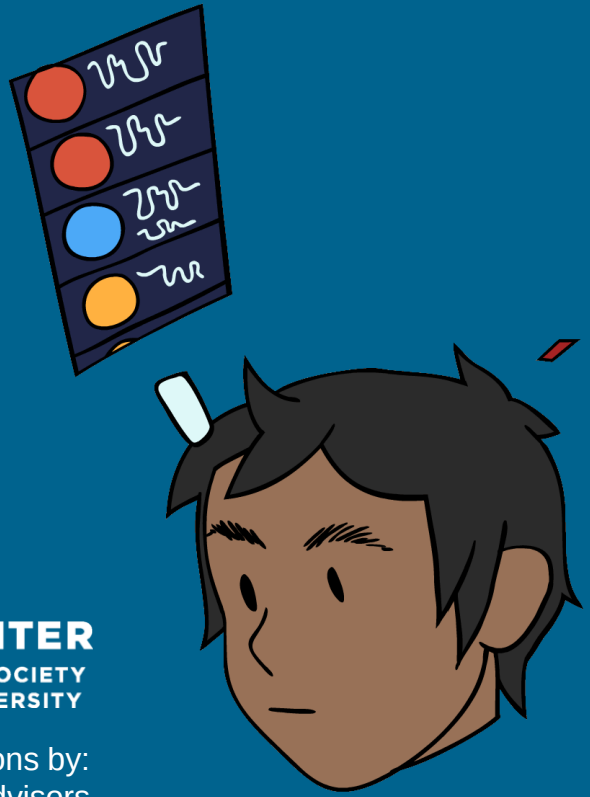
YOUTH AND AI

SANDRA CORTESI



Youth and Media

BERKMAN KLEIN CENTER
FOR INTERNET & SOCIETY
AT HARVARD UNIVERSITY

Animations and illustrations by:
Youth and Media Youth Advisors
Elsa Brown, Rebecca Smith, Melanie Tan, and Claudia Thomas

12-18

Research Partnership with UNICEF

Acknowledging a widening knowledge gap between the developed and developing world, the Berkman Klein Center has been serving as a research partner to UNICEF's Digital Citizenship and Safety Project to explore youth and digital media issues around the globe. Building upon an initial, exploratory paper "Working Towards a Deeper Understanding of Digital Safety for Children and Young People in Developing Nations", the Youth and Media team has closely collaborated over the past few years with the UNICEF Headquarter and various country offices to conduct research (using a mixed methods approach) on youth and digital media issues in different countries, including Argentina, Armenia, Indonesia, Kenya, Russia, South Africa, Turkey, Ukraine, Vietnam and Zambia.

Figure 1: World map showing the 26 countries in which the 490 child research participants are based.

Bangladesh
Belarus
Bhutan
Brazil
Burundi
Central African Republic
Democratic Republic of the
Fiji
Guatemala
Japan
Jordan
Kiribati
Malaysia
Nigeria
Paraguay
Peru
Portugal
Republic of Korea
Republic of Moldova
Senegal
Solomon Islands
Thailand
Timor-Leste
Tunisia
Uruguay
Vanuatu

CONECTADOS AL SUR

Chile, Costa Rica, Uruguay, Paraguay
⇒ 213 participants

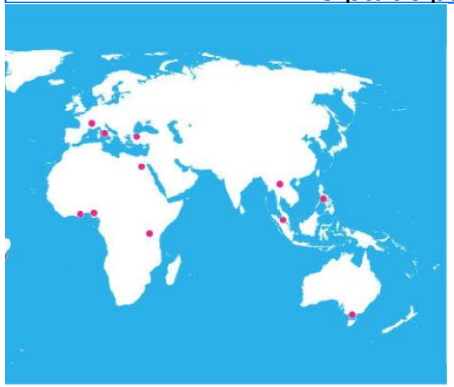


Figure 1: World map showing the locations in which the 17 project partner organisations and 148 child research participants are based.

Accra
Ghana
Barranquilla
Colombia
Benin City
Nigeria
Boston
United States of America
Buenos Aires
Argentina
Eskisehir
Turkey
Kuala Lumpur
Malaysia
Melbourne
Australia
Nairobi
Kenya
Pereira
Colombia
Phayao
Thailand
Port of Spain
Trinidad and Tobago
Rome
Italy
Saint Jean de la Porte
France
Salvador
Brazil
San Jose
Philippines
Saquita
Egypt

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AI: Algorithms and Justice

The use of algorithms in the judiciary has already raised significant questions about bias and fairness, and looking ahead the moral questions become even more challenging.

AI: Autonomous Vehicles

As vehicles become more automated vehicles, we consider potential impacts on labor, questions about governance, bias, and inequality, and work to identify forms of transparency.

AI: Global Governance and Inclusion

In a world challenged by growing domestic and international inequalities, policymakers face hard problems and difficult choices when dealing with AI systems.

AI: Media and Information Quality

As autonomous systems play an increasing role in selecting the content we see online, questions arise about AI's influence on human judgment, opinions, and perceptions.

AI: Transparency and Explainability

There are many ways to hold AI systems accountable. We focus on issues related to obtaining human-intelligible and human-actionable information.

Artificial Intelligence in Education ...
nmc.org

tell if AI or machine learning is real ...
infoworld.com

Why media buying and advertising is ...
martechtoday.com

Artificial Intelligence Overvi...
tutorialspoint.com

The Existential Threat of Artificial ...
tigertranscript.com

Security and Artificial Intelligence ...
threatpost.com

What AI can and cannot do today ...
networkworld.com

How Dubai Police plans to lead world i...
arabianbusiness.com

4 Top Stocks in Artificial Intelligen...
fool.com

Artificial Intelligence and You ...
thinkgrowth.org

Artificial intelligence: magic at your ...
delaware.pro

humans coexist with robots ...
ft.com

artificial intelligence ...
home.kpmg.com

Security Intelligence Analytics Trends ...
securityintelligence.com

Top Artificial Intelligence ...
analyticsinsight.net

4 Trends in Artificial Intelligence ...
hortonworks.com

collaborative artificial intelligence
medium.com

How Artificial Intelligence is ...
waterfm.com

Artificial intelligence has learned to ...
sciencemag.org

Artificial Intelligence ...
codingdojo.com

Artificial Intelligence
lasserouhiainen.com

By 2030, artificial intelligence will ...
blog.rossintelligence.com

Its Own Path on Artificial Intellige...
wired.com

New Oil But Artificial Intelligence ...
nextgov.com

artificial intelligence ...
insidesmallbusiness.com.au

How Artificial Intelligence Is ...
forbes.com

Artificial Intelligence Landscapes
medium.com

artificial intelligence research ...
sciencemag.org

customer experience

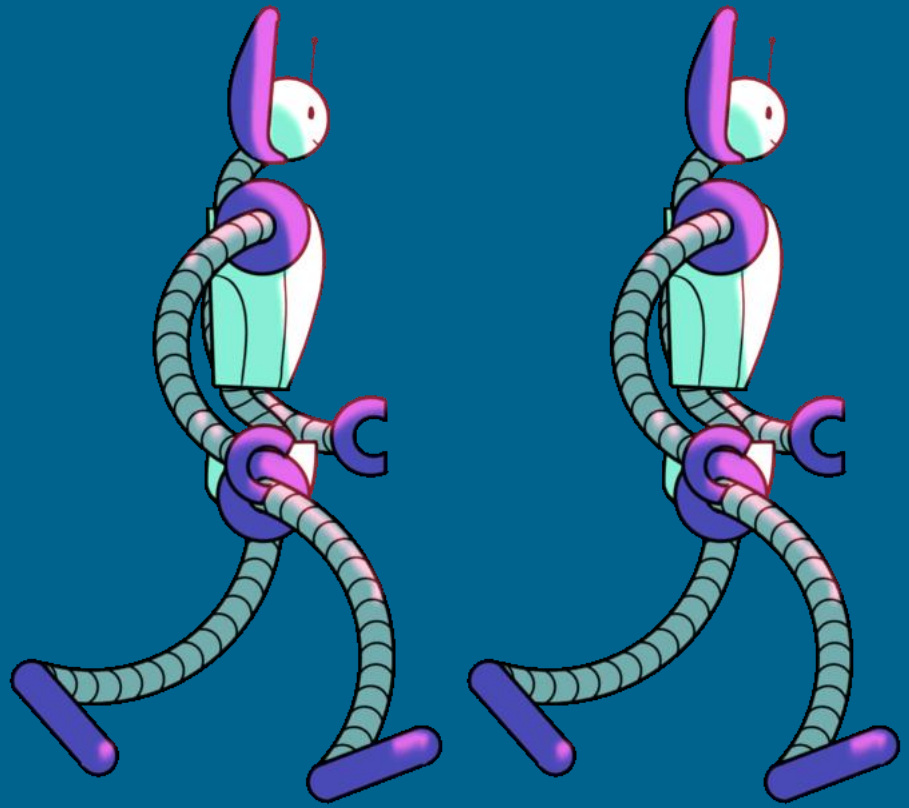
Artificial Intelligence Is A Powerful ...

