#dreamjobs
Teenagers' Career Aspirations and the Future of Work

DREAM JOBS?

2020 World Economic Forum
Andreas Schleicher
PISA 2018

600 000 students
representing about 32 million 15-year-olds in the schools of the 79 participating countries and economies sat the 2-hour PISA test in 2018.

but also responded to questions about their aspirations for their future careers, and from where they learn about the world of work.
Participating countries

2018 – 79 participating
With the labour market undergoing rapid, fundamental change – decision-making is more important, but also more difficult.

Skills and the risk of automation

Risk of automation vs. Skills (PIAAC Numeracy)

- United States 2012/2014
- United States 2017
- Northern Ireland (UK)
- OECD average

Countries: Australia, Austria, Canada, Chile, Cyprus, Czech Republic, Denmark, Estonia, Flanders (Belgium), France, Germany, Greece, Hungary, Ireland, Israel, Italy, Japan, Korea, Lithuania, Mexico, Netherlands, Northern Ireland (UK), OECD average, Peru, Poland, Russian Federation, Singapore, Slovak Republic, Slovenia, Spain, Sweden, Turkey, United States 2017, United States 2012/2014, Vietnam, Wales (UK), World average.

R² = 0.273

Graphical representation showing the relationship between skills and the risk of automation across various countries.
Every day, teenagers make important decisions that shape their future...but young people’s career aspirations are often narrow, unrealistic and distorted by gender and social background.
The fifteen most common occupational expectations among 15-year-olds
Many teenagers aspire to jobs that are at high risk of automation.
While the world of work has undergone major changes since 2000...

career expectations of youths have changed little but became more concentrated
Concentration of occupational expectations between 2000 and 2018
Percentage of students naming 10 most popular occupations

Concentration of occupational expectations by country
Percentage of students naming 10 most popular occupations

Over half of Indonesian girls anticipate being either a business manager, a doctor or a teacher when they are 30.
In Germany and Switzerland much lower levels of concentration are seen.
Labour market signals are failing to reach young people

<table>
<thead>
<tr>
<th>Job title</th>
<th>Projected growth (%)</th>
<th>Student preference rank*</th>
<th>Median annual salary (2018)</th>
<th>Accessibility</th>
<th>Risk of automation</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical therapist assistants</td>
<td>33.10%</td>
<td>#29</td>
<td>$58,040</td>
<td>High – associate degree</td>
<td>Lower than average</td>
</tr>
<tr>
<td>Occupational therapy assistants</td>
<td>27.10%</td>
<td>#71</td>
<td>$60,220</td>
<td>High – associate degree</td>
<td>Lower than average</td>
</tr>
<tr>
<td>Computer user support specialist</td>
<td>10.60%</td>
<td>#229</td>
<td>$50,980</td>
<td>High – associate degree</td>
<td>Lower than average</td>
</tr>
<tr>
<td>Canada</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nurse aides and patient service associate</td>
<td>24.50%</td>
<td>#33</td>
<td>$ 40,715</td>
<td>High – associate degree</td>
<td>Lower than average</td>
</tr>
<tr>
<td>Veterinary technician</td>
<td>21.50%</td>
<td>#32</td>
<td>$ 41,804</td>
<td>High – associate degree</td>
<td>Lower than average</td>
</tr>
<tr>
<td>User support technician &amp; Information systems testing technician</td>
<td>13.70%</td>
<td>#158</td>
<td>$ 55,290</td>
<td>High – associate degree</td>
<td>Lower than average</td>
</tr>
</tbody>
</table>

*Rank is based on ISCO occupation count of 543.
High performers with low expectations

“Across OECD countries, approximately one in three disadvantaged teenagers who **perform well** on the PISA tests does not expect to pursue tertiary education or work in a university-level profession.”
High performers in PISA who do not have high expectations for their future

Percentage of students who do not expect to complete tertiary education amongst high performers (OECD average)

Do not expect:
- to complete tertiary education
- to be professionals or managers

Notes: High performers are students who 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: PISA 2018 database
High performers who do not expect to complete higher education

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.
High performers who do not expect to be professionals or managers

Source: PISA 2018 database
Gender gap in career expectations amongst top performers
High performers in mathematics and/or science who aspire to science and engineering professionals

Expect to work as science or engineering professionals

- Top performers among all students
- Girls
- Boys

Percentage of top performers who expect a career in the field
Do teenagers know what they need to do to fulfil their career expectations?

One in five young people across the PISA 2018 countries underestimate the levels of education typically required to secure the professional or managerial occupational positions they aspire to.
Students with professional or managerial occupational expectations, but not planning to complete tertiary education

High performing young people from the most disadvantaged backgrounds are, on average, nearly four times less likely to hold high aspirations than similarly performing peers from the most privileged social backgrounds.

