the US Department for Education, 57% of Ninth Grade (aged 14-15) students overestimated and 32% underestimated the cost of university tuition fees, while over half of students aged 16-17 agreed that they did not know much about student finance (Velez, 2018^[114]). From an Italian perspective, a study of nearly 10 000 secondary school students found that perceptions of university costs and returns were "highly inaccurate, highly uncertain and systematically biased" with returns typically being overestimated and costs underestimated (Abbiati, 2017^[115]). In these cases, the capacity to aspire is clearly constrained by lack of access to trusted and relevant information.

2.5. Career misalignment

Young people who underestimate the level of education required to secure their career expectation can expect to do worse in the adult labour market than comparable peers

A specific concern emerging from the research literature on teenage thinking about educational and occupational thinking relates to what has been labelled ‘misalignment’. First identified as an indicator of long-term outcomes by (Schneider, 1999^[116]), analysis of Australian, UK and US longitudinal datasets by (Kim, 2019^[100]) (Sabates, 2010^[86]), (Sikora, 2011^[117]) and (Yates, 2010^[83]) shows that teenage secondary school students who plan on acquiring education insufficient to achieve their occupational ambition can expect to experience more time as NEET between the ages of 16 and 18, be less likely to go into higher status jobs and earn less in their thirties than peers with aligned plans.

Misalignment is also linked with poorer academic attainment than would otherwise be expected by (Croll, 2008^[96]), (Morgan, 2012^[94]), (Sabates, 2010^[86]) and (Schneider, 1999^[116]). (Perry, 2016^[118]), (Schneider, 2017^[119]) and (Yates, 2010^[83]) all explore the social characteristics of teenage career misalignment and find that young people from more disadvantaged social backgrounds are much more likely to underestimate the education required to achieve their career goal. In one French study, (Guyon, 2016^[59]) find that low-SES teenage students are as likely to prefer a job requiring a master's degree as their equally-achieving high-SES classmates, but they are 26% less likely to expect to pursue a master's degree. Misalignment is an indication of confusion among young people who are in the midst of making significant decisions about what they will study, where they will study and how hard they need to study different subjects to build an educational profile that will allow progression towards occupational ambitions (Frenette, 2009^[120]) (Morgan, 2012^[94]).

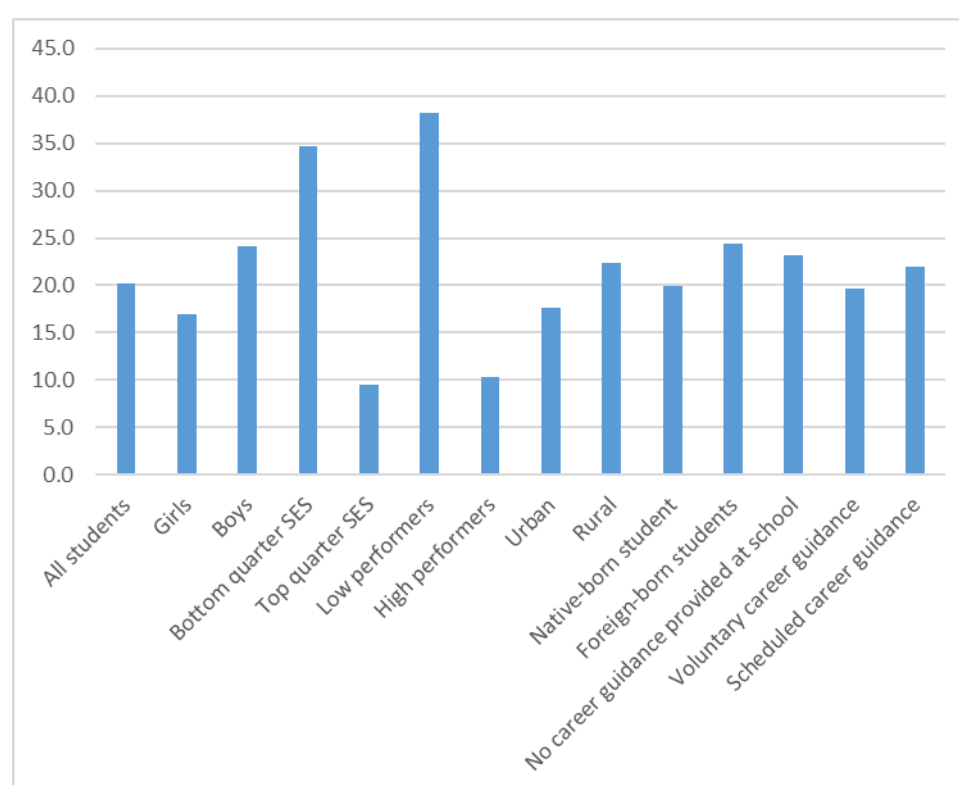
PISA data demonstrate that misalignment and the extent to which it is linked to social background varies considerably between countries

Across the OECD, PISA 2018 data show that on average one in five young people can be classified as misaligned (Mann, 2020^[33]) (OECD, 2019^[34]). The dataset shows substantial variation in the extent to which aspirations are distorted by socio-economic status and gender. While one in ten of the most advantaged quartile of OECD students is misaligned, this applies to one in three students from the most disadvantaged backgrounds. The gap between the two groups is more than forty percentage points in Germany, Hungary and Poland (OECD, 2019^[34]). As Figure 2.6 shows, across the OECD, misalignment is systematically more strongly associated with boys, lower socio-economic status⁹, rural domicile, foreign birth, lack of access to career guidance through school and most notably low academic performance. Given the statistical association with poorer adult outcomes

⁹ “In PISA, a student’s socio-economic status is estimated by the PISA index of economic, social and cultural status (ESCS), a composite measure that combines into a single score the financial, social, cultural and human-capital resources available to student. In practice, it is derived from several variables related to students’ family background that are then grouped into three components: parents’ education, parents’ occupations, and an index summarising a number of home possessions that can be taken as proxies for material wealth or cultural capital, such as possession of a car, the existence of a quiet room to work, access to the Internet, the number of books and other educational resources available in the home” (OECD, 2019^[95]).

than would otherwise be expected, there is an onus on secondary schools to test whether the educational plans and occupational expectations of students are aligned (see, for example (Mann, 2017_[60])). In section three of this report, PISA 2018 data related to the relationship between misalignment and participation in career development activities is explored.

Figure 2.6. Characteristics of students whose education and career expectations are not aligned. OECD average 2018.



Note: Percentage of students who do not aspire to complete a tertiary degree amongst those who expect to work in a high-skilled occupation. Tertiary education corresponds to ISCED levels 5A, 5B or 6 according to the International Standard Classification of Education (ISCED-1997).

Source: OECD PISA 2018 Database - <https://www.oecd.org/pisa/data/2018database/> (accessed on 14 February 2020).

2.6. Career thinking and strategically important professions: two examples

How teenage thinking influences young people's perceptions of the skilled trades and nursing

Interests in two employment sectors where socially and economically important skill shortages are often encountered, the skilled trades (and other professions typically accessed through programmes of vocational education and training (VET)) and in nursing and midwifery, are illustrative of the ways in which teenage thinking shapes career ambition and how interests vary between countries. In both occupational areas, workforce composition and teenage interest is highly influenced by gender and socio-economic background.

2.7. The skilled trades and other professions typically accessed through VET

Following the Great Financial Crisis of 2007/08, governments around the world focused new attention on improving VET systems. Interest was driven by recognition that countries with strong apprenticeship systems, notably Austria, Germany and Switzerland, withstood the global spike in youth unemployment that followed the Crisis (OECD, 2010^[36]) (OECD, 2018^[121]) (Pastore, 2018^[10]) (Schoon, 2019^[122]) (Sironi, 2018^[123]). High quality VET systems balance the interests of employer, learner and society to ensure that learners are prepared for adult economic independence by gaining skills in genuine demand in the labour market (ILO, 2019^[124]) (OECD, 2018^[121]). While the outcomes of VET graduates vary across countries and over longer periods of time, in general the immediate employment prospects of VET graduates compare favourably to comparable achieving peers who have completed similar programmes of general education:

Young VET graduates in OECD countries have higher employment rates and lower unemployment rates than general education graduates on average, and these differences have remained stable over the past 15 years. This is particularly the case in Austria, Germany, Norway and the United States where the labour market performance of VET graduates is substantially better than that of general education graduates. At the same time, on average across countries, the difference disappears for older age groups, suggesting that VET does particularly well in facilitating rapid and successful school-to-work transitions, but potentially loses its comparative advantage over the working life (OECD, 2020^[20]).

Young people's interest in occupations accessed through VET is commonly low and distorted, but varies considerably between countries

However, countries have found that even reformed VET systems fail to attract the interest of sufficient numbers of young people with the ability to progress well in VET. While young people's reactions may reflect the continuing relative qualities of general education and VET in preparing young people for desirable employment, they also reveal often unspoken assumptions about the value of VET and who it is for.

It is acknowledged in numerous countries that VET systems suffer from low status (OECD, 2018^[121]). The 2017 survey of a representative sample of 35 000 Europeans by Cedefop found that 70% of respondents believed VET to be simply about manual work (Cedefop, 2017^[125]) and recent studies shows that VET is strongly associated with lower achievement in countries as diverse as Saudi Arabia (Aldossari, 2020^[126]), India (Agrawal, 2017^[127]) and Romania (Pantea, 2020^[128]). Moreover, VET is widely perceived as a masculine undertaking (Beck, 2006^[129]) (Beck, 2006^[130]) (Deussing, 2019^[131]) (OECD, 2018^[121]) (Pantea, 2020^[128]). As one Australian study based on interviews with high school students states, the skilled trades are seen as “jobs for the boys who don't do academic” operating within working environments that may be discriminatory and intimidating to young women (Struthers, 2019^[132]).

Previous OECD analysis has looked at young people's interest in jobs accessed through VET. Considering PISA responses from 2000, 2006 and 2015, (Musset, 2018^[1]) explore teenage interest in occupations designated within ISCO¹⁰ groups 6 (Skilled Agricultural, Forestry and Fishery Workers), 7 (Craft and related workers) and 8 (Plant and machine

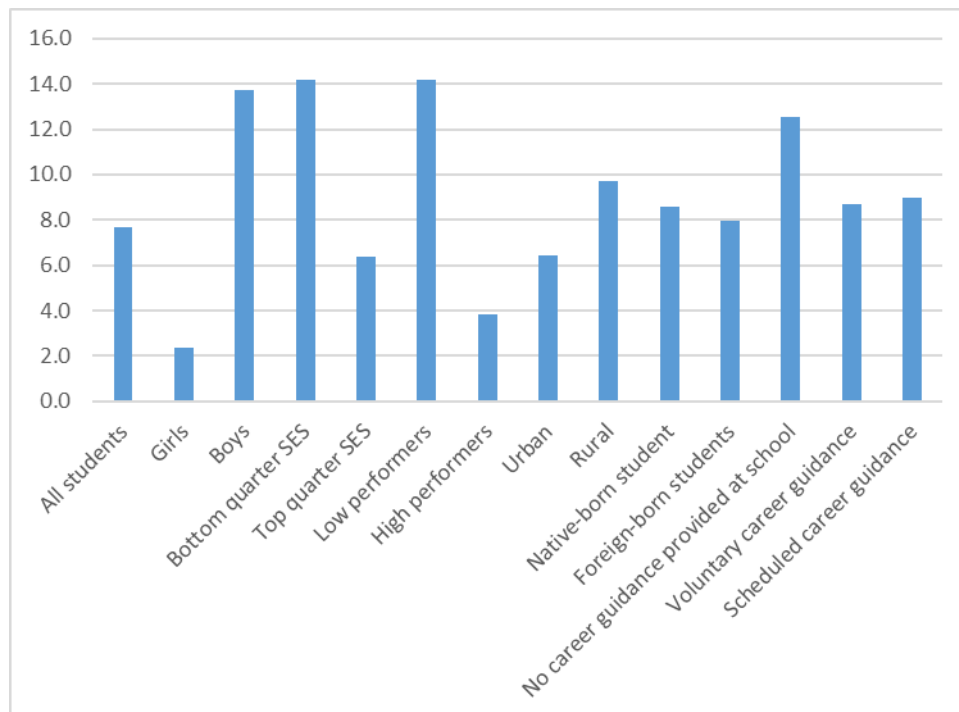
¹⁰ For further details of the International Standard Classification of Occupations (ISCO), see <https://www.ilo.org/public/english/bureau/stat/isco/isco08/index.htm>

operators and assemblers). The authors find that in the majority of OECD countries, the proportion of young people expecting to work in such professions by the age of 30 had fallen since the turn of the century as interest in attending university education and securing professional or managerial jobs rose.

In most countries, interest in skilled VET trades is highly gendered

OECD PISA 2018 data offers further data for countries on teenage perceptions of the attractiveness of their VET systems. As Figure 2.7 shows, interest in working in the skilled trades across the OECD is substantially related to socio-economic status, academic performance, geographic location (rural/urban), place of birth (native/foreign) and provision of career guidance within school. Across the OECD, on average 9.5% of young people expect to work in ISCO group 6-8 occupations by the age of 30: 2.9% of girls and 16.9% of boys. Looking more specifically at ISCO group 7 (Craft and related workers), PISA 2018 shows that 7.7% of all young people expect to work in such professions as adults: 2.3% of girls and 13.7% of boys. This categorisation includes skilled trades such as house builders, bricklayers, carpenters, roofers, plasterers, glaziers, plumbers, refrigeration mechanics, painters, sheet metal workers, welders, motor vehicle mechanics, aircraft engineer mechanics, jewellery makers, musical instrument makers, printers, electrical workers, butchers, bakers, tailors, dressmakers and cabinet-makers. In many countries, such occupations are springboards to self-employment, sometimes at a comparatively young age.

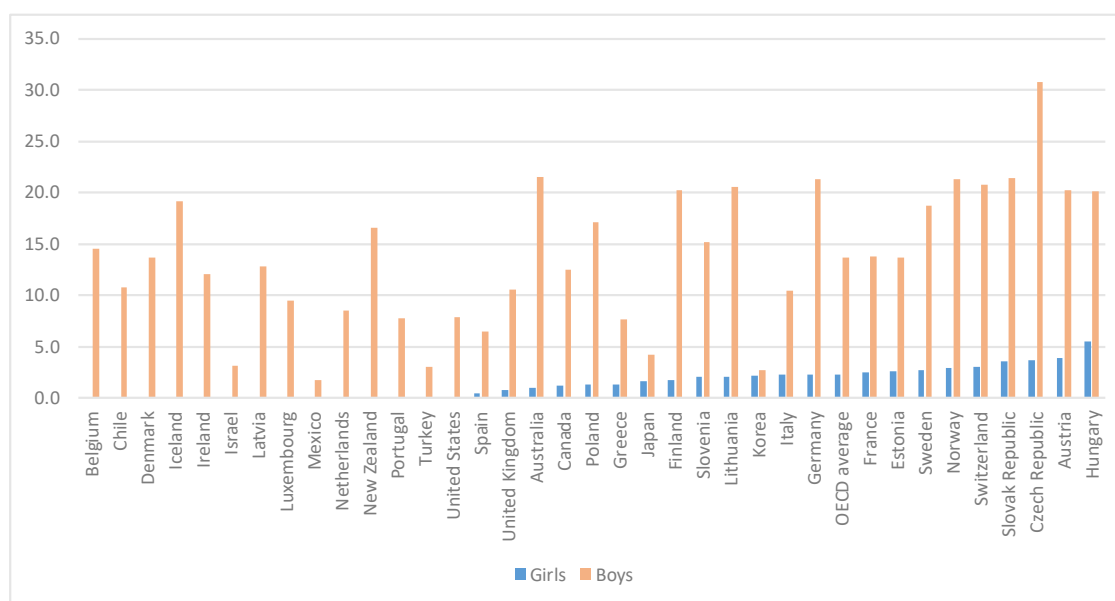
Figure 2.7. Characteristics of young people expecting to work in the skilled trades (ISCO 7000).



Source: OECD PISA 2018 Database - <https://www.oecd.org/pisa/data/2018database/> (accessed on 14 February 2020).

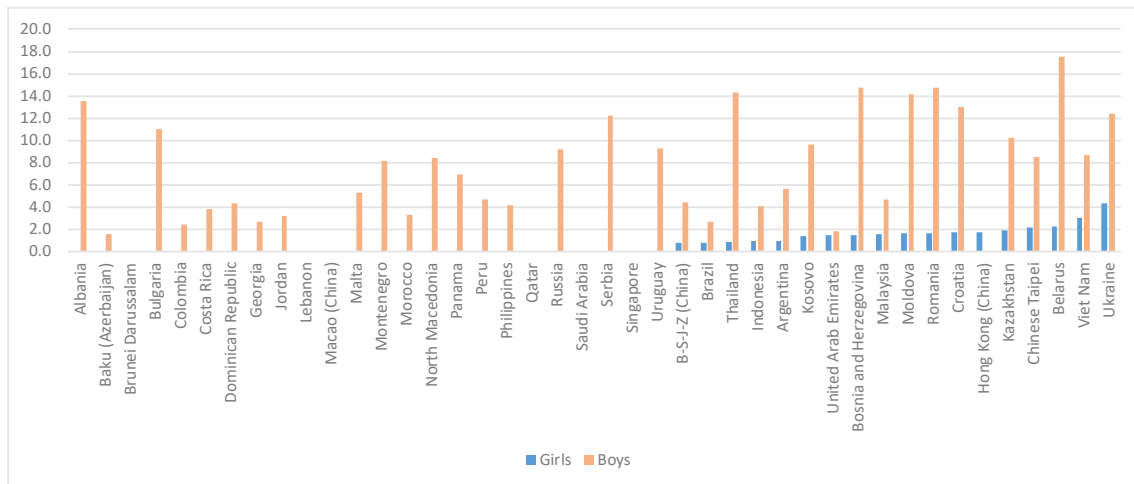
Interest in such professions varies considerably between countries (Figure 2.8 and Figure 2.9). In the charts, due to statistical prudence where fewer than 20 learners or learners from fewer than 4 schools express interest in an ISCO group 7 job, interest is effectively recorded at zero. Consequently, in Brunei Darussalam, Lebanon, Macao, Saudi Arabia and Singapore, PISA 2018 recorded essentially no interest from young people, either male or female in the skilled trades (ISCO group 7). In general, interest is lower outside of the OECD than among member countries and heavily gendered. In 23 of 41 non-OECD countries and economic areas and 15 of 37 OECD countries taking part in PISA 2018, the interest of girls in the skilled trades was too small to record. In only six countries more than 3% of girls who shared their expectation of where they would work at age 30 anticipated working in the skilled trades: Norway, Switzerland, Slovak Republic, Czech Republic, Austria and Hungary where 5.6% of girls expressed such interest. A greater proportion of girls expected to work in the skilled trades in Hungary than in all other PISA countries. In four OECD countries (Australia, Finland, Germany, Iceland) the difference in interest between girls and boys in the trades approximates twenty percentage points.

Figure 2.8. Young people's interest in the skilled trades (ISCO 7000) by gender. OECD countries.



Source: OECD PISA 2018 Database - <https://www.oecd.org/pisa/data/2018database/> (accessed on 14 February 2020).

Figure 2.9. Young people's interest in the skilled trades (ISCO 7000) by gender. Non-OECD countries.



Note: where fewer than 20 learners or learners from fewer than four schools express interest in an ISCO group 7 job, interest is effectively recorded at zero.

Source: OECD PISA 2018 Database - <https://www.oecd.org/pisa/data/2018database/> (accessed on 14 February 2020).

In most countries, foreign-born youth do not expect to work in the skilled trades

PISA 2018 data in relation to the career expectations of foreign-born students is still more striking. In only five OECD countries do sufficient numbers of migrant youth anticipate working in ISCO 7 000 occupations for their interest to be recorded statistically: Switzerland (10.5%), Germany (10.4%), Austria (9%), Australia (5.6%) and Luxembourg (4.3%). In all other OECD countries and in all other non-OECD countries taking part in PISA 2018, data show effectively no foreign-born youth expect to work in a skilled trade at age 30. The success of Germany and Switzerland in attracting a significant level of interest in VET from students with migrant backgrounds reflects the high quality of provision in those countries. However, they are by no means the only nations where young people pursuing VET provision can be confident of good employment outcomes (OECD, 2020_[20]). In both Germany and Switzerland, VET systems recognise that migrant youth face additional barriers to native-born peers in understanding what VET systems have to offer and in securing apprenticeship placements. In both countries, dedicated programmes are in place to enable foreign-born students to overcome additional barriers, building their capacity to benefit from the opportunities provided by VET gateway programmes (Bergseng, Degler and Lüthi, 2019_[133]) (Jeon, 2019_[74]).

Addressing additional barriers preventing access to VET professions

A notable finding of the 2017 Cedefop VET survey of 35 000 Europeans was that only half of respondents who undertook general upper secondary education reported having received career guidance about VET pathways (Cedefop, 2017_[125]). For schools, the data provide a strong rationale for ensuring that all young people have an informed understanding of work within the skilled trades. It is particularly important that girls have opportunity to hear directly from women, and foreign-born youth have the opportunity to hear from older peers, working in occupations with reputations for hostile environments and discriminatory

practice. The results are chastening for many vocational sectors which are deeply unattractive, whether due to workplace realities or perceptions, to large proportions of the population. For apprenticeship systems to work effectively, it is essential that they attract a wide range of learners. As (OECD, 2018_[121]) explain, the attractiveness of apprenticeship programmes to employers relates directly to the rapidity with which trainees develop productive skills that allow the costs of provision to be recovered.

Strong VET systems can help protect young people in their school-to-work transitions, ensuring they develop knowledge and skills in certain demand within a turbulent labour market while building ties to prospective future recruiters (OECD, 2020_[20]). However, to be effective systems depend on young people fully understanding the occupations linked to VET programmes and making informed decisions about the attractiveness of the offer. While in some countries and economies VET provision remains of poor quality offering limited access to skilled employment with good prospects, in many countries, provision has changed significantly over recent years with new programmes of learning combining work-based learning and study up to university level (OECD, 2018_[121]). It is likely that attitudes towards VET provision are lagging behind the reality of the offer in many countries – and that the lag in perceptions is serving to reduce the success of reform efforts. As the (OECD, 2018_[121]) has argued, career guidance enriched by close engagement with the working world is an essential feature of effective VET policy and typical of countries with strong VET systems (Musset, 2018_[1]). For young people to make informed decisions about education and training pathways, they must have opportunity to fully explore the professions to which VET programmes of study serve as gateways. Only then will they have the capacity to make confident decisions about the attractiveness of provision available. At a time of significant concern over the youth employment prospects of young people, ensuring informed understanding of VET programmes which lead to skilled employment emerges as a still stronger priority for national education systems (OECD/ILO, 2017_[134]).

2.8. Nursing: Young people's interests vary considerably between countries and are distorted by gender and social background

It is well understood that young people's interest in careers related to STEM (Science, Technology, Engineering and Mathematics) subjects are also heavily gendered (OECD, 2015_[135]) (OECD, 2019_[34]) (Schleicher, 2019_[105]). Looking at such job ambitions, analysis by (Tai, 2006_[136]) of data from the US National Education Longitudinal Study which follows young people from age 13 in 1988 to age 30, explores whether teenage expectation of working in a science-related career at age 30 is linked to relevant tertiary achievement. The authors find that a young person is 1.9 times more likely than a comparable peer without teenage expectations related to science to have earned a baccalaureate degree from a 4-year college in life sciences and 3.4 times more likely to have gained a similar qualification in the physical sciences or engineering. The study finds career expectation to be a better indicator of adult outcomes than mathematics score at age 13.

An average mathematics achiever with a science-related career expectation has a higher probability of earning a baccalaureate degree in the physical sciences or engineering than a high mathematics achiever with a non-science career expectation, 34% versus 19% (Tai, 2006_[136]).

From a UK perspective, analysis of the National Child Development Study by (Schoon, 2001_[137]) compares career expectations at 16 with employment at age 33 (1991) and finds that a small minority of young people went on to work in their childhood dream jobs.

However, looked at from the other perspective, the authors find that individuals who worked in three economic sectors (health professions, natural sciences and engineering) were all more likely to have expressed interest in such careers as teenagers than comparable peers.

Analysis of PISA 2018 shows that comparably achieving boys are, on average, nearly twice as likely as girls to aspire to work in science or engineering. By contrast, comparably achieving girls are three times more likely to expect to work in health-related occupations (Schleicher, 2019^[105]). Within the healthcare professions, nursing is a priority occupation in many countries. For many years, the World Health Organisation (WHO) has been concerned by a global shortages of nurses. In the first State of World Nursing overview (World Health Organisation, 2020^[138]), the WHO projects a world shortfall of 5.7 million nurses by 2030 from a base of some 28 million nurses working internationally in 2020. This 2020 estimate was undertaken in light of the growing healthcare demands of populations which in many countries are ageing rapidly, but before the consequences of the Covid-19 pandemic had become apparent. It is a reflection of the difficulties in recruiting, training and retaining sufficient numbers of nurses that many OECD countries have become reliant on the labour of nurses educated in other, often lower-income, countries creating problems of supply in origin countries (OECD, 2019^[139]).

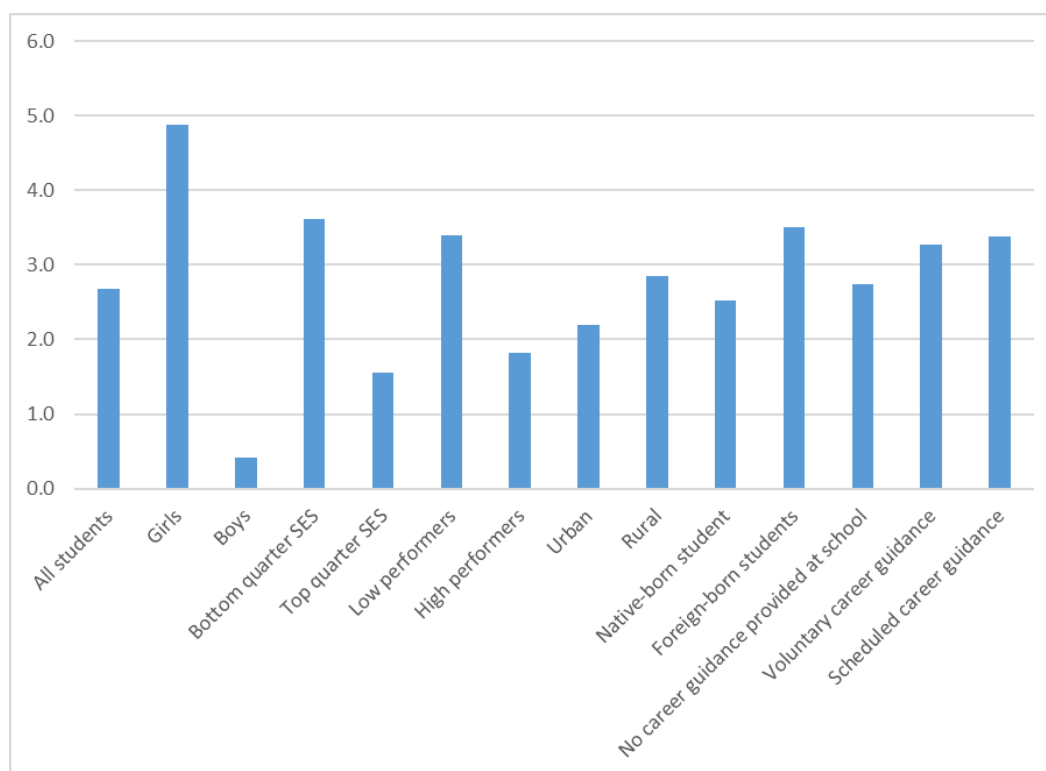
Stereotypical perceptions of nursing

While clearly the variation in young people's interest in nursing may reflect the relative attractiveness of the occupation within and between different countries, there is reason to believe that young people commonly exhibit distorted views about the profession. A prominent theme in studies of young people's perceptions of nursing is that they bear little relationship to the reality of the occupation. Over the last twenty years, numerous national surveys and international reviews have concluded that negative stereotypes towards nursing are commonplace and understanding limited of the educational requirements and career pathways linked to the profession. Nursing is seen as a low-paid profession which is undemanding academically and provides little opportunity for career advancement, leadership or professional autonomy (Campbell-Heider, 2008^[140]) (Cohen, 2004^[141]) (Degazon, 2015^[142]) (Glearan, 2017^[143]) (Glearan, 2019^[144]) (Liaw, 2016^[145]) (Neilson, 2012^[146]) (Porter, 2009^[147]) (Williams, 2019^[148]) (Wu, 2015^[149]). While this may be the case in some countries, to the WHO it is a stereotype that fails to take account of significant changes in the organisation of the profession in many countries (World Health Organisation, 2020^[138]). Moreover, nursing is also overwhelmingly seen as a profession that is only suitable for women (Williams, 2019^[148]) – even though some studies show that the attributes and requirements of the job provide closer matches to what teenage boys articulate as their ideal job than is the case with girls (Cohen, 2004^[141]). Misinformed perceptions of nursing, which has become a job demanding a Bachelor's degree as a minimum entry requirement in many countries in reflection of significant responsibilities now typical of the occupation, is seen to harm both recruitment into the profession and retention within it (Glearan, 2017^[143]).

PISA 2018 data (Figure 2.10) show that on average across the OECD it is overwhelmingly girls, lower achievers and young people from lower socio-economic backgrounds who expect to work in nursing. It is a profession more attractive to young people from rural areas and those who are foreign-born. On average, three in 100 young people who express a career aspiration think that they will be working in nursing or midwifery at the age of 30. Expectation rates range from more than 6% in Japan and the United States to fewer than one in two hundred in Bulgaria, Georgia, Latvia, Poland, Qatar, Turkey and the United

Arab Emirates. While such disinterest may well reflect low wages, poor work organisation and limited prospects (World Health Organisation, 2020^[138]), the international literature is consistent that it reflects too misunderstandings of a profession that has undergone considerable reform in many countries.

Figure 2.10. Characteristics of young people expecting to work in nursing and midwifery. OECD average.



Source: OECD PISA 2018 Database - <https://www.oecd.org/pisa/data/2018database/> (accessed on 14 February 2020).

No country in the PISA 2018 sample succeeds in attracting the interest of high numbers of boys, but there is still substantial variation between countries. In Brazil, Croatia, Dominican Republic, Lebanon and Luxembourg, more than one in five of all the young people who anticipate working in nursing are male. In many countries, including Denmark, Norway and the United Kingdom, less than 2% of all young people interested in nursing are boys.

A common conclusion within studies of young people's perceptions is that members of the profession should work more closely with schools to challenge stereotypes and help young people gain a more informed understanding of contemporary nursing (Campbell-Heider, 2008^[140]) (Gleasant, 2017^[143]) (Neilson, 2012^[146]) (Halperin, 2014^[150]) (Williams, 2019^[148]) (Wu, 2015^[149]). As (Williams, 2019^[148]), drawing on Gottfredson's influential theory of circumscription, compromise and self-creation explains, schools have significant capacity to influence the thinking of young people. Gottfredson argues that psychological and social factors influence career choice, serving to circumscribe and compromise career options, sacrificing fulfilment of true aspirations to meet perceived expectations of what is acceptable in terms of gender, social class and ethnicity (Gottfredson, 2002^[151]). To (Williams, 2019^[148]), gendered thinking actively constrains the capacity to aspire:

Individuals make career choices by seeking the best possible match between their self-concept and their perceptions of occupations, taking into account their abilities and the available opportunities. In this process of circumscription and compromise, career choices are narrowed down from the wide variety of options that society offers to a much smaller range of preferred occupations. This process starts in childhood, and thus certain options may be ruled out before a person has sufficient life experience to make an informed choice. In addition, certain parts of the self-concept are given priority over others in selecting the best occupational match:

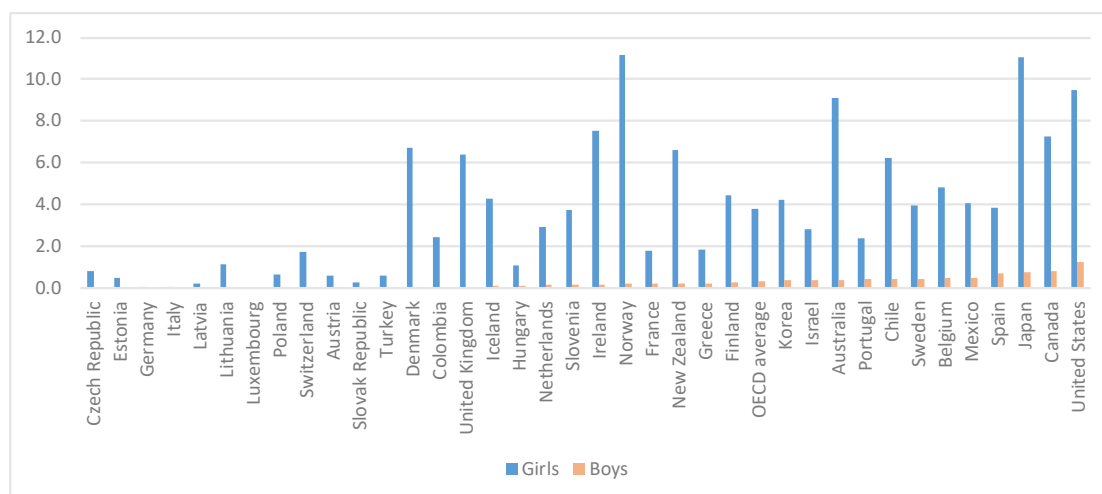
- 1. public presentations of masculinity-femininity will be most carefully guarded,*
- 2. protecting social standing among one's fellows will be of considerable but lesser concern, and*
- 3. ensuring fulfilment of activity preferences and personality needs via occupation will be of least concern.*

As (Williams, 2019^[148]) concludes, interest in nursing as a career will be “guided by common, public perceptions and stereotypes of nursing unless more direct experience or personal knowledge is readily available to the individual.”