Artificial Intelligence: Privacy and ...

Artificial Intelligence Use Cases | Cookiee

Artificial Intelligence ...

Artificial intelligence is the new tool ...



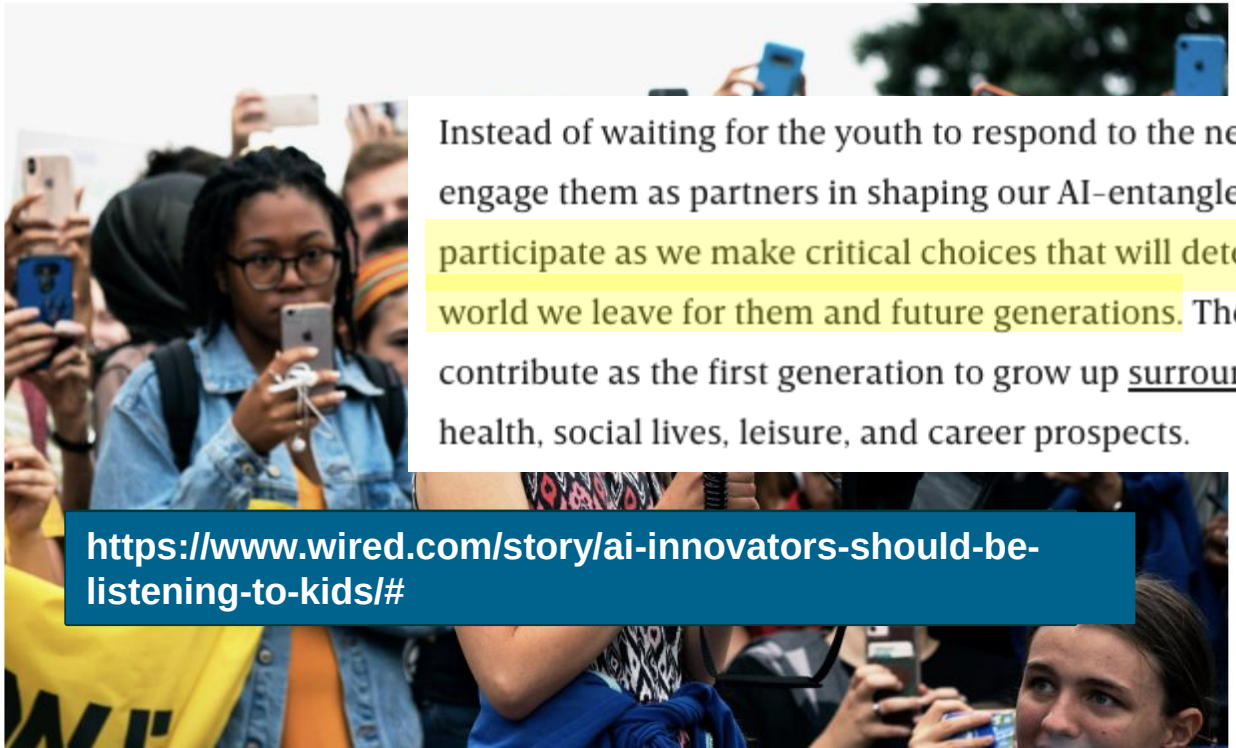
designers / developers / users / …

URS GASSER IDEAS 11.26.2019 09:00 AM

WIRED

AI Innovators Should Be Listening to Kids

Input from the next generation is crucial when it comes to navigating the challenges of new technologies.



Instead of waiting for the youth to respond to the next crisis, we should proactively engage them as partners in shaping our AI-entangled future. Young people have a right to participate as we make critical choices that will determine what kind of technological world we leave for them and future generations. They also have unique perspectives to contribute as the first generation to grow up surrounded by AI shaping their education, health, social lives, leisure, and career prospects.

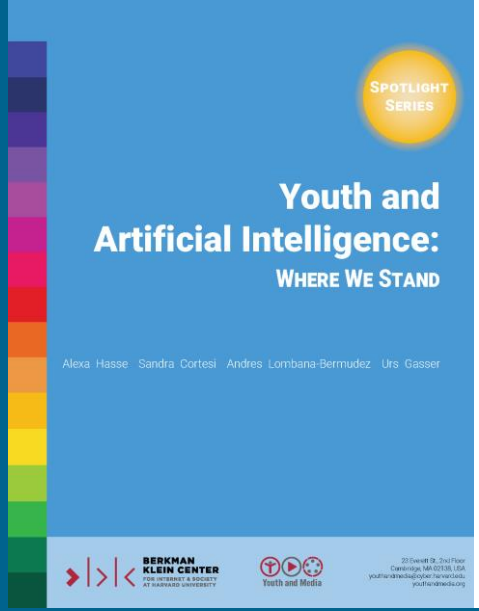
https://www.wired.com/story/ai-innovators-should-be-listening-to-kids/#

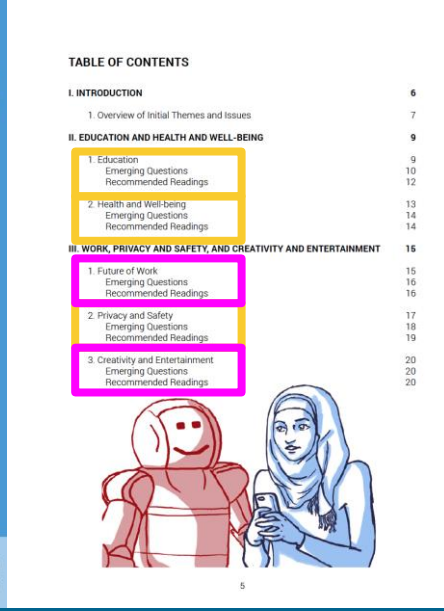
NEW REPORT

Reviews recent literature on artificial intelligence (AI) and its impact on youth across domains such as education, well-being, and the future of work.

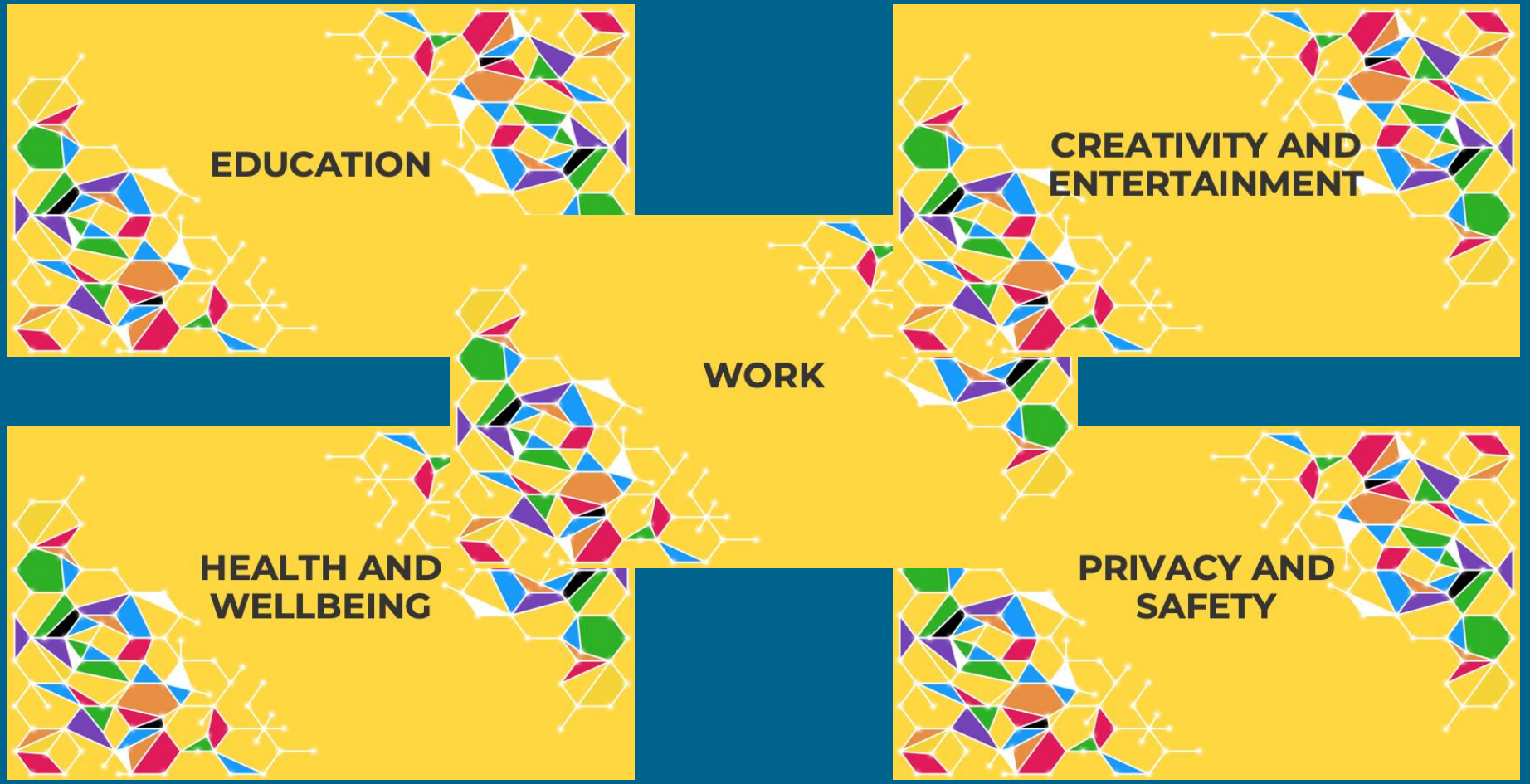
Presents questions that might benefit from further exploration within these spaces.