Source: PISA 2018 database
Misalignment: Students with professional or managerial occupational expectations, **but** not planning to complete tertiary education

Source: PISA 2018 database
Effective career guidance encourages students to reflect on who they are and who they want to become...

...and to think critically about the relationships between their educational choices and future life.
I researched the internet for information about careers.
I completed a questionnaire to find out about my interests and abilities.
I researched the internet for ISCED 3-5 programmes.
I spoke to a career advisor at my school.
I went to an organised tour in an ISCED 3-5 institution.
I attended a job shadowing or work-site visit.
I visited a job fair.
I did an internship.
I spoke to career advisor outside of my school.

Disadvantaged student
Advantaged student

Participation in career development activities
OECD average

Source: PISA 2018 database.
Effect of participation in career development on positive attitudes towards school

Odds ratio of the likelihood of students agreeing with the statement “Trying hard at school will help me get a good job”

Note: Odds ratio are adjusted for gender, socio-economic status, school type (private/public, class size, urban/rural, staff/student ratio), immigrant background, motivational factors (whether students skipped classes or days) and cognitive potential (whether students repeated a year of study).

Source: PISA 2018 database
Concentration of occupational expectations by participation in career development activities

<table>
<thead>
<tr>
<th>Activity</th>
<th>Participated in this activity</th>
<th>Did not participate</th>
</tr>
</thead>
<tbody>
<tr>
<td>I did an internship*</td>
<td>39%</td>
<td>45%</td>
</tr>
<tr>
<td>I spoke to career advisor outside of my school*</td>
<td>40%</td>
<td>45%</td>
</tr>
<tr>
<td>I attended a job shadowing an work-site visit*</td>
<td>41%</td>
<td>45%</td>
</tr>
<tr>
<td>I visited a job fair*</td>
<td>42%</td>
<td>45%</td>
</tr>
<tr>
<td>I spoke to a career advisor at my school*</td>
<td>43%</td>
<td>44%</td>
</tr>
<tr>
<td>I went to an organised tour in an ISCED 3-5 institution</td>
<td>44%</td>
<td>45%</td>
</tr>
<tr>
<td>I researched the internet for information about careers*</td>
<td>45%</td>
<td>46%</td>
</tr>
<tr>
<td>I researched the internet for information about ISCED 3-5 programmes*</td>
<td>46%</td>
<td>45%</td>
</tr>
</tbody>
</table>

* Difference is statistically significant

Source: PISA 2018 database.
What to do now
Experimental and quasi-experimental studies published in English in OECD countries (1996-2016)

<table>
<thead>
<tr>
<th>Category</th>
<th>Largely positive</th>
<th>Mixed outcomes</th>
<th>Largely negative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economic (adult employment &amp; earnings)</td>
<td>67%</td>
<td>33%</td>
<td>0%</td>
</tr>
<tr>
<td>Educational (academic achievement)</td>
<td>58%</td>
<td>40%</td>
<td>2%</td>
</tr>
<tr>
<td>Social (well-being, self-esteem,</td>
<td>67%</td>
<td>33%</td>
<td>0%</td>
</tr>
<tr>
<td>career management skills)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Economic, educational and social outcomes linked to career guidance (Hughes et al. 2016).
Effective career guidance ...

- **Starts early** (primary) and intensifies around key decision points
- **Connects** classroom learning with future economic lives
- Provides easy access to trustworthy **labour market information** and advice/guidance from **well-trained and impartial** professionals
- Addresses **information asymmetries** about specific professions and challenges stereotyping
- **Broadens understanding** of the labour market – focusing in particular occupations which are poorly understood and of strategic importance
- Targets young people from **disadvantaged** backgrounds for the greatest levels of intervention
- Is experiential with **rich and plentiful engagement from the world of work**
Employer engagement to boost young people’s understanding of jobs and careers needs to be...

- **authentic** - enabling first-hand encounters
- **commonplace** – volume of encounters matters
- **valued** (relevant) – by young people themselves
- **varied** - different activities can be associated with different outcomes for different types of students
- **contextualised** - by effective career guidance
- **personalised** – in recognition of existing work-related networks and aspirations
- **begun young** – addressing attitudes and expectations from primary schooling

Source: Mann et al. 2018. Employer engagement in Education. EEF.
Find out more about our work at www.oecd.org/pisa

- PISA 2018: Insights and Implications
- PISA 2018 Results (Volume I): What Students Know and Can Do
- PISA 2018 Results (Volume II): Where All Students Can Succeed
- PISA 2018 Results (Volume III): What School Life Means for Students

Take the test: www.oecd.org/pisa/test
FAQs: www.oecd.org/pisa/pisafaq
PISA indicators on Education GPS: http://gpseducation.oecd.org
PISA Data Explorer: www.oecd.org/pisa/data

Email: Andreas.Schleicher@OECD.org