Consequently, it is important for guidance counsellors to understand and address the public perceptions of nursing, looking for example for opportunities for boys to hear from male nurses about their experiences in work to address perhaps unspoken assumptions. To ensure that young people have maximum opportunity to consider nursing as a profession, as realistic as possible insights should be enabled through engaging with nurses in school-managed events or through workplace experiences ((Neilson. G. and McNally, 2010^[152]). One successful intervention reviewed by (Porter, 2009^[147])) was a job shadowing programme where young people spent an average of 40 hours exploring the nursing profession. The authors summarise:

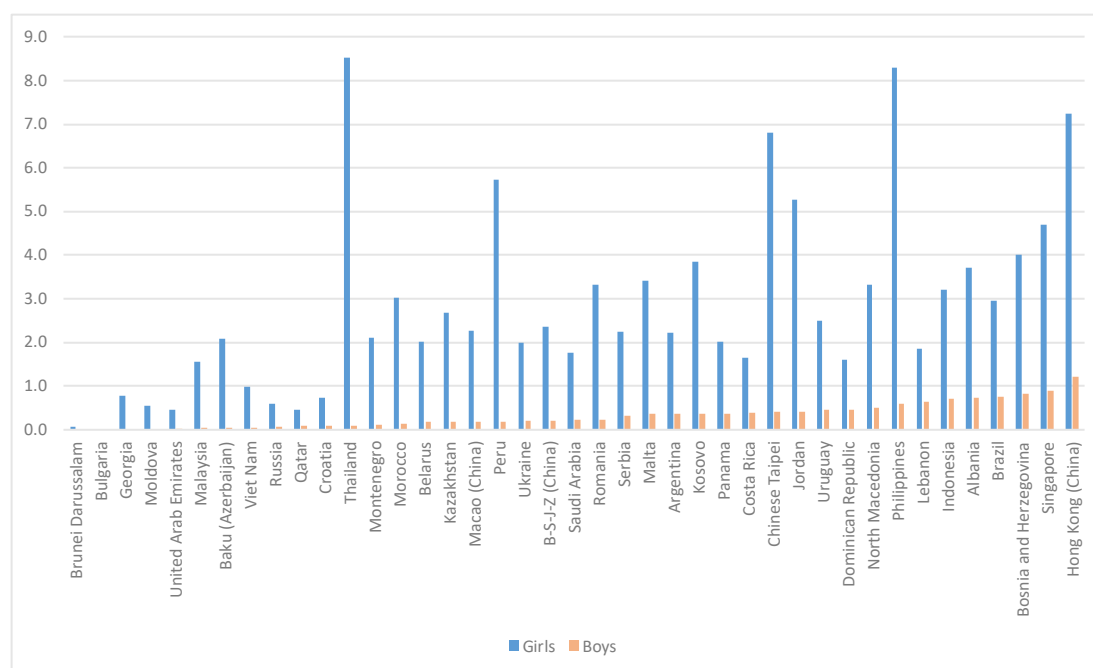
high school students conceptualized nursing very differently before and after participation in a nurse shadowing experience in an acute care setting. Misperceptions of the role of nurses were held in five domains: professional role responsibility, teamwork, caring relationships, use of technology, and medication management.

Figure 2.11. Percentage of young people expecting to work in nursing and midwifery by the age of 30. OECD countries.



Source: OECD PISA 2018 Database - <https://www.oecd.org/pisa/data/2018database/> (accessed on 14 February 2020).

Figure 2.12. Percentage of young people expecting to work in nursing and midwifery by the age of 30. Non-OECD countries.



Source: OECD PISA 2018 Database - <https://www.oecd.org/pisa/data/2018database/> (accessed on 14 February 2020).

2.9. Implications for policy and practice

This section draws on a wide range of national longitudinal studies to show that what teenage students think about their future lives in work matters to their long-term

employment prospects. Earlier work by the OECD and others has shown that the career aspirations of young people are distorted by gender, socio-economic background and migrant status and are systematically a poor reflection of labour market demand (Mann, 2020^[33]) (Musset, 2018^[1]). On average across the OECD, half of 15 year-olds expect to work in one of just ten jobs in their country. In many countries, more than 70% exhibit such career concentration which reflects increasing interest in professional and managerial roles accessed through higher education. Growing proportions moreover, find themselves unable to name a job that they expect to do at age 30. Such uncertainty is growing across the OECD, increasing by 81% between 2000 and 2018 to 24.5% and typically, it is associated with worse employment outcomes in adulthood than would be expected given academic achievement and social background. Uncertain youth tend to be lower achievers from disadvantaged backgrounds attending schools that do not provide career guidance.

Delayed decision-making may not necessarily lead to worse long-term outcomes if it can encourage students to stay in education longer. Students holding higher occupational and educational ambitions for example, routinely outperform comparable peers with lower aspirations in the labour market. Looking into OECD PISA 2018 data, evidence emerges that while young people's aspirations for the future tend to be high, they are also often confused: occupational and educational ambitions align relatively poorly with the levels of ability revealed by participation in the PISA assessments of reading, mathematics and science. One-third of high achieving young people from disadvantaged backgrounds do not expect to attend tertiary education or work as a manager or professional, twice the proportion of high performing peers from the most advantaged backgrounds. Further evidence of career confusion is seen in the high prominence of misalignment among young people, notably from more disadvantaged backgrounds: one in three students from the most disadvantaged social backgrounds and the lowest academic performers underestimate the level of education required to achieve occupational ambitions. The way that young people's thoughts about jobs can influence their career progression is illustrated in reviewing student thinking about careers in nursing and in skilled occupations to which VET programmes are common gateways. These are professions which are likely to withstand the post-COVID global downturn in demand for labour. However, studies show that young people's understanding of work in these areas is often poorly informed and distorted by social characteristics.

This section is informed by (Appadurai, 2004^[68]) concept of the capacity to aspire. The theory provides a useful tool for understanding how young people's aspirations emerge from their social circumstances. It not enough to hold ambition for a certain profession or educational pathway, young people need access to information, resources and self-understanding that will allow them to develop informed knowledge of what is required to meet their ambitions and to navigate education and training systems and the early labour market with confidence. For schools, this means recognising that career ambitions are closely tied to often unspoken assumptions and expectations that begin at a young age and which are closely tied to social background (Musset, 2018^[1]). Stereotyping linked to gender, socio-economic status and migrant background about who it is who is best fitted to pursue certain careers is commonplace. A priority within career guidance programmes should be to challenge such stereotyping, presenting children and young people with the opportunity to visit diverse workplaces and meet with people working in non-traditional roles. Consequently, programmes should be designed to broaden the career thinking of young people, beginning in primary school. Students must be helped to reflect on their interests and abilities in relation to potential roles within the labour market. National longitudinal data and international comparative datasets such as PISA offer means to

develop new indicators of student career readiness in relation to what young people think about their futures. Such a resource when combined with indicators of other characteristics of readiness will provide schools with a new means of assessing how well placed individual students are to approach transitions into adult employment as they progress through secondary education. Above all, it is important that schools take action to encourage and enable young people to articulate and explore their career ambitions, helping them to develop the critical perspectives which will underpin agency in the navigation of transitions from education to work. This is the subject of Section 2. of this paper.

3. Exploring the future

Data from national longitudinal studies demonstrates that what young people think about their working futures matters to their long-term employment outcomes. In this section, further evidence is presented to illustrate the ways in which student career exploration is also linked with better than expected success in the adult labour market. Teenagers who engage in conversations about their working futures or who take part in programmes of career exploration or guidance are more commonly found to enjoy employment boosts as young adults. OECD PISA 2018 data shows however that many 15 year-olds, particularly from more disadvantaged backgrounds, do not have opportunity to engage in such career exploration. Three examples of national practice illustrate how schools can help young people to develop the critical understanding that underpins agency through school-to-work transitions.

3.1. Student agency in exploration of the labour market

Taking an historic view of the changes in the youth labour market in the UK, (Tomlinson, 2013^[153]) observes a move from early to delayed entry which resonates in many OECD countries. In the 1960s and 1970s, young people typically split into two groups, a relatively small minority would stay on in education after the age of 16 and ultimately pursue tertiary education and a majority who entered work after the end of compulsory schooling commonly finding low skilled employment through social networks or specialist government agencies and embarking on early transitions to adult independence. Since then, transitions have become “increasingly complex, uneven and unpredictable” (Tomlinson, 2013^[153]). Across the OECD and beyond its membership, ever greater numbers of young people have stayed in education beyond the end of compulsory secondary education (Musset and Kurekova, 2018^[154]). A large majority of young people now continue in education to 18 and record numbers proceed to higher education. In 2018, 27% of people across OECD countries aged 55-64 had completed tertiary education compared to 44% of peers aged 25-34.¹¹ As (Tomlinson, 2013^[153]) stresses, the framework for young people’s transitions has changed from one based on biography (with experiences largely determined by social background) to one based on a culture of personal choice. While (Tomlinson, 2013^[153]), as other researchers (Ghee, 2005^[155]) including at the OECD (Musset and Kurekova, 2018^[154]), continues to highlight the importance of social structures (gender, socio-economic status, migrant status) in heavily driving teenage career thinking, transitions have in many OECD countries undoubtedly become “more complex and encompass a greater variety of pathways and future options that are far less predictable, patterned and based on stable modes of progression. [...] It has become increasingly imperative for individuals to pro-actively manage their transitions and the shaping of their future work trajectories” (Tomlinson, 2013^[153]). Young people are now faced with a proliferation of education and training options and a series of key decision points which

¹¹ OECD (2020), Population with tertiary education (indicator). <https://doi.org/10.1787/0b8f90e9-en> (Accessed on 12 August 2020)

can have profound effects on the course of their future lives (Musset and Kurekova, 2018^[154]). In what is ostensibly an open competition to secure desirable work, patterns of advantage linked to social background and family origin are still strong. Young people envision their own careers, but they do not make them as they please. In order to optimally situate themselves to achieve desired professions, young people are faced with the challenge of avoiding dropping or underperforming in essential subjects, choosing specialisms with care and developing relevant non-academic experience and networks. All this requires significant self-awareness and a critical viewpoint on ultimate employment that comes from a reflective engagement that builds the capacity to aspire.

Initial experiences of education represent the primary lifetime opportunity to develop human capital that will enable progression into occupational ambitions. However, as explained in a 2019 joint publication of the OECD, Cedefop, European Commission, European Training Foundation, International Labor Organisation and UNESCO:

*Young people make more decisions than before as they stay in education longer, but the increasing dynamism of the labour market, the rapidly changing demand for skills and the growing diversification and fragmentation of education and training provision is making decision-making more difficult.*¹²

With the COVID-19 pandemic, such instability and related difficulties in decision-making have grown still more challenging.

The capacity to aspire is formed in social interaction and unequally distributed across societies

The capacity to aspire has been conceived by theorists as a means of understanding the relative progression of young people towards satisfying adult employment. The question that drives the conceptualisation is: Why do some young people succeed in achieving their ambitions, while others fail? The capacity to aspire is perceived as a resource that is unequally distributed across society and formed in the context of social interactions (Appadurai, 2004^[68]) (Baillergeau, 2019^[61]) (Hart, 2016^[47]). Young people who are the most disadvantaged within society are understood to have the least access to useful knowledge and support in relation to educational provision and the world of work. Their understanding of how to navigate towards places within the labour market that generate greatest personal emotional and financial reward is constrained. For example, in her 2011 qualitative study of students in their final years of secondary schooling in a severely disadvantaged Australian neighbourhood, Lisa Smith noted that her interviewees, all from low socio-economic backgrounds, did not lack aspirations but routinely lacked access to trusted and accessible sources of useful information and support that allow aspirations to be realised (Smith, 2011^[45]).

The capacity to aspire and social capital

There is a close relationship consequently between the thinking that informs the capacity to aspire and social capital theory which seeks to make sense of how social relations between people can influence material outcomes. Social capital is itself a broad concept with a number of important strands which explore in different ways the roles that relationships of varying depth can play in helping individuals both get by and get ahead in life (Field, 2008^[156]) (Halpern, 2005^[157]). The relationship with young people's navigation

¹² See *Investing in Career Guidance* https://www.cedefop.europa.eu/files/2227_en.pdf.

through school-to-work transitions stems from the significance of social interactions in career exploration and the fact that access to useful sources of support and advice is unequally distributed (Stanley and Mann, 2014^[158]). As (Tomlinson, 2013^[159]) states:

decision-making around post-compulsory and higher education appears to be largely influenced by the social capital possessed by individuals in terms of their social networks, ties and access to available knowledge and resources.

To (Hoffman, 2020^[160]), variations in social capital can help explain how the economic prospects of young people with similar academic ability can vary so much once they have left education and entered the labour market (see also (Grugulis, 2012^[161]) (Portes, 1998^[162]). Studies in Sweden (Kramartz, 2014^[163]), Germany (Roth, 2018^[164]) and the United States (Blustein, 2001^[165]) have highlighted the roles that parents take in actively helping young people to find entries into the labour market. Others have looked at the importance of young people's interactions with informal or 'natural' mentors (adults with whom they have weaker social relations, including teachers, career guidance counsellors, employers, neighbours and more distant relations) (Erickson, 2009^[166]) (McDonald, 2007^[167]). Here, the work of US sociologist Mark Granovetter has proved highly influential. In his concept of the strength of weak ties, researchers see opportunity for schools to strengthen young people's social networks and so their capacity to aspire. (Granovetter, 1973^[168]) conceptualised and demonstrated the importance of broad, shallow networks in finding employment. In essence, Granovetter argued that having weak relationships with a wide network of acquaintances who each know different things, different people and have access to different resources increases the likelihood of individuals learning about, and being supported in securing, desirable employment. Whereas in a closely-knit community, knowledge about economic opportunities is limited and widely shared, weak ties provide access to what Granovetter describes as 'non-redundant, trusted information'. Put simply, broader networks increase access to information that proves to be new and useful in securing employment. A number of studies have drawn on the concept to make sense of gains that young people have been seen to make from teenage experiences that involve employers and workplace volunteers (Jokisaari, 2005^[169]) (Kashefpakdel, 2017^[170]) (Mann, 2014^[52]) (McDonald, 2007^[167]). Others have followed Granovetter and fellow US theorist of social capital Nan Lin to highlight the importance of knowing people through networks who occupy positions of higher comparative economic advantage – knowing people who are managers is especially useful to job seekers in hearing about job vacancies and being recommended for them (Hoffman, 2020^[160]) (Jokisaari, 2005^[169]). Within the transfer of information and influence, of primary importance is the credibility of the information source (Fuller, 2014^[171]). Trust in sources, as determined by those people who ultimately benefit from the relationship, drives the strength of weak ties (Blenkinsop, 2006^[172]) (Linnehan, 2005^[173]). As (Raffo and Reeves, 2000^[174]) explain from the context of a work placement programme aimed at disengaged secondary school students in Manchester, England, face-to-face interactions can have a powerful effect on the capacity of young people to make sense of, and gain some agency over, their transitions from education into employment:

What we have evidenced is that, based on the process of developing social capital through trustworthy reciprocal social relations within individualized networks, young people are provided with an opportunity to gain information, observe, ape and then confirm decisions and actions with significant others and peers. Thus everyday implicit, informal and individual practical knowledge and understanding is created through interaction, dialogue, action, and reflection on action within individualized and situated social contexts.

The power of personal interactions in providing access to knowledge of ultimate economic benefit related to career exploration is a wider theme within research literature. Drawing notably on (Archer, 2003^[175]), (Archer, 2005^[112]) (Ball, 1998^[176]), Lisa Smith distinguishes between ‘hot’ and ‘cold’ knowledge which can potentially influence the career thinking of young people. ‘Cold’ knowledge is classified as formal or official sources of information, such as in the case of Smith’s study, government guides, university brochures and websites. ‘Hot’ knowledge, by contrast, can best be described as ‘word-of-mouth’ knowledge gained from social contacts such as family, friends, teachers and others (Smith, 2011^[45]). Smith shows that for the young, disadvantaged Australians she meets, it is ‘hot’ knowledge, which is seen as more relevant and trustworthy and it is particularly influential on decision-making (see also (Archer, 2010^[177]) (Slack, 2014^[178])). ‘Hot’ sources of information can both enhance and diminish aspirations as they provide an influential external viewpoint over the personal desirability and reasonableness of ambitions. Sources of ‘hot’ knowledge can provide advice and guidance which is either misinformed or based upon a strong understanding of the issues under discussion.

In some instances, particular forms of hot knowledge appear to both increase students’ access to ‘cold’ knowledge and shift their perceptions about themselves and university (Smith, 2011^[45])

Unsurprisingly therefore, researchers have been interested in the extent to which young people have access to people through their social networks with whom they can reflect on and review their career ambitions and plan the steps they will take towards realising them. In an important study (Roth, 2018^[164]) draws on data from the German National Education Panel Study to assess the importance of parental networks on the likelihood of interested children finding an apprenticeship. He finds that the children of parents who know many people who work in ‘lower status jobs’ to which apprenticeships are common gateways are more likely to secure an apprenticeship than peers. The children of parents who mostly know people who work in ‘higher status jobs’ by contrast are less likely to find an apprenticeship. However, it is more commonly in the field of higher status jobs that relative advantages in social networks are witnessed. The children of native-born university graduates, business managers and professionals have structurally richer pools of information and advice to draw upon than their equally ambitious, but less advantaged, peers. Parents from more advantaged backgrounds are typically more comfortable and confident in their understanding of cultural norms, sometimes called the ‘unwritten rules of the game’, that will allow them to help their children develop high aspirations and the capacity to achieve them (Archer, 2014^[41]). By implication, parents who are refugees for example can be expected to have access to more limited social networks of value to their children seeking to progress in an unfamiliar country (Jeon, 2019^[74]). In career exploration and discovery, knowing people either directly or indirectly matters.

3.2. Career conversations: Many teenagers, notably from disadvantaged backgrounds, do not speak to anyone about their job interests

Studies of teenagers show that they overwhelmingly turn to their parents to discuss their career plans (Baxter, 2017^[179]; Gemici, 2014^[108]; Homel, 2014^[180]) (Oymak, 2018^[181]). Parents can be extremely helpful in developing the capacity of their children to aspire through provision of information directly, access to new sources of information and arranging opportunities for active learning about jobs and even access to training contracts or employment itself (Roth, 2018^[164]). The advice and help given is constrained however by the limits of parental experiences and networks (Blenkinsop, 2006^[172]) (Irwin, 2013^[113])

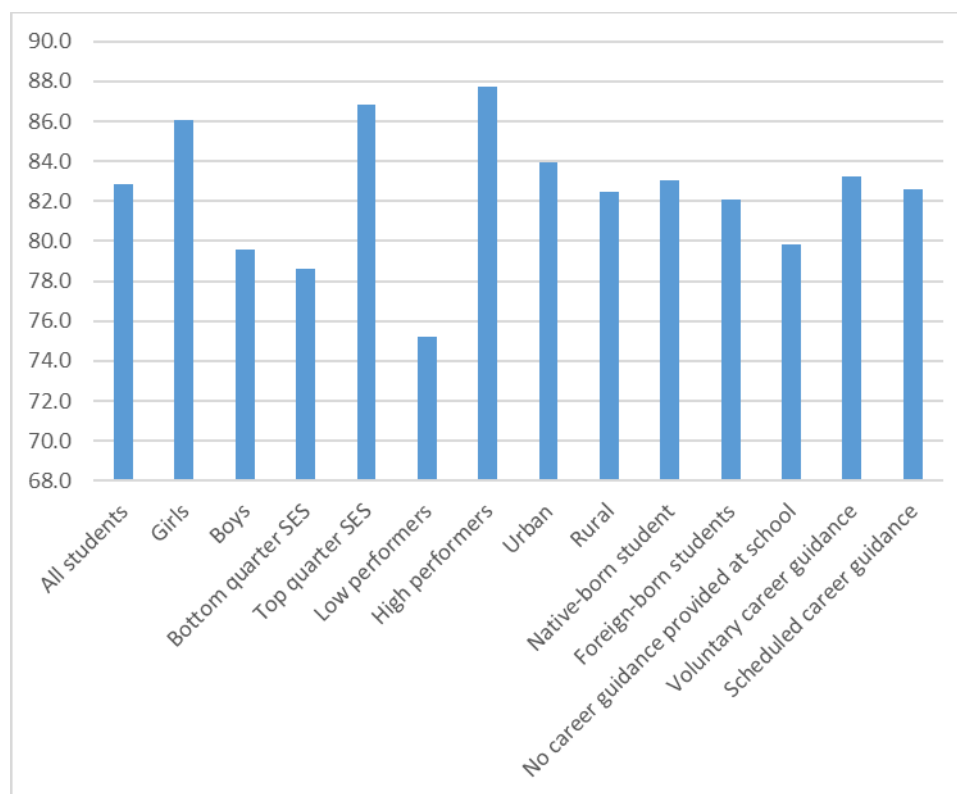
(Norris, 2014^[182]), and many young people, especially those in greatest need of support, do not draw on parental counsel at all (Rennison, 2005^[183]).

The analysis of Australian longitudinal data by (Baxter, 2017^[179]) for example finds that one quarter of a representative sample of 14-15 year-olds who were uncertain about their career ambitions and planned on leaving school at the earliest opportunity had not spoken to their parents about their future educational or work aspirations. Analysis by (Indecon, 2019^[184]) of the testimonies of 6 000 young people in the Growing up in Ireland longitudinal study finds that only 66% of the most disadvantaged students aged 17 and 18 had spoken to their father about their career plans. By contrast, 88% of their more advantaged peers from the highest socio-economic backgrounds agreed that they had had such a parental discussion. Using older data, (Rennison, 2005^[183]) examines the sources of advice available to students in the UK and find that young people who became NEET (Not in Education Employment or Training) at 17 to be nearly six times more likely to have no sources of advice about decisions to continue in education than peers who went on to stay in full-time education (9.6% v. 1.7%). Within a sample of more than 20 000 young people, only 69% of students who went on to become NEET had spoken to parents about what they would do after they had completed compulsory schooling at 16 compared to more than 80% of former classmates who stayed on in education or who entered work with training (Rennison, 2005^[183]). In a related area, a UK study of 580 male and female students aged 17-19 by (Hart, 2016^[47]) found that one in four individuals reported having aspirations they had never shared with anyone else and a third of the respondents said they were sometimes afraid to tell other people about their aspirations. From a US perspective (Erickson, 2009^[166]) draw on longitudinal data from the National Longitudinal Study of Adolescent Health to find that only 44% of the most disadvantaged teenage students reported knowing adults, other than parents, who have made ‘an important positive difference’ in their lives, compared to 82% of their more advantaged peers.

PISA 2018: career conversations are associated with social and academic advantage

Young people in the countries which participated in the OECD PISA 2018 questionnaire on Financial Literacy provided information on whether they had “talked to someone about the job you would like to do when you finish your education.” On average, 83% of students in OECD countries had spoken to someone about their career plans. However, as Figure 3.1 and Figure 3.2 show, this average conceals considerable variation. Across participating OECD countries, on average only 79% of young people from the lowest socio-economic backgrounds and 75% of respondents from the lowest quartile by performance on the PISA tests in reading, mathematics and science had spoken to someone in contrast to 87% of peers from the highest socio-economic background and 88% of the highest performing students. In six countries, 30% or more young people reported that they had not a conversation about their job ambitions by the age of 15: Bulgaria (32%), Estonia (30%), Italy (33%), Latvia (30%), Lithuania (30%) and Serbia (32%).

Figure 3.1. Percentage of students agreeing that they had talked to someone about the job they would like to do when they finish their education. OECD countries.

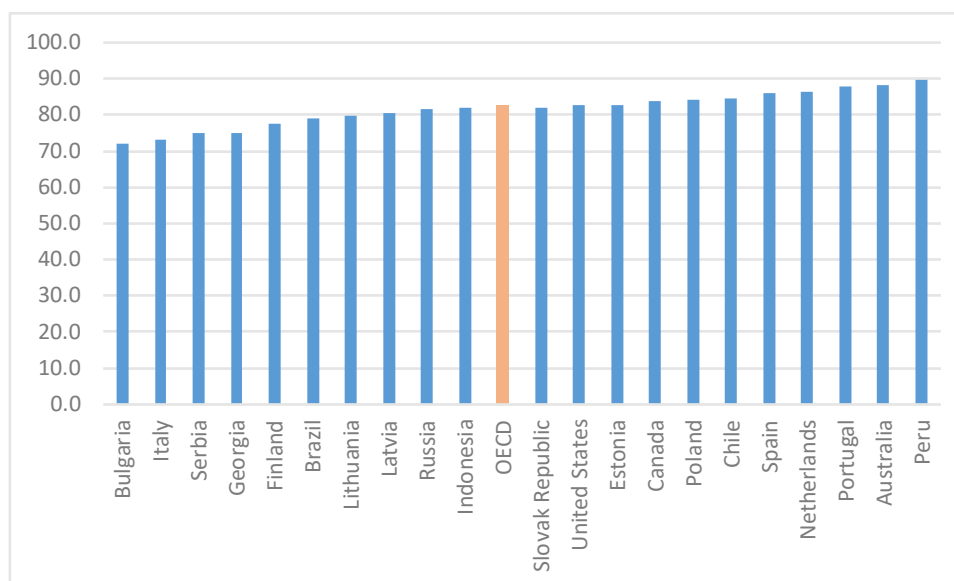


Source: OECD PISA 2018 Database - <https://www.oecd.org/pisa/data/2018database/> (accessed on 28 January 2020).

It is girls (86%) who are more likely than boys (80%) to talk to someone about their career aspirations. In Australia, Peru, Portugal and Spain, nine out of ten girls had such a conversation, while the proportions are lowest in Bulgaria, Georgia, Italy and Serbia. Boys are most likely to discuss jobs of interest in Australia (86%), the Netherlands (84%), Peru (88%) and Portugal (85%) where more than 85% of participants recalled a conversation and least likely in Bulgaria, Brazil, Finland, Georgia, Italy and Serbia where fewer than three-quarters of boys agreed.

In terms of socio-economic status (SES), young people in every country participating in the survey from the highest SES quartile were more likely to have spoken to someone about their job interests than peers from the lowest SES quartile. In Australia, Brazil, Bulgaria, Canada, Serbia, the Slovak Republic and the United States, the difference between the two groups is more than ten percentage points.

Figure 3.2. Percentage of students agreeing that they had talked to someone about the job they would like to do when they finish their education



Source: OECD PISA 2018 Database - <https://www.oecd.org/pisa/data/2018database/> (accessed on 14 February 2020).

A number of countries taking part in the OECD PISA Educational Career Questionnaire opted to ask students an additional question concerning conversations about career plans:

- In Australia, 47% of young people agreed that they had ‘spoken to professionals in a field that I am interested in.’
- In Denmark, 93% of young people agreed that they had ‘talked to my parents and friends about education choices and career choices.’
- In Hungary, 79% of young people had ‘asked relatives and acquaintances.’
- In Italy, 36% of young people agreed that they ‘spoke to a career counsellor before I enrolled in this school.’
- In New Zealand, 82% of young people ‘spoke to my parents or my parents’ friends.’
- In Brunei Darussalam, 87% of young people ‘spoke to my family.’
- In Serbia, 62% of young people ‘asked my relatives and friends about some jobs and colleges.’
- In Thailand, 71% of young people ‘have listened to lectures from senior seniors or those who are directly employed.’

Teenage career conversations are linked with lower levels of teenage uncertainty and misalignment

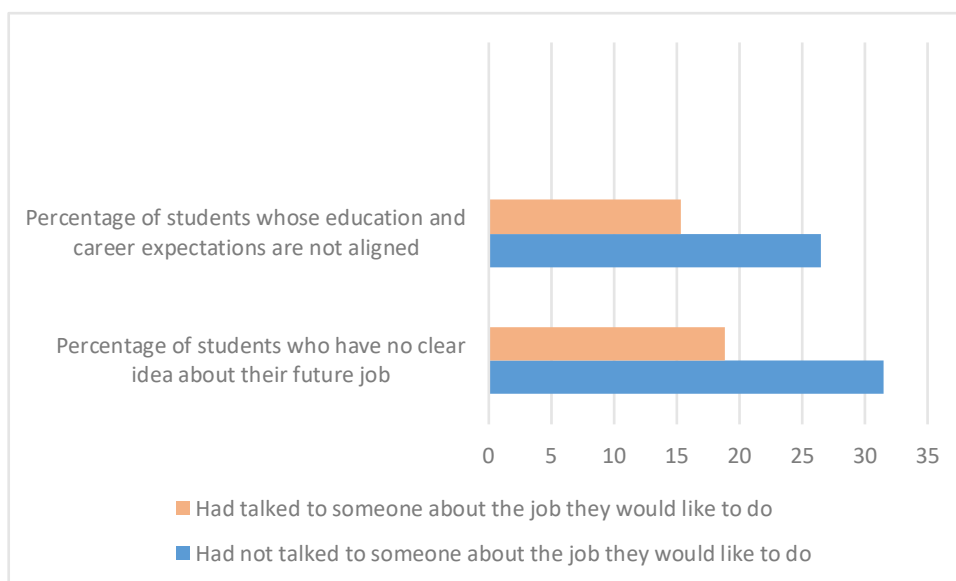
In Section two of this report, evidence was reviewed from longitudinal datasets that link teenage career uncertainty and career misalignment (where educational plans are

insufficient to achieve occupational goals) with poorer employment outcomes than would be expected given an individual's academic attainment and social background.

Analysis of PISA 2018 shows a statistically significant relationship between having talked to someone about a future job of interest and lower levels of both career uncertainty and misalignment (P values for both associations are 0.0). With controls in place for gender, socio-economic status, school type (school location, staff/student ratio, private/public status), immigrant background, language spoken at home, motivational factors (truancy factors), PISA scores and cognitive potential (whether respondents have been required to repeat a year of study), the association is found to be non-coincidental. No relationship was found in terms of the level of career concentration (interest in the ten most popular jobs).

In terms of occupational uncertainty, on average young people from participating OECD countries who had discussed a job interest were 68% less likely to be uncertain than peers who had spoken to someone. In Australia, Chile, Portugal and the United States, young people were twice as likely to be clear about their occupational plans if they had had a conversation about future work. In terms of misalignment, young people from OECD countries who had *not* talked about their imagined working lives were 71% more likely to be planning on pursuing education insufficient to meet their career goals. In Australia, Brazil, Canada, Chile, Portugal, the Slovak Republic, Spain and the United States twice as many teenagers who had not had a career conversation were misaligned as their peers.

Figure 3.3. Relationship between teenage career thinking and having spoken to someone about job interest. OECD average.



Source: OECD PISA 2018 Database - <https://www.oecd.org/pisa/data/2018database/> (accessed on 14 February 2020).

Career conversations are linked with more positive attitudes towards the value of education

Analysis of OECD PISA 2018 data also shows statistically significant relationships between young people agreeing that they had a conversation about a career ambition and more positive than anticipated attitudes towards the extrinsic value of education. With

controls in place for social background and academic proficiency, those young people who had spoken to someone about a job they wanted to do when they left school were more likely to agree with the following statements:

“Trying hard at school will help me get a good job” (P=3.9%)

“Trying hard at school will help me get into a good college” (P=0.7%)

“Trying hard at school is important” (P=0.4%)

In these responses, young people are seen as developing stronger understandings of the relationship between educational provision and workplace ambitions. Consequently, a simple question can reveal an important indication of a young person’s likely preparedness for transitioning through education and into work.

The importance of career conversations with school staff: democratising access to useful information

The OECD PISA 2018 questionnaire does not ask young people with whom they had a conversation about future working. Respondents’ might be thinking of parents or other family members. It is also possible that they are thinking of people who they have encountered through their school (Oymak, 2018^[181]). Information accessed through schools is of particular importance because educational institutions maintain the capacity to democratise access to information and experiences that prove useful to young people as they seek to make sense of their aspirations. As (Archer, 2013^[185]) argue, “aspirations form part of the ongoing social reproduction of privilege/disadvantage” and “schools (and careers services) are particularly important for disadvantaged children in that they can potentially provide a fairer distribution of cultural and social capital and opportunities for supporting, developing and informing children’s interests.” To (Fisher, 2018^[186]) schools have an essential role to play in enabling young people to develop new and valuable relationships to complement those emerging from the family home:

Children’s networks – their reservoir of social capital and ability to bank on that capital for support, advice, or opportunities down the line – remains largely determined by random luck: the luck of where children are born, whom their parents know, and whom they happen to end up sitting next to in class.