Considers both the challenges and opportunities that AI-based technologies present for youth.





https://cyber.harvard.edu/publication/2019/youth-and-artificial-intelligence/where-we-stand

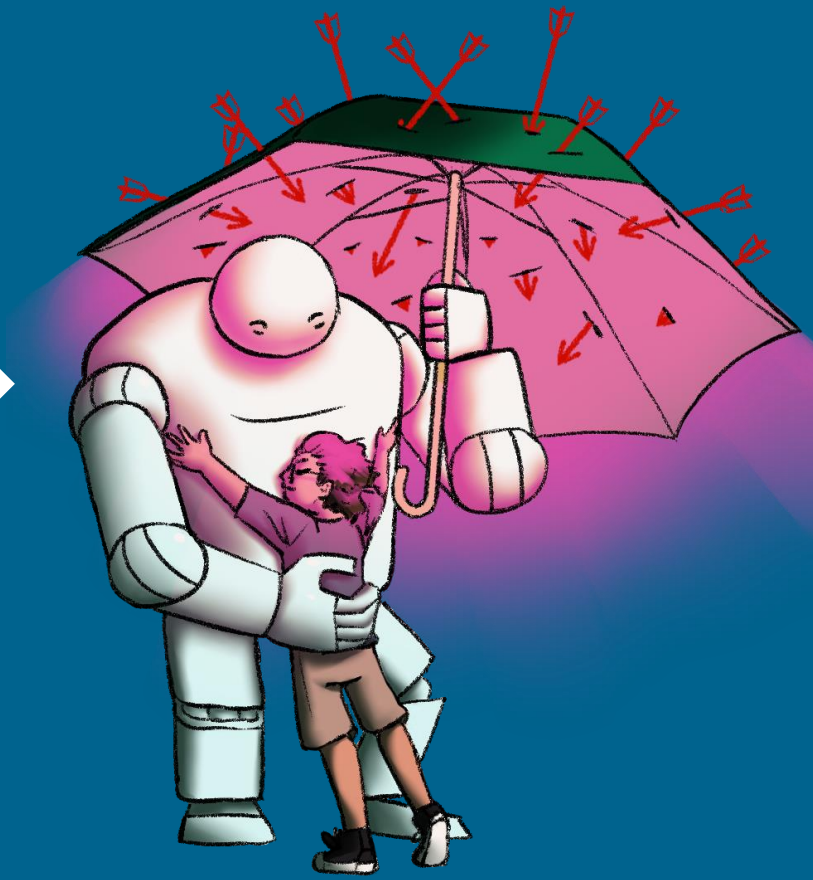

EDUCATION
CREATIVITY AND ENTERTAINMENT
WORK
HEALTH AND WELLBEING
PRIVACY AND SAFETY

HEALTH AND WELLBEING

Assess suicide risk based on natural language processing.

Could AI-based technologies be designed to:

- Reach more people in need for support
- Reduce stigma around mental health service-seeking behaviors among youth
- ….



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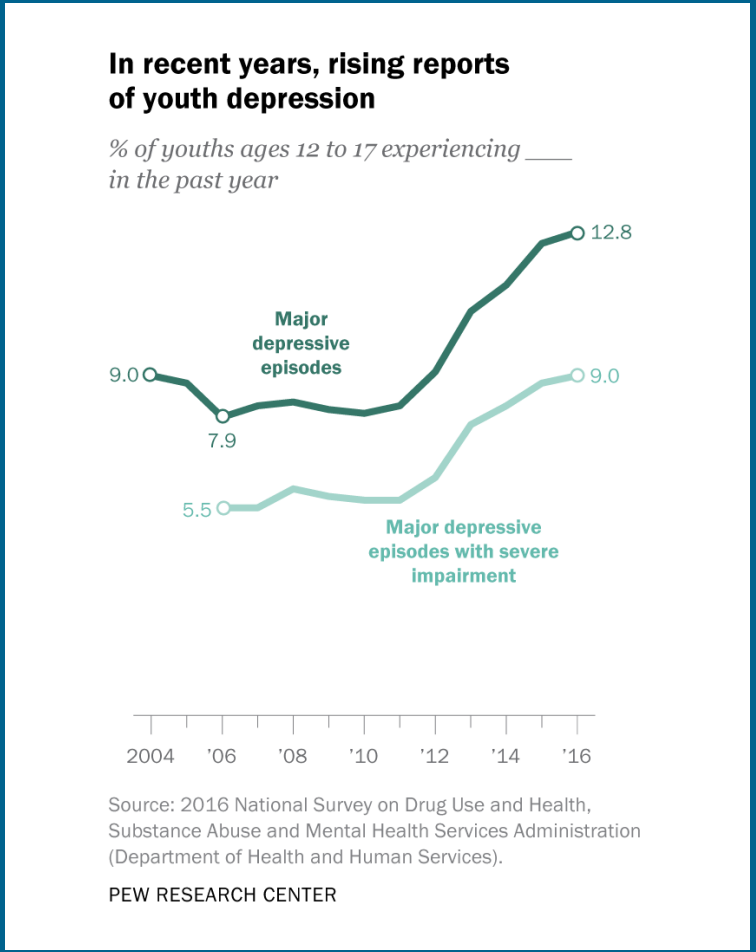


"Suicide is a leading cause of death in 15-29-year-olds. Although there are known, effective treatments for mental disorders, between 76% and 85% of people in low- and middle-income countries receive no treatment for their disorder." WHO, https://www.who.int/news-room/fact-sheets/detail/depression

Possible cultural factors:

- How people express emotions
- Perception ➔ I'm not in control and it's ok (disease) / I should be in control but I'm not (shame/guilt/….)
- How medical professionals are perceived (power distance)
- Spirituality and religion (from the point of view of attribution as well as in terms of coping with issue)

??? HEALTH & WELLBEING ???

In developing AI-based mental health diagnostic and therapeutic services, how can we make sure that these systems account for cultural nuances in how young people express mental and emotional distress?

https://cyber.harvard.edu/publication/2019/youth-and-artificial-intelligence/where-we-stand

PRIVACY


2:21
0:11 / 5:43

??? PRIVACY AND SAFETY ???

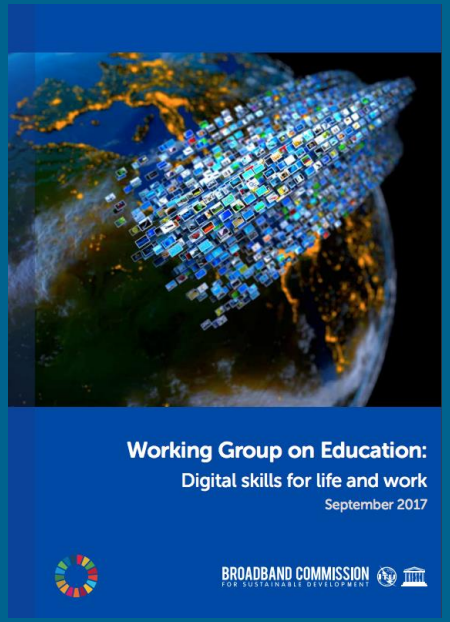
In the U.S., laws and regulations that frame youth digital data privacy typically place all or most authority around consenting to data collection with parents or guardians, rather than with youth themselves. In some circumstances (notably, education) consent to share youth data may be made by another adult party (the school) as a substitute for parental or guardian consent.