An important resource for all young people in exploring their career ambitions is the teachers with whom they interact with on a daily basis (Blenkinsop, 2006^[172]) (Craig, 2019^[187]). A small number of longitudinal studies ask teenagers whether they discussed their future plans with teachers. Such interactions are often associated with significant long-term benefits:

- (Brown, 2011^[188]) make use of the British National Child Development Study which follows participants born in 1958 and finds that teenage occupational ambitions are statistically more likely to be realised, if the young person first heard about the job in question from a teacher.
- (Mann, 2017^[60]) analyse data from the Longitudinal Study of Young People in England that follows young people from the ages of 13-14 in 2004 into adulthood. They find that teenagers (at ages 14-15) who had spoken to a teacher at least once either inside or outside of lessons were 13% to 24% less likely to be NEET than comparable peers on the day the survey wave at age 19-20 was undertaken. In contrast, when (Percy, 2018^[189]) explore potential links between teenage participation in school situations where careers were discussed and earnings premia

at age 26, no direct evidence is found. However, as described below, premia linked to other career development activities are commonplace if undertaken within a school where such engagements.

- (Mortimer, 2017^[78]) utilise the US Youth Development Study which follows a sample of young people in St. Paul, Minnesota into adulthood and find that being influenced by a teacher or school professional in one's career decision-making increases the odds of becoming "successful" at age 26-27 by 44%. Success is defined in terms of economic independence, progress being made toward career goals, job satisfaction and the absence of physical and emotional problems.
- (McDonald, 2007^[167]) and (Erickson, 2009^[166]) both use the US National Longitudinal Study of Adolescent Health (Add-Health) which began in 1995 following thousands of young people in grades 7-12 into adulthood (ages 23 to 28). They explore the influence of 'informal mentors' (adults other than parents who young people believe have made an "important positive difference" in their lives), including teachers. (McDonald, 2007^[167]) find that youths with parents lacking higher education experience have only a 35% probability of progressing to tertiary education, but that the figure rises to 65% if they agree (as teenagers) that they have a teacher who makes an "important positive difference" in their lives. (Erickson, 2009^[166]) find that youth who develop informal mentors during adolescence (including, but not exclusively, teachers) are significantly more likely than comparable peers without such mentors to be in full-time employment during early adulthood; and, that youth from more advantaged backgrounds are significantly more likely to class a teacher as a mentor than their disadvantaged peers.
- From another perspective, analysis of the Longitudinal Study of Australian Children by (Baxter, 2017^[179]) which tracks participants from birth in 2003, finds that teenagers (ages 14-15) are less likely to be uncertain about their career plans (and so run a lower risk of suboptimal economic outcomes, as discussed in Section two of this work) if they had spoken with a teacher about their ambitions.

Career conversations: an indicator of career readiness

This review of international longitudinal data and OECD PISA 2018 data on the association between career conversations and better than expected levels of career certainty, alignment and employment outcomes demonstrates both compelling relationships and the strong correlation between participation in career discussions and social advantage. The capacity of schools to engage in productive conversations about future careers with students is open to improvement (Hughes, 2020^[3]). In important studies by (Kuijpers, 2017^[190]) and (Winters, 2012^[191]), student perceptions of the utility of their career conversations with teachers are seen to improve when teachers have participated in training programmes.

3.3. Does participation in school-mediated career guidance improve young people's employment outcomes?

While informal conversations with subject teachers may prove to be influential on young people and notably on those from more disadvantaged backgrounds, as illustrated by (Indecon, 2019^[184]), they are not the primary vehicle through which schools work to help young people explore their prospective future lives. Rather, across the 79 countries and economic areas that took part in PISA 2018, overwhelmingly schools offer career guidance as a distinct element of school life.

Career guidance refers to services intended to assist people of any age and at any point throughout their lives to make educational, training and occupational choices and to manage their careers. Career guidance helps people to reflect on their ambitions, interests, qualifications and abilities. Comprehensive career guidance is designed to teach people to plan and make decisions about work and learning. Career guidance makes information about the labour market and about educational opportunities more accessible by organising it, systematising it, and making it available when and where people need it (OECD, 2004^[192]).

More recently, career guidance has been understood to entail four main elements (Musset and Kurekova, 2018^[154]):

Career education in which students learn about the world of work and develop career management skills through classroom teaching, and through other activities.

Career information on courses and occupations, learning and career opportunities, progression routes and choices, as well as information on where to find help and advice, and how to access it.

Individual career counselling on a one-to-one basis, providing specific advice on career decisions; either pro-actively (mandatory interviews for all) or reactively (on-demand). Advice can be general or targeted. Counselling includes activities that help young people to gather, understand and interpret information and apply it to their own situation, as well as impartial guidance and specialist support to help young people to understand themselves and their needs, confront barriers, resolve conflicts, develop new perspectives and make progress.

Direct contact with the world of work to give young people first-hand insights into, and experiences of, the labour market in order to raise and broaden career aspirations.

In OECD countries, school principals confirm that 93.5% of secondary institutions catering to 15 year-olds provide guidance at school. The percentage of 15 year-olds with no access to guidance through their school is greatest in Greece (52%), Italy (31%), Croatia (29%), Baku (Azerbaijan) (28%), Brazil (28%), Argentina (26%) and Belgium (25%). Broken down by specific career development activities, data from participating countries show considerable variation between countries in the extent to which young people agree they have taken part in activities. Typically, more young people have access to ‘cold’ careers information (researching the internet, completing a questionnaire) than participate in activities that provide the opportunity to interact with people well placed to share insights about work (job fairs, job shadowing, internships). On average, across the OECD (where the average age of the end of compulsory schooling is 16) just half of young people have spoken with a careers guidance professional within school by the age of 15.

Table 3.1. Participation in career development activities.

Participating OECD countries, PISA 2018

	I did an internship	I attended a job shadowing or work-site visit	I visited a job fair	I spoke to a career advisor at my school	I spoke to career advisor outside of my school	I completed a questionnaire to find out about my interests and abilities	I researched the internet for information about careers	I went to an organised tour in an ISCED 3-5 institution	I researched the internet for information about ISCED 3-5 programmes
Albania	30	31	32	41	44	56	65	33	54
Australia	49	32	56	64	23	69	80	33	61
Austria	46	59	64	41	27	78	78	42	58
Belgium	10	16	15	31	15	42	56	19	35
Brazil	12	37	30	33	30	41	63	25	41
Brunei Darussalam	20	23	39	38	38	63	71	33	55
Bulgaria	27	45	39	35	37	48	55	33	46
Costa Rica	12	35	14	43	33	51	59	28	41
Denmark	56	63	71	84	16	67	83	85	81
Germany	87	33	49	45	23	70	84	40	47
Greece	39	44	31	41	34	49	72	25	40
Hong Kong (China)	14	10	8	42	21	67	62	36	48
Hungary	41	40	17	45	31	52	67	45	55
Iceland	34	59	57	72	22	65	73	78	80
Ireland	39	30	19	42	10	54	74	23	55
Italy	21	32	27	37	28	48	59	47	54
Kazakhstan	38	37	30	51	44	61	70	38	60
Korea	9	67	23	61	33	81	79	36	51
Lithuania	42	27	52	38	38	60	73	41	65
Malta	19	55	72	68	40	53	76	46	62
Morocco	41	35	24	60	31	48	55	21	43
New Zealand	29	41	50	41	19	67	79	21	53
OECD average - 18	35	41	39	50	24	61	73	44	59
Panama	21	30	15	46	37	57	60	22	40
Poland	15	30	27	50	26	59	69	43	66
Serbia	46	33	33	38	34	45	61	32	48
Slovak Republic	33	46	40	39	29	58	62	59	59
Slovenia	25	38	40	49	22	61	70	74	70
Spain	22	29	22	57	22	59	71	30	59
Chinese Taipei	43	48	41	61	28	82	78	79	72
Thailand	23	51	30	75	51	72	82	68	76
United Kingdom ¹³	25	52	39	66	21	65	85	53	75

Source: OECD PISA 2018 Database - <https://www.oecd.org/pisa/data/2018database/> (accessed on 14 February 2020).

Quantitative studies of long-term outcomes linked to teenage participation in career development activities are surprisingly rare

In spite of the essential purpose of career development activities being to prepare young people for working life, surprisingly few studies have assessed the long-term impact of school-mediated teenage interventions. It is widely recognised that quantitative, longitudinal evidence exploring the impact of career development activities is poor (AIR UK, 2008^[193]) (Everitt, 2018^[194]) (Hooley, 2016^[195]) (Hughes, 2016^[35]) (Musset and Kurekova, 2018^[154]) (Polvere, 2015^[196]) (Whiston, 2017^[197]). Research studies using social science methodologies are relatively few and generally restricted to a small number of largely English-speaking countries. Where empirical studies (randomised control trials) do exist participant numbers are often very low. However, while evidence is limited, it does provide insights of value. Reviews of available experimental and quasi-experimental (such as national longitudinal studies) literature have broadly associated guidance and career-exploration activities with better than anticipated educational, social and economic outcomes. Of the 27 international studies which (Hughes, 2016^[35]) identify as using longitudinal analysis or randomised control trials to measure the impact of school-mediated guidance interventions on adult employment outcomes, 67% were judged to have had generally positive outcomes while the remainder were determined to have delivered results which were mixed or negligible. None were adjudicated to have been such as waste of time that outcomes were negative.¹⁴

Occupational exploration within general programmes of secondary education

(Hughes, 2016^[35]) include a particular focus in their literature review on the efficacy of career guidance on upper secondary programmes of study which include short courses of occupationally-focused vocational education alongside programmes of general education. In Australia, a majority of schools offer young people in Grades 11 and 12 (between the ages of 16 and 18) opportunity to study such courses within a largely academic curriculum. Courses allow students to explore specific occupations within provision which is rich in work-based and work-related learning (Education Council, 2014^[198]). Recent analysis of longitudinal data has shown that students enrolling on such programmes are more likely than comparable peers to enter full-time work soon after completing secondary education, to earn more five years into the labour market and to be working in a profession linked to school courses selected (Misko, 2020^[199]) (Ranasinghe, 2019^[200]). A richer literature in the United States, focusing on short programmes of occupationally-oriented provision and career-exploration activities finds generally similar results. Expanding particularly during the 1990s, by 2002 60% of young people in the United States undertook at least one career exploratory course of study within their High School curricula (Visher, 2004^[201]). While not all longitudinal analyses find evidence of economic benefits of secondary programmes which combine vocational exploration with academic education (Bragg, 2002^[202]) (Kemple, 2001^[203]) (Nicholas, 2015^[204]), most do. (Kemple, 2008^[205]) and (Page, 2012^[206]) find evidence of significant and substantial wage premia at age 26 linked to participation

¹³ In the UK, a supplementary question asked whether students had taken part in work experience of one to two weeks during the school year – 47% of respondents agreed that they had.

¹⁴ (Hughes, 2016^[35]) also find that that 60% of 45 international studies deemed reliable that focus on educational outcomes linked to career guidance activities and 62% of 25 studies which focus on social outcomes find evidence of largely positive outcomes. The remainder of studies were viewed as delivering outcomes which were mixed rather than negative.

in the Career Academies programme delivered in the United States.¹⁵ Randomly selecting interested students into either the Careers Academy or control groups, (Kemple, 2008^[205]) find that the two groups demonstrate similar academic performance at 18, but that members of the former group who had participated in a course of study rich in career exploration and work-based learning earned on average 11% more than their peers at age 26. Tracking students who chose to pursue modules of learning related to specific vocational areas in their final years of secondary education, (Applied Research Unit, 2001^[207]), (Bishop, 2004^[208]), (Dalton, 2013^[209]) and (Fletcher, 2009^[210]) all find evidence of better than expected economic outcomes, including higher pay and stronger employment records in early adulthood. (Neumark, 2004^[211]) draws on longitudinal data to explore the impact of six school-to-career programmes introduced to United States high schools as a result of the 1994 School-to-Work Opportunities Act: job shadowing, mentoring, cooperative education (combining academic and vocational education), participation in a school-sponsored enterprise, tech prep (a planned programme of study with a defined career focus that includes progression onto tertiary education), and what are described (somewhat ambiguously) as ‘internships or apprenticeships’. In initial analysis, Neumark finds evidence of improved employment outcomes up to age 21 in relation to two areas: cooperative education and internships/apprenticeships (Neumark, 2003^[212]) (Neumark, 2004^[211]). In related analysis (Neumark, 2005^[213]) divide their cohort into two groups by characteristics which would best predict progression on to higher education. The authors find that programmes related to three activities (school enterprises, cooperative education and internships/apprenticeships) are particularly beneficial for students from the more disadvantaged half (see also (Neumark, 2004^[211])). (Neumark, 2005^[213]) argues consequently that such programmes can serve to reduce inequalities. The analysis of (Kemple, 2008^[205]) concurs: whereas on average graduates of US Career Academies programmes earn 11% more than comparable peers (the equivalent of one extra year of education), the quartile presenting the greatest risks of dropout as teenagers went on to earn 17% more at age 26.¹⁶ (Kemple, 2008^[205]) also finds that young men go on to earn significantly more than young women. Looking at disadvantage more broadly, (Enayati, 2019^[214]) and (Shandra, 2008^[215]) find that United States students with disabilities routinely enjoy employment boosts as adults after participating in school-to-work programmes in high school.

Career guidance counselling and adult economic outcomes

Available research on the long-term impact of career guidance counsellors on young people’s adult outcomes is also surprisingly thin. (Saniter, 2014^[216]) look at the availability

¹⁵ (Kemple, 2008^[205]) explains: “Typically serving between 150 and 200 students from grades 9 or 10 through grade 12, Career Academies are defined by three distinguishing features: (1) they are organized as small learning communities to create a more supportive, personalised learning environment; (2) they combine academic and career and technical curricula around a career theme to enrich teaching and learning; and (3) they establish partnerships with local employers to provide career awareness and work-based learning opportunities for students.” Career Academies are structured around occupational areas (engineering, finance, health sciences, hospitality and tourism, information technology) and are taught on one day a week.

¹⁶ Using the same dataset, (Page, 2012^[206]) looks narrowly at students who completed (rather than enrolled) in the Career Academy course of study and finds wage premiums three times greater than the 11% average recorded by (Kemple, 2001^[203]).

of job information centres which were rolled out over a number of years across German municipalities.

A job information center (Berufsinformationszentrum) is a public establishment that provides detailed and comprehensive information on occupations, vocational training and apprenticeships, higher education, job tasks, earning prospects, and local labor market conditions. The goal of job information centers is to provide specific, up-to-date, detailed occupational information and, if required, counseling to facilitate individuals' labor market-related choices. The centers are designed to combine visitors' autonomous retrieval of information with assistance from professional job counselors.

Using national statistics, the authors find significant relationships between the availability of a centre in a locality and lower levels of unemployment among young people in the five years after entry to the labour market. (Avery, 2014^[217]) (Bryan, 2011^[218]) (Pham, 2011^[219]) and (Hurwitz, 2014^[220]) all draw on quantitative datasets in the United States to find positive relationships between the ratio of career counsellors to a school population and the likelihood of former students enrolling on a four-year bachelor's degree programme. From a British perspective, (Gutman, 2014^[84]) find evidence in the Longitudinal Study of Young People in England that teenage girls who have access to career guidance, especially if it was found to be useful at the time, are less likely to be uncertain about their career ambitions than peers. However, no such link is found with regard to boys, or for either gender in related analysis of the British Cohort Study. A priority for further research is to better understand the long-term impacts of guidance counsellors on young people's outcomes, exploring the quality and intensity of counselling in the context of need.

Career guidance and career uncertainty

A number of quantitative studies have explored relationships between teenage career uncertainty and participation in career development activities and found positive outcomes linked to involvement (Gutman, 2012^[93]) (Gutman, 2014^[84]). (Galliot, 2015^[221]) for example draw on a survey of 706 Australian students aged 14 to 18 to explore the connection. They find significant associations between career certainty and meeting with a career counsellor in school (2.12 times more likely to be certain than uncertain), participating in career education classes (2.54 times) and taking part in voluntary work experience placements (2.40 times). Visits to universities and vocational colleges were not found to be significantly related to greater incidence of certainty in career aspirations.

Career development activities in PISA 2018

Analysis of OECD PISA 2018 data finds positive links between teenage participation in career development activities and improved indications that young people are being better placed to transition well into the labour market. As Figure 3.1 illustrates, participation in career development activities are consistently associated with lower levels of career uncertainty. Earlier analysis of PISA 2018 data in (Mann, 2020^[33]) set out significant relationships between participation in specific career development activities and:

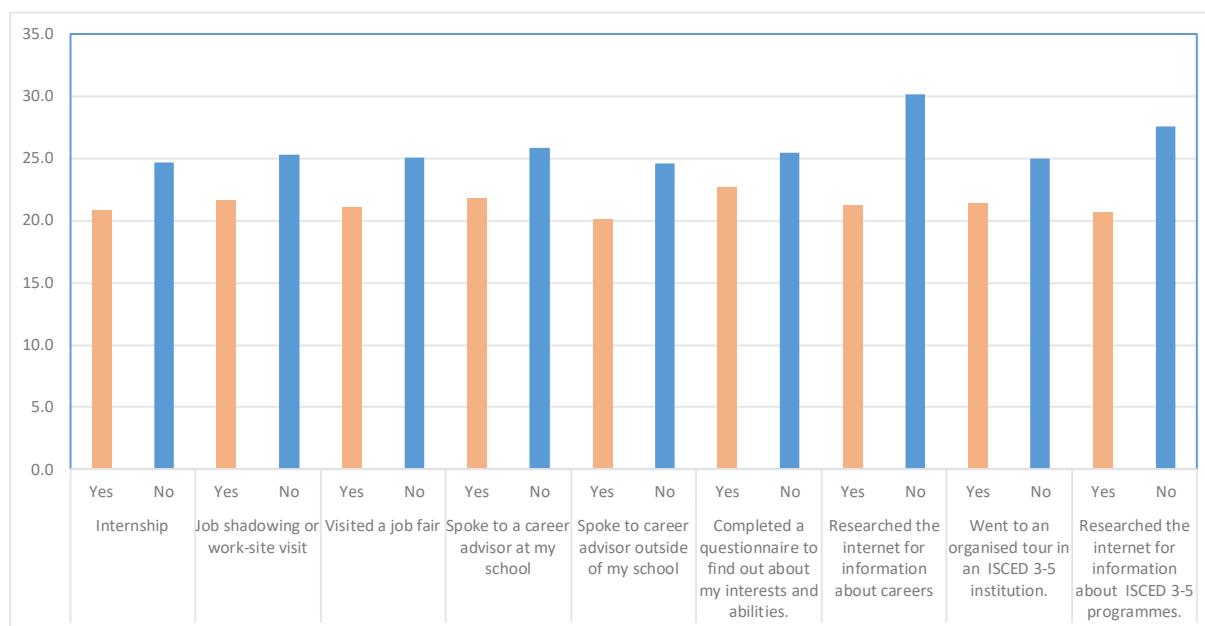
- more positive than anticipated perceptions of the long-term extrinsic value of education,
- lower levels of misalignment (where teenage educational plans are insufficient to secure occupational expectations), and

- lower levels of career concentration (percentage of young people expecting to work in one of ten most popular jobs at age 30).

The PISA database shows moreover that young people attending schools which do not provide access to career guidance are more likely to be uncertain about their career aspirations. In the case of low performers, on average across participating OECD countries 35% of teenagers without access to guidance through their schools are uncertain compared to 28% where guidance is available, be it on a compulsory or voluntary basis. Levels of misalignment are also slightly higher in schools lacking a guidance resource. Furthermore, teenagers in such institutions are less likely than peers to take into account school grades and the availability of financial support, training pathways and employment opportunities when deciding on their career ambitions. Deeper understanding of national practice reflected in PISA is required however to make full sense of how young people are selected to participate in guidance activities and the character and quality of the activities that they encounter. PISA data provides no insight into the intensity of participation in career development activities (on how many occasions students take part in different interventions), the duration of participation (time spent in an intervention and at what age interventions began) or whether participation was on a voluntary or compulsory basis. The last is of particular importance as it provides a control for student motivation and can be expected to strengthen confidence in any findings.

Figure 3.4. Relationship between participation in career development activities and uncertainty in occupational expectations.

Average of participating OECD countries.



Source: OECD PISA 2018 Database - <https://www.oecd.org/pisa/data/2018database/> (accessed on 14 February 2020).

3.4. How young people respond to career development activities: the case of career talks.

One more deeply researched example of career guidance highlights the ways in which different types of young people respond to different patterns of participation in the same development activity. (Kashefpakdel, 2017^[170]) draw on the British Cohort Study (BCS70) to explore the relationship between teenage participation in school-mediated career talks with an outside speaker organised by their school and earnings at age 26. The BCS70 follows thousands of participants from birth in 1970 through to adulthood. At age 16, the study asked participants (i) on how many occasions they have taken part in career talks with an outside speaker at school (ii) if yes, how old they were when they took part (14-15 and/or 15-16) and (iii) whether they found the talks to be useful or not. (Kashefpakdel, 2017^[170]) find, with a range of controls in place for academic achievement and social background, that:

- Young adults (in full-time employment) enjoyed a wage premium at age 26 of 0.8% for each career talk undertaken at age 14-15 with the premium increasing to 1.6% if career talks were found to be ‘very useful’ at the time they were experienced;
- Young adults enjoyed a wage premium of 0.9% at age 26 in relation to career talks undertaken at age 15-16, but only if talks were found to be ‘very useful’ at the time they were experienced;
- Young people who found career talks to be ‘very helpful’ on average participated in 3.4 talks - by comparison young people who did not find them to be helpful typically took part in 2.25 talks.

In further analysis, (Percy, 2018^[189]) draw on the same data to ask whether benefits were greater for young people who attended schools with richer cultures of career guidance. Making use of a particularly helpful dataset, the BCS70 analysis is expanded to include questions related to teenage participation in (i) timetabled classes in which careers were discussed, (ii) personal contacts with a careers counsellor or teacher during which career interests were discussed, and (iii) meetings or other classes in which careers/jobs were discussed. For each category, students were invited to note on how many times they recalled such engagement. From this basis, (Percy, 2018^[189]) create a mechanism for measuring the ‘career richness’ of school provision, dividing the cohort into two groups. They find that the richer the culture of careers guidance within a school, the more likely it is that young people found career talks to be useful. Moreover, while none of the three elements of career richness was found to be independently associated with higher than expected wages at age 26, a richer environment of career guidance is linked with increases in the wage premium that is driven by participation in career talks (at age 14-15 the premium rises from 0.8% to 1.0%). Where respondents experienced less rich cultures of career guidance, they could expect no wage premium at age 26, unless they took part in more than five career talks. (Percy, 2018^[189]) conclude that is the volume and the perceived authenticity of external speakers that drive wage premiums, but that such “speakers can only be at their most effective if teachers work with them to prepare their classes, brief the speaker and link the content to future in-school activities as appropriate.”

A third study by (Mann, 2018^[222]) returns to the dataset and introduces a further question. The British Cohort Study also asks young people at age 16 if they knew “a contact through

their family or friends who could help [them] get a job after education.” The question provides a clear insight into the possession of social capital and how personal networks can have an ultimate economic value. The authors find that 41% of participants answered yes to the question. At age 26, on average members of this group earned 4.3% more than would be expected given their academic achievement and social backgrounds. Isolating the 59% who did not believe that their personal contacts would help them find work, (Mann, 2018^[222]) find this group to be much less likely to be from higher socio-economic backgrounds than their better connected peers. The 59% with weak real social capital, however still gained from participation in career talks delivered through their schools. On average, they could expect a premium of 1.5% at age 26 for each talk they took part in at age 14-15 or 8.5% in total in relation to participation in talks between the ages of 14 and 16. By contrast, the 41% rich in real social capital experienced no statistically significant wage premium linked to career talks.

Together, the three papers provide further evidence of the ability of schools to build young people’s capacity to aspire. The analysis suggest that schools can help young people to achieve better outcomes in the labour market, given their academic achievement and social backgrounds, if they expose young people to career talks delivered by people from outside of school. Benefits can be boosted if:

- larger numbers of career talks are experienced (the analysis identifies no upper limit where the benefits of career talks tail off), and
- career talks take place in a school environment which encourages critical discussion of, and reflection on, career interests.

It is young people whose own personal career-related social networks are weakest who have most to gain from the career talks.

Explaining the benefits of career guidance enriched by employer engagement

In studies by the same collective of researchers, textual analysis of the personal testimonies of young people about what, if anything, they gained from school-mediated encounters with employers, (Jones, 2015^[223]) asks whether the benefits that young people describe can best be considered as forms of human capital (skills, qualifications and work experience), social capital (access to information and forms of support through expanded social networks) or cultural capital (changes in attitudes and assumptions). They draw on written reflections from 380 respondents to a 2011 survey of a representative sample of young British adults (aged 19-24). The survey explored participants’ recollections of school-mediated career-related employer engagement activities such as work experience placements, mentoring, career talks, workplace visits and CV/interview workshops. (Jones, 2015^[223]) find that half of their sample could not identify any benefits from their school-mediated interactions with employers, but of those who did, few mentioned growing human capital (such as technical or ‘employability’ skills). Rather, the respondents argued that what had changed related to social and, particularly, cultural capital. Through encounters with real-life employment, young people felt they gained enhanced personal confidence, greater personal motivation or could better visualise potential new career pathways, including the elimination of alternative options. Young people gained better insight into their potential futures and means of achieving them as a result of engagement with people in work whose perspectives they found hard to ignore.

The (Jones, 2015^[223]) study followed analysis of the same survey dataset by (Mann, 2014^[52]) and (Percy, 2014^[224]) which found statistically significant associations between

the number of employer engagements undertaken through schools between the ages of 14 and 18 (on a scale of 0 to 4+) and:

- adult earnings (if in full-time employment),
- NEET status (on the day of the survey), and
- confidence in career progression between 19 and 24 (agreement that their current activity was useful in achieving occupational ambitions).

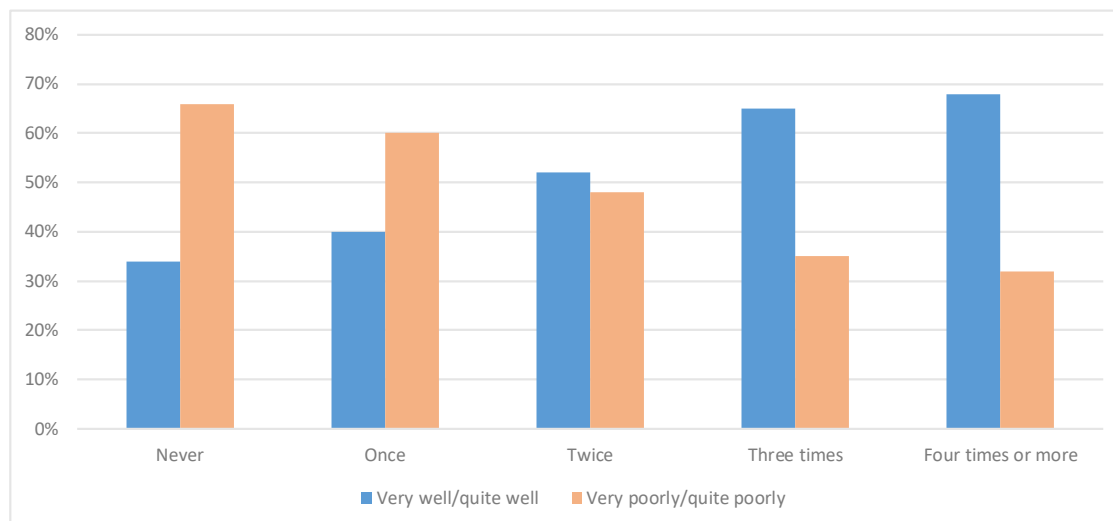
For this group, entering the labour market in the aftermath of the spike in youth unemployment that accompanied the Great Financial Crisis of 2008, greater school-mediated employer engagement was associated with significantly and substantially better economic outcomes: for each employer engagement activity recalled, young people reported earnings 4.5% higher than comparable peers who remembered no such involvement (Mann, 2014^[52]).

In connected analysis, the association between school-mediate employer engagement and reduced incidence of being NEET was seen to be particularly strong for lower achievers. Of young adults with lower levels of qualification, 44% who recalled no episodes of employer engagement were NEET compared to 26% of peers who recalled two or more incidents. Statistically significant relationships were also found between the volume of employer encounters and confidence in future career progression. Drawing on a sample of 835 adults aged 19-24, the proportion of respondents agreeing that “what you are doing now” was “very useful” to “the sort of job you’d like to be doing in 5 to 10 years’ time” rose with number of recalled experiences of school-mediated employer engagement from 36% (0 experiences) to 39% (1), 42% (2), 45% (3) and 55% (4) (Percy, 2014^[224]).

Repeating the study with a representative sample of 1 744 young adults aged 19-24 in 2017, regression analysis again found significant associations between better than expected employment outcomes and teenage participation in larger numbers of career guidance activities with employers, with benefits strongest if activities were seen as very useful in hindsight (Kashefpakdel, 2018^[225]) (Mann, 2017^[226]).

The analysis also found a significant relationship between number of recalled engagements with employers and perceptions of how well secondary schooling had prepared them for adult working life (Mann, 2017^[226]). Echoing the exploration of the value of career talks within the British Cohort Study (Kashefpakdel, 2017^[170]), the 2017 survey identified a significant association between the quantity of engagements and perceptions of their quality. Participants were asked: “Between the ages of 14 and 19, did your school or college ever arrange for you to take part in any activities which involved employers/local business people? If so, on how many different occasions (more or less) did it happen?” Around half of young adults who had experienced three or four plus engagements felt that the involvement they had had with employers had proved itself to be useful in decision-making at 16 and, if applicable, applying to university or to a full-time job. By comparison, less than one-third of young people who recalled just one or two interventions felt similarly. As Figure 3.5 which adapts (Mann, 2017^[226]) illustrates, young people who experienced greater numbers of school-mediated engagements with employers were more likely to agree that their school had prepared them well for adult working life.

Figure 3.5. Relationship between volume of recalled participation in school-mediated employer engagement activities and satisfaction with school preparation for adult working life.



Source: Adapted from Mann, A., Kashefpakdel, E., Rehill, J. and Huddleston, P. (2017), *Contemporary transitions: young Britons reflect on life after secondary school and college*, London, Education and Employers, 21 (Mann, 2017^[226]).

The characteristics of good practice in career guidance

Previous OECD reviews of careers guidance have drawn on these studies and a wider research literature and concluded that good practice requires schools to:

- Provide regular opportunity for young people, from primary education onwards, to reflect on and discuss their prospective futures.
- Allow students to consider the breadth of the labour market and particularly occupations which are of strategic economic importance, newly emerging and/or likely to be misunderstood (such as the skilled trades).
- Undertake school-wide approaches, bringing on board career guidance specialists, but also teachers and school leaders, as well as parents, and people in work.
- Provide easy access to trustworthy labour market information and advice/guidance from well-trained, independent and impartial professionals in advance of key decision points.
- Recognise that the ways in which young people think about jobs and careers are shaped by parental influence, their social background and sense of identity, addressing information asymmetries about specific professions and challenging gender and ethnic stereotyping.
- Target young people from the most disadvantaged backgrounds for the greatest levels of intervention.
- Ensure that employers, employees and workplace experiences are systematically involved in provision.

- Continue to develop evidence in this policy field, using robust methodologies, including longitudinal data, to provide better evidence for the outcomes of policy interventions (Musset and Kurekova, 2018^[154]).

Good practice in career guidance ensures that young people have regular access to employers across a range of different activities such as career talks, work placements, mentoring. In employer engagement, it is important to ensure that experiences are viewed as authentic and useful by young people and that they are delivered in the context of wider guidance activities. Young people's experiences should be personalised to their interests and begin young (Mann, 2018^[227]) (Musset and Kurekova, 2018^[154]). Such approaches enable young people to develop informed, critical perspectives of their school-to-work transitions that underpin senses of agency. In building the critical capacity of young people to understand the labour market, its operations and reflect on their own potential futures within it, good practice recognises inequality in access to useful resources and in employment outcomes. It will, for example, address systemic disadvantage linked to ethnic background, gender or social class. In periods of intense competition for employment and labour market turbulence, the need for effective provision grows acutely (Kenny, 2019^[228]).

3.5. Three examples of effective practice in careers guidance

Three models of guidance from Finland, New Zealand and the United States offer examples of practice which builds critical thinking (and so develops confidence in personal agency) in the context of a rich exposure to the realities of the contemporary labour market.

Finland: School-to-Work Group Method

The School-to-Work Group Method was introduced to Finnish vocational upper secondary schools in 2002. In the context of high youth unemployment, the programme was an adaptation of the US Michigan Prevention Research Center JOBS Search Program which had been demonstrated, through a series of randomised control trials to reduce worklessness and enhance mental well-being among unemployed adults (Vuori, 2015^[229]). In the Finnish context, the programme was designed to prepare young people to first find and then stay in attractive employment. Designed as a twenty hour programme delivered over five days of four hour sessions in the final year of secondary education, the course is jointly taught by a vocational school teacher and a representative of the local public employment service (PES). Working to a standardised curriculum, young people are encouraged to reflect on their own experiences of work and desires for employment through individual research, collaborative working with student peers and practical exercises related to the process of finding employment and socialisation into a new organisation. The relevance of the programme is made clear through the involvement of the PES and engagements with local employers who are interviewed by students. Students are taught how to make use of social networks to secure information about employment, how to approach employers directly, how to complete job applications and resumés, present themselves at interview, identify marketable skills and to understand and respond to expectations of workplace social behaviour. They are taught to 'think like an employer' and to reflect on the challenges and barriers which they can expect to encounter in their search for attractive work (Koivisto, 2010^[230]). Overall, the programme seeks to develop job search self-efficacy in young people: their degree of confidence in their ability to perform essential job-search activities well, such as securing job leads and successful interviewing (Vuori, 2015^[229]).

A randomised control trial followed 334 students from the final year of secondary education into their first year of employment. Divided into an intervention and control group, students in the former group took part in the full School-to-Work Group Method while their control-group peers only received narrow advice on applying for a job. Results showed significant benefits accruing to participants on the Group Method programme. Ten months after leaving secondary school, compared to peers in control groups, programme participants were much more likely to be in employment and in a job that was linked to their educational qualifications and aligned with their career ambitions (Koivisto, 2007^[231]) (Koivisto, 2015^[232]).

An important element of the programme is designed to help young people develop capacity to deal with obstacles and barriers encountered in the labour market and so maintain good mental health. Participants are helped to identify possible setbacks and generate solutions to barriers through problem-solving techniques. The programme is explicitly designed to help inoculate young people against setbacks and the longitudinal study finds that young people at greatest risk of mental health problems while still in school fared better psychologically than control-group peers in finding and adapting to employment (Koivisto, 2007^[231]). After its launch in the early 2000s, the programme was delivered extensively across Finland until the mid-2010s when it became subsumed within wider educational and career guidance reforms aimed at enhancing the preparedness of young Finns for employment and higher education.

New Zealand: WE3 Continuum and Activities

Developed by Australian educationalist Dave Turner for the Eastern Bay of Plenty Regional Economic Development Trust on New Zealand's North Island in 2020, the WE3 approach to career readiness is described as “scaffolding vocational education and successful youth transitions through Work Exposure, Work Exploration and Work Experience” (Turner, 2020^[233]). The three areas of focus resonate with the approaches described in this paper. Turner's highly practical approach sets out a wide range of activities designed to “introduce, entice and induct young people into the world of work.” It includes a strong focus on the development young people's critical thinking about the world of work by ensuring multiple, thoughtful engagements between young people and employers, employee volunteers and workplaces.

Table 3.2. WE3 Continuum: examples of practical activities.

Work Exposure	Work Exploration	Work Experience
Activities that present ideas, information and concepts about the world of work and career development.	Activities in which young people actively explore and investigate the world of work.	Activities that offer young people close and more sustained opportunities for observation and participation in one or more workplaces.
Largely aimed at young people aged 10 to 14.	Largely aimed at young people aged 13 to 16.	Largely aimed at young people aged 16 to 18.
Typical activities include:	Typical activities include:	Typical activities include:
discussions of parental occupations	career talks from people in work about the jobs they do and how to access them	community and workplace based work placements, undertaking supervised work for one week
career talks from people in work about the jobs they do and the value they find in them	student research into specific occupations, access to them and their likely future characteristics	work shadowing focused around specific research questions
discussions of the gendered character of work	development of CV writing and interview skills with employee volunteers	student enterprises supported by employee volunteer coaches
workplace visits	job shadowing	student work-related projects addressing local community challenges with volunteer coaches
integration of workplace examples within related curricula	discussions (career conversations) with people in work about the future development of occupations	employer forum organised by students to bring together students and employers to discuss expectations and opportunities

Source: Adapted from Turner, D. (2020), *The WE3 Continuum and Activities – Scaffolding vocational education and successful youth transitions through Work Exposure, Work Exploration and Work Experience*, D J Turner Consulting and Eastern Bay of Plenty Economic Development Agency, New Zealand (Turner, 2020^[233])

United States: Ethnographies of Work

The Ethnographies of Work (EOW) programme created at Guttman Community College in New York State is aimed at young people in the first years of tertiary education, but has many useful lessons for secondary provision. The programme was developed in a (two-year) higher education institution that predominantly serves young people from ethnic minority and low-income backgrounds. All students are required to participate in the EOW programme. The social science course is built around an explicit theory of action: “students who understand the meaning of work in human lives, the sociology of the professions and who have some professional work experience will have greater agency in entering the labour market than those who believe only a credential is needed. In addition, students who understand the challenges that being different imposes in the professional world – being working class, dark skinned, speaking with an accent – will, armed with that knowledge, enter the job market alert to the meanings of these aspects of identity” (Hoffman, 2018^[56]).

Over the duration of the programme, students spend an average of three hours a week developing career readiness through:

- academic consideration of theoretical and ethnographic works about the nature and experience of work;
- development of the skills related to ethnographic investigation (research design, observation, mapping and interviewing);
- group research projects focusing on questions associated with the world of work (such as challenges faced by women in senior information technology positions, how professionals in the financial services industry balance work and family responsibilities and the experiences of workers in on-demand gig economy jobs);
- interviews with people doing jobs of personal interest;
- a work placement involving an ethnographic study into workplace operation in a field related to career ambitions;
- personal reflection on workplace and community experiences, career-related strengths, weaknesses, opportunities and threats and development of skills related to résumé creation, networking and interviewing (Hoffman, 2018_[56]).

The programme is explicitly designed, moreover, to develop the social capital of students whose family-based networks are commonly narrow and limited with regard to the professional occupations sought by students (Hoffman, 2018_[56]). The EOW programme consequently integrates career exploration and experience into an individualised academic curriculum, developing critical understanding of the labour while providing experiences of value to career progression (Gatta, 2020_[234]).

3.6. Implications for policy and practice

As set out in Section two, analysis of national longitudinal databases show that what young people think about their futures in work matters to their employment outcomes. Teenagers who are uncertain about their aspirations or who underestimate the education required to achieve their occupational ambitions (labelled by researchers as misaligned) can expect, on average, to do worse in the adult labour market than comparable peers. It is more commonly young people from more disadvantaged backgrounds whose demonstrable poor understanding of the labour market will raise concerns. In Section 3, the analysis extends to action that young people take to explore the labour market and their potential futures within it and shows that it is often of long-term value. Social networks have a primary role to play in enabling effective exploration of the labour market. As a number of longitudinal studies have illustrated, young people routinely draw on a wide range of social contacts to help realise their aspirations. In line with wider research however, PISA 2018 demonstrates that many young people, particularly those from the most disadvantaged backgrounds, do not speak to parents or other adults about their career ambitions. Regression analysis shows that career conversations are statistically related with lower levels of career uncertainty and misalignment, and with more positive attitudes towards the extrinsic value of education.

Schools have the capacity to enhance the social capital of young people and a number of studies using national longitudinal databases find statistically significant relationships between talking with teachers and doing better in the early labour market than would otherwise be expected. Education institutions can democratise access to useful information and put in place teacher training provision that increases impact with students. The primary

means that schools seek to develop young people's career thinking however is through programmes of career guidance. Across the OECD where the average age that compulsory education completes is 16, very many students report having no access to guidance by the age of 15. Research literature on the long-term impacts of career guidance is surprisingly limited, but relatively consistent in highlighting direct and indirect employment boosts linked to career-exploration programmes. Studies tend to find that it is young people from more disadvantaged backgrounds who gain most from interventions. In such a way, schools can be seen to build young people's capacity to aspire providing access to information, connections and other resources which prove to have ultimate value in the early labour market. Analysis of PISA 2018 data shows however that young people from more disadvantaged backgrounds are routinely less likely to participate in career development activities than their more advantaged peers (Mann, 2020^[33]).

For schools, the analysis presented in this section provides insights into the character of provision that can be expected to provide young people with the greatest benefits. It is important to engage students from a young age in discussions about their career interests, encouraging reflection on their aspirations and what is required to achieve them. Effective schools will enable the critical reflection of young people, ensuring regular interactions with workplaces and people in work. Consequently, participation in discussion sessions with career guidance counsellors and experiences of workplace visits, job shadowing, job fairs and career talks become important indicators of career preparation. Effective systems will make such activities compulsory, particularly at a younger age in order to address perhaps unspoken assumptions and expectations. An essential question to ask will be whether students learnt something new and useful from their career development activities.

Longitudinal studies provide evidence that how teenagers think about, and attempt to explore their working futures, often prove to have value when they enter the labour force as young adults. From this basis, it is the aim of future work by the OECD to refine indicators of global relevance for use by schools in assessing the career readiness of young people and of education systems in determining the effectiveness of career guidance interventions. Programmes such as the Finnish School-to-Work Method, New Zealand W3 Continuum and US Ethnographies of Work present examples of interventions that combine critical reflection with direct exploration of the labour market through first-hand encounters with people in work. Following exploration of the working world, a final demand on schools is to give young people direct experience of it. As explored in Section four of this paper, direct experience of the workplace has been widely seen to provide important additional resource of value to young people.

4. Experiencing the future

First-hand experience of the world of work provides young people with an important means by which the capacity to aspire is developed among. PISA 2018 includes data on the extent to which young people engage in three different forms of engagement with the working world: part-time employment, internships and volunteering. Statistical analysis of national longitudinal datasets demonstrates that teenage students who take part in such activities while still in full-time secondary education, can expect to experience better employment and earnings outcomes as young adults than comparable peers. Analysis of PISA 2018 highlight considerable variation between countries over the extent to which young people participate in such activities. Effective schools will enhance the career readiness of students by actively helping them to gain high quality experiences of work.

4.1. Introduction

A young person's capacity to aspire speaks to their ability to access information and resources which will allow career aspirations to be critically considered and transitions to be enabled (Appadurai, 2004^[68]). Important within the concept is the opportunity to experience workplaces while still in education. First-hand experiences enable a young person to visualise a prospective future, to develop social relations of possible future economic value and to practice the technical and social skills that will give future employers confidence in their suitability for employment. For young people enrolled in secondary education, time in a workplace offers the opportunity to develop knowledge and skills which schools will struggle to replicate (Stanley, 2014^[235]). The workplace is a powerful learning environment where practical skills can be learnt from expert practitioners using real-life equipment, while acquiring key soft skills such as teamwork and communication (Musset, 2019^[236]) which are in growing demand in the labour market (Barrera-Osorio, 2020^[237]) (Deming, 2017^[238]).

4.2. Workplace experiences in PISA and longitudinal data

OECD PISA 2018 provides insights into three primary mechanisms through which young people have the opportunity to gain direct experience of contemporary workplaces: part-time employment, internships and volunteering. National longitudinal data provide insights into the capacity of each teenage experience to influence long-term employment outcomes. A wider range of studies enable understanding of what it is within such experiences that is likely to drive positive change. PISA data highlight the substantial variation in engagement across the three forms of workplace experience between and within countries.

4.3. Part-time teenage working

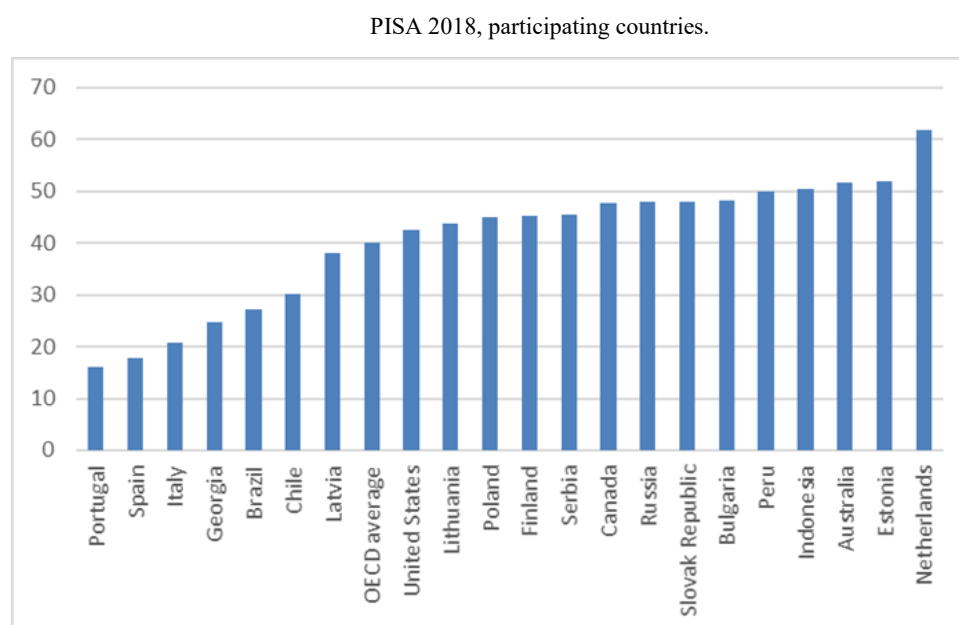
OECD PISA 2018 distinguishes between three forms of part-time employment. The Financial Literacy Questionnaire asks young people in a number of countries about their experiences of working (i) outside of school hours with prompts for 'holiday' or 'part-time work', (ii) in a family enterprise, and (iii) in occasional, informal employment with prompts

for ‘babysitting’ and ‘gardening’. No questions are asked about the intensity of part-time working (typical number of hours per week or numbers of different jobs worked in), duration of employment (over what period of time employment has been undertaken) or type of job.

How common is part-time working

The Financial Literacy Questionnaire was completed by 15 year-olds in 21 OECD and non-OECD countries. As set out in Figure 4.1, there is considerable variation between countries in the extent to which teenagers combine full-time secondary education with part-time employment. On average, 40% of respondents in OECD countries agreed that they worked outside of school in relatively formal employment.

Figure 4.1. Percentage of 15 year-olds who agree that they earn money by working outside of school hours (e.g. holiday job, part-time work).

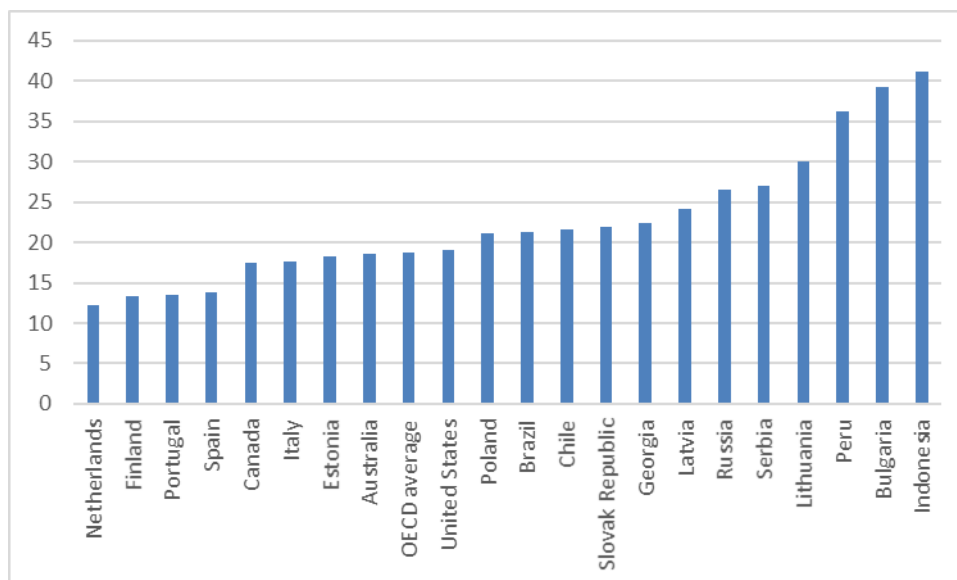


Source: OECD PISA 2018 Database - <https://www.oecd.org/pisa/data/2018database/> (accessed on 28 January 2020).

Asked about working in a family business, on average 19% of respondents from OECD countries agreed that they had experience of such employment.

Figure 4.2. Percentage of 15 year-olds who agree that they earn money from working in a family business

PISA 2018, participating countries.

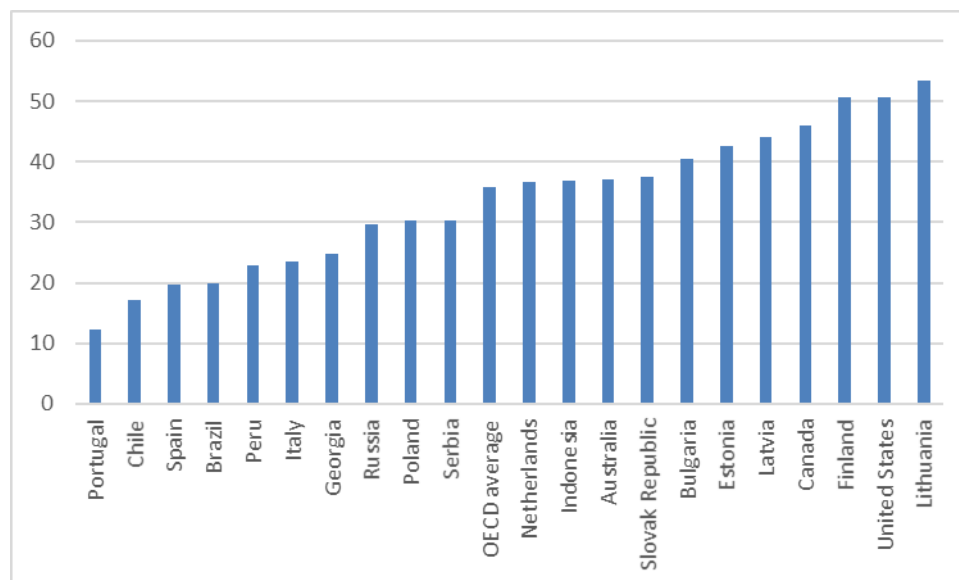


Source: OECD PISA 2018 Database - <https://www.oecd.org/pisa/data/2018database/> (accessed on 28 January 2020).

Moreover, approximately one-third of young people from participating OECD countries agreed that they worked relatively informally in jobs like babysitting or gardening. Again, patterns of working vary very considerably between countries. The likelihood of teenagers in full-time secondary education working part-time is strongly linked to the country in which they are raised.

Figure 4.3. Percentage of 15 year-olds agreeing that they earn money from occasional informal jobs (e.g. babysitting or gardening).

PISA 2018, participating countries.

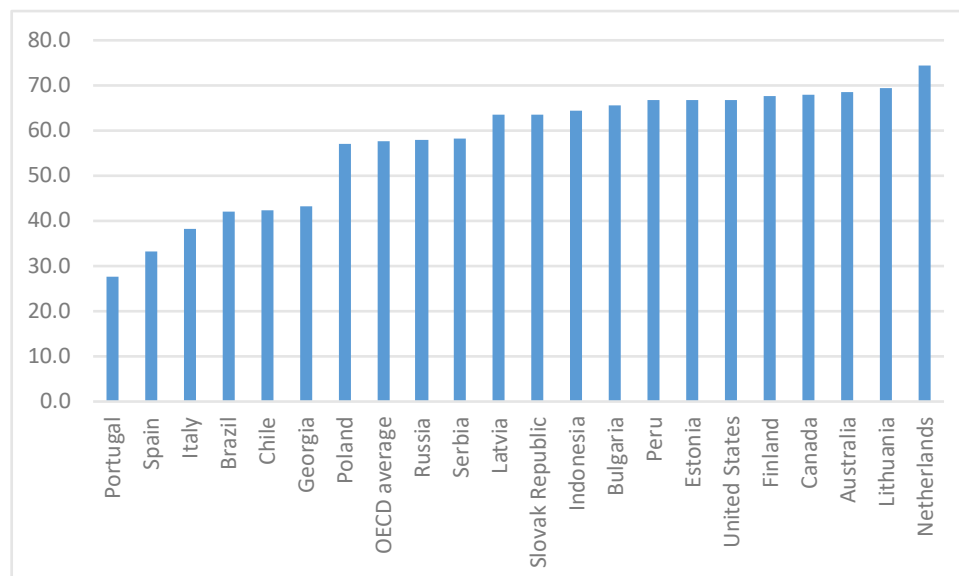


Source: OECD PISA 2018 Database - <https://www.oecd.org/pisa/data/2018database/> (accessed on 28 January 2020).

Looking at any experience of work as a teenager while still in full-time secondary education, 58% of all 15 year-olds across the participating OECD countries reported that they were involved in at least one of the three forms of employment, ranging from 28% in Portugal to 74% in the Netherlands.

Figure 4.4. Percentage of young people agreeing they had worked in any form of part-time or temporary employment.

PISA 2018, participating countries.



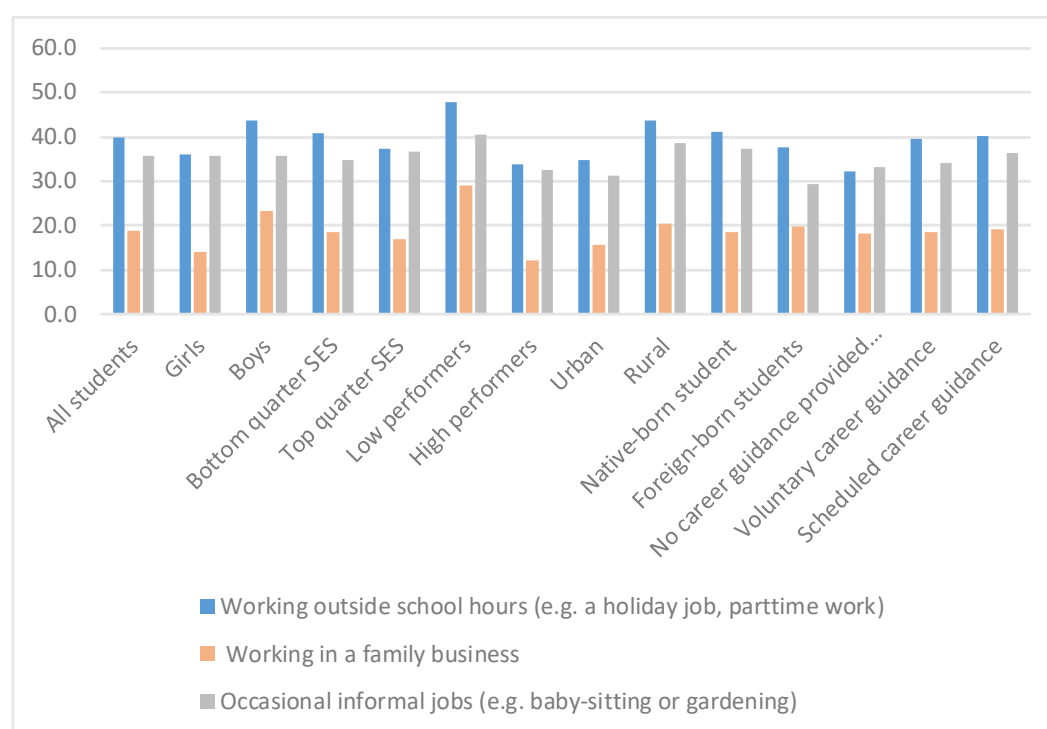
Source: OECD PISA 2018 Database - <https://www.oecd.org/pisa/data/2018database/> (accessed on 28 January 2020).

Characteristics of teenage part-time workers

Looking at the characteristics of part-time workers, employment across participating OECD countries is particularly associated with living in rural communities and with lower levels of performance on the PISA tests in mathematics, reading and science. Considering participation in any form of part-time employment, it is only in the Netherlands where students from the highest performance quartile are (marginally) more likely to work than peers in the lowest quartile. In Brazil, Italy and Portugal teenage working is approximately twice as likely for low performers as it is for high performers. Boys are more likely to work than girls, particularly in family enterprises. In terms of socio-economic background, the differences between young people from highest and lowest backgrounds are more modest. With statistical controls in place for other characteristics however, part-time working is significantly associated (at a P-value of less than 10%) in the case of working outside of school hours and working in a family business with: gender, academic performance and urban/rural location. With regard to occasional informal jobs, significant associations are found in relation to: academic performance, urban/rural residence and migrant status.

Figure 4.5. Characteristics of teenage part-time working.

PISA 2018, participating OECD countries.



Source: OECD PISA 2018 Database - <https://www.oecd.org/pisa/data/2018database/> (accessed on 28 January 2020).

Participation in the most formal type of part-time work (earning money from working ‘outside of school hours as in a holiday job or from part-time work’) is strongly associated with delivery of in-school career guidance. Drawing on a sample of nine countries¹⁷ which participated in both the PISA Financial Literacy assessment and the PISA Educational Career questionnaire, participation in career development activities is routinely connected with a greater likelihood of such part-time employment.

¹⁷ Australia, Brazil, Bulgaria, Italy, Lithuania, Poland, Serbia, the Slovak Republic, Spain.

Table 4.1. Relationship between participation in school-mediated career development activities (CDA) and student likelihood of undertaking part-time work.

Percentage reporting experience of more formal part-time working.

Career development activity (CDA) undertaken	..having undertaken the CDA	..not having undertaken the CDA
Internship	51%	32%
Job Shadowing/Workplace visit	48%	33%
Job Fair	46%	33%
Meeting a career counsellor in school	42%	34%
Meeting a career counsellor outside of school	49%	33%

Source: OECD PISA 2018 Database - <https://www.oecd.org/pisa/data/2018database/> (accessed on 28 January 2020).

The characteristics of student workers: an important Scottish study

While in general in OECD countries, there is a relationship between social disadvantage and teenage part-time employment (Bachman, 2013^[239]) (Conlon, 2015^[240]) (Greene, 2012^[241]) (Morisi, 2010^[242]), this is by no means always the case. In the most substantial global study on the nature of part-time teenage employment, researchers commissioned by the Scottish Government in 2005 (Howieson, 2006^[243]) surveyed 10% of the country's total school population between the ages of 14 and 18 and found no difference in levels of working:

- by academic achievement
- by socio-economic status (save that the children of parents who were unemployed or who were in care worked at lower levels)
- in general terms, by student ethnicity
- by student disability.

However, they did find that young people worked more who:

- lived in rural areas
- enjoyed a more active social life
- described themselves as enterprising.

Low levels of part-time working in the Scottish study were particularly associated with teenage uncertainty about long-term career ambitions. In PISA 2018 data with controls in place for other characteristics, on average 20.1% of teenagers (from participating OECD countries) engaged in the most formal type of part-time working were uncertain about their occupational aspirations compared to 22.3% of their peers with no such employment experience at a P-value of 11.6%. As seen above with regard to other countries, higher levels of student working in Scotland were linked with greater student participation in work- and career- related enterprise activities within education (Howieson, 2006^[243]).

What difference does part-time working make to adult economic prospects

In the assessment of the peer-review academic literature which informs this paper, seventeen studies from three countries (Australia, the United Kingdom and the United States) were identified which draw on evidence from national longitudinal databases to

explore relationships between teenage part-time paid work and later adult outcomes related to employment.

Of the seventeen studies, with statistical controls in place for a wide range of personal characteristics and circumstances, fourteen find clear evidence of young people achieving better than anticipated economic outcomes linked to their early exposure to the labour market. Studies by (Anlezark, 2011^[244]), (Marks, 2006^[245]), (Robinson, 1999^[246]) and (Vickers, 2003^[247]) all draw on different waves of the Longitudinal Surveys of Australian Youth to find positive associations between teenage employment and better than expected earnings and particularly employment histories at ages 19-21. (Crawford, 2011^[248]) and (Duckworth, 2012^[249]) review UK data and find positive impacts on NEET and employment rates. Using the British Cohort Study, (Duckworth, 2012^[249]) for example, shows that young people who worked part-time at age 16 were half as likely to be NEET between the ages of 16 and 18 than comparable peers. Whereas Australian and British studies tend to explore impacts in the first few years of labour market participation, US studies often track young people through their twenties. Drawing on data from the National Longitudinal Study of Youth, Audrey Light finds evidence of improved employment outcomes up to the age of 24 (Light, 1999^[250]) and better earnings (up to 6% higher than comparison groups) at age 30 (Light, 2001^[251]) (see also (Mortimer, 2005^[252])). Other studies find significant relationships between teenage working and smoother school-to-work transitions and greater happiness with career progression at age 30 (Mortimer, 2008^[253]) (Vuolo, 2014^[254]). Two studies look specifically at the experiences of young people with physical disabilities. (Connors, 2014^[255]) considers young people with visual impairments and finds that secondary school students who received pay for employment (alongside their full-time education) as teenagers earned on average 3.6 times more than comparable peers eight years after leaving high school, an impact size greater than that enjoyed by young people who completed secondary school when compared to teenage drop outs. In a similar vein, (Carter, 2012^[256]) finds school-age part-time employment to be strongly associated with positive employment outcomes two years after completion of secondary schooling for students with a wide range of disabilities. Of the longitudinal studies which fail to find consistent evidence of long-term employment outcomes, (Light, 1999^[250]) uses the same dataset as (Hotz, 1999^[257]) and finds evidence of better employment outcomes over a longer time frame; and, (Leventhal, 2003^[258]) makes use of a narrow dataset relating to young women from an African-American background who had children as teenagers during the 1960s. (Holford, 2020^[259]) draws on data from the UK Next Steps (a continuation of the Longitudinal Survey of Young People in England) to explore relationships between part-time working at age 15 (2005) and employment status at age 25 (2015), a sample transitioning during the era of the Great Financial Crisis. (Holford, 2020^[259]) finds an association between part-time working (as have other scholars) and lower than expected examination results at age 16 and that, in the case of young men, wage penalties linked to lower than expected academic performance outweighed any positive benefits of teenage employment. For women however, the situation is reversed with young women (who had worked part-time as teenagers) enjoying higher than expected pay and occupational status than comparable peers.

New analysis of the British Cohort Study: part-time working

In new analysis for this paper, the long-term economic impacts of teenage part-time employment on young people in full-time education were explored using the British Cohort Study. The analysis follows a cohort of individuals born in the same week in 1970 through their teenage years and into their lives as adults aged 26.

At age 16 (1986), the Study asked young people: “*Did you have a part-time job at any time while at school during the summer term of 1986 or previous to that?*” 45% agreed that they had had job at some point during the summer term of 1986 and a further 17% had previously had a job (n = 6 130). Follow up questions asked when the job began and whether different types of work had been undertaken.

The analysis explored relationships between such participation in teenage part-time working and outcomes at age 26 (1996) related to:

Life satisfaction ranking on a scale of 0 to 10 (where 10 is completely satisfied and 50% of young people were clustered in 6-8)

Probability of being in full-time employment, focusing on full-time employment as motivations for part-time employment are more likely to include a need for flexibility that might mean the full potential benefits of prior experience and human capital are not leveraged (85% for men; 66% for women)

Earnings if in full-time employment (average of 178 GBP per week for women; 219 GBP for men)

The following controls were used to ensure that results were not a mask for other key characteristics: gender, region within the UK, local labour market participation rates, academic achievement (highest qualification at age 26, assessments at ages 5, 10 and 16), early home learning environment, behaviour in school, attitudes towards school and work aged 16, family situation at age 26, and socio-economic background. Controls draw on existing practice in comparable analysis – see, for example (Kashefpakdel, 2017^[170]) (Schoon, 2011^[90]) (Yates, 2010^[83]).

The analysis employed an ML-estimated Heckman selection model for wages and Ordinary Least Squares (OLS) regression for life satisfaction, analysing men and women separately (see Annexe A for technical details). The main findings on employment outcomes are that:

- Teenage part-time working is associated with a greater likelihood of full-time employment at age 26 and higher wages, comparing teenage workers with peers with similar backgrounds, attitudes to school and work, and levels of academic achievement:
- For men (n=1 554): an average increase in full-time employment of 5.8% pts (p-value 0.00) and 2.9% higher wages (p-value 0.21).
- For women (n=2 518): an average increase in full-time employment of 3.4% pts (p-value 0.03) and 5.4% higher wages (p-value 0.00).

Greater employment benefits at age 26 are linked to the type of part-time job undertaken as a teenager:

- For being in full-time employment, part-time jobs in shops (including supermarkets and newsagents) are helpful, as is babysitting (especially for boys) and newspaper rounds (only for boys), whereas milk-rounds were disadvantageous.
- For wages, jobs in babysitting were helpful, as were jobs in supermarkets for girls and milk-rounds for boys, whereas cleaning jobs were disadvantageous for both boys and girls.

If controls for qualification achievement over the age of 16 are removed from the model as teenage participation in part-time work may influence exam performance, but controls for earlier academic ability are retained, the wage benefits associated with part-time work

diminish but remain positive, especially for young people from less advantaged backgrounds. This approach allows for term-time working to have a detrimental effect on academic achievement which in turn affects future outcomes. While such consequences are not guaranteed, they are possible, especially if term-time working increases beyond 10-15 hours per week (Payne, 2003^[260]; Robinson, 1999^[246]) (Stern, 2001^[261]).

Men see an average increase in full-time employment of 6.3 percentage points (p-value 0.00) and 2.1% higher wages (p-value 0.37), increasing to +7.2% percentage points (p-value 0.00) and 6.3% (p-value 0.02) among non-degree holders (n=1 027).

Women see an average increase in full-time employment of 3.6 percentage points (p-value 0.04) and 4.2% higher wages (p-value 0.03), increasing to +4.3 percentage points (p-value 0.02) and 6.1% (p-value 0.01) among non-degree holders (n=1 829).

US Summer Job programmes

Half a dozen US longitudinal studies have explored the impacts of summer employment programmes on young Americans and found less positive evidence of long-term economic outcomes. In such programmes, young people typically aged between 14 and 22 years old (including both secondary school students and older young adults who were unemployed) apply to work in a job sourced and/or subsidised by a municipality. Jobs are typically of 20-25 hours weekly duration and last for 6-7 weeks. Young people earn the minimum wage and at times have their employment supplemented with access to a mentor or training focused on job readiness. With demand high for such seasonal employment, research studies have included control groups and tracked them and participants up to five years following their summer employment. While studies show that summer jobs programmes are linked with significant reductions in teenage crime, improvements in school attendance and reduced school drop out for younger participants, little evidence is found of long term boosts to employment and earnings beyond the initial summer of employment (Davis, 2017^[262]) (McClanahan, 2004^[263]) (Ross, 2016^[264]) (Sasser-Modestino, 2017^[265]). While details are limited, any economic benefits that are identified are associated however with younger participants who are still in school (Davis, 2017^[262]) (Sasser-Modestino, 2017^[265]) (Valentine, 2017^[266]). The lack of long-term impact of US summer job programmes is surprising given outcomes linked to both with part-time teen employment and internships to which the seasonal programme can perhaps be better compared.