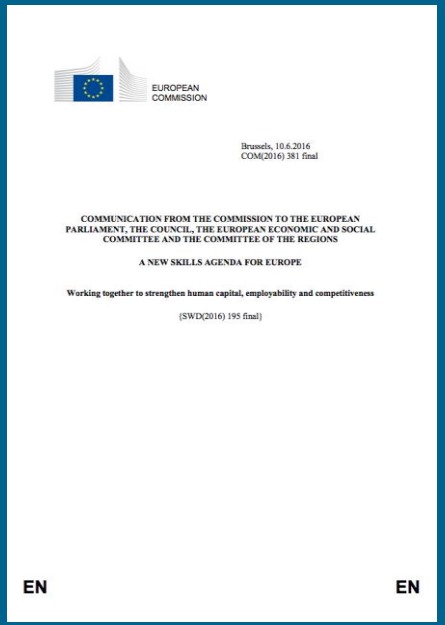
➔ Thus with AI technologies, youth find themselves with limited to no legal rights under federal law to consent or not consent to their private data being collected or used by the AI system.

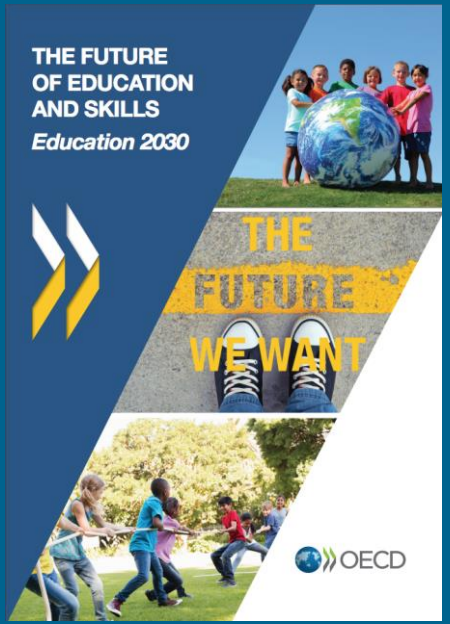
https://cyber.harvard.edu/publication/2019/youth-and-artificial-intelligence/where-we-stand

WORK

FUTURE SKILLS



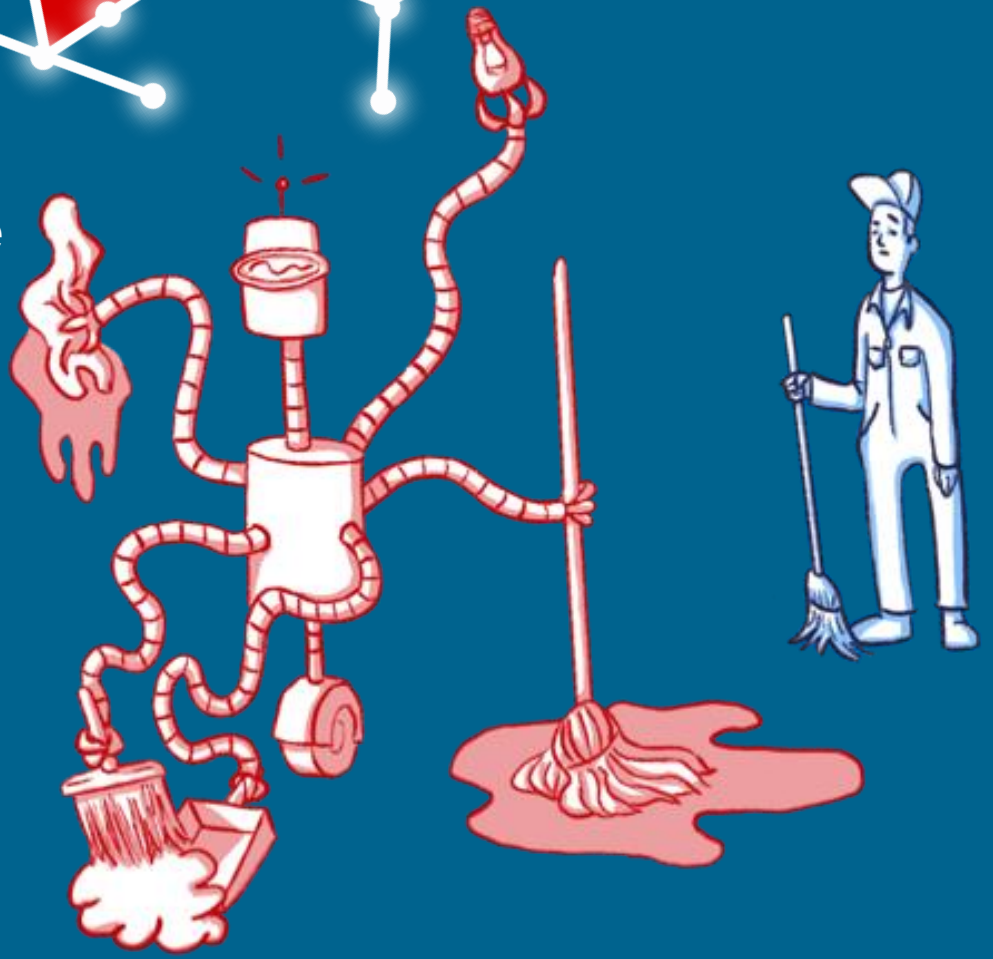





Credit: Kristian Hammerstad

??? WORK ???

How will AI-fueled technologies shape young people's perceptions of potential future career pathways?



https://cyber.harvard.edu/publication/2019/youth-and-artificial-intelligence/where-we-stand

MOVING FORWARD

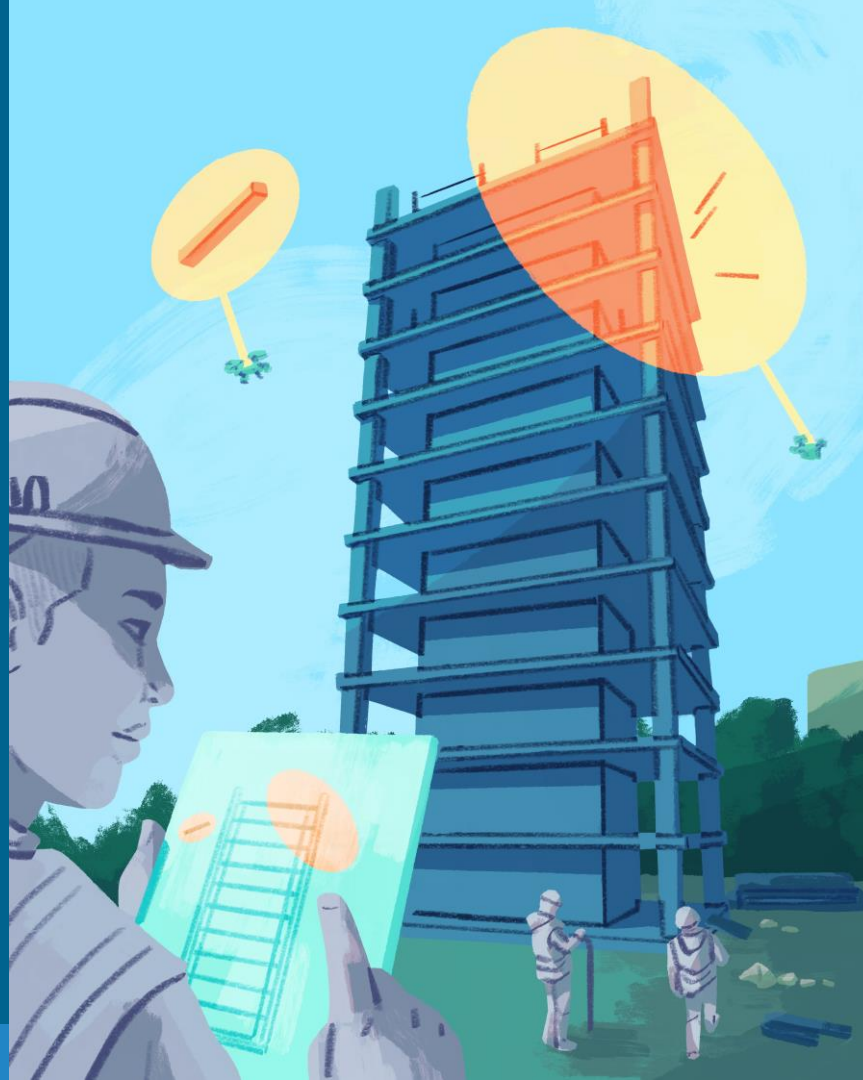
HOW CAN WE PROACTIVELY ENGAGE YOUTH AS PARTNERS IN SHAPING OUR AI-INFLUENCED FUTURE?