4.4. Internships and short work placements

The OECD PISA 2018 Education Career Questionnaire asks young people if they had ever undertaken an internship in the context of finding out about the future of study or types of work. The survey however provides no definition of ‘internships’ and no follow up questions are asked about their character or duration of the activity. In this study, internships are taken to refer to a work placement arranged by a school within wider programmes of general or vocational education. At the age of 15 relatively few young people who responded to the PISA 2018 survey had had the opportunity to enrol in full-time programmes of VET. Within programmes of general education, as (Musset, 2019^[236]) explains, work placements are typically of one to two weeks duration and are undertaken with the objective of exploring the suitability of a potential career and/or gaining some exposure to the workplace. Such short-duration work placements are familiar to secondary provision in many countries including Australia, Canada, France and the UK. By contrast, placements within programmes of Vocational Education and Training are commonly of longer duration, often up to three months, and commonly designed to provide a young

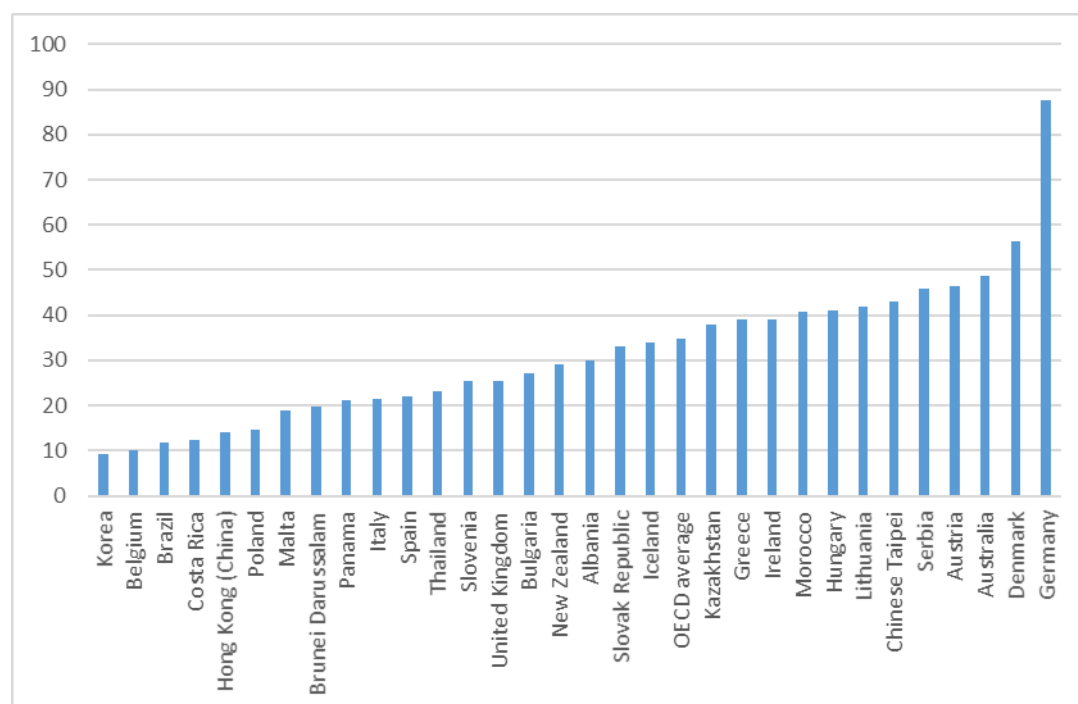
person with a direct experience of the type of work they are preparing for in their programme of study and might expect to secure after leaving education (Musset, 2019^[236]).

How common are teenage internships

PISA 2018 data cover internships which are undertaken within programmes of both general and vocational education. Participation levels in internships vary considerably across OECD and non-OECD countries. Participation is noticeably high in countries with strong systems of VET and, as has been demonstrated in earlier analysis of PISA 2012 data, 15 year-olds undertaking internships are, in general terms, considerably more likely to be enrolled on programmes of VET than general secondary education (Musset, 2018^[1]). In 2018, an average of 35% of young people across participating OECD countries had taken part in an internship by the age of 15.

Figure 4.6. Participation in internships.

PISA 2018, participating countries



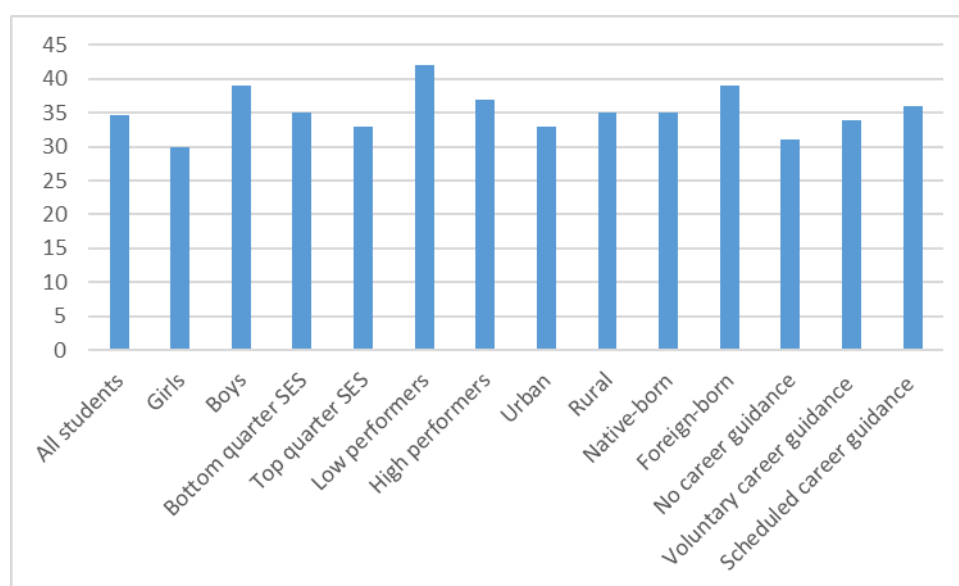
Source: OECD PISA 2018 Database - <https://www.oecd.org/pisa/data/2018database/> (accessed on 14 February 2020).

What are the characteristics of students who take part in an internship

Across participating OECD countries in 2018, in keeping with the VET profile of learners, involvement in internships is particularly associated with boys and lower performers. As set out in Figure 4.7, young people enrolled in secondary schools that do not provide career guidance are less likely to take part in internships. In general terms, levels of variation in participation by student characteristics are comparatively modest.

Figure 4.7. Characteristics of student participants in internships.

PISA 2018, participating OECD countries.



Source: OECD PISA 2018 Database - <https://www.oecd.org/pisa/data/2018database/> (accessed on 28 January 2020).

What difference do teenage internships make to adult economic prospects?

Short-duration work placements or internships undertaken within programmes of secondary education were reviewed in a recent OECD paper on *Improving Work-based Learning in Education* (Musset, 2019_[236]). The paper summarises the many benefits of work-based learning (WBL): “the workplace is a powerful learning environment where technical skills can be learnt from expert practitioners using real-life equipment, while also acquiring key soft skills such as teamwork and communication. School-mediated WBL offers students the opportunity to transition from school-to-work, while for employers it offers a means of recruitment. Student employment also has benefits and eases the transition into employment” (Musset, 2019_[236]). Reviewing international evidence in relationship to work placements undertaken with regard to programmes of both vocational and general education, (Musset, 2018_[1]) finds consistent evidence that placements are associated with better employment outcomes in the early labour market. Data from the Eurostat database, for example, looks at links between teenage participation in work-based learning and employment outcomes up to the age of 34. Student participation in both mandatory and optional upper secondary and post-secondary (non-tertiary) placements is routinely found to be associated with greater likelihood of adult employment – as is teenage employment in part-time work. Evidence of more positive outcomes were found regardless of whether the associated programme of full-time study was one of vocational or general education. While in general terms, participation in work placements is associated with better than anticipated labour market outcomes, this is not always the case as illustrated the in new analysis of data from the British Cohort Study described below. Evaluations of specific programmes of placements within both general and vocational education will be valuable in deepening understanding of the most effective programme design.

Studies of the impact of participation in work experience placements in national longitudinal databases are slender (Buzzeo, 2017_[267]) (Mann, 2014_[52]). The analysis of

(Mann, 2018^[227]) highlight a difficulty in assessing the impact of work placements within either general or vocational education. Of 14 publications in the 2018 literature review undertaken by (Mann, 2018^[227]) which assess economic and educational impact of provision which include work placements, only one provides a longitudinal assessment that isolates the exclusive impact of short-duration internships: (Mann, 2017^[226]) who find that British adults aged 19-24 were 45% less likely to be Not in Education Employment or Training (NEET) than comparable peers if they had undertaken a placement while in secondary school (Mann, 2017^[226]). Other studies explore the long-term impact of placements in combination with other school-managed interventions such as mentoring (Linnehan, 2001^[268]), programmes of work-related learning (Applied Research Unit, 2001^[207]) (Golden, 2006^[269]) (MacAllum, 2002^[270]) (Maxwell, 2002^[271]) (Thiessen, 1999^[272]), school-based vocational education (Neild, 2015^[273]), apprenticeships (Neumark, 2003^[212]) (Neumark, 2004^[211]) (Neumark, 2005^[213]) (Shandra, 2008^[215]) or other employer engagement career development activities (Percy, 2014^[224]).

From another perspective, (Galliot, 2015^[221]) find a significant relationship between greater career certainty and participation in voluntary work experience placements. There is a consequent need for studies which take a narrow approach and isolate the specific intervention of the work placement on long-term outcomes, assessing the characteristics of placements that are most likely to lead to long-term benefits (for example, links with career aspiration, programme of study, contemporary assessments of quality and utility, nature of tasks undertaken, opportunity to develop social networks). Scope exists moreover to unpack the interaction between different forms of career exploration and explore how they impact upon young people's capacity to optimise positive outcomes.

New analysis of the British Cohort Study: school-managed work placements (short internships)

In new analysis of the British Cohort Study 1970 undertaken for this study, opportunity was taken to assess long-term impacts of short work experience placements in the UK, typically undertaken at the age of 15 or 16 over one to two weeks. Placements would have been undertaken for a variety of purposes: confirmation or exploration of career aspirations, to gain experience of an occupation likely to be entered after the completion of compulsory schooling, or to gain experience of the workplace more generally.

Young people aged 16 in 1986 were asked: “*Did you take part in a work experience placement organised by your school?*” The 33% who agreed (n = 6 313) were subsequently asked if they found the placement to have been useful (77% agreed that it had). Acknowledging that some students might have undertaken comparable placements at a later date (during the same school year, but after the point at which the survey was undertaken) which would not be captured in the survey data, the analysis finds:

Teenage participation in school-managed work experience placements described as useful was not in general associated with improved economic outcomes at age 26 (directionally negative but statistically indistinguishable from zero). However, for key subsamples there were positive relationships:

Women from disadvantaged backgrounds (lower paternal Socio-Economic Status) were found to be 5.4 percentage points more likely to be in full-time work at 26 if they had undertaken a placement as a teenager (p-value 0.04, n=984); there was no statistically significant relationship for men. The relationship is larger at +8.1 percentage points among those lower SES women who had not engaged in paid part-time work as a teenager (p-value 0.09, n=351).

Work experience placements that were reported as useful were found to be associated with higher life satisfaction at age 26, being statistically significant for women and weakly significant for men:

- For men: placements correlate to +0.21 points on the 0-10 scale (p-value 0.09, n=1 455).
- For women: placements correlate to +0.14 points on the 0-10 scale (p-value 0.11, n=2 322).

The relationships were larger for life satisfaction among young people who had undertaken placements, but who reported no experiences of part-time employment at age 16.

The findings again suggest that teenage participation in work-related activities can serve to have a compensatory effect, providing a resource of value to young people whose capacity to aspire is most strongly constrained by social circumstances. School-mediated work placements can be seen as providing additional value for young people without experience of paid part-time work (see Annexe A for technical details).

4.5. Student volunteering

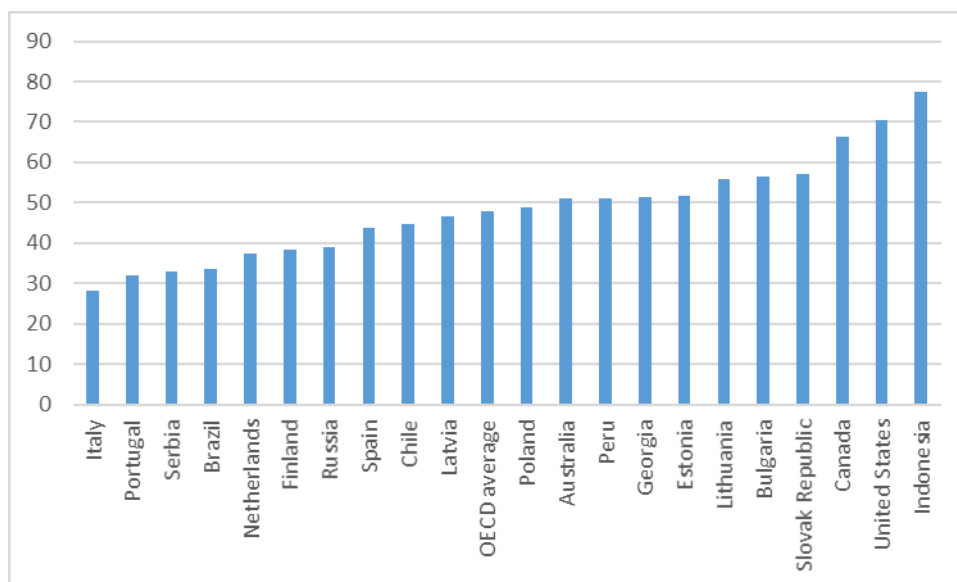
The PISA 2018 Financial Literacy Questionnaire also asks respondents from 21 OECD and non-OECD countries whether they had undertaken voluntary work over the preceding 12 months. No definition was offered in the survey of what volunteering would consist and it remains open the extent to which volunteering in this context would involve first-hand experiences in the labour market. However, studies of teenage volunteering (Simonson, 2017^[274]) (TNS, 2018^[275]) (Volunteer Development Scotland, 2010^[276]) (Walsh, 2015^[277]) show that it commonly presents students with opportunities to engage with adults (under the direction or independent of schools) who are not teachers, working with community-based organisations that engage in charitable activities on a professional basis. A popular motivation for young volunteers is to develop skills of use to later employment and many participate in (unpaid) activities which people are paid to undertake as adults.

How common is student volunteering

Across participating OECD countries, an average of 48% of students replied yes to the question on volunteering in the PISA 2018 survey. This was the first time PISA participants had answered such a question. The extent of volunteering in 2018 varied considerably, from over 70% in Indonesia and the United States, to under 40% in Brazil, Finland, the Netherlands, Portugal, Russia and Serbia and under 30% in Italy. In addition, students from Costa Rica were asked within the OECD PISA Education Career Questionnaire whether they had undertaken “volunteer work related to the occupation/profession that I wish to have in the future.” One quarter (24%) of teenage Costa Ricans agreed that they had.

Figure 4.8. Student participation in volunteering.

PISA 2018, participating countries.



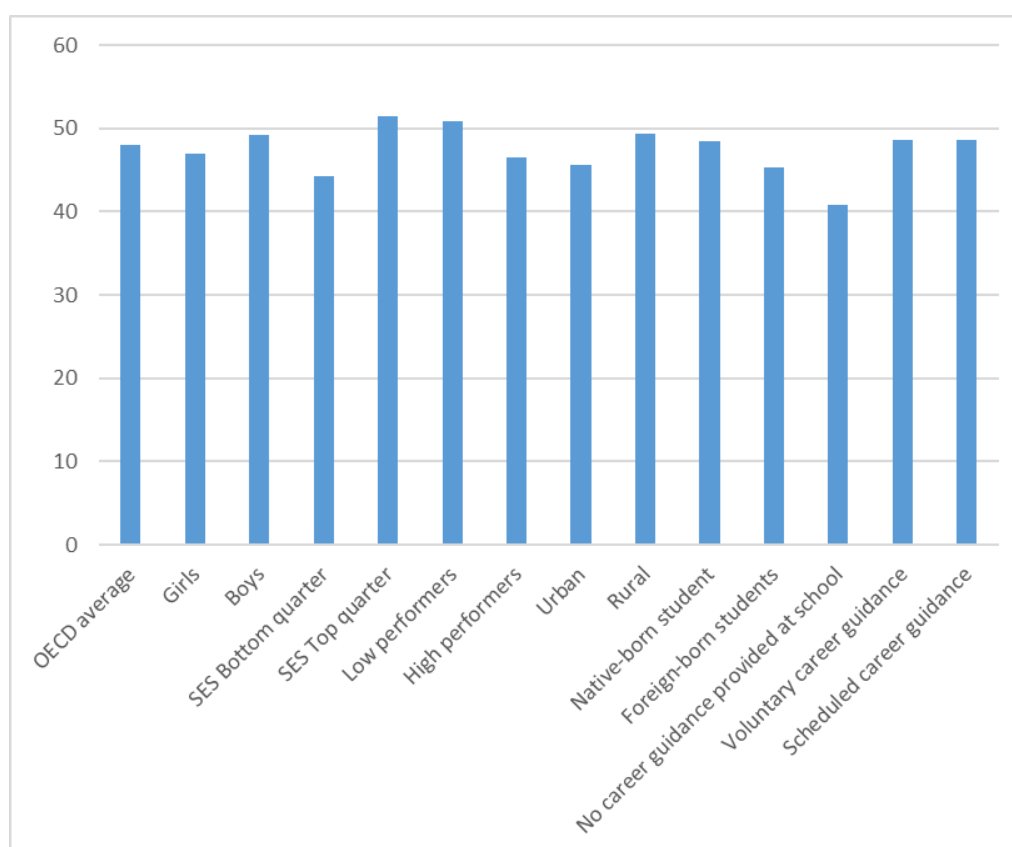
Source: OECD PISA 2018 Database - <https://www.oecd.org/pisa/data/2018database/> (accessed on 28 January 2020).

What are the characteristics of teenage volunteers?

In terms of student characteristics, across participation in OECD countries, with controls in place volunteers were significantly more likely to be from higher SES groups, lower performers on the PISA tests and inhabitants of rural communities. As is the case with internships, young people are less likely to volunteer if they attend a school that offers no career guidance. Variations by socio-economic status are particularly pronounced in the United States where there is a 24.2 percentage point difference in reported volunteering between participants in the lowest SES quartile (57.4%) and the highest quartile (81.6%) and Canada where the gap between the two groups is 19.6 percentage points (56.1% v. 75.7%). In Estonia, Italy, Lithuania and the Slovak Republic, variations in participation by social background are negligible.

Figure 4.9. Characteristics of student volunteers.

PISA 2018, participating OECD countries.



Source: OECD PISA 2018 Database - <https://www.oecd.org/pisa/data/2018database/> (accessed on 28 January 2020).

What difference does teenage volunteering make to adult economic prospects?

Until recently, few longitudinal studies had explored the experiences of young people who volunteer while still in full-time secondary education. A series of new reviews which control for the impact of personal characteristics, social circumstances and educational attainment on outcomes has found significant evidence of impacts on the well-being of young adults in their twenties. From a United States perspective, positive associations are found between teenage volunteering and higher than anticipated: earnings in adulthood (Kim, 2017_[278]) (Ballard, 2019_[279]), years of education (Ballard, 2019_[279]) (Kim, 2017_[278]), good mental health (Ballard, 2019_[279]) and life satisfaction (Chan, 2014_[280]). Using Australian data, (Sikora, 2020_[281]) finds a significant relationship between formal teenage volunteering outside of study time (including campaigning, fundraising, coaching, teaching, serving on committees, organising events, distributing food, goods or health-related information) and adult occupational status. (Sikora, 2020_[281]) calculates the impact of teenage volunteering on enhanced occupational status to be one-quarter of size of that of completing higher education.¹⁸ While studies using national longitudinal data are limited

¹⁸ (Sikora, 2020_[281]) measures occupational attainment through use of the Australian Socioeconomic Index 2006 which denotes the status of occupational titles listed in the Australian and New Zealand Standard Classification of Education designating scores which range from 0 to 100. The continuum

in number, all find evidence of improved adult employment outcomes linked to teenage volunteering.

In an important study, (Kim, 2017^[278]) explores whether teenage volunteering was deemed to compulsory or voluntary by the young people who participated in it. The study finds that adult wage premiums up to the age of 30 apply regardless of whether young people were motivated to volunteer and opted into it or were required to do so. Consequently, the study gives confidence that the positive employment outcomes identified can be expected to relate to the experiences of young people while volunteering, rather than representing a self-selection mechanism too subtle to be picked up by control variables.

In regression analysis undertaken on OECD PISA 2018 data, statistically significant relationships are found between participation in volunteering and lower than expected levels of career uncertainty. Using the results from participating OECD countries, 19.4% of young volunteers were unable to name the job they expected to do at 30 compared to 22.4% of peers at a P-value of 2.4%. In every OECD country, volunteers were less uncertain than classmates with the greatest gaps found in Portugal (6.5 percentage points) and Finland (4.4 percentage points). Volunteers also demonstrated lower levels of career misalignment and career concentration across participating OECD countries, but patterns across countries are more varied, differences modest and not statistically significant after controls are put in place. No relationship is found between participation in volunteering and more positive than expected attitudes towards the value of schooling.

4.6. Explaining long-term employment benefits linked to teenage experiences of the labour market

PISA data offers an incomplete understanding of the character of teenage engagement in the labour market through part-time working, internships and volunteering. Important gaps exist in the data with regard to the duration and intensity of engagement and student perceptions of the utility of their experience. However, even without such nuanced information, evidence is found in PISA and relevant national longitudinal studies that such participation in the labour market can be related to better than anticipated adult economic outcomes. Consideration of quantitative and qualitative analyses of engagement with workplaces and people in work casts light on why participation can be expected to be of benefit to the young.

Part-time working and career readiness

Perhaps unsurprisingly, many studies see a relationship between teenage participation in part-time employment and ultimate readiness for the adult labour market (Patton, 2010^[282]) (Smith, 2005^[283]). Part-time employment offers young people the opportunity to view the operation of working cultures and environments at first hand. Often, demands on young employees are significant. (McKechnie, 2014^[284]) for example, drawing on data from a large-scale, multi-faceted Scottish research project, find it to be commonplace for working students to:

covers all occupations ranging from a value of 0 to denote low status jobs, such as unskilled farm labourers, to a value of 100 for high status jobs, e.g. surgeons. Conceptually, occupational status reflects the link between educational credentials required for entry into a given job and the associated income.

- cooperate with colleagues
- deal directly with customers
- spend time reading, writing and administering paperwork
- use equipment such as cash registers and computers
- work with tools and machinery
- and, for a sizeable minority, supervise/train others.

In qualitative studies (McKechnie, 2010^[285]) and (Simpson, 2018^[286]) report on the testimonies of teenagers who describe the growth of personal confidence linked to their workplace experiences. Overwhelmingly, young Scottish workers felt that their employment experiences were preparing them well for adult lives (Hobbs, 2007^[287]). Studies show that part-time jobs vary in the extent to which they can be expected to develop skills of value to long-term employment, but that responsibilities (and so opportunity for skill development) are seen in general to increase with age as the productive capacity of young people increases (Mortimer, 2005^[252]) (Patton, 2010^[282]). In analysis of Scottish data, jobs in retail and catering were viewed as providing the greatest opportunity for skill development (McKechnie, 2014^[284]). In further studies, part-time working is seen to encourage reflection and increase thoughtfulness in career planning and exploration (Creed, 2003^[288]) (Smith, 2005^[283]). Consequently, a number of studies identify important scope for schools to draw on young people's first-hand knowledge of the labour market through part-time work within programmes of career education (Greene, 2012^[241]) (Hillage, 2001^[289]) (Howieson, 2006^[243]) (Mortimer, 2005^[252]), as in case of the successful Finnish School to Work Group Method preparatory programmes assessed by (Koivisto, 2007^[231]) and (Koivisto, 2010^[230]). Schools historically have failed to draw on such opportunities to encourage critical reflection and career exploration among young people.

Longitudinal analyses of the long-term impacts of part-time employment tend to highlight greater financial returns in relation to steady working over a longer duration (Anlezark, 2011^[244]) (Light, 1999^[250]) (Staff, 2008^[290]). Such findings may help explain the reason why US summer jobs programmes consistently fail to be linked to long-term economic benefits: that they are of too short duration. Working hours that are so long that they prove to significantly damage academic prospects however, should clearly be avoided. Studies often see the tipping point when working becomes a concern at more than 10-15 hours a week (Payne, 2003^[260]) (Robinson, 1999^[246]) (Stern, 2001^[261]). Students working such long hours can be seen to have at least one foot already in the labour market and may well sacrifice short-term gain in smoothing transitions into adult employment to longer term losses linked to weaker academic credentials. In a rare longitudinal study, (Smith, 2005^[283]) finds that 44% of Australian youth retain their part-time jobs worked in the last year of secondary schooling through their transition into the labour market. In such circumstances, young people find themselves easing into the adult labour market.

Volunteering and employability

A number of studies have questioned young people about their experiences of volunteering and identified a common belief that the experience helped to develop skills which would be of ultimate value in employment. Young volunteers commonly mention improvements in self-confidence, self-esteem, self-organisation, communication and skills which involve the ability to be effective when working with others in unfamiliar situations (National Youth Agency, 2008^[291]) (Ockenden, 2014^[292]) (Walsh, 2015^[293]). In the most rigorous

study of student attitudes, (Sikora, 2020^[281]) draw on perspectives from 6 500 young people to questions asked within the Longitudinal Surveys of Australian Youth about the extrinsic value of volunteering to economic well-being. Looking at representative samples of 17 year-olds in full-time education in 2009, 2012 and 2015, (Sikora, 2020^[281]) shows that between 48% and 54% of respondents felt that their volunteer activities gave them new skills which could be applied in a job or a business (13% to 17% felt this a lot). Moreover, in a clear illustration of the connection between volunteering activity and employment outcomes, between 26% to 28% of teenagers agreed that their volunteer activities had already helped them get a job. (Wilson, 1999^[294]) argues that long-term economic benefits connected to teenage volunteering can be explained through (i) improved attainment (ii) expanded social networks possessing influence and information related to employment (iii) development of work-related skills, and (iv) increases in self-esteem and self-confidence. Clearly, not all volunteering opportunities provide the same opportunities for such human, social and cultural capital development and half of the sample considered by (Sikora, 2020^[281]) felt that volunteering had provided little or no opportunity to develop work-relevant skills. The consequences of teenage volunteering remain under-researched (Ballard, 2019^[279]) (Kim, 2019^[100]). Further analysis will be especially welcomed that explores the relationships between different types of volunteering, student characteristics and the extent to which students engage in school-based career readiness activities. In particular, it will be useful to explore whether volunteering can act to compensate for lack of knowledge and experience of the labour market through other means, notably part-time employment.

Internships and preparation for work

Analysis of the impact short-duration internships is weaker than with part-time working and volunteering. Large-scale surveys of young people after completing placements tend to demonstrate that a substantial proportion of young people strongly believe themselves that placements have been useful in developing skills that employers value (Mann, 2012^[295]), a view shared by school staff (Hillage, 2001^[289]). In a 2010 representative survey of 773 Britons aged 19 to 24 undertaken by the polling company, YouGov, 90% recalled undertaking a work placement while in secondary school. On average, 27% of respondents reflected that the experience had been useful to them in getting a job after education (9% stated it was very useful), 58% agreed that it had been useful in deciding on a career (20% stating very useful) and 27% of young people who had applied for university, noted that the experience had been useful in getting into higher education (7% very useful) (Mann, 2014^[296]). It is notable that teenage perceptions of the value of their work placements is considerably higher if undertaken after the age of 16 and particularly when undertaken at both 14-16 and 16-18: 43% of young adults who took part in a placement at both ages found the experience useful in getting a job after education, including 23% who found their placements very useful. The study shows that not all internship experiences are viewed by participants as offering long-term utility, raising questions about the quality of experience and how that can be optimised.

In a representative survey of 1 154 English students in secondary education by (Hillage, 2001^[289]), 40% felt that they might get a paying job at the workplace they had interned in, a view echoed in smaller surveys (Mann, 2012^[295]). Two studies, from Australia and the UK, have compared the value of work placements to part-time working in the preparation for employment. (Fullarton, 1999^[297]) draws on data from the Longitudinal Surveys of Australian Youth and finds that young people with experience of both short internships and part-time employment felt the two forms of workplace participation to be very similar in

providing insights into the realities of working life and developing work-related skills such as communication, initiative and working with others. However, school-mediated work placements were viewed as being substantially more helpful in determining career aspirations. (Hillage, 2001^[289]) finds that both teenagers and their teachers agreed that compared to part-time employment, internships gave students “a better understanding of what work was like, more career insights and more opportunities for skills development”. In comparison to work placements, part-time work was often seen as “narrow and uninspiring”.

An important theme emerging from studies of work placements is equity. Many young people who undertake placements find them to be unhelpful. Perceptions of utility reflect the social status of students. For example, 36% of the young adults surveyed by (Mann, 2014^[296]) who had attended fee-paying schools felt that their placements were helpful in getting a job after education, compared to 25% of peers who had attended non-selective, state schools. As (Le Gallais, 2014^[298]), (Norris, 2014^[182]) and (Huddleston, 2014^[299]) illustrate from a UK context, quality of placement is intimately linked to socio-economic background. Particularly, where young people are tasked with securing their own placement, the internships that students secure are strongly influenced by family networks and socially-linked attitudes and expectations. Consequently, it is the responsibility of schools to ensure equitable access to placements that reflect teenage career interests. An important study by (Francis, 2005^[300]) shows moreover, a high degree of interest among young people in exploring non-traditional occupations for someone of their gender to pursue through their work experience placements, but that ultimately very few students have the opportunity to address gendered work expectations in this way. Work placements can serve to enhance young people’s critical thinking by challenging stereotypes and enabling access to information and experiences not easily encountered through family connections, but often they can serve to support the reproduction of social inequalities (Jones, 2015^[223]).

Adaptability and labour market experience

It is widely acknowledged that contemporary employers, reacting to rapidly developing technological changes, place ever greater emphasis on the capacity of workers to be personally effective in applying knowledge in changing situations (Mann, 2017^[301]). The OECD PISA 2018 assessment asks young people a number of questions related to their preparation for the contemporary working world. Particularly relevant are responses to statements linked to young people’s confidence in dealing with unfamiliar situations. Analysis shows a range of important statistically significant relationships between participation in part-time working, internships and volunteering and greater confidence.

Table 4.2. Relationships between confidence in ability to adapt to changing situations and teenage participation in activities enabling experience of labour market.

OECD PISA 2018 data.

Statement	I can deal with unusual situations	I can change my behaviour to meet the needs of new situations	I can adapt to different situations even when under stress or pressure	I can adapt easily to a new culture
Worked part-time	63	69	61	53
Did not work part-time	56	67	56	48
Undertook voluntary work	62	69	60	54
Did not undertake voluntary work	55	66	55	46
Undertook internship	60	66	57	50
Did not undertake internship	55	65	55	48

Statement	When encountering difficult situations with other people, I can think of a way to resolve the situation	I am capable of overcoming my difficulties in interacting with people from other cultures
Worked Part-time	61	60
Did not work part-time	56	57
Undertook voluntary work	61	62
Did not undertake voluntary work	55	55
Undertook internship	58	58
Did not undertake internship	57	56

Note: Statistically significant relationships (P-value less than 5%) highlighted in bold.

Source: OECD PISA 2018 Database - <https://www.oecd.org/pisa/data/2018database/> (accessed on 28 January 2020).***Workplace experience and the growth mind-set***

Relationships are also found between participation in work-related school-mediated workplace experiences and belief in a growth mind-set. The growth mind-set reflects the view that someone's ability or intelligence can develop over time. It stands in contrast to the fixed mind-set which is the belief that people are born with a certain degree of ability and intelligence that is nearly unaltered by experience. Holding a growth mind-set has been positively associated in analysis of PISA 2018 data with students' motivation to master tasks, general self-efficacy, learning goals and perceiving the value of schooling. It was negatively associated with fear of failure (OECD, 2019_[66]).

Analysis of the PISA 2018 database for this paper showed a statistically significant relationship between participation in part-time working and disagreement with the statement 'Your intelligence is something about you that you can't change very much': 66% of teenage workers agreed with the statement compared to 70% of peers with no work experience. A directional, if insignificant relationship, is also found between students who undertook internships (64%) and peers who did not (66%). No difference is found between volunteers and non-volunteers.

Social capital and student workplace experiences

The theory of social capital plays an important role within research literature that explores how young people – and their older peers - secure jobs and thrive within them (Carter, 2012^[256]) (Howieson, 2006^[243]) (Jokisaari, 2005^[169]) (Kramartz, 2014^[163]). As discussed above, two prominent streams of social capital theory consider the benefits to individuals of tightly-knit and loosely-knit social networks. In the former, typical for example of many migrant communities, close networks of relatives, friends and acquaintances will look out for each other and help members of the group to get by economically. Benefits however tend to be constrained by the homogeneity of the group (Field, 2008^[302]). By contrast, as set out initially in the influential work of US sociologist Mark Granovetter, the value of weaker ties lies in connecting people who have heterogeneous characteristics: people who know different things, who live in different places and who have access to different forms of economic resources (Granovetter, 1995^[51]). Characterised as the strength of weak ties, studies have developed Granovetter's initial insights to highlight the significance of student connections to people in positions of economic authority such as managers, supervisors and recruiters (Jokisaari, 2005^[169]) (Lin, 2001^[303]).

Demonstrating the ways in which social connections are linked to economic opportunities, a number of studies look at the importance of parental ties in securing entry-level employment for children. Considering the German apprenticeship system for example, (Roth, 2018^[164]) draws on longitudinal data from the National Education Panel Study to show that the children of parents who know many people who work in occupations for which vocational training is a common entry route were significantly more likely to find an apprenticeship than comparable peers seeking the same training opportunity. From a Swedish perspective, (Kramarz, 2014^[304]) makes use of a national dataset to show that parents play an important role in where young people find their first job with impacts greatest where students enter the labour market in a comparatively weak position (lower grades) in years of higher unemployment.

For young people, experience of workplaces undertaken while in school provides the opportunity to develop their own social capital of ultimate economic value (Hensvik, 2013^[305]). While still students, they meet new people who bring with them knowledge of the labour market that is distinct from that enjoyed by parents or teachers. Students are presented with opportunities to share such knowledge in the form of advice and guidance and receive practical help to support transitions through providing recommendations, references or even employment itself. As noted for example, a number of UK studies have highlighted the fact that it is common for young people who undertake short-duration internships or work experience placements to be offered part-time paid employment in the same workplace (Hillage, 2001^[289]) (Mann, 2012^[295]) (Mann, 2014^[306]). A representative 2016 survey of 1 755 young Britons aged 19 to 24 shows moreover, that 7% of respondents agreed that the first job which they deemed “useful to the pursuit of their career ambitions” had been secured through employers met through a secondary or tertiary educational institution (Kashefpakdel, 2017^[307]). By way of comparison, 19% first found such a job through an advertisement, 17% through family and friends, 6% through “other people I know including work colleagues” and 5.5% through a public employment service or other type of job agency. In navigating the early labour market towards career ambitions, social networks are of substantial value. Given that 38.3% of the sample of young adults felt that they had yet to secure employment helpful to their ultimate ambitions, in all more than one in ten of young people who had found work in fields deemed useful to long-term aspirations found the employment through a connection initiated through schools, colleges or universities.

The capacity of schools to enhance workplace experience

In collaboration with members of the economic community, education systems have it in their power to encourage, enable and/or require young people to secure direct experience of workplaces. They can do this by ensuring that schools offer opportunities for short work placements and/or volunteering in a labour market context. Since the mid-twentieth century, many countries have introduced policies designed to allow students to gain such experience (Miller, 1991^[308]). As Table 4.1 illustrates, PISA 2018 data show consistently strong relationships between participation in career development activities and part-time teenage employment. Schools also can actively help students to engage in volunteering activities within their communities where young people have opportunity to explore activities of potential long-term occupational interest.

Part-time working is declining in some countries increasing the need for schools to act

National analysis in the United States and United Kingdom show that teenage part-time employment alongside full-time secondary education has declined substantially over the last generation (Bauer, 2019^[309]) (Conlon, 2015^[240]). (Conlon, 2015^[240]) identify three main reasons for the decline: “increasing preferences of people to focus solely on studies, a changing labour market affecting the opportunities for young people to get part-time jobs, and institutional difficulties with the incorporation of work into study timetables.” Further research will ascertain the extent to which such patterns are replicated across other countries. If so, the phenomenon represents a challenge to schools to secure ways that will enable students to secure the benefits of workplace exposure through school-mediated interventions.

4.7. Implications for policy and practice

A young person’s capacity to aspire speaks to their ability to access information and resources which will allow career aspirations to be critically considered and transitions to be enabled. First-hand experiences can help a young person to imagine their possible futures in work, to develop social relations of prospective value and to practice the technical and social skills that employers seek. National longitudinal studies provide insight into the long-term employment consequences of three forms of first-hand teenage experience of the workplace: part-time working, internships and volunteering. PISA 2018 includes data surrounding young people’s experience of each of these activities.

PISA asks young people about three different forms of part-time employment, relatively formal working as in a holiday job, working in a family enterprise or occasional jobs. Levels of teenage employment vary considerable between participating PISA countries with approximately one-third of students in Spain and Portugal and two-thirds of their peers in Australia, Lithuania and the Netherlands engaged in some form of work. Teenage workers tend to be more likely to be boys, lower performers on the PISA assessments in mathematics, literacy and science and from rural backgrounds. Analysis of eighteen assessments using national longitudinal datasets shows that such part-time work is consistently associated with better than expected employment outcomes in the early labour market.

Short placements in workplaces or internships are experienced by one-third of young people on average across the OECD. While young people engaged in programmes of vocational education are more likely to take part in internships, participation rates are

generally comparatively similar across different student characteristics. Assessments of the impacts of internships on the long-term employment outcomes of young people within national longitudinal datasets are fewer and less compelling than in the case of part-time working, but do provide evidence of positive benefits particularly for students from more disadvantaged background with no experience of part-time employment. In this way, schools can be seen to enhance student capacity to aspire, offering opportunity to gain experiences of value which may not be otherwise available. Student volunteering also varies considerably between and within countries. On average, half of students in participating OECD countries agreed that they had volunteered. Recent national longitudinal studies consistently find evidence of better adult employment outcomes linked to teenage volunteering. Analysis of PISA 2018 data shows a statistically significant relationship between volunteering and lower levels of teenage uncertainty.

National studies illustrate the ways in which part-time working, volunteering and internships provide young people with the opportunity to gain experience and to develop skills of expected value in the labour market – and to secure adult employment after the completion of education. Significant relationships are observed in the relationship between young people's experience of such activities and their confidence in adapting to unfamiliar situations and to a lesser extent in evidence of the growth mind-set.

Education systems have it in their power to encourage, enable and/or require young people to secure direct experience of workplaces whether through internships and/or through volunteering. PISA 2018 data show considerable variation between countries in the extent to which students have opportunity to experience the labour market at first hand:

- In the Netherlands, 74% of students take part in some form of part-time work
- In Germany, 87% of students participate in an internship organised by their school
- In Indonesia, 77% of students volunteer.

Effective education systems will recognise the value of such engagements and put in place mechanisms that ensure that their student's first direct experience of the labour market is not after they have left full-time education. Moreover, for education systems, direct teenage participation in the labour market stands as an indicator of likely long-term employment outcomes.

5. Conclusions

Work is important. More than a source of income and financial independence, it provides structure to adult lives, a means of personal fulfilment and identity. However, work can impoverish as well as enriching lives. With work becoming more complex and students staying on in education longer, it is ever more important to get career guidance right. There is now widespread agreement on the characteristics of good guidance, but less understanding of its effective delivery. Analysis of national longitudinal datasets from predominantly English-speaking countries identifies indicators of teenage career readiness in relation to how student think about, explore and experience their potential futures. Data from PISA 2018 suggests that considerable opportunity exists in many countries to enhance young people's career readiness. This publication marks the launch of a new OECD project that will extend understanding of international data, introduce new guidance for practice and create a formal set of data-driven indicators to inform practice at a time of growing concern over rising youth unemployment.

5.1. Preparing for working life

American psychologist David Blustein's recent book, *The importance of work in an age of uncertainty – the eroding work experience in America* (Blustein, 2019^[53]) presents a timely reminder of the centrality of work in modern lives and its consequent significance to schools devoted to the preparation of young people for adulthood. Blustein argues that the act of working sets the frame for many important aspects of our existence as social beings. As well as providing a means of economic survival, financial independence and social connection, work is a preeminent source of structure for adult lives, a basis for personal fulfilment and a fundamental means of defining identity. Work is inextricably intertwined with both individual survival and with the capacity to furnish a deeper sense of meaning and purpose in our lives. To be involved in work that is consistent with dreams and aspirations, Blustein argues, presents “a wonderful opportunity to determine and make sense the overarching arc of one's life” (Blustein, 2019^[53]). Work however, is a sword with two edges:

Work has the potential to add a great deal of meaning and richness to our lives; at the same time, it has the capacity to wither our souls in a way that few other life activities can match (Blustein, 2019^[53]).

The struggle to obtain work when insufficient jobs exist or to cope with employment which fails to enrich, present two of the most demanding challenges in life. Experiences in work are closely connected with psychological well-being and a sense of personal dignity. Survey data show that young people feel that schools should do more than prepare them to pass examinations and muster academic achievement as they approach their transitions to adulthood. A 2017 UK survey of a representative sample of 1 744 young adults aged 19 to 24 that half or more would have welcomed more help from their school in such areas as:

- How to create a good résumé or prepare a strong job application
- How to perform well at interview
- How the tax and benefits system works
- How employers actually recruit

- How to manage money
- How the world of work is changing and which skills are likely to be demanded in the future
- How to find a job
- How to find out what different jobs require in terms of skills, attitudes and qualifications

Young women, young people from more disadvantaged schools and the children of parents without a university degree expressed the greatest desire to have had such support (Mann, 2017^[226]).

5.2. The unprecedented importance of career guidance

At the end of 2019, six international organisations came together to make a fresh case for investment in careers guidance. In (Cedefop, European Commission, European Training Foundation, OECD, ILO and UNESCO, 2019^[39]), the organisations argued:

Effective career guidance helps individuals to reach their potential, economies to become more efficient and societies to become fairer. It provides people with personalised, impartial and timely information and support to make informed decisions about their lives. It acts as a lubricant for developing and nurturing human talent to power innovation, creativity and competitiveness. It helps to implement lifelong approaches to learning and active approaches to labour market engagement and transition. As the working world becomes increasingly complex, career guidance is becoming ever more important to individuals, employers and to society.

For young people, the organisations argued, the case for careers guidance was growing:

[young people] are making more decisions than before as they stay in education longer, but the increasing dynamism of the labour market, the rapidly changing demand for skills and the growing diversification and fragmentation of education and training provision is making decision-making more difficult.

what they think about their future careers makes a difference to what happens to them in adulthood, but career aspirations are often narrow, unrealistic and distorted by social background.

frequently they have limited awareness of their own potential and needs and low access to impartial information about learning and funding possibilities, becoming demotivated with education and training.

many occupations and learning routes, such as apprenticeships in some countries, are poorly understood or stereotyped, contributing to skills shortages and leading, in some cases, to educational disengagement and dropout.

participation in some career guidance activities, such as short career exploration work placements, is commonly linked to the social background of learners, running the risk of inequitable outcomes.

participation in career guidance activities is associated with educational and particularly economic gains, but far too few young people have sufficient access to

the information they need (Cedefop, European Commission, European Training Foundation, OECD, ILO and UNESCO, 2019^[39]).

The economic and educational turbulence caused by the COVID-19 pandemic has rendered the labour market still more complex and strengthened further the need for effective career guidance. In an age of unprecedented post-war uncertainty and instability in the job market, it is important to focus on what is known about how young people's transitions from education into work can be optimised.

5.3. Good practice in career guidance

The international organisations set out too what has become a consensus on the characteristics of good practice in career guidance. Good guidance empowers people both young and old by:

responding to individual needs, being flexibly delivered.

forming a regular part of education and training, working in alliance with teachers and trainers to infuse career aspects into the curricula. It begins early (from primary education) and intensifies at key decision points, acting as a bridge to help people see the links between learning and the changing world of work.

allowing people to get to know themselves, their talents, interests and potential, encouraging learners to consider the breadth of the labour market and challenging common assumptions or stereotypes about occupations. Good guidance is accessible to all young people and adults, but is targeted especially at those in greatest need of support. It recognises social disadvantage and compensates for weaker access to information and support through social networks. It helps people facing difficulties in learning and making difficult vocational choices during training.

making use of well-trained professionals who provide relevant and impartial information and counselling. Effective guidance not only provides user-friendly access to reliable labour market information but also enables people to develop career management skills. It provides direct contact with qualified career guidance professionals - and with the world of work (Cedefop, European Commission, European Training Foundation, OECD, ILO and UNESCO, 2019^[39]).

5.4. From good practice to effective delivery

As discussed earlier in this paper, the academic literature on career guidance is surprisingly thin (Hughes, 2016^[35]). It consists in large part of evaluations of programmes of study which provide limited insight into how change is enabled through interventions. Whole programme evaluations, such as the influential study of the US Career Academies programme by (Kemple, 2008^[205]), tend not to disaggregate and review programme elements within an overarching programmatic model of change. Such an approach would allow for the building blocks of effective provision to be identified and reused. Academic reviews of career guidance provides limited insight moreover into the extent to which interventions are required by young people, identifying learners who are in need of greater levels of support. By consequence, government policy tends to focus on processes rather than outcomes. Opportunity exists to provide policy makers and practitioners with greater confidence that intervention programmes are delivering effectively for young people and that they are demonstrably improving their career readiness. In order to do so, it is necessary

to harness insights from quantitative data and provide education professionals with means to gauge readiness and to measure change.

5.5. Indicators of effective school to work transitions

Longitudinal analysis from a range of different countries presented in this paper shows that how young people (i) think about, (ii) explore and (iii) experience the labour market as teenagers in secondary education matters to their transitions into adulthood. It matters to their economic and psychological well-being and, in enabling progression towards higher paying employment, suggests a more efficient distribution of human capital across economies. This paper reviews national longitudinal evidence and identifies a range of indicators of greater teenage career readiness. These include indicators of:

- career certainty: ability to name a job expected at age 30
- career ambition: interest in progressing to higher education and professional/managerial employment
- career alignment: matching of occupational and educational expectations
- career conversations: speaking to an adult about a career of interest
- occupational preparation: participation in short occupationally-specific courses within general programmes of education
- school-mediated work exploration: participation in job fairs, job shadowing and workplace visits.
- part-time employment: participation in paid part-time or seasonal work
- internships: participation in school-mediated work placements
- volunteering: participation in community-based volunteering

In addition, it is likely to be of value to explore potential indicators related to:

- satisfaction: young people's perception of the utility of career guidance received and ability to see how schooling relates to adult employment
- intensity: on how many occasions young people take part in school-mediated work exploration
- career concentration: percentage of young people expecting to work in just ten jobs
- career confusion: percentage of young people with the capability but who are not interested in progressing to tertiary education and/or completing tertiary education
- VET careers: exposure/interest in skilled employment typically entered through programmes of Vocational Education and Training
- healthcare careers: exposure/interest in occupations related to healthcare and other essential sectors
- career guidance provision: attendance at a school that offers guidance to students.

Other indicators may also be identified by extending analysis to a wider range of datasets, notably from non English-speaking countries. The potential indicators speak to an

overarching objective for guidance professionals and educationalists: to enable young people to become critical thinkers about the labour market and their potential roles within it. Critical thinkers will understand the challenges of the contemporary labour market, the changing patterns of demands for knowledge, skills and qualifications and the culture of labour force recruitment. Effective provision will equip young people with a sense of agency as they approach their transitions towards career ambitions. As the OECD Education 2030 Learning Compass explains:

Student agency/co-agency Student agency is defined as the belief that students have the will and the ability to positively influence their own lives and the world around them as well as the capacity to set a goal, reflect and act responsibly to effect change. Student agency relates to the development of an identity and a sense of belonging. When students develop agency, they rely on motivation, hope, self-efficacy and a growth mindset (the understanding that abilities and intelligence can be developed) to navigate towards well-being. This enables them to act with a sense of purpose, which guides them to flourish and thrive in society. Students learn, grow and exercise their agency in social contexts and this is why co-agency is also crucial. Students develop co-agency in an interactive, mutually supportive and enriching relationship with their peers, teachers, parents and communities in an organic way in a larger learning eco-system (OECD, 2019^[310])

Such an ambition is most readily achieved by closing the gap between schools and employers, providing students with multiple opportunities to explore, experience and think about the working world and its relationship to their educational progression. Effective provision will recognise that young people bring with them different levels of self-awareness and access to relevant and trustworthy information and support that will enable transitions. Access to such resources are at the heart of good transitions, but unequally distributed across societies.

Indicators of successful transitions: one example of practice

A 2017 paper *Indicators of Successful Transitions: teenage attitudes and experiences related to the world of work* (Mann, 2017^[60]) by UK charity Education and Employers and the Commercial Education Trust illustrates the ways in which student indicators as discussed in this paper can be drawn on by career professionals to create a new tool to assess the relative preparedness of students to progress into the world of work. Using data exclusively from UK longitudinal studies, the paper identifies a range of comparable indicators and assesses their relative impact size with regard to adult earnings and employment outcomes in order to create a simple questionnaire for distribution to students. A marking scheme weighted by impact measures was devised to identify students in need of greater support. Tested by experienced career professionals in six schools with 788 pupils, the study concluded:

Practitioners with a good understanding of the needs of students reported that the questionnaire provided reliable results. The indicators were felt to be particularly relevant to students of all attainment levels and worked especially well for young people in year 11 [age 15-16] (Mann, 2017^[60]).

In light of feedback from practitioners, the questionnaire was revised. It provides a model on which to build insights from other countries in order to confirm universal indicators of multi-national relevance.

5.6. The constrained capacity to aspire

Young people have never been more educated and never more ambitious, but evidence is strong that the capacity of many young people to aspire is systematically constrained (Appadurai, 2004^[46]). Longitudinal data illustrates the consequences of a lack of resource available to teenagers trying to make sense of their occupational futures and transitions into work. A primary conclusion of this paper is that there exists in many societies a close alignment between social disadvantage and lack of access to information and support required to enable progression. While young people from more advantaged backgrounds can and often do suggest poor levels of career readiness, it is among their more disadvantaged peers where concerns are consistently greatest. Consequently, the paper raises important questions about the extent to which education systems are enabling equitable preparation for a dynamic labour market and fair competition for attractive employment.

Data from OECD PISA 2018 suggests that in general schools across participating countries are providing limited opportunities for young people to prepare for their working lives. By the age of 15, one year before the typical end of compulsory schooling across the OECD, only half of young people will have seen a career counsellor in school, just two in five will have attended a job fair or taken part in a workplace visit or job shadowing placement, and one-third participated in an internship. Across the OECD, the proportion of young people unable to name a job that they see themselves working in at age 30 has risen from 14% in 2000 to one in four in 2018. Where they do express career ambitions, these are increasingly narrow and are strongly distorted by the personal and social characteristics of students. Half of students across the OECD anticipate working in one of just ten jobs and in many countries participating in PISA 2018 the proportion is more than 70%. Student interest in areas of employment likely to withstand the downturn in demand for workers that will follow the COVID-19 pandemic, such as nursing and occupations entered through vocation education and training, is in many countries limited. Across the OECD, one fifth of students express occupational expectations that are misaligned with their educational plans. Among young people from the most disadvantaged social backgrounds, the proportion is one third. Across the 79 countries and economic areas taking part in PISA 2018, such evidence of teenage confusion about the world of work raises significant concerns. It is important to be aware that levels of career confusion vary between countries and this raises opportunity for peer learning between education systems.

The paper presents three examples of career development programmes that include approaches in their design that enable the development of critical perspectives among young people. The Ethnographies of Work programme delivered at Guttman College in the United States (Hoffman, 2018^[56]), the WE3 programme (Turner, 2020^[233]) designed by Australian educationalist Dave Turner adopted by the Bay of Plenty region in New Zealand and the Finnish School to Work Group Method (Koivisto, 2007^[231]) all recognise transitions to be a matter of social interaction, requiring and enabling students to experience, and question people from, workplaces of personal interest and reflect on developing perspectives in collaboration with peers and guidance professionals. These are programmes conscious of the psychological demands of school to work transitions which seek to equip young people with realistic and informed understandings of the great opportunities and significant challenges presented by the labour market. All are predicated on the principal that students should go into the labour market with their eyes open, having had chance to test for themselves how they might prosper in different occupational fields. For educationalists, the concept of the capacity to aspire enables a fresh perspective on

what it means for young people to be provided with equitable foundations for their working lives. While the concept can be seen as relevant to the provision of a wide range of extra-curricula activities which underpin career readiness (for example, in the creative and performing arts), the focus of this paper has been on low-cost career-related interventions of relevance to all learners which present schools with few challenges to arrange.

5.7. The Future of Education and Skills

Evidence from this paper informs the OECD's ongoing work in collaboration with education systems around the world on the curricula that are responsive, and relevant, to a rapidly changing world. The OECD Future of Education and Skills 2030 project asks: How can we prepare students for jobs that have not yet been created, to tackle societal challenges that we can't yet imagine, and to use technologies that have not yet been invented? How can we equip them to thrive in an interconnected world where they need to understand and appreciate different perspectives and worldviews, interact respectfully with others, and take responsible action towards sustainability and collective well-being? Evidence from quantitative studies suggest that important answers to these questions lie in making classroom walls more porous and drawing on workplaces and the economic community as deeper partners in student learning. In a world subject to rapid change, it is the people whose paid employment brings them into direct contact with the world of occupational change, who possess insights of special value to young people. As well as first-hand knowledge of the world as it is, they bring with them an authenticity which makes their perspectives difficult for young people to ignore. The workplace offers a rich learning environment, providing teaching opportunities that are difficult for schools to replicate (Stanley, 2014^[311]). For the global education community, a key challenge will be how to ensure that the full benefits of the workplace as a learning environment are secured in an era of lockdowns and social distancing. Across the world, different schools will be addressing this challenge in different ways with different levels of success. It is the responsibility of the OECD and other international organisations to make such local learning a global resource.

5.8. Next steps

The publication of this paper will be followed by a 12-month OECD project *Career Readiness in the Pandemic*. The project will draw on unprecedented analysis of longitudinal datasets from across the world (including from non-English speaking countries) and include further analysis of PISA 2018 to deepen understanding of the insights shared in this paper. The project will seek out further practical examples of school provision that succeeds in enabling young people to develop critical understandings of the labour market informed by rich employer engagement. The aim of the project will be to provide governments, education systems, teachers and career guidance professionals with new guidance on effective provision. The project will conclude in late 2021 with the publication of a comprehensive set of indicators for education systems and schools to gauge their effectiveness in supporting the career readiness of young people in the coronavirus era.

Annexe A: Data tables for new British Cohort Study (BCS) analysis

Table A 0.1. Descriptive data (pre-imputation) – Outcome variables for men

Variable	Primary Analytical Subsample*						As available against the full BCS age 16 dataset					
	Value	Avg	St dev	Min	Max	Valid N	Value	Avg	St dev	Min	Max	Valid N
Life Satisfaction		7.10	1.91	0	10	1 546		7.05	1.97	0	10	3 161
Weekly pay (natural log)		5.38	0.43	1.24	6.91	1 378		5.37	0.46	1.24	6.91	2 506
Employment Status:						1 554						3 155
Works full-time	86%						85%					
Works part-time	2%						3%					
Not in work	10%						11%					
At home full-time	0%						0%					
Other	1%						1%					

Table A 0.2. Descriptive data (pre-imputation) – Outcome variables for women

Variable	Primary Analytical Subsample*						As available against the full BCS age 16 dataset					
	Value	Avg	St dev	Min	Max	Valid N	Value	Avg	St dev	Min	Max	Valid N
Life Satisfaction		7.35	1.86	0	10	2 510		7.33	1.89	0	10	3 938
Weekly pay (natural log)		5.08	0.52	1.94	6.54	2 002		5.05	0.54	1.79	6.91	2 852
Employment Status:						2 518						3 909
Works full-time	68%						66%					
Works part-time	12%						12%					
Not in work	6%						6%					
At home full-time	12%						13%					
Other	2%						2%					

Notes: * Primary analytical subsample is the dataset on which multiple imputation algorithms were run to generate 20 complete datasets. This is the dataset with no missing data for whether a young person ever had part-time paid work in term time, no missing data for their employment status aged 26, and no missing data on their wage if they reported being employed full-time.

Table A 0.3 Descriptive data (pre-imputation) – Predictor variables on primary analytical subsample

Variable	Men						Women					
	Value	Avg	St dev	Min	Max	Valid N	Value	Avg	St dev	Min	Max	Valid N
Ever had paid work during term time, as reported aged 15/16	62.9%					1 554	63.7%					2 518
Participated in a school-organised work placement as reported aged 15/16	29.2%					1 501	35.0%					2 451
Of whom described the work placement as useful	74.4%				383	79.7%						778

Table A 0.4. Descriptive data (pre-imputation) – Control variables on primary analytical subsample

Variable	Men						Women					
	Value	Avg	St dev	Min	Max	Valid N	Value	Avg	St dev	Min	Max	Valid N

Table A 0.5 Local area characteristics

Government Office Region:		1 554		2 518
<i>East Midlands</i>	7%		7%	
<i>East of England</i>	10%		10%	
<i>London</i>	8%		9%	
<i>North East</i>	5%		4%	
<i>North West</i>	10%		13%	
<i>South East</i>	15%		14%	
<i>South West</i>	7%		8%	

West Midlands	9%					8%					
Yorkshire & Humber	9%					8%					
Wales	5%					5%					
Scotland	9%					9%					
Unknown	6%					6%					
Local Education Authority employment rate in 1981	55%	3%	46%	62%	1,554	55%	4%	46%	62%	2 517	
Local Education Authority economic activity rate in 1991	61%	3%	53%	68%	1 542	61%	3%	53%	68%	2 490	
Local Education Authority rate of owner occupied housing in 1991	68%	8%	38%	79%	1 554	67%	9%	38%	79%	2 517	
Local Education Authority full-time gross weekly wage in 1997	309	26	250	417	1 554	309	26	250	417	2 517	

Table A 0.6 **Socio-demographic data, incl. financial circumstances**

Paternal socio-economic status:					1 195					1 964						
Dead	3%				3%											
Student	2%				1%											
Type V	1%				2%											
Type IV	7%				8%											
Type III manual	33%				37%											
Type III non-manual	11%				10%											
Type II	32%				31%											
Type I	10%				7%											
Age 16 Financial hardship indicator	11%				1 239					11%					2 062	
Age 16 Living with both natural parents	82%				1 225					80%					2 053	
Dummy variable for council housing at age 16 (0=No, 1=Yes)	21%				1 389					23%					2 258	
Dummy variable for receipt of benefits at age 16 (0=No, 1=Yes)	22%				1 301					25%					2 170	
Mother was first pregnant as a teenager	18%				1 414					18%					2 358	
Has at least one UK parent (0=No, 1=Yes)	97%				1 326					97%					2 139	
Age mother left education	16	2	9	27	1 414					16	2	10	29	2 340		
Age father left education	16	3	11	38	1 371					16	2	9	33	2 279		

Table A 0.7 Academic level indicator data prior to the age of 16

Standard figure drawing at age 5 (higher = better drawing) (f121)	5.0	1.2	0	8	1 332	5.2	1.1	0	9	2 157
Age 10 book reading measure (higher = more often) (m86)	2.5	0.6	1	3	1 397	2.7	0.5	1	3	2 266
Estimated reading age at age 10	10.5	1.4	5.1	12.9	1 042	10.6	1.4	5.7	12.9	1 724
Maths Test score at age 10	50	12	6	72	1 181	47	11	1	71	1 944

Table A 0.8 Academic achievement indicators from age 16 onwards (excluded from some models as specified)

Highest level of qualification age 26:		1 502		2 428
None	3%		3%	
CSE2-5; NVQ 1	15%		14%	
O level; NVQ 2	34%		41%	
A level; NVQ 3	12%		13%	
NVQ 4	5%		5%	
Degree; NVQ 5/6+	32%		25%	

Teacher assessed grade for maths at age 16 (I92)	1.7	0.6	1	3	688	1.8	0.6	1	5	1 063
Teacher assessed relative standing for academic performance at age 16 (I61)	3.3	1.2	1	7	747	3.3	1.1	1	7	1 170
Math exam result at 16 (1–8, 8 high)	5.8	1.7	1	8	1 057	5.3	1.7	1	8	1 697

Table A 0.8 School attitude and behaviour indicators

Age 5 behaviour measure (higher = worse behaviour)	1.2	0.5	1	3	1 292	1.2	0.4	1	3	2 070
Rutter behaviour score (parent-assessed at age 10, lower score represents better behaviour)	427	207	0	1,376	1 339	401	200	0	1454	2 165
Ever removed from class for disruptive behaviour age 16 (0=Yes; 1=No) (I161_new)	87%				766	90%				1 201
School attitude index at age 16 (higher = more positive)	2.3	0.4	1	3	1 512	2.4	0.4	1	3	2 460

Table A 0.10 Early home learning environment

Mother's interest in education age 10 (1–4, 4 high interest)	3.6	0.6	1	4	1 138	3.6	0.6	1	4	1 847
Days TV watched in weekday evenings / week at age 5 (0–5) (e115)	1.3	1.9	0	5	1 316	1.2	1.9	0	5	2 130
Days in past week that parents read to their child at age 5 (0–7) (e131)	4.7	2.5	0	7	1 295	4.8	2.5	0	7	2 090

Table A 0.9 Attitude towards work

"Having a full-time job will matter very much to me as an adult" at age 16 (c5e2d)	89%	1 296	82%	2 172
"Being a hard worker is one of my strong points for my future" at age 16 (jb31a4d)	65%	1 519	66%	2 457

Control variable selection: Control variables were selected based on prior literature e.g. (Kashefpakdel, 2017_[170]) (Sabates, 2010_[86]). Some variables were dropped from the final models due to their high variance inflation factor: maternal socio-economic status (high covariance with e.g. paternal socio-economic status) and agreeing at age 16 that “if you are really determined, you can get a job” (high covariance with e.g. other work-related attitude questions).

Table A 0.10 Model results – Employment outcomes at age 26*

Model output Coefficient [p-value]	Men (N=1,554 for part-time paid work; N=1,348 for placement)		Women (N=2,518 for part-time paid work; N=2,212 for placement)	
	All controls	All controls excl. academic achievement 16+	All controls	All controls excl. academic achievement 16+

Table A 0.11 Reporting current or prior paid work in term-time at age 16, compared to reporting no experience of paid term-time work

Wage outcome (natural log)				
Whether ever had paid work during term time	2.9% [0.21]	2.1% [0.37]	5.4% [0.00]	4.2% [0.03]
Selection into full-time work				
Whether ever had paid work during term time	0.31 [0.00]	0.33 [0.00]	0.13 [0.05]	0.14 [0.04]
atanh rho (null of no selection effect)	-0.50 [0.01]	-0.53 [0.00]	-0.47 [0.00]	-0.58 [0.00]

Table A 0.12 Reporting a useful school-organised work placement at age 16, compared to those not who did not report a placement

Wage outcome (natural log)				
Reported a useful school-organised work placement	-1.6% [0.59]	-0.2% [0.47]	-1.4% [0.51]	-2.4% [0.27]
Selection into full-time work				
Reported a useful school-organised work placement	0.16 [0.25]	0.16 [0.24]	0.01 [0.89]	0.01 [0.84]
atanh rho (null of no selection effect)	-0.53 [0.01]	-0.53 [0.00]	-0.52 [0.00]	-0.60 [0.00]

Notes: * Heckman selection model estimated via maximum likelihood, with selection on whether a full-time wage was reported for the individual. Analysis conducted on a dataset constructed by multiple imputation, with 20 different imputations generated by the mi impute chained algorithm in Stata/IC 15.1.
Model results – Life satisfaction outcomes at age 26 of current or prior paid work in term time reported at age 16*

Table A A.13. Reporting experience of the labour market, comparison by gender

Model output <i>Coefficient [p-value]</i>	Men N=1,670 for part-time paid work; N=1,455 for placement		Women N=2,636 for part-time paid work; N=2,322 for placement	
	All controls	All controls excl. academic achievement 16+	All controls	All controls excl. academic achievement 16+
Whether ever had paid work during term time	0.14 [0.17]	0.14 [0.16]	0.14 [0.06]	0.11 [0.13]
Reported a useful school-organised work placement	0.21 [0.09]	0.20 [0.10]	0.14 [0.11]	0.12 [0.16]

* Linear regression model. Analysis conducted on a dataset constructed by multiple imputation, with 20 different imputations generated by the mi impute chained algorithm in Stata/IC 15.1.