Youth have the most at stake, and they also have valuable perspectives and experiences to contribute.

Currently, youth engagement in this space (in the policymaking process, as well as in our educational and research efforts) is unfortunately rare. Conversations about AI are often limited to a relatively small group of technical experts and decisionmakers, and youth are rarely included as participants or constituents.

It’s also essential to involve young people with a variety of perspectives, experiences, and backgrounds to ensure that new technologies are inclusive and their benefits widespread.

HOW DO WE ENCOURAGE YOUTH TO EXPLORE AND PURSUE CAREERS IN THE FIELD / CONTEXT OF AI?













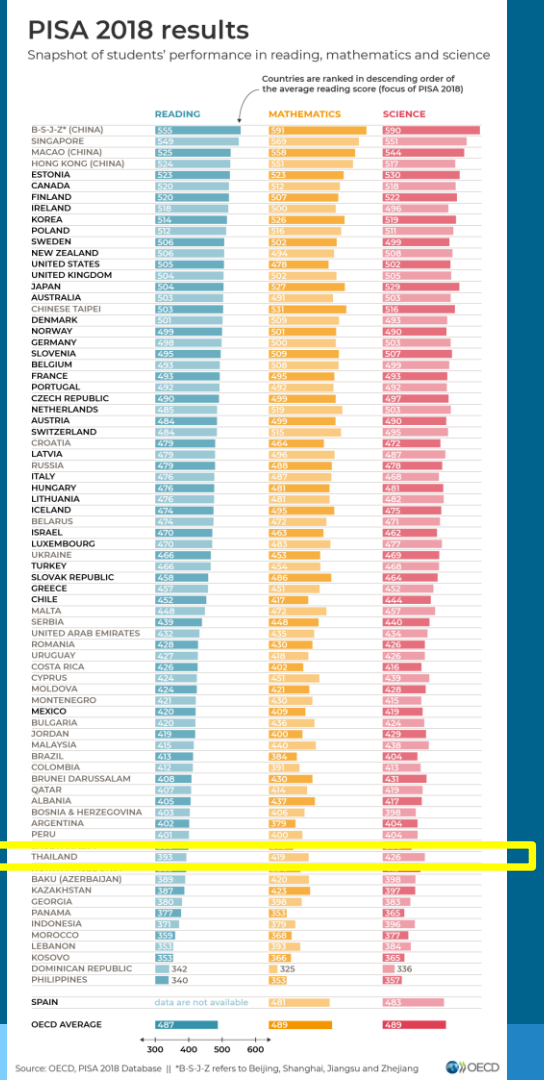
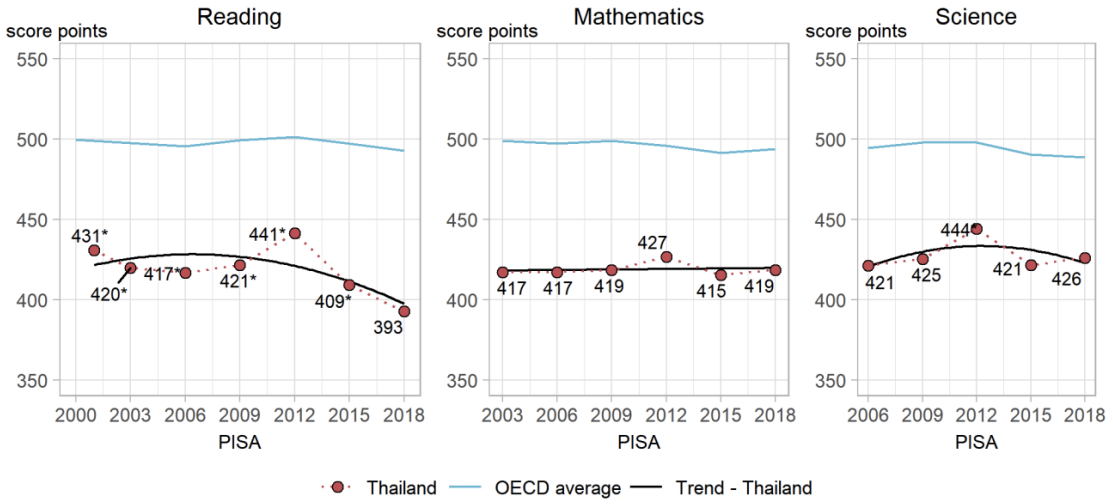



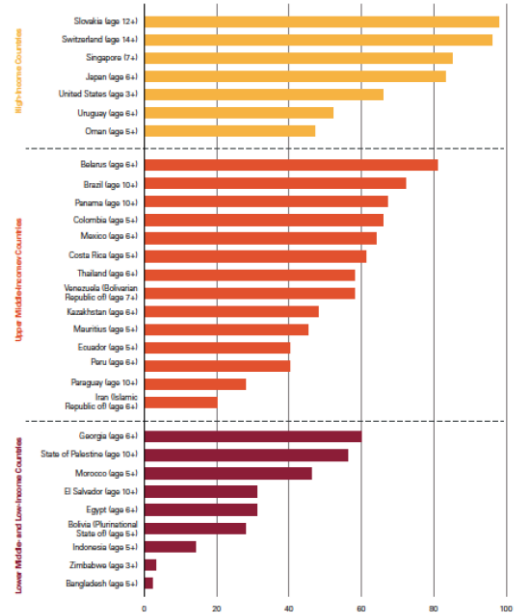
Figure 2. Trends in performance in reading, mathematics and science



Notes:*indicates mean-performance estimates that are statistically significantly above or below PISA 2018 estimates for Thailand.
The blue line indicates the average mean performance across OECD countries with valid data in all PISA assessments. The red dotted line indicates mean performance in Thailand. The black line represents a trend line for Thailand (line of best fit).
Source: OECD, PISA 2018 Database, Tables I. B1.10, I. B1.11 and I. B1.12.

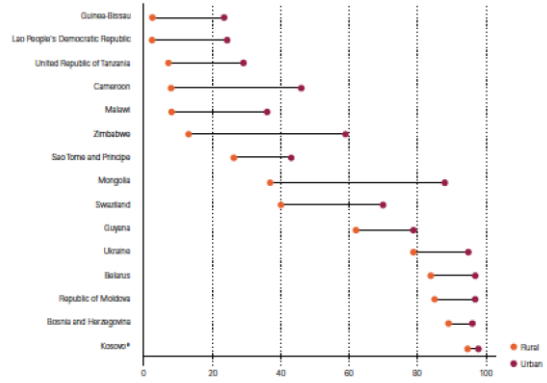
DIGITAL DIVIDE

FIGURE 2.3 CHILDREN FROM THE LOWEST-INCOME COUNTRIES USE THE INTERNET LEAST
PERCENTAGE OF UNDER-15 CHILDREN USING THE INTERNET, SELECTED COUNTRIES AND TERRITORIES, 2012–2016



Source: Eurostat, ITU and UNICEF, 2012–2016.
Note: Income classification follows World Bank income classification as of August 2017.

FIGURE 2.4 YOUTH IN RURAL AREAS ARE LESS LIKELY TO GO ONLINE
PERCENTAGE OF 15–24-YEAR-OLDS WHO USED THE INTERNET OVER THE PAST YEAR IN SELECTED COUNTRIES, 2012–2016



Source: UNICEF analysis based on Demographic and Health Surveys and Multiple Indicator Cluster Surveys.
* All references to Kosovo are made in the context of UN Security Council Resolution 1244 (1999).