References

- Abbiati, G. (2017), “Is university education worth the investment? The expectations of upper secondary school seniors and the role of family background”, *Rationality and Society*, Vol. 29/2, pp. 113-159. [115]
- Agrawal, T. (2017), “Vocational education and training in India: a labour market perspective”, *Journal of Vocational Education and Training*, Vol. 69/2, pp. 246-265, <https://doi.org/10.1080/13636820.2017.1303785>. [127]
- AIR UK (2008), *The Involvement of Business in Education: a Rapid Evidence Assessment of the Measurable Impacts*, Department for Children, Schools and Families. [193]
- Aldossari, A. (2020), “Vision 2030 and reducing the stigma of vocational and technical training among Saudi Arabian students”, *Empirical Research in Vocational Education and Training*, Vol. 12/3, pp. 1-24. [126]
- Anlezark, A. (2011), *Does combining school and work affect school and post-school outcomes?*, National Centre for Vocational Education Research, <https://ncver.edu.au/research-and-statistics/publications/all-publications/does-combining-school-and-work-affect-school-and-post-school-outcomes>. [244]
- Appadurai, A. (2004), *The Capacity to Aspire: Culture and the Terms of Recognition*, Stanford University Press. [68]
- Applied Research Unit (2001), *Post-secondary Employment and College Enrollment among Montgomery County Public Schools (MCPS) Graduates: The Role of Career-Focused Programs*, Office of Shared Accountability, Division of Career and Technology Education, Montgomery County Public Schools, https://www.montgomeryschoolsmd.org/info/press/career_ed_report.pdf. [207]
- Archer, L. (2013), “Spheres of influence: what shapes young people’s aspirations at age 12/13 and what are the implications for education policy?”, *Journal of Education Policy*, Vol. 29/1, pp. 58-85, <http://dx.doi.org/10.1080/02680939.2013.790079>. [69]
- Archer, L. (2013), “Spheres of influence: what shapes young people’s aspirations at age 12/13 and what are the implications for education policy?”, *Journal of Education Policy*, Vol. 29/1, pp. 58-85, <http://dx.doi.org/10.1080/02680939.2013.790079>. [185]
- Archer, L. (2010), *Urban Youth and Schooling*, Open University Press. [177]
- Archer, L. (2005), *‘Dropping out and drifting away’: an investigation of factors affecting inner-city pupils’ identities, aspirations and post-16 routes*, Esmée Fairbairn Foundation. [112]
- Archer, L. (2003), “‘Knowing their limits’? Identities, inequalities and inner city school leavers’ post-16 aspirations”, *Journal of Education Policy*, Vol. 18/1, pp. 53-69, <http://dx.doi.org/10.1080/0268093032000042209>. [175]

- Ashby, J. (2010), "Career success: the role of teenage career aspirations, ambition value and gender in predicting adult social status and earnings", *Journal of Vocational Behavior*, Vol. 77/3, pp. 350-360. [107]
- Avery, C. (2014), *A Review of the Role of College Counseling, Coaching, and Mentoring on Students' Postsecondary Outcomes*, College Board Research Brief, <https://files.eric.ed.gov/fulltext/ED556468.pdf>. [217]
- Bachman, J. (2013), "Adolescent Work Intensity, School Performance, and Substance Use: Links Vary by race/ethnicity and Socioeconomic Status", *Developmental Psychology*, Vol. 49/11, pp. 2125-34, <http://dx.doi.org/10.1037/a0031464>. [239]
- Baillergeau, E. (2019), "Dreamless futures: a micro-sociological framework for studying how aspirations develop and wither", *Critical Studies in Education*, <http://dx.doi.org/10.1080/17508487.2019.1707250>. [61]
- Ballard, P. (2019), "Impacts of Adolescent and Young Adult Civic Engagement on Health and Socioeconomic Status in Adulthood", *Child Development*, Vol. 90/4, pp. 1138-1154, <http://dx.doi.org/10.1111/cdev.12998>. [279]
- Ball, S. (1998), "I Heard It on the Grapevine": 'hot' knowledge and school choice", *British Journal of Sociology of Education*, Vol. 19/3, pp. 377-400, <http://dx.doi.org/10.1080/0142569980190307>. [176]
- Bandura, A. (2001), "Self-efficacy Beliefs as Shapers of Children's Aspirations and Career Trajectories", *Child Development*, Vol. 72/1, pp. 187-206, <http://dx.doi.org/10.1111/1467-8624.00273>. [106]
- Barrera-Osorio, F. (2020), *Hard and Soft Skills in Vocational Training: Experimental evidence from Colombia*, National Bureau of Economic Research, <https://www.nber.org/papers/w27548.pdf>. [237]
- Bauer, L. (2019), *All school and no work becoming the norm for American teens*, Brookings Institute, <https://www.brookings.edu/blog/up-front/2019/07/02/all-school-and-no-work-becoming-the-norm-for-american-teens/>. [309]
- Baxter, J. (2017), *The career aspirations of young adolescent boys and girls*, Australian Institute of Family Studies. [89]
- Baxter, J. (2017), *The career aspirations of young adolescent boys and girls*, Australian Institute of Family Studies. [179]
- Beck, V. (2006), "Increasing risk in the 'scary' world of work? Male and female resistance to crossing gender lines in apprenticeships in England and Wales", *Journal of Education and Work*, Vol. 19/3, pp. 271-289. [129]
- Beck, V. (2006), "Safety in stereotypes? The impact of gender and 'race' on young people's perceptions of their post-compulsory education and labour market opportunities", *British Educational Research Journal*, Vol. 32/5, pp. 667-686. [130]

- Behavioural Insights Team (2016), *Moments of choice*, [57]
<https://www.bi.team/publications/moments-of-choice/>.
- Bell, D. (2011), *Young People and the Great Recession*, Institute for the Study of Labor, [23]
<http://ftp.iza.org/dp5674.pdf>.
- Bergseng, B., E. Degler and S. Lüthi (2019), *Unlocking the Potential of Migrants in Germany*, [133]
 OECD Reviews of Vocational Education and Training, OECD Publishing, Paris,
<https://dx.doi.org/10.1787/82ccc2a3-en>.
- Bernard, T. (2014), *The Future in Mind: Aspirations and forward-looking behaviour in rural Ethiopia*, Centre for Economic Policy Research. [48]
- Bishop, J. (2004), “The Impacts of Career-Technical Education on High School Completion and Labor Market Success”, *Economics of Education Review*, Vol. 23/4, pp. 381-402. [208]
- Blenkinsop, S. (2006), *How Do Young People Make Choices at 14 and 16?*, Department for Education and Skills, <https://www.nfer.ac.uk/how-do-young-people-make-choices-at-14-and-16>. [172]
- Blustein, D. (2019), *The Importance of Work in an Age of Uncertainty: the eroding work experience in America*, Oxford University Press. [53]
- Blustein, D. (2001), “Voices of the forgotten half: The role of social class in the school-to-work transition”, *Journal of Counseling Psychology*, Vol. 49/3, pp. 311–323, [42]
<http://dx.doi.org/10.1037/0022-0167.49.3.311>.
- Blustein, D. (2001), “Voices of the forgotten half: The role of social class in the school-to-work transition”, *Journal of Counseling Psychology*, Vol. 49/3, pp. 311–323, [165]
<http://dx.doi.org/10.1037/0022-0167.49.3.311>.
- Bok, J. (2010), “The capacity to aspire to higher education: ‘It’s like making them do a play without a script’”, *Critical Studies in Education*, Vol. 51/2, pp. 163-178. [43]
- Bragg, D. (2002), *Transition from high school to college and work for Tech Prep participants in eight selected consortia*, National Centers for Career and Technical Education, [202]
<https://ccrscenter.org/products-resources/resource-database/transition-high-school-college-and-work-tech-prep-participant-1>.
- Brown, D. (ed.) (2002), *Gottfredson’s theory of circumscription, compromise and self-concept*, Jossey-Bass. [151]
- Brown, S. (2011), “What will I be when I grow up? An analysis of childhood expectations and career outcomes”, *Economics of Education Review*, Vol. 30/3, pp. 493-506, [188]
<http://dx.doi.org/10.1016/j.econedurev.2010.12.003>.
- Bryan, J. (2011), “School counselors as social capital: The effects of high school college counseling on college application rates”, *Journal of Counseling and Development*, Vol. 89/2, pp. 190-199, <http://dx.doi.org/10.1002/j.1556-6678.2011.tb00077.x>. [218]

- Burning Glass Technologies and Strada Institute for the Future of Work (2018), *The Permanent Detour: Underemployment's Long-Term Effects on the Careers of College Grads*, https://www.burning-glass.com/wp-content/uploads/permanent_detour_underemployment_report.pdf. [6]
- Buzzeo, J. (2017), *Work experience, job shadowing and workplace visits. What works?*, Careers and Enterprise Company, <https://www.careersandenterprise.co.uk/sites/default/files/uploaded/careers-enterprise-what-works-report-work-experience.pdf>. [267]
- Campbell-Heider, N. (2008), "Connecting With Guidance Counselors to Enhance Recruitment Into Nursing of Minority Teens", *Journal of Professional Nursing*, Vol. 24/6, pp. 378-384, <https://doi.org/10.1016/j.profnurs.2008.10.009>. [140]
- Carcillo, S. (2015), *NEET Youth in the Aftermath of the Crisis: Challenges and Policies*, OECD Publishing, <http://dx.doi.org/10.1787/5js6363503f6-en>. [21]
- Carter, E. (2012), "Predictors of Postschool Employment Outcomes for Young Adults With Severe Disabilities", *Journal of Disability Policy Studies*, Vol. 23/1, pp. 50-63, <http://dx.doi.org/10.1177/1044207311414680>. [256]
- Cedefop (2017), *Cedefop European public opinion survey on vocational education and*, Publications Office, <http://dx.doi.org/doi:10.2801/575587>. [125]
- Cedefop, European Commission, European Training Foundation, OECD, ILO and UNESCO (2019), *Investing in career guidance*, Cedefop, European Commission, European Training Foundation, OECD, ILO and UNESCO, https://www.cedefop.europa.eu/files/2227_en.pdf. [39]
- Cellini, S. (2018), *Gainfully employed? Assessing the employment and earnings of for-profit college students using administrative data*, National Bureau of Economic Research, <https://www.nber.org/papers/w22287>. [104]
- Centre for Longitudinal Studies (2017), *The university and occupational aspirations of UK teenagers: how do they vary by gender? Initial findings from the Millenium Cohort Study Age 14 Survey*, <https://cls.ucl.ac.uk/wp-content/uploads/2017/12/MCS6-Briefing-03-University-and-Occupational-Aspirations.pdf>. [73]
- Chadderton, C. (2014), "Racialised norms in apprenticeship systems in England and Germany", *Journal of Vocational Education and Training*, Vol. 66/3, pp. 330-347, <http://dx.doi.org/10.1080/13636820.2014.917693>. [75]
- Chan, W. (2014), "Adolescent Civic Engagement and Adult Outcomes: An Examination among Urban Racial Minorities", *Journal of Youth and Adolescence*, Vol. 43/1, pp. 1829-1843, <http://dx.doi.org/10.1007/s10964-014-0136-5>. [280]
- Chiapa, C. (2012), "The effect of social programs and exposure to professionals on the educational aspirations of the poor", *Economics of Education*, Vol. 31/5, pp. 778-798, <http://dx.doi.org/10.1016/j.econedurev.2012.05.006>. [49]

- Clarke, S. (2019), *Growing Pains: The impact of leaving education during a recession on earnings and employment*, Resolution Foundation, <https://www.resolutionfoundation.org/app/uploads/2019/05/Growing-pains-final-report.pdf>. [27]
- Cohen, J. (2004), "Middle school students' perceptions of an ideal career and a career in nursing", *Journal of Professional Nursing*, Vol. 20/3, pp. 202-210, <http://dx.doi.org/10.1016/j.profnurs.2004.04.001>. [141]
- Conlon, G. (2015), *The Death of the Saturday Job: The Decline in Earning and Learning amongst Young People in the UK*, UK Commision for Employment and Skills, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/435285/15.06.15_DOTSJ_Report_design_final_EDIT.pdf. [240]
- Connors, E. (2014), "Longitudinal Analysis of Factors Associated with Successful Outcomes for Transition-Age Youths with Visual Impairments", *Journal of Visual Impairment and Blindness*, Vol. March-April, pp. 95-106, <http://dx.doi.org/10.1177/0145482X1410800202>. [255]
- Craig, C. (2019), "A tribute to 'unsung teachers': teachers' influences on students enrolling in STEM programs with the intent of entering STEM careers", *European Journal of Teacher Education*, Vol. 42/3, pp. 335-358, <http://dx.doi.org/10.1080/02619768.2018.1523390>. [187]
- Crawford, C. (2011), *Young people's education and labour market choices aged 16 to 17 and 18 to 19*, Department for Education, <https://www.gov.uk/government/publications/young-peoples-education-and-labour-market-choices-aged-16-to-17-and-18-to-19>. [248]
- Creed, P. (2003), "Differences in Career Attitude and Career Knowledge for High School Students with and without Paid Work Experience", *International Journal for Educational and Vocational Guidance*, Vol. 3, pp. 21-33. [288]
- Croll, P. (2008), "Occupational choice, socio-economic status and educational attainment: a study of the occupational choices and destinations of young people in the British Household Panel Survey", *Research Papers in Education*, Vol. 23/8, pp. 243-268. [96]
- Dalton, B. (2013), *From Track to Field: Trends in Career and Technical Education Across Three Decades*, National Assessment of Career and Technical Education (NACTE), <https://files.eric.ed.gov/fulltext/ED540478.pdf>. [209]
- Dalton, P. (2014), "Poverty and Aspirations Failure", *The Economic Journal*, Vol. 126, pp. 165-188, <http://dx.doi.org/10.1111/econj.12210>. [50]
- Davis, J. (2017), *Rethinking the Benefits of Youth Employment Programs: The Heterogeneous Effects of Summer Jobs*, National Bureau for Economic Research, <https://www.nber.org/papers/w23443>. [262]
- Degazon, C. (2015), "Multi-ethnic high school students' perceptions of nursing in the USA and Israel: a descriptive quantitative study", *Nurse Education Today*, Vol. 35/1, pp. 57-62, <http://dx.doi.org/10.1016/j.nedt.2014.05.016>. [142]
- Deming, D. (2017), "The Growing Importance of Social Skills in the Labor Market", *Quarterly Journal of Economics*, Vol. 132/4, pp. 1593-1640. [238]

- Detting, L. (2016), *Effects of entering adulthood during a recession: Recent declines in youth employment, net worth, and family formation could permanently affect financial well-being*, IZA World of Labor, <https://wol.iza.org/uploads/articles/242/pdfs/effects-of-entering-adulthood-during-recession.pdf>. [15]
- Deussing, M. (2019), *Attitudes and perceptions of Canadian youth towards careers in the trades: Results from the 2015 Programme for International Student Assessment (PISA)*, Employment and Social Development Canada. [131]
- Diemer, M. (2011), "Pathways to Occupational Attainment Among Poor Youth of Color: The Role of Sociopolitical Development", *The Counselling Psychologist*, Vol. 37/1, pp. 6-35, <http://dx.doi.org/10.1177/0011000007309858>. [55]
- Duckworth, K. (2012), "Beating the odds: exploring the impact of social risk on young people's school-to-work transitions during recession in the UK", *National Institute Economic Review*, Vol. 222, pp. R38-R51, <http://dx.doi.org/10.1177/002795011222200104>. [249]
- Education Council (2014), *Preparing Secondary Students for Work - A framework for vocational learning and VET delivered to secondary students*, Education Council, <https://www.voced.edu.au/content/ngv%3A66835>. [198]
- Enayati, H. (2019), "Impact of participation in school-to-work programs on postsecondary outcomes for youth with disabilities from low-income families", *Journal of Disability Policy Studies*, Vol. 29/4, pp. 235-244, <http://dx.doi.org/10.1177/1044207318789419>. [214]
- Erickson, L. (2009), "Informal Mentors and Education: Complementary or Compensatory Resources?", *Sociology of Education*, Vol. 82/4, pp. 344-367, <http://dx.doi.org/10.1177/003804070908200403>. [166]
- Eurofound (2017), *Long-term unemployed youth: Characteristics and policy responses*, Publications Office of the European Union, https://www.eurofound.europa.eu/sites/default/files/ef_publication/field_ef_document/ef1729en.pdf. [26]
- European Youth Forum (2020), *Youth & Covid-19: Impacts on Jobs, Education, Rights and Mental Wellbeing: survey report 2020*, <https://www.youthforum.org/youth-covid-19-impacts-jobs-education-rights-and-mental-wellbeing>. [17]
- Everitt, J. (2018), *Personal Guidance. What works?*, Career and Enterprise Company, https://www.careersandenterprise.co.uk/sites/default/files/uploaded/1146_what_works_-_personal_guidance_digital_15-11-2018.pdf. [194]
- Felstead, A. (2011), *The Impact of the 2008-9 Recession on the Extent, Form and Patterns of Training at Work*, Centre for Learning and Life Chances in Knowledge Economies and Societies, <https://www.llakes.ac.uk/sites/default/files/22%20Felstead%20Green%20Jewson%20-%20final.pdf>. [13]
- Field, J. (2008), *Social Capital*, Routledge. [156]

- Fisher, J. (2018), *Who You Know: Unlocking innovations that expand students' networks*, Jossey-Bass. [186]
- Fletcher, E. (2009), "The Relationship of High School Curriculum Tracks to Degree Attainment and Occupational Earnings", *Career and Technical Education Research*, Vol. 34/2, pp. 81-102. [210]
- Francis, B. (2005), *Gender equality in work experience placements for young people*, Equal Opportunities Commission. [300]
- Frenette, M. (2009), *Career Goals in High School: Do Students Know What it Takes to Reach Them, and Does it Matter?*, Statistics Canada, <https://www150.statcan.gc.ca/n1/en/pub/11f0019m/11f0019m2009320-eng.pdf?st=N7TrvZhD>. [120]
- Fullarton, S. (1999), *Work experience and work placements in secondary school education*, Australian Council for Educational Research. [297]
- Fuller, C. (2014), "Social Capital and the role of trust in aspirations for higher education", *Educational Review*, Vol. 66/2, pp. 131-147, <http://dx.doi.org/10.1080/00131911.2013.768956>. [171]
- Galliot, N. (2015), "School based experiences as contributors to career decision-making: findings from a cross-sectional survey of high-school students", *Australian Educational Researcher*, Vol. 42, pp. 179-199. [221]
- Gardiner, D. (2020), *Youth Aspirations and the Future of Work: A Review of the Literature and Evidence*, International Labor Organisation, https://www.ilo.org/employment/Whatwedo/Publications/working-papers/WCMS_755248/lang--en/index.htm. [44]
- Gemici, S. (2014), *The factors affecting the educational and occupational aspirations of young Australians*, National Centre for Vocational Education Research, <https://www.ncver.edu.au/research-and-statistics/publications/all-publications/the-factors-affecting-the-educational-and-occupational-aspirations-of-young-australians>. [108]
- Ghee, C. (2005), *Transition from school to work: individual life courses within social structures*, Marshall Cavendish. [155]
- Glearan, N. (2019), "Perception of nursing profession - focus group interview among applicants to nursing education", *Scandinavian Journal of Caring Science*, Vol. 33/2, pp. 390-399, <http://dx.doi.org/10.1111/scs.12635>. [144]
- Glearan, N. (2017), "Nurse Education Today", *Young peoples' perceptions of the nursing profession: An integrative review*, Vol. 57, pp. 57-62, <http://dx.doi.org/10.1016/j.nedt.2017.07.008>. [143]
- Golden, A. (2006), *Evaluation of Increased Flexibility for 14 to 16 Year Olds Programme: Outcomes for the second cohort*, Department for Education and Skills. [269]

- Goodman, A. (2010), *Poorer children's educational attainment: how important are attitudes and behaviour?*, Joseph Rowntree Foundation, <https://www.jrf.org.uk/sites/default/files/jrf/migrated/files/poorer-children-education-full.pdf>. [71]
- Gore, J. (2015), "Socioeconomic status and the career aspirations of Australian school students: Testing enduring assumptions", *Australian Educational Researcher*, Vol. 42, pp. 155-177. [92]
- Granovetter, M. (1995), *Getting a job: a study of contacts and careers. Second edition.*, University of Chicago Press. [51]
- Granovetter, M. (1973), "The Strength of Weak Ties", *American Journal of Sociology*, Vol. 78/6, pp. 1360-1380, <https://www.jstor.org/stable/2776392>. [168]
- Greene, K. (2012), "Teenage Employment and Career Readiness", *New Directions for Youth Development*, Vol. 134, pp. 23-31, <http://dx.doi.org/10.1002/yd.20012>. [241]
- Green, F. (2018), "Dreaming big? Self-valuations, aspirations, networks and the private-school earnings premium", *Cambridge Journal of Economics*, Vol. 42/3, pp. 757-778. [97]
- Grodksy, E. (2010), "Those Who Choose and Those Who Don't: Social Background and College Orientation", *Annals of the American Academy of Political and Social Sciences*, Vol. 627, pp. 14-35. [111]
- Grugulis, I. (2012), "Social Capital and Networks in Film and TV: Jobs for the Boys?", *Organization Studies*, Vol. 33/10, pp. 1311-1331, <http://dx.doi.org/10.1177/0170840612453525>. [161]
- Gustafsson, M. (2020), *Young workers in the coronavirus crisis*, Resolution Foundation. [18]
- Gutman, L. (2018), "Aiming high, aiming low, not knowing where to go: Career aspirations and later outcomes of adolescents with special educational needs.", *International Journal of Educational Research*, Vol. 89, pp. 92-102. [87]
- Gutman, L. (2012), "Correlates and consequences of uncertainty in career aspirations: Gender differences among adolescents in England", *Journal of Vocational Behavior*, Vol. 80/3, pp. 608-618. [93]
- Gutman, L. (2008), *Determinants of Aspirations*, Institute of Education - Centre for Research on the Wider Benefits of Learning, <https://core.ac.uk/download/pdf/82863.pdf>. [72]
- Guyon, N. (2016), *Biased Aspirations and Social Inequality at School: Evidence from French Teenagers*, LIEPP Working Paper 44. Laboratory for Interdisciplinary Evaluation of Public Policies, <https://spire.sciencespo.fr/notice/2441/5s1u9dkni69dhpmrq7tgclekrh>. [59]
- Halperin, O. (2014), "Becoming a nurse - A study of career choice and professional adaptation among Israeli Jewish and Arab nursing students: A quantitative research study", *Nurse Education Today*, Vol. 34/10, pp. 1330-1334, <http://dx.doi.org/10.1016/j.nedt.2013.10.001>. [150]
- Halpern, D. (2005'), *Social Capital*, Polity Press. [157]

- Hart, C. (2016), “How do aspirations matter?”, *Journal of Human Development and Capabilities*, Vol. 17/3, pp. 324-341, <http://dx.doi.org/10.1080/19452829.2016.1199540>. [47]
- Heckhausen, J. (2009), “Can Ambition Help Overcome Social Inequality in the Transition to Adulthood? Individual Agency and Societal Opportunities in Germany and the United States”, *Research in Human Development*, Vol. 6/4, pp. 235-251. [102]
- Helbling, L. (2014), “Scarring effects of early unemployment among young workers with vocational credentials in Switzerland”, *Empirical Research in Vocational Education and Training*, Vol. 6/12, <http://dx.doi.org/10.1186/s40461-014-0012-2>. [28]
- Hensvik, L. (2013), *Networks and youth labour market entry*, <https://www.ifau.se/globalassets/pdf/se/2013/wp2013-23-networks-and-youth-labor-market-entry.pdf>. [305]
- Herberle, A. (2020), “Critical Consciousness in Children and adolescents: A systematic review, critical assessment, and recommendations for future research”, *Psychological Bulletin*, Vol. 146/6, pp. 525-551, <http://dx.doi.org/10.1037/bul0000230>. [54]
- Hillage, J. (2001), *Pre-16 work experience in England and Wales*, Institute for Employment Studies, <https://www.employment-studies.co.uk/system/files/resources/files/319.pdf>. [289]
- Hobbs, S. (2007), “Talking about Work: School Students’ Views on their Paid Employment”, *Children and Society*, Vol. 21/2, pp. 123-135, <http://dx.doi.org/10.1111/j.1099-0860.2006.00030.x>. [287]
- Hoffman, N. (ed.) (2020), *Ethnographies of Work: A transformative framework for career learning*, Harvard Education Press. [234]
- Hoffman, N. (ed.) (2020), *Social Capital and the Social Construction of Skills*, Harvard Education Press. [160]
- Holford, A. (2020), “Youth employment, academic performance and labour market outcomes: Production functions and policy effects”, *Labor Economics*, Vol. 63, <http://dx.doi.org/10.1016/j.labeco.2020.101806>. [259]
- Homel, J. (2014), *Educational outcomes: the impact of aspirations and the role of student background characteristics*, National Centre for Vocational Education Research, <https://www.ncver.edu.au/research-and-statistics/publications/all-publications/educational-outcomes-the-impact-of-aspirations-and-the-role-of-student-background-characteristics>. [180]
- Hooley, T. (2016), *The impact of career guidance on progression in learning and work: a literature review*, <https://derby.openrepository.com/handle/10545/606946>. [195]
- Hotz, V. (1999), *Are There Returns to the Wages of Young Men from Working While in School?*, National Bureau of Economic Research, <https://www.nber.org/papers/w7289>. [257]
- Howieson, C. (2006), *The Nature and Implications of the Part-time Employment of Secondary School Students*, Scottish Executive, <https://www2.gov.scot/Resource/Doc/154159/0041446.pdf>. [243]

- Hughes, D. (2020), *Youth transitions: creating pathways to success*, Education Development Trust, <https://www.educationdevelopmenttrust.com/EducationDevelopmentTrust/files/76/7625c6ce-d1cd-4250-80b7-7b0bd23ac421.pdf>. [3]
- Hughes, D. (2016), *Career Education: International Literature Review*, Education Endowment Fund, <https://educationendowmentfoundation.org.uk/evidence-summaries/evidence-reviews/careers-education/>. [35]
- Hurwitz, M. (2014), “Estimating Causal Impacts of School Counselors With Regression Discontinuity Designs”, *Journal of Counseling and Development*, Vol. 92/3, pp. 316-327, <http://dx.doi.org/10.1002/j.1556-6676.2014.00159.x>. [220]
- ILO (2020), *Global Employment Trends for Youth 2020: Technology and the future of jobs*, International Labor Organisation, https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms_737648.pdf. [2]
- ILO (2020), *Preventing exclusion from the labour market: Tackling the COVID-19 youth employment crisis*, International Labor Organization. [19]
- ILO (2019), *A framework for quality apprenticeships*, https://www.ilo.org/wcmsp5/groups/public/---ed_norm/---relconf/documents/meetingdocument/wcms_731155.pdf. [124]
- ILO (2010), *Investing in young people: An ILO briefing note on the challenges, urgency and means*, International Labor Organisation. [12]
- Indecon (2019), *Review of Career Guidance in Ireland*, <https://www.education.ie/en/Publications/Education-Reports/indecon-review-of-career-guidance.pdf>. [184]
- Irwin, S. (2013), “Parents’ hopes and expectations for their children’s future occupations”, *The Sociological Review*, Vol. 61/1, pp. 111-130, <http://dx.doi.org/10.1111/j.1467-954X.2012.02139.x>. [113]
- Jeon, S. (2019), *Unlocking the Potential of Migrants: Cross-country Analysis*, OECD Reviews of Vocational Education and Training, OECD Publishing, Paris, <https://dx.doi.org/10.1787/045be9b0-en>. [74]
- Jokisaari, M. (2005), “Company matters: Goal-related social capital in the transition to working life”, *Journal of Vocational Behavior*, Vol. 67/3, pp. 413-428, <http://dx.doi.org/10.1016/j.jvb.2004.09.002>. [169]
- Jones, S. (2015), “The ‘Employer Engagement Cycle’ in Secondary Education: analysing the testimonies of young British adults”, *Journal of Education and Work*, Vol. 29/7, pp. 834-856, <http://dx.doi.org/10.1080/13639080.2015.1074665>. [223]
- Joyce, R. (2020), *Sector shutdowns during the coronavirus crisis: which workers are most exposed?*, Institute for Fiscal Studies. [25]

- Kashefpakdel, E. (2017), "Career education that works: an economic analysis using the British Cohort Study", *Journal of Education and Work*, Vol. 30/3, pp. 217-234, <http://dx.doi.org/10.1080/13639080.2016.1177636>. [170]
- Kashefpakdel, E. (2017), *Contemporary transitions: Young Britons reflect on life after secondary school and college. Technical Annex.*, Education and Employers, <https://www.educationandemployers.org/research/contemporary-transitions-young-britons-reflect-on-life-after-secondary-school-and-college/>. [307]
- Kemple, J. (2008), *Career Academies: Long-Term Impacts on Work, Education, and Transitions to Adulthood*, MDRC, https://www.mdrc.org/sites/default/files/full_50.pdf. [205]
- Kemple, J. (2001), *Career Academies: Impacts on Transitions to Postsecondary Education and Employment*, MDRC. [203]
- Kenny, M. (2019), "Applying the Psychology of Working Theory for Transformative Career Education", *Journal of Career Development*, Vol. 46/6, pp. 623-636, <http://dx.doi.org/10.1177/0894845319827655>. [228]
- Kim, J. (2017), "Long-term Consequences of Youth Volunteering: Voluntary Versus Involuntary Service", *Social Science Research*, Vol. 67/May, pp. 160-175, <http://dx.doi.org/10.1016/j.ssresearch.2017.05.002>. [278]
- Kim, S. (2019), "The Effects of Alignment of Educational Expectations and Occupational Aspirations on Labor Market Outcomes: Evidence from NLSY79", *The Journal of Higher Education*, Vol. 90/6, pp. 992-1015, <https://doi.org/10.1080/00221546.2019.1615333>. [100]
- Koivisto, P. (2015), *Preparing for Working Life: Effects of group counseling on adolescents' career development and mental health*, Finnish Institute of Occupational Health, <https://jyx.jyu.fi/bitstream/handle/123456789/25741/9789522610171.pdf?sequence=1&isAllo wed=y>. [232]
- Koivisto, P. (2010), "Transition to Work: Effects of Preparedness and Goal Construction on Employment and Depressive Symptom", *Journal of Research on Adolescence*, Vol. 20/2, pp. 869-892, <http://dx.doi.org/10.1111/j.1532-7795.2010.00667.x>. [230]
- Koivisto, P. (2007), "Effects of the School-to-Work Group Method among young people", *Journal of Vocational Behavior*, Vol. 70, pp. 277-296. [231]
- Kramartz, F. (2014), "When Strong Ties are Strong: Networks and Youth Labour Market Entry", *Review of Economic Studies*, Vol. 81/3, pp. 1164-1200, <http://dx.doi.org/10.1093/restud/rdt049>. [163]
- Kramarz, F. (2014), "When Strong Ties are Strong: Networks and Youth Labour Market Entry", *Review of Economic Studies*, Vol. 81/3, pp. 1164-1200, <http://dx.doi.org/10.1093/restud/rdt049>. [304]
- Kuijpers, M. (2017), "Professionalising teachers in career dialogue: an effect study", *British Journal of Guidance and Counselling*, Vol. 45/1, pp. 83-96, <http://dx.doi.org/10.1080/03069885.2015.1121203>. [190]

- Leventhal, T. (2003), “Adolescent Transitions to Young Adulthood: Antecedents, Correlates, and Consequences of Adolescent Employment”, *Journal of Research on Adolescence*, Vol. 11/3, pp. 297-323, <http://dx.doi.org/10.1111/1532-7795.00014>. [258]
- Liaw, S. (2016), “Why not nursing? Factors influencing healthcare career choice among Singaporean students”, *International Nursing Review*, Vol. 63/4, pp. 530-538, <http://dx.doi.org/10.1111/inr.12312>. [145]
- Light, A. (2001), “In-School Work Experience and the Returns to Schooling”, *Journal of Labor Economics*, Vol. 19/1, pp. 65-93, <http://dx.doi.org/10.1086/209980>. [251]
- Light, A. (1999), “High school employment, high school curriculum, and post-school wages”, *Economics of Education Review*, Vol. 18/3, pp. 291-309, [http://dx.doi.org/10.1016/S0272-7757\(99\)00007-2](http://dx.doi.org/10.1016/S0272-7757(99)00007-2). [250]
- Lin, N. (2001), *Social capital: a theory of social structure and action*, Cambridge University Press. [303]
- Linnehan, F. (2005), “The Relation of Source Credibility and Message Frequency to Program Evaluation and Self-Confidence of Students in a Job Shadowing Program”, *Journal of Vocational Education Research*, Vol. 29/1, pp. 67-81. [173]
- Linnehan, F. (2001), “The Relation of a Work-Based Mentoring Program to the Academic Performance and Behavior of African American Students”, *Journal of Vocational Behavior*, Vol. 59/3, pp. 310-325, <http://dx.doi.org/10.1006/jvbe.2001.1810>. [268]
- London (ed.) (2008), *Social Capital*, Routledge. [302]
- Lüthi, S. (2020), “Are apprenticeships business cycle proof?”, *Swiss Journal of Economics and Statistics*, Vol. 156/3. [14]
- MacAllum, K. (2002), *Transitioning to College and Career: Interim Findings from the LAMP Longitudinal Study*, Academy for Educational Development. [270]
- Mann, A. (2020), *Dream Jobs? Teenagers’ Career Aspirations and the Future of Work*, <https://www.oecd.org/education/dream-jobs-teenagers-career-aspirations-and-the-future-of-work.htm>. [33]
- Mann, A. (2018), *Employer engagement in education: Insights from international evidence for future research*, Education Endowment Foundation, https://educationendowmentfoundation.org.uk/public/files/Employer_Engagement_in_Education.pdf. [227]
- Mann, A. (ed.) (2018), *Ethnographies of work and possible futures: new ways for young people to learn about work and choose a meaningful first career*, Routledge. [56]

- Mann, A. (ed.) (2018), *Insiders or outsiders, who do you trust? Engaging employers in school-based career activities*, Routledge, <https://www.routledge.com/Essays-on-Employer-Engagement-in-Education/Mann-Huddleston-Kashefpakdel/p/book/9780367232146#:~:text=Building%20on%20new%20theories%20about,the%20employment%20and%20attainment%20outcomes>. [189]
- Mann, A. (ed.) (2018), *Socialised social capital? The capacity of schools to use careers provision to compensate for social capital deficiencies among teenagers*, Routledge, <https://www.routledge.com/Essays-on-Employer-Engagement-in-Education/Mann-Huddleston-Kashefpakdel/p/book/9780367232146>. [222]
- Mann, A. (ed.) (2018), *Young people in the labour market: how teenage employer engagement makes a difference to adult outcomes*, Routledge, <https://www.routledge.com/Essays-on-Employer-Engagement-in-Education/Mann-Huddleston-Kashefpakdel/p/book/9780367232146>. [225]
- Mann, A. (2017), *Contemporary transitions: young Britons reflect on life after secondary school and college*, Education and Employers, <https://www.educationandemployers.org/wp-content/uploads/2017/01/Contemporary-Transitions-30-01-2017.pdf>. [226]
- Mann, A. (2017), *Indicators of successful transitions: teenage attitudes and experiences related to the world of work*, Education and Employers. [60]
- Mann, A. (2017), “Schools and the twenty-first century labour market: perspectives on structural change”, *British Journal of Guidance and Counselling*, Vol. 45/2, pp. 208-218, <http://dx.doi.org/10.1080/03069885.2016.1266440>. [301]
- Mann, A. (ed.) (2014), *A theoretical framework for employer engagement*, Routledge, <https://www.routledge.com/Understanding-Employer-Engagement-in-Education-Theories-and-evidence/Mann-Stanley-Archer/p/book/9780415823463>. [158]
- Mann, A. (ed.) (2014), *A theoretical framework for employer engagement*, Routledge, <https://www.routledge.com/Understanding-Employer-Engagement-in-Education-Theories-and-evidence/Mann-Stanley-Archer/p/book/9780415823463>. [311]
- Mann, A. (ed.) (2014), *Conceptualising Aspiration*, Routledge. [41]
- Mann, A. (2014), “Employer engagement in British secondary education: wage earning outcomes experienced by young adults”, *Journal of Education and Work*, Vol. 27/5, pp. 496-523, <http://dx.doi.org/10.1080/13639080.2013.769671>. [52]
- Mann, A. (ed.) (2014), *How school work experience policies can widen student horizons or reproduce social inequality*, Routledge, <https://www.routledge.com/Understanding-Employer-Engagement-in-Education-Theories-and-evidence/Mann-Stanley-Archer/p/book/9780415823463>. [298]
- Mann, A. (ed.) (2014), *School-mediated employer engagement and labour market outcomes for young adults: wage premia, NEET outcomes and career confidence*, Routledge, <https://www.routledge.com/Understanding-Employer-Engagement-in-Education-Theories-and-evidence/Mann-Stanley-Archer/p/book/9780415823463>. [224]

- Mann, A. (2014), *Teacher and pupil voices on employer engagement: Insights from three focus groups and semi-structured interviews with five English secondary schools (2011-12)*, Education and Employers. [306]
- Mann, A. (ed.) (2014), *'That aroma of where they are likely to go': employer engagement in high performing English independent schools*, Routledge, <https://www.routledge.com/Essays-on-Employer-Engagement-in-Education/Mann-Huddleston-Kashefpakdel/p/book/9780367232146>. [299]
- Mann, A. (ed.) (2014), *The impact of financial and cultural capital on FE students' education and employment progression*, Routledge, <https://www.routledge.com/Understanding-Employer-Engagement-in-Education-Theories-and-evidence/Mann-Stanley-Archer/p/book/9780415823463>. [182]
- Mann, A. (2014), *The views of young Britons (aged 19-24) on their teenage experiences of school-mediated employer engagement*, Routledge, <https://www.routledge.com/Understanding-Employer-Engagement-in-Education-Theories-and-evidence/Mann-Stanley-Archer/p/book/9780415823463>. [296]
- Mann, A. (2012), *Work experience: impact and delivery*, Education and Employers, https://www.educationandemployers.org/wp-content/uploads/2014/06/work_experience_report_april_2012_.pdf. [295]
- Marjoribanks, K. (2003), "Family Background, Individual and Environmental Influences, Aspirations and Young Adults' Educational Attainment: A follow-up study", *Educational Studies*, Vol. 29/2, pp. 233-244. [109]
- Marks, G. (2006), *The transition to full-time work of young people who do not go to university*, Australian Council for Educational Research, <https://www.ncver.edu.au/research-and-statistics/publications/all-publications/the-transition-to-full-time-work-of-young-people-who-do-not-go-to-university>. [245]
- Maxwell, N. (2002), "High school career academies and post-secondary outcomes", *Economics of Education Review*, Vol. 21/2, pp. 137-152, [http://dx.doi.org/10.1016/S0272-7757\(00\)00046-7](http://dx.doi.org/10.1016/S0272-7757(00)00046-7). [271]
- McClanahan, W. (2004), *Enriching Summer Work: An evaluation of the summer career exploration program*, Public/Private Ventures, <http://ppv.issuelab.org/resources/1925/1925.pdf>. [263]
- McDonald, S. (2007), "Informal Mentoring and Young Adult Employment", *Social Science Research*, Vol. 36/4, pp. 1328-1347, <http://dx.doi.org/10.1016/j.ssresearch.2007.01.008>. [167]
- McKechnie, J. (2014), "School students' introduction to the world of work", *Education + Training*, Vol. 56/1, pp. 47-58, <https://www.emerald.com/insight/content/doi/10.1108/ET-04-2012-0043/full/html>. [284]
- McKechnie, J. (2010), "School students' part-time work: understanding what they do", *Journal of Education and Work*, Vol. 23/2, pp. 161-175, <http://dx.doi.org/10.1080/13639080903565665>. [285]

- Mello, Z. (2008), “Gender variation in developmental trajectories of educational and occupational expectations and attainment from adolescence to adulthood.”, *Developmental Psychology*, Vol. 44/4, pp. 1069-1080. [99]
- Miller, A. (ed.) (1991), *History and Policy context*, Falmer Press. [308]
- Misko, J. (2020), *VET for secondary school students: post-school employment and further training destinations*, <http://National Centre for Vocational Education Research>. [199]
- Morgan, S. (2012), “Occupational Plans, Beliefs about Educational Requirements, and Patterns of College Entry”, *Sociology of Education*, Vol. 86/3, pp. 197-217, <https://doi.org/10.1177/0038040712456559>. [94]
- Morgan, S. (2012), “Occupatioonal plans, beliefs about educational requirements, and patterns of college entry”, *Sociology of Education*, Vol. 86/3, pp. 197-212, <http://dx.doi.org/10.1177/0038040712456559>. [79]
- Morisi, T. (2010), “Teen Summer Employment - The early 2000s: a period of declining teen summer employment rates”, *Monthly Labor Review* May, <https://www.bls.gov/opub/mlr/2010/05/art2full.pdf>. [242]
- Mortimer, J. (2017), “Understanding Youth Resilience by Leveraging the Youth Development Study Archive”, *CURA Reporter*, Vol. 47/1, pp. 10-17, <http://www.cura.umn.edu/publications/catalog/reporter-47-1-0>. [78]
- Mortimer, J. (2008), “Tracing the timing of ‘career’ acquisition in a contemporary youth cohort”, *Work and Occupations*, Vol. 35/1, pp. 44-84, <http://dx.doi.org/Tracing the timing of ‘career’ acquisition in a contemporary youth cohort>. [253]
- Mortimer, J. (2005), *Working and Growing Up in America*, Harvard University Press, <https://www.hup.harvard.edu/catalog.php?isbn=9780674016149>. [252]
- Musset, P. (2019), *Improving Work-based Learning in Schools*, OECD, <http://dx.doi.org/10.1787/1815199X>. [236]
- Musset, P. (2018), *Working it out: Career Guidance and Employer Engagement*, OECD Publishing, <https://doi.org/10.1787/51c9d18d-en>. [1]
- Musset, P. and L. Kurekova (2018), *Working it out: Career Guidance and Employer Engagement*, OECD Publishing, <https://doi.org/10.1787/51c9d18d-en>. [154]
- National Youth Agency (2008), *Young People’s Volunteering and Skills Development*, Department for Education and Skills, <https://dera.ioe.ac.uk/6643/1/RW103.pdf>. [291]
- Nedelkoska, L. and G. Quintini (2018), “Automation, skills use and training”, *OECD Social, Employment and Migration Working Papers*, No. 202, OECD Publishing, Paris, <https://dx.doi.org/10.1787/2e2f4eea-en>. [5]
- Neild, R. (2015), “Academic Impacts of Career and Technical Schools”, *Career and Technical Education Research*, Vol. 40/1, pp. 28-47, <http://dx.doi.org/10.5328/cter40.1.28>. [273]

- Neilson, G. and McNally, J. (2010), “Not choosing nursing: work experience and career choice of high academic achieving school leavers”, *Nurse Education Today*, Vol. 30/1, pp. 9-14, <http://dx.doi.org/10.1016/j.nedt.2009.05.007>. [152]
- Neilson, G. (2012), “What predicts the selection of nursing as a career choice in 5th and 6th year school students?”, *Nurse Education Today*, Vol. 32/5, pp. 588-593, <http://dx.doi.org/10.1016/j.nedt.2011.06.011>. [146]
- Neumark, D. (2005), *Do School-To-Work Programs Help the “Forgotten Half”?*, National Bureau of Economic Research, <https://www.nber.org/papers/w11636>. [213]
- Neumark, D. (2004), *The Effects of School-to-Career Programs on Postsecondary Enrollment and Employment*, Public Policy Institute of California, https://www.ppic.org/content/pubs/report/R_504DNR.pdf. [211]
- Neumark, D. (2003), *School-to-Career Programs and Transitions to Employment and Higher Education*, National Bureau of Economic Research, <http://dx.doi.org/10.3386/w10060>. [212]
- NFER (2014), *Career engagement: a good practice brief for leaders of schools and colleges*, National Foundation for Educational Research, <https://www.nfer.ac.uk/publications/99944/99944.pdf>. [37]
- Nicholas, J. (2015), “School-to-Work Revisited: Did Work-Based Learning Experiences Improve Prospects for Students in Career and Technical Education?”, *SSRN Electronic Journal*, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2703854. [204]
- Nilsen, Ø. (2014), “Scarring effects of early-career unemployment”, *Nordic Economic Policy Review*, Vol. 1, pp. 13-45. [29]
- Ockenden, N. (2014), *Review of evidence on the outcomes of youth volunteering, social action and leadership*, Institute of Volunteering Research, https://thirdsectorimpact.eu/site/assets/uploads/page/documents-for-researchers/TSI_impact-report_sports-leaders-literature-review-dec-2014.pdf. [292]
- OECD (2020), *OECD Employment Outlook 2020: Worker Security and the COVID-19 Crisis*, OECD Publishing, Paris, <https://dx.doi.org/10.1787/1686c758-en>. [20]
- OECD (2019), *OECD Employment Outlook 2019: The Future of Work*, OECD Publishing, Paris, <https://dx.doi.org/10.1787/9ee00155-en>. [4]
- OECD (2019), *OECD Future of Education and Skills 2030 - OECD Learning Compass, A series of Concept Notes*, OECD Publishing, http://www.oecd.org/education/2030-project/contact/OECD_Learning_Compass_2030_Concept_Note_Series.pdf. [310]
- OECD (2019), *OECD Future of Education and Skills 2030: conceptual learning framework - attitudes and values for 2030*, OECD Publishing. [67]
- OECD (2019), *PISA 2018 Results (Volume II): Where All Students Can Succeed*, PISA, OECD Publishing, <http://dx.doi.org/doi.org/10.1787/b5fd1b8f-en>. [95]

- OECD (2019), *PISA 2018 Results (Volume II): Where All Students Can Succeed*, PISA, OECD Publishing, Paris, <https://dx.doi.org/10.1787/b5fd1b8f-en>. [34]
- OECD (2019), *PISA 2018 Results (Volume III): What School Life Means for Students' Lives*, PISA, OECD Publishing, Paris, <https://dx.doi.org/10.1787/acd78851-en>. [66]
- OECD (2019), *Recent Trends in International Migration of Doctors, Nurses and Medical Students*, OECD Publishing, Paris, <https://dx.doi.org/10.1787/5571ef48-en>. [139]
- OECD (2019), *Trends Shaping Education 2019*, OECD Publishing, http://dx.doi.org/10.1787/trends_edu-2019-en. [62]
- OECD (2018), *Seven Questions about Apprenticeships: Answers from International Experience*, OECD Reviews of Vocational Education and Training, OECD Publishing, Paris, <https://dx.doi.org/10.1787/9789264306486-en>. [121]
- OECD (2018), *Seven Questions about Apprenticeships: Answers from International Experience*, OECD Reviews of Vocational Education and Training, OECD Publishing, Paris, <https://dx.doi.org/10.1787/9789264306486-en>. [11]
- OECD (2016), *Skills Matter: Further Results from the Survey of Adult Skills*, OECD Publishing, <http://dx.doi.org/10.1787/9789264258051-en>. [63]
- OECD (2016), *Society at a Glance 2016: OECD Social Indicators*, OECD Publishing, Paris, <https://dx.doi.org/10.1787/9789264261488-en>. [22]
- OECD (2015), *The ABC of Gender Equality in Education: Aptitude, Behaviour, Confidence*, PISA, OECD Publishing, Paris, <https://dx.doi.org/10.1787/9789264229945-en>. [135]
- OECD (2010), *Learning for jobs*, OECD Publishing. [8]
- OECD (2010), *Learning for Jobs*, OECD Publishing, <http://dx.doi.org/10.1787/9789264087460-en>. [36]
- OECD (2010), *Off to a Good Start? Jobs for Youth*, Jobs for Youth/Des emplois pour les jeunes, OECD Publishing, Paris, <https://dx.doi.org/10.1787/9789264096127-en>. [9]
- OECD (2004), *Career Guidance and Public Policy: Bridging the Gap*, OECD Publishing, Paris, <https://dx.doi.org/10.1787/9789264105669-en>. [192]
- OECD/ILO (2017), *Engaging Employers in Apprenticeship Opportunities: Making It Happen Locally*, OECD Publishing, <https://doi.org/10.1787/9789264266681-en>. [134]
- OECD/The European Commission (2004), *Career Guidance: A Handbook for Policy Makers*, OECD Publishing, Paris, <https://dx.doi.org/10.1787/9789264015210-en>. [40]
- Oymak, C. (2018), *High School Students' Views on Who Influences Their Thinking about Education and Careers*, National Center for Education Statistics. [181]

- Page, L. (2012), "Understanding the Impact of Career Academy Attendance: An Application of the Principal Stratification Framework for Causal Effects Accounting for Partial Compliance", *Evaluation Review*, Vol. 36/2, pp. 99-132, <http://dx.doi.org/10.1177/0193841X12447248>. [206]
- Pantea, M. (2020), "Perceived reasons for pursuing vocational education and training among young people in Romania", *Journal of Vocational Education and Training*, Vol. 72/1, pp. 136-156, <https://doi.org/10.1080/13636820.2019.1599992>. [128]
- Pasquier-Doumer, L. (2015), "Aspiration Failure: A Poverty Trap for Indigenous Children in Peru?", *World Development*, Vol. 72, pp. 208-223. [101]
- Pastore, F. (2018), *Why is youth unemployment so high and different across countries?*, IZA World of Labor, <http://dx.doi.org/10.15185/izawol.420>. [10]
- Patton, W. (2010), "Part-Time Work of High School Students: Impact on Employability, Employment Outcomes and Career Development", *Australian Journal of Career Development*, Vol. 19/1, pp. 54-62, <http://dx.doi.org/10.1177/103841621001900110>. [282]
- Payne, J. (2003), "The Impact of Part-time Jobs in Years 12 and 13 on Qualification Achievement", *British Educational Research Journal*, Vol. 29/4, pp. 599-611, <http://dx.doi.org/10.1080/01411920301844>. [260]
- Perry, B. (2016), "Misalignment of Career and Educational Aspirations in Middle School: Differences across Race, Ethnicity, and Socioeconomic Status", *Social Science*, Vol. 5/3, pp. 1-14, <http://dx.doi.org/doi:10.3390/socsci5030035>. [118]
- Pham, C. (2011), "Counseling and college matriculation: Does the availability of counseling affect college-going decisions among highly qualified first-generation college-bound high school graduates?", *Journal of Applied Economics and Business Research*, Vol. 1, pp. 12-24, http://www.aebrjournal.org/uploads/6/6/2/2/6622240/3_cp_tk_college.pdf. [219]
- Polvere, R. (2015), *Career development supporting young Australians: a literature review*, NCVER, http://library.bsl.org.au/jspui/bitstream/1/6033/1/PolvereLim_Career_development_supportin_g_young_people_lit_review_2015.pdf. [196]
- Porter, G. (2009), "Stagnant perceptions of nursing among high school students: results of a shadowing intervention study", *Journal of Professional Nursing*, Vol. 25/4, pp. 227-233, <http://dx.doi.org/10.1016/j.profnurs.2009.01.014>. [147]
- Portes, A. (1998), "Social Capital: Its Origins and Applications in Modern Sociology", *Annual Review of Sociology*, Vol. 24, pp. 1-24, <http://dx.doi.org/doi.org/10.1146/annurev.soc.24.1.1>. [162]
- Primé, D. (2010), "Correspondence of children's anticipated vocations, perceived competencies, and interests: Results from an Italian sample", *Journal of Vocational Behavior*, Vol. 77/1, pp. 58-62. [58]
- Prince's Trust (2020), *The Aspiration Gap*, Prince's Trust, <https://www.princes-trust.org.uk/about-the-trust/news-views/aspiration-gap-research>. [65]

- Raffo, C. and M. Reeves (2000), “Youth Transitions and Social Exclusion: Developments in Social Capital Theory”, *Journal of Youth Studies*, Vol. 3/2, pp. 147-166, <http://dx.doi.org/10.1080/713684372>. [174]
- Ranasinghe, R. (2019), *School-to-work pathways*, National Centre for Vocational Education Research, <http://ncver.edu.au/research-and-statistics/publications/all-publications/school-to-work-pathways>. [200]
- Rao, V. (ed.) (2004), *The Capacity to Aspire: culture and the terms of recognition*, Stanford University Press, <http://documents.worldbank.org/curated/en/243991468762305188/pdf/298160018047141re0aNd0Public0Action.pdf>. [46]
- Reimers, F. (2020), *Schooling disrupted, schooling rethought* How the Covid-19 pandemic is changing education, OECD Publishing. [64]
- Rennison, J. (2005), *Young People not in Education, Employment or Training: Evidence from the Education Maintenance Allowance Pilots Database*, Department for Education and Skill. [183]
- Robinson, L. (1999), *The effects of part-time work on school students*, Australian Council for Educational Research, https://research.acer.edu.au/cgi/viewcontent.cgi?article=1017&context=lsay_research. [246]
- Ross, M. (2016), *Youth summer jobs programs: Aligning ends and means*, Brookings Institute, <https://www.brookings.edu/research/youth-summer-jobs-programs-aligning-ends-and-means/>. [264]
- Roth, T. (2018), “The influence of parents’ social capital on their children’s transition to vocational training in Germany”, *Social Networks*, Vol. 55/October, pp. 74-85, <http://dx.doi.org/10.1016/j.socnet.2018.05.006>. [164]
- Sabates Aysa, R. (2017), “Is there a wage penalty associated with degree of indecision in career aspirations? Evidence from the BCS70.”, *Longitudinal and Life Course Studies*, Vol. 8/3, pp. 290-306. [85]
- Sabates, R. (2010), “Ambition gone awry: the long-term socioeconomic consequences of misaligned and uncertain ambitions in adolescence.”, *Social Science Quarterly*, Vol. 92/4, pp. 959-977. [86]
- Saniter, N. (2014), *The Effects of Occupational Knowledge: Job Information Centres, Educational Choices, and Labor Market Outcomes*, <http://ftp.iza.org/dp8100.pdf>. [216]
- Sasser-Modestino, A. (2017), *Reducing Inequality summer by summer: an analysis of the short-term and long-term effects of Boston’s summer youth employment program*, Mayor’s Office for Workforce Development, <https://owd.boston.gov/wp-content/uploads/2017/12/SYEP-Report-FINAL-12.12.17.pdf>. [265]
- Scarpetta, S., A. Sonnet and T. Manfredi (2010), “Rising Youth Unemployment During The Crisis: How to Prevent Negative Long-term Consequences on a Generation?”, *OECD Social, Employment and Migration Working Papers*, No. 106, OECD Publishing, Paris, <https://dx.doi.org/10.1787/5kmh79zb2mmv-en>. [16]

- Schleicher, A. (2019), *PISA 2018 Insights and Interpretations*, OECD, [105]
<https://www.oecd.org/pisa/PISA%202018%20Insights%20and%20Interpretations%20FINAL%20PDF.pdf>.
- Schmillen, A. (2017), “The scars of youth: Effects of early-career unemployment on future unemployment experience”, *International Labour Review*, Vol. 156/3, pp. 465-494, [24]
<http://dx.doi.org/10.1111/ilr.12079>.
- Schmitt-Wilson, S. (2016), “Alignment of Educational and Occupational Expectations Influences on Young Adult Educational Attainment, Income, and Underemployment”, *Social Science Quarterly*, Vol. 97/5, pp. 1174-1188, [103]
<https://doi.org/10.1111/ssqu.12244>.
- Schneider, B. (2017), “Co-Development of Education Aspirations and Postsecondary Enrollment Especially Among Students Who Are Low Income and Minority”, *Research in Human Development*, Vol. 14/2, pp. 143-160, [119]
<https://doi.org/10.1080/15427609.2017.1305811>.
- Schneider, B. (1999), *The Ambitious generation, America's teenagers, motivated but directionless*, Yales University Press. [116]
- Schoon, I. (2019), “Young people and the Great Recession: Variations in the school-to-work transition in Europe and the United States”, *Longitudinal and Life Course Studies*, Vol. 20/2, [122]
pp. 153-173, <http://dx.doi.org/10.1332/175795919X15514456677349>.
- Schoon, I. (ed.) (2014), *Uncertainty in educational and career aspirations: gender differences in young people*, Cambridge University Press. [84]
- Schoon, I. (2012), “Is uncertainty bad for you? It depends...”, *New Directions for Youth Development*, Vol. 135, pp. 65-75. [88]
- Schoon, I. (2011), “Teenage career aspirations and adult career attainment: The role of gender, social background and general cognitive ability”, *International Journal of Behavioral Development*, Vol. 35/3, pp. 210-217. [90]
- Schoon, I. (2002), “Teenage Aspirations for Future Careers and Occupational Outcomes”, [98]
Journal of Vocational Behavior, Vol. 60/2, pp. 262-288.
- Schoon, I. (2001), “Teenage job aspirations and career attainment in adulthood: A 17-year follow-up study of teenagers who aspired to become scientists, health professionals, or engineers.”, *International Journal of Behavioral Development*, Vol. 25/2, pp. 124-132. [137]
- Scott, V. (ed.) (2017), *Evidence-Based Practice in Career and Workforce Development Interventions*, Routledge, [197]
<https://www.routledgehandbooks.com/doi/10.4324/9781315714769.ch3>.
- Shandra, C. (2008), “School-to-work Program Participation and the Post-High School Employment of Young Adults With Disabilities”, *Journal of Vocational Rehabilitation*, [215]
Vol. 29/2, pp. 117-130, <https://pubmed.ncbi.nlm.nih.gov/25309111/>.
- Sheng, X. (2014), “Parental expectations relating to children's higher education in urban China: Cultural capital and social class”, *Journal of Sociology*, Vol. 50/4, pp. 560-574. [110]

- Sikora, J. (2020), “Gifts as gains? The impact of volunteering on young people’s educational and occupational attainment in Australia”, *Australian Journal of Education*, <http://dx.doi.org/10.1177/0004944120910813>. [281]
- Sikora, J. (2018), “Aimless or flexible? Does uncertainty in adolescent occupational expectations matter in young adulthood?”, *Australian Journal of Education*, Vol. 62/2, pp. 154-168. [80]
- Sikora, J. (2011), *Lost talent? The occupational ambitions and attainments of young Australians*, NCVER, https://www.isay.edu.au/_data/assets/pdf_file/0024/181833/LSAY_2313.pdf. [81]
- Sikora, J. (2011), *Lost talent? The occupational ambitions and attainments of young Australians*, National Centre for Vocational Education Research, <https://www.ncver.edu.au/research-and-statistics/publications/all-publications/lost-talent-the-occupational-ambitions-and-attainments-of-young-australians>. [117]
- Simonson, J. (2017), *Volunteering in Germany: Key Findings of the Fourth German Survey on Volunteering*, Bundesministerium für Familie, Senioren, Frauen und Jugend, <https://www.bmfsfj.de/blob/115604/2606f2c77c632efddd61b274644c2f06/vierter-deutscher-freiwilligensurvey---englisch-data.pdf>. [274]
- Simpson, A. (2018), “Learning in work: perceptions from working teenagers”, *Journal of Education and Work*, Vol. 31/4, pp. 433-446, <http://dx.doi.org/10.1080/13639080.2018.1479840>. [286]
- Sironi, M. (2018), “Economic Conditions of Young Adults Before and After the Great Recession”, *Journal of Family and Economic Issues*, Vol. 39, pp. 103–116. [123]
- Skans, O. (2011), *Scarring Effects of the First Labor Market Experience*, Institute for the Study of Labor, <http://ftp.iza.org/dp5565.pdf>. [32]
- Slack, K. (2014), “‘Hot’, ‘cold’ and ‘warm’ information and higher education decision-making”, *British Journal of Sociology of Education*, Vol. 35/2, pp. 204-233, <http://dx.doi.org/10.1080/01425692.2012.741803>. [178]
- Smith, E. (2005), *How workplace experiences while at school affect career pathways*, National Centre for Vocational Education Research, <https://www.ncver.edu.au/research-and-statistics/publications/all-publications/how-workplace-experiences-while-at-school-affect-career-pathways#:~:text=Experiencing%20the%20workplace%20while%20at,of%20a%20range%20of%20opportunities>. [283]
- Smith, L. (2011), “Experiential ‘hot’ knowledge and its influence on low-SES students’ capacities to aspire to higher education”, *Critical Studies in Education*, Vol. 52/2, pp. 165-177, <http://dx.doi.org/10.1080/17508487.2011.572829>. [45]
- St. Clair, R. (2013), “Silver bullet or red herring? New evidence on the place of aspirations in education”, *Oxford Review of Education*, Vol. 39/6, pp. 719-738, <http://dx.doi.org/10.1080/03054985.2013.854201>. [70]

- Staff, J. (2010), “Uncertainty in early occupational aspirations: role exploration or aimlessness?”, *Social Forces*, Vol. 89/2, pp. 659-683. [76]
- Staff, J. (2008), “Social class background and the school-to-work transition”, *New Directions for Child and Adolescent Development*, Vol. 119, pp. 55-69, <http://dx.doi.org/10.1002/cd.209>. [290]
- Stanley, J. (2014), *Introduction*, Routledge. [235]
- Stern, D. (2001), “Does Paid Employment Help or Hinder Performance in Secondary School? Insights from US High School Students”, *Journal of Education and Work*, Vol. 14/3, pp. 355-372, <http://dx.doi.org/10.1080/13639080120086148>. [261]
- Struthers, K. (2019), “Attracting women into male-dominated trades: Views of young women in Australia”, *International Journal for Research in Vocational Education and Training*, Vol. 6/1, pp. 1-19, <https://doi.org/10.13152/IJRVET.6.1.1>. [132]
- Tai, R. (2006), “Planning Early for Careers in Science”, *Science*, Vol. 312/5777, pp. 1143-1144. [136]
- Thern, E. (2017), “Long-term effects of youth unemployment on mental health: does an economic crisis make a difference?”, *Journal of Epidemiology and Community Health*, Vol. 71/4, <http://dx.doi.org/10.1136/jech-2016-208012>. [31]
- Thiessen, V. (1999), *Investing in Youth: The Nova Scotia School-to-Work*, Human Resource Development Canada, <https://files.eric.ed.gov/fulltext/ED438970.pdf>. [272]
- Thomson, S. (2010), *Against the odds: influences on the post-school success of 'low performers'*, National Centre for Vocational Education Research, <https://www.ncver.edu.au/research-and-statistics/publications/all-publications/against-the-odds-influences-on-the-post-school-success-of-low-performers>. [82]
- TNS (2018), *Flash Eurobarometer 455*, European Commission, Directorate-General for Education, Youth, Sport and Culture, <https://fronteirasxxi.pt/wp-content/uploads/2018/09/European-Youth-2017-relat%C3%B3rio.pdf>. [275]
- Tomlinson, M. (2013), *Education, work and identity*, Bloomsbury. [159]
- Tomlinson, M. (2013), *Education, Work and Identity*, Bloomsbury. [153]
- Tripney, J. (2010), *Factors influencing young people (aged 14-19) in education about STEM subject choices: a systematic review of the UK literature*, Wellcome Trust. [91]
- Turner, D. (2020), *Work exposure, work exploration and work experience - continuum and activities*, D J Turner consulting and Eastern Bay of Plenty Economic Development Agency, <https://tinyurl.com/The-WE3-Continuum-August-2020>. [233]
- UNESCO (2013), *Revisiting global trends in TVET: reflections on theory and practice*, UNESCO-UNEVOC, https://unevoc.unesco.org/fileadmin/up/2013_epub_revisiting_global_trends_in_tviet_book.pdf. [38]

- Valentine, E. (2017), *An Introduction to the World of Work: A Study of the Implementation and Impacts of New York City's Summer Youth Employment Program*, MDRC, <https://www.dol.gov/sites/dolgov/files/OASP/legacy/files/SYEP-Full-Report.pdf>. [266]
- Velez, E. (2018), *What High Schoolers and Their Parents Know About Public 4-Year Tuition and Fees in Their State*, National Center for Education Statistics, <https://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2019404>. [114]
- Vickers, M. (2003), *Student workers in high school and beyond: the effects of part-time employment on participation in education, training and work*, Australian Council for Educational Research, <https://www.lsay.edu.au/publications/search-for-lsay-publications/1860>. [247]
- Virtanen, P. (2014), "Children of boom and recession and the scars to the mental health – a comparative study on the long term effects of youth unemployment", *International Journal of Equity in Health*, Vol. 15/14, <http://dx.doi.org/10.1186/s12939-016-0305-0>. [30]
- Visher, M. (2004), "High School Career Exploration Programmes: Do they work?", *Phi Delta Kappa*, pp. 135-138, <https://journals.sagepub.com/doi/pdf/10.1177/003172170408600210>. [201]
- Volunteer Development Scotland (2010), *Being young in Scotland: survey findings*, Volunteer Development Scotland. [276]
- Vuolo, M. (2014), "Adolescent Precursors of Pathways From School to Work", *Journall of Research on Adolescent*, Vol. 24/1, pp. 145-162, <http://dx.doi.org/10.1111/jora.12038>. [254]
- Vuolo, M. (2012), "Weathering the Great Recession: psychological and behavioral trajectories in the transition from school to work.", *Developmental Psychology*, Vol. 48/6, pp. 1759-73. [77]
- Vuori, J. (2015), *Evidence based Job Search Interventions for Unemployed Workers and Youth*, APA. [229]
- Walsh, L. (2015), *Youth volunteering in Australia: An evidence review*, Australian Research Alliance for Children and Youth, https://www.aracy.org.au/publications-resources/command/download_file/id/275/filename/Youth-volunteering-in-Australia-evidence-review.pdf. [277]
- Walsh, L. (2015), *Youth volunteering in Australia: An evidence review*, Australian Research Alliance for Children and Youth, https://www.aracy.org.au/publications-resources/command/download_file/id/275/filename/Youth-volunteering-in-Australia-evidence-review.pdf. [293]
- Williams, K. (2019), *Nursing as a career choice. Literature reviews to support the Independent Review of Nursing Education – Educating the Nurse of the Future*, Australian Health Services Research. [148]
- Wilson, J. (1999), "The Effects of Volunteering on the Volunteer", *Law and Contemporary Problems*, Vol. 62/Fall, pp. 141-168, <https://scholarship.law.duke.edu/lcp/vol62/iss4/7>. [294]

- Winters, A. (2012), “Can training teachers stimulate career learning conversations? Analysis of vocational training conversations in Dutch secondary vocational education”, *Journal of Vocational Education and Training*, Vol. 64/3, pp. 333-350, <http://dx.doi.org/10.1080/13636820.2012.691536>. [191]
- World Economic Forum (2012), *Addressing the 100 million youth challenge: perspectives on youth employment in the Arab world in 2012*, https://www.skillsforemployment.org/KSP/en/Details/?dn=FM11G_012212. [7]
- World Health Organisation (2020), *State of the world’s nursing 2020 - investing in education, jobs and leadership*. [138]
- Wu, L. (2015), “Why not nursing? A systematic review of factors influencing career choice among healthcare students”, *International Nursing Review*, Vol. 62/4, pp. 547-562, <http://dx.doi.org/10.1111/inr.12220>. [149]
- Yates, S. (2010), “Early Occupational Aspirations and Fractured Transitions: A Study of Entry into ‘NEET’ Status in the UK”, *Journal of Social Policy*, Vol. 40/3, pp. 513–534. [83]