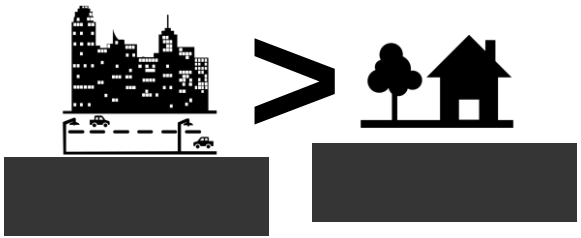
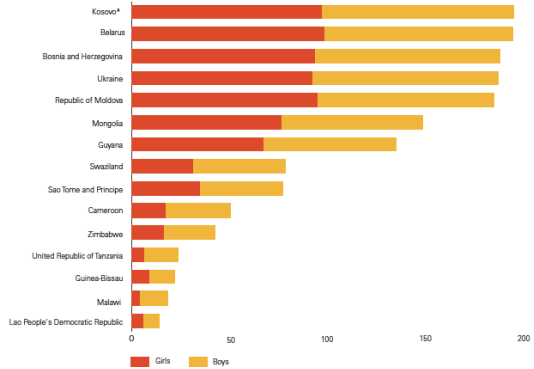
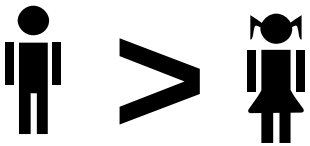


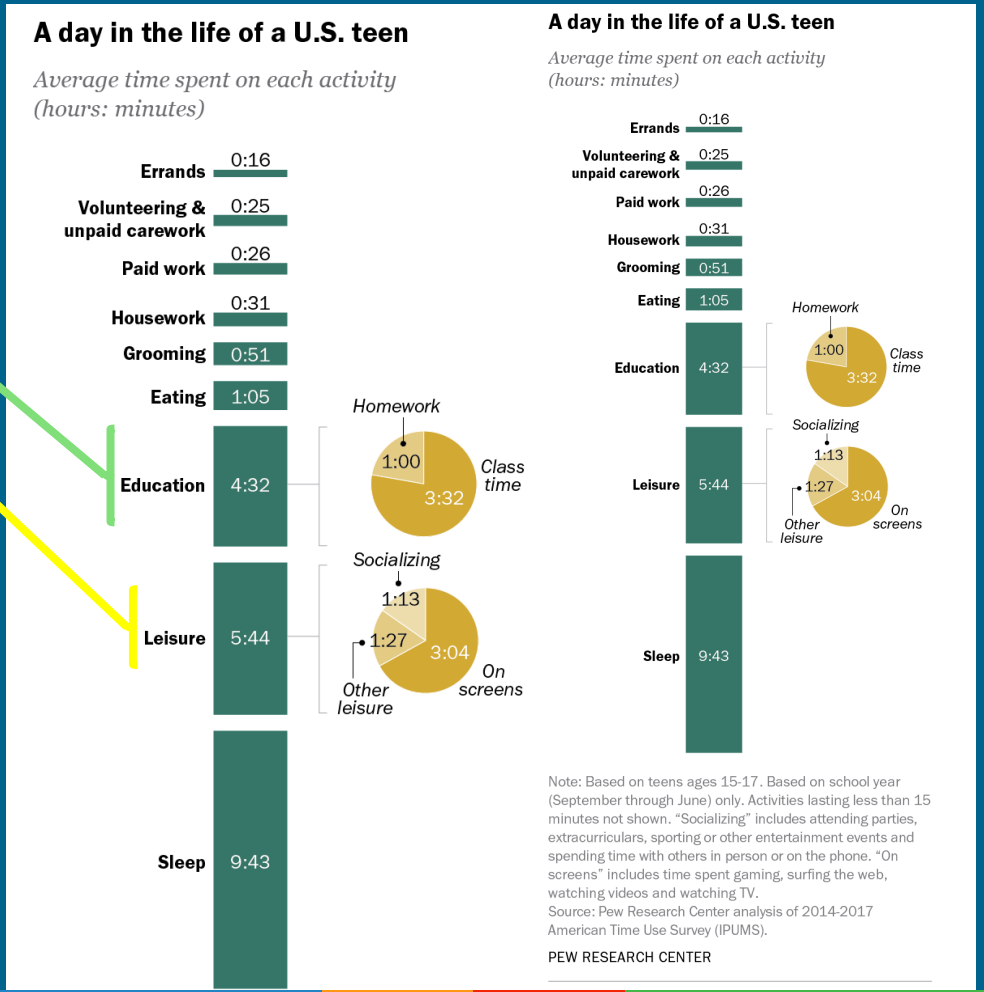
FIG 2.5 GIRLS ARE LEAST LIKELY TO GO ONLINE IN LOW-CONNECTIVITY COUNTRIES
PERCENTAGE OF 15–19-YEAR-OLDS WHO USED THE INTERNET OVER THE PAST YEAR IN SELECTED COUNTRIES, 2012–2016



Source: UNICEF analysis based on Demographic and Health Surveys and Multiple Indicator Cluster Surveys conducted 2012–2016.
* All references to Kosovo are made in the context of UN Security Council Resolution 1244 (1999).



- Formal learning (in schools)
- Informal and connected learning (outside of schools)



EFFORTS CO-DRIVEN BY DIFFERENT STAKEHOLDERS AND INSTITUTIONS

- Summer programs
- Advisory boards
- Youth consultations — survey and workshops
- Add-on modules/efforts to key events
- …..

AT YOUTH AND MEDIA

- Youth Labs
- Gap year program for pre-college and pre-grad school female students
- Development of a pathway platform showcasing young females doing innovative work in ICT
- Co-design of tools (learning materials)
- …..

DIGITAL CITIZENSHIP+ RESOURCE PLATFORM

Artificial Intelligence (AI)

Civic and Political Engagement

Computational Thinking

Content Production

Context

Data

Digital Access

Digital Economy

Digital (Literacy)

Identity Exploration and Formation

Information Quality

Law

Media (Literacy)

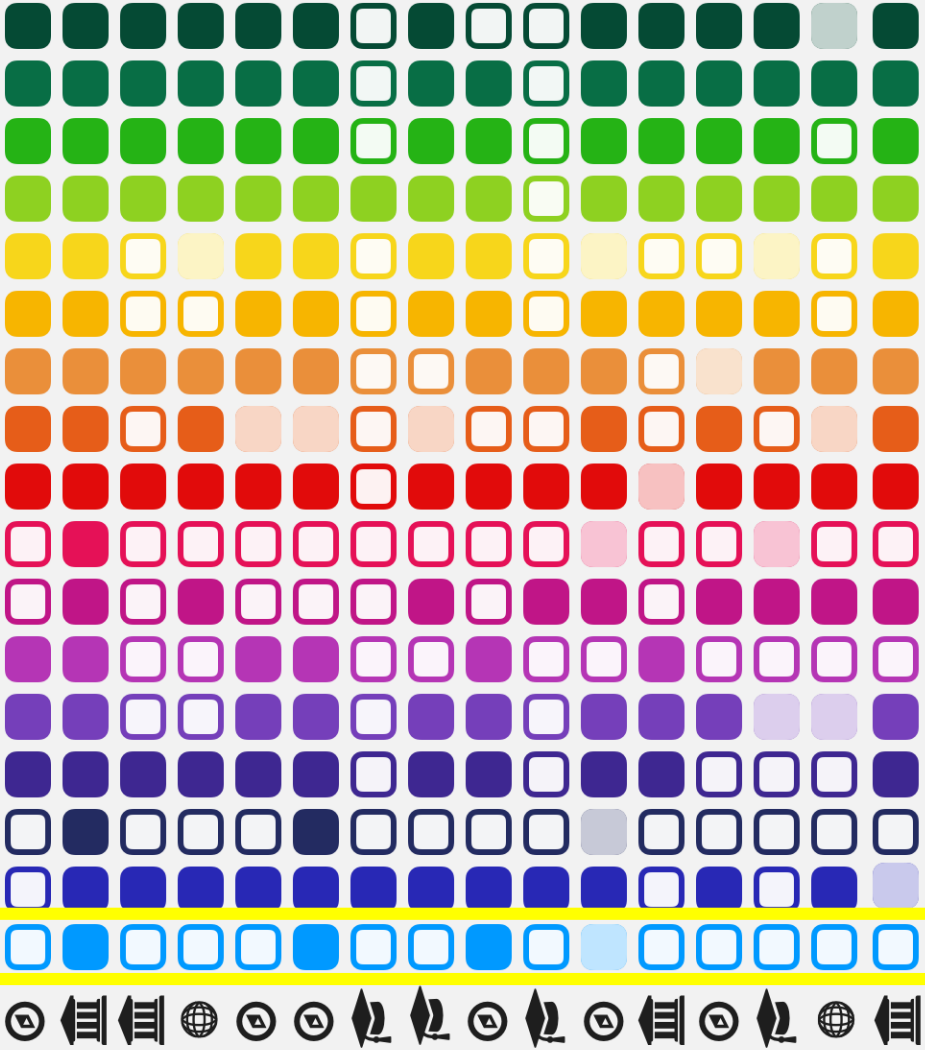
Positive / Respectful Behavior

Privacy and Reputation

Safety and Well-being

Security

https://dcrp.berkman.harvard.edu

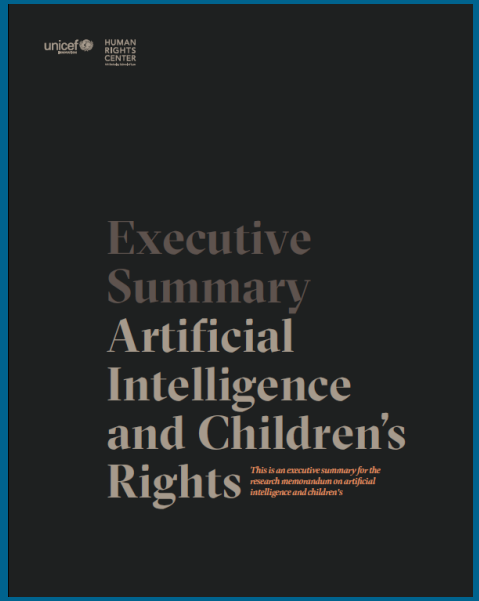


COMPUTATIONAL THINKING

The ability to understand and apply computational concepts, practices, and perspectives. Computational concepts include concepts individuals leverage as they program (e.g., “sequencing,” or identifying a set of steps for a task; “loops,” or running the same series of steps multiple times). Computational practices represent the practices individuals cultivate while they program (e.g., “experimenting and iterating;” “reusing and remixing,” or creating something by building upon current ideas or projects). Finally, computational perspectives refer to the perspectives individuals develop about themselves, their connections to others (such as within the context of collaborative online communities), and the technological world more broadly (e.g., “connecting,” or understanding the power of developing content both with and for others) (Brennan & Resnick, 2012).

ARTIFICIAL INTELLIGENCE

The ability to understand the algorithms involved in the AI-based platforms one interacts with, and the ethical conversations happening around the development of these technologies.


unicef
HUMAN RIGHTS CENTER
Executive Summary
Artificial Intelligence and Children's Rights
This is an executive summary for the research memorandum on artificial intelligence and children's


United Nations Educational, Scientific and Cultural Organization
Organisation des Nations Unies pour l'éducation, la science et la culture
Organización de las Naciones Unidas para la Educación, la Ciencia y la Cultura
Организация Объединенных Наций по вопросам образования, науки и культуры
منظمة الأمم المتحدة للتربية والعلم والثقافة
联合国教育、科学及文化组织
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on artificial intelligence and education
CONSENSUS DE BEIJING
sur l'intelligence artificielle et l'éducation
CONSENSO DE BEIJING
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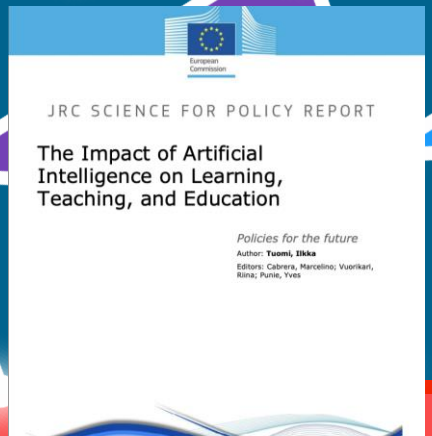
توافق بيجين
بشأن الذكاء الاصطناعي والتعليم

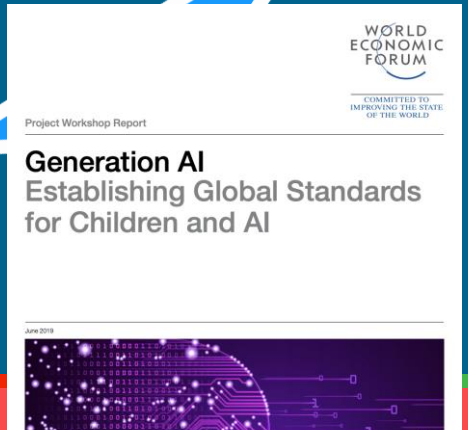

United Nations Educational, Scientific and Cultural Organization
mobile learning week
Artificial Intelligence for Sustainable Development
Synthesis Report
Mobile Learning Week 2019
Education 2030


unicef
for every child
WORKSHOP REPORT
AI and child rights policy
Workshop Towards Global Guidance on AI and Child Rights
26 – 27 June 2019 | UNICEF, New York, NY USA | #ai4children
Office of Global Insight and Policy


WORLD ECONOMIC FORUM
unicef
GENERATION AI


ITUEvents
AI for Good
Global Summit
Accelerating progress towards the SDGs


European Commission
JRC SCIENCE FOR POLICY REPORT
The Impact of Artificial Intelligence on Learning, Teaching, and Education
Policies for the future
Author: Tuomi, Ilkka
Editors: Cabrera, Marcelino; Vuorikari, Riina; Punie, Yves


WORLD ECONOMIC FORUM
COMMITTED TO IMPROVING THE STATE OF THE WORLD
Project Workshop Report
Generation AI
Establishing Global Standards for Children and AI
June 2019

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  - youthandmedia.org
  - sandracortesi.com

- Email: scortesi@cyber.law.harvard.edu
  LinkedIn: https://www.linkedin.com/in/sandracortesi/

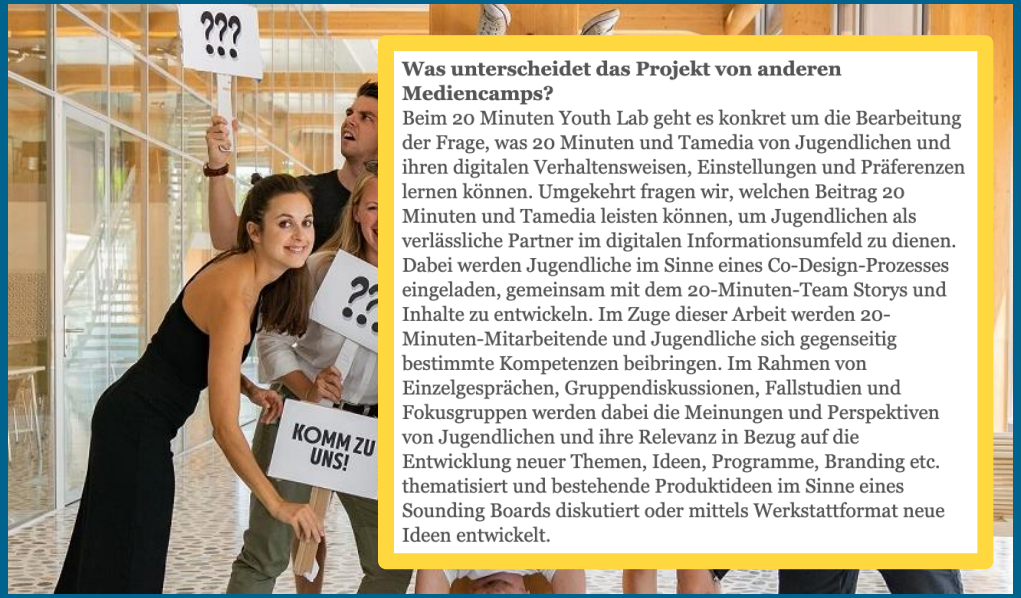
Animations and illustrations by:
Youth and Media artists in residence

- Elsa Brown (ebrown726@gmail.com),
- Rebecca Smith (smithrebeccad@gmail.com),
- Melanie Tan (meltanart@gmail.com), and
- Claudia Thomas (claudiathomas917@gmail.com)

How can we equip educators — especially those in low-resource communities — with the skills and support to implement AI-based technologies in the classroom in a thoughtful manner? What kind of training would educators require?

How does privilege manifest itself in the means of education chosen by different groups/ stakeholders?

What is the prevailing narrative about AI and technology in the classroom, and who shapes it?



Was unterscheidet das Projekt von anderen Mediencamps?
Beim 20 Minuten Youth Lab geht es konkret um die Bearbeitung der Frage, was 20 Minuten und Tamedia von Jugendlichen und ihren digitalen Verhaltensweisen, Einstellungen und Präferenzen lernen können. Umgekehrt fragen wir, welchen Beitrag 20 Minuten und Tamedia leisten können, um Jugendlichen als verlässliche Partner im digitalen Informationsumfeld zu dienen. Dabei werden Jugendliche im Sinne eines Co-Design-Prozesses eingeladen, gemeinsam mit dem 20-Minuten-Team Storys und Inhalte zu entwickeln. Im Zuge dieser Arbeit werden 20-Minuten-Mitarbeitende und Jugendliche sich gegenseitig bestimmte Kompetenzen beibringen. Im Rahmen von Einzelgesprächen, Gruppendiskussionen, Fallstudien und Fokusgruppen werden dabei die Meinungen und Perspektiven von Jugendlichen und ihre Relevanz in Bezug auf die Entwicklung neuer Themen, Ideen, Programme, Branding etc. thematisiert und bestehende Produktideen im Sinne eines Sounding Boards diskutiert oder mittels Werkstattformat neue Ideen entwickelt.

Modalities: (1) Knowledge: Use conversations to discuss the opinions and perspectives of young people and their relevance to the development of new topics, ideas, programs, branding, etc. (2) Connecting: Discuss existing product ideas in terms of a "sounding board" or develop new ideas using innovative workshop formats. (3) learning: teach each other specific skills; and (4) implementing: co-creating of content that really appeals to young people.

More information at:
https://youthlab.20min.ch/

EXAMPLE: YOUTH LAB

This project addresses the question of what a company (20 Minutes) can learn from adolescents and their digital behaviors, attitudes and preferences. Conversely, the company serves as 20 a reliable partner in the digital information environment.

Source: https://www.cifar.ca/docs/default-source/ai-society/buildingandaiworld_eng.pdf

POLICY LANDSCAPE

- Not surprisingly, lack of evidence in research also mirrors gaps in policy documents
- Example: national AI plans don't mention children ➔ see UNICEF mapping
- AI Ethics Principles don't mention children specifically ➔ see UNICEF/IEEE/BKC/WEF workshop
- So, there's a gap re: AI's impact on children and young people, but also some emerging activities / initiatives (i.e., UNICEF-led / Finland follow-up)

https://drive.google.com/file/d/1bUMRI7anVi0DtA5Qn7Vzo_oi0W8HEchy/view

WORKSHOP REPORT

AI and child rights policy

Table 01 Attention to children's issues across national AI strategies

	Cultivating children as a future workforce	Preparing children to exist in a changing world	Protecting children's data, privacy & rights	Bettering quality of life/services for children
AUSTRALIA				
CHINA				
CZECH REPUBLIC				
DENMARK				
FINLAND				
FRANCE				
GERMANY				
ITALY				
INDIA				
JAPAN				
MALTA				
NETHERLANDS				
POLAND				
SOUTH KOREA				
SPAIN				
SWEDEN				
UNITED KINGDOM				
UNITED STATES				

COLOUR KEY:

ARTIFICIAL INTELLIGENCE & INCLUSION

Artificial intelligence and related technologies have begun to shape important parts of the digital economy and affect core areas of our increasingly networked societies. Whether it be transportation, manufacturing, or social justice, AI has the potential to deeply impact our lives and transform our futures in ways both visible and hidden. The promise of AI-based technologies is enormous, and benefits range from efficiency gains to unprecedented improvements in quality of life. The challenges, however, are equally staggering, for example creating uncertainty surrounding the future of labor and the shifts in power to new structures outside the control of existing governance and accountability frameworks. More specifically, the uneven access to and impact of AI-based technologies on marginalized populations run the disturbing risk of amplifying global digital inequalities. These groups include urban and rural poor communities, women, youth, LGBTQ individuals, ethnic and racial groups, people with disabilities – and particularly those at the intersection of these identities.

	Design	Development	Deployment	Evaluation
Defining and Framing ("Back to First Principles")	●	●	●	●
Bridge-Building (Network Building/Liaising) Infrastructure Building	●	●	●	●
Educating	●	●	●	●
Policy-Making	●	●	●	●
Tool-Building	●	●	●	●

Javier Pallero on Transparency and AI

Micaela Mantegna on Algorithmic Awareness

Nagla Rizk on the Importance of Inclusion in AI

https://aiandinclusion.org

http://networkofcenters.net/

Network Participation GLOBAL NETWORK OF **INTERNET AND SOCIETY** RESEARCH CENTERS

In line with NoC's guiding principles, the Network will continue to expand over time, building upon existing and future collaborations with the participating centers and collectively evolving its structure and practices. The Network is peer-based and built upon actual collaboration and it is directed by an executive committee consisting of director-level liaisons of NoC's founding centers, with governance based on the principle of "rough consensus". The administrative lead, which has been exercised by the Alexander von Humboldt Institute for Internet and Society in NoC's first two years, periodically alternates among the participating centers. In October 2014, Nexa Center for Internet and Society at Politecnico di Torino took the administrative lead, which was passed to the Institute for Technology and Society of Rio, in 2017.

The NoC encompasses two types of participants:

"Participating Centers", i.e., academic research centers whose agenda is primarily focused on Internet & Society topics;

"Affiliated Participants", i.e., other types of institutions, still with Internet & Society-related open threads, carried out, e.g., as non-academic research centers, policy-support entities, or think tanks.

Center Map

The pins corresponding to centers in the same geographical area may overlap: zoom in to differentiate them

PLAN 2019 - 2021

- UNICEF is working together with the IEEE Software Association, Berkman Klein Center at Harvard University, 5Rights Foundation, World Economic Forum and others – with support from and in partnership with the Government of Finland
- Host workshops to consultatively develop policy guidance for AI and children, including with children
- Launch at AI and Children High-level Forum (June 2020)
- Pilot guidance with countries and companies and develop case studies

IGF Internet Governance Forum

THE IGF IS A GLOBAL MULTISTAKEHOLDER PLATFORM THAT FACILITATES THE DISCUSSION OF PUBLIC POLICY ISSUES PERTAINING TO THE INTERNET

IGF 2019 OF #33 Developing policy guidelines for AI and child rights

How we learn

Digitization is changing the way we learn:

- Mobile learning: the introduction of mobile technology in formal education; Importance of learning "on the go".
- Connected learning: A trend towards interest-oriented, networked learning, digitally linking different learning spaces, services and institutions.
- Problem-based learning: Acquiring digital skills and meta-competencies by (collaborating) working on concrete and learner-relevant issues.

With whom we learn

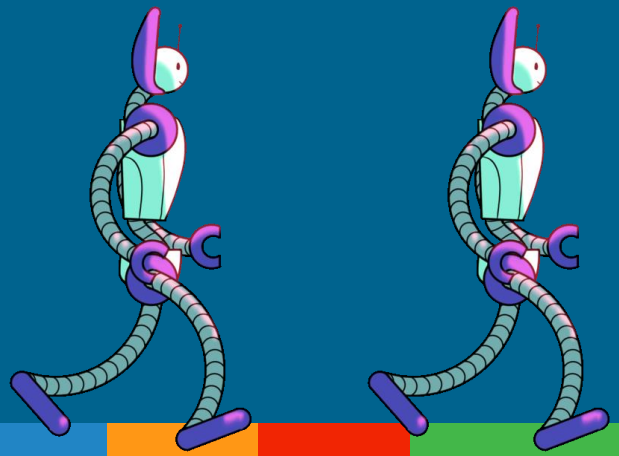
In line with the change in the "how" and "where" of learning, digitization is also changing, by and with whom we are learning. These changes expand the scope for thought and action. Interesting new "partners" in the field of digital education and skills include:

- Virtual tutors and mentors
- Peers (Example: Guilds in Games)
- Influencer (example: YouTubers)
- Specialized platforms (example: Bettermarks) Broker (example: Kiron)

Where we learn

Under analogous conditions, the focus was on schools and formal institutions of education when it comes to the "where" of learning. Digitization leads to local shifts and cross-linking between places, for example:

- Virtual classrooms and hybrid learning (example: distance learning, MOOCs)
- Importance of extracurricular learning (examples: Khan Academy)
- Social media and games as sources of skills acquisition (examples: YouTube, Minecraft, Scratch)
- Connectednes and transformation of public spaces (examples: libraries, museums)



EDUCATION

Teachers
Administrators

IMPACTS OF AI ON THE LEARNER
IN FORMAL EDUCATION (SCHOOLS)

New ways of learning

- AI systems that help improve learning and the conditions of learning (e.g., personal curriculum, retention, well-being, assessments, ...)
- AI systems that help students learn (e.g. AI tutors, digital assistants, ...)

Highlighting "Old" Needs

- High-quality education and learning
- Opportunities for all ⇒ Inclusion and equity
- Innovation in teaching and learning

"New" Needs

- New mindset
  - Open, flexible, contextual, multidisciplinary, ...
- New content / skills
  - Computational Thinking
  - Artificial Intelligence
  - Data literacy
  - ….
- Values

NEW THREATS TO INFORMATION QUALITY:

1. **Algorithmic curation.** Most commonly known as the “filter bubble” concern, algorithms designed by platforms to keep users engaged produce ever-more refined rabbit holes down which users can go in a dynamic of reinforcement learning that leads them to ever-more extreme versions of their beliefs and opinions.
2. **Bots.** Improvements in automation allow bots to become ever-more-effective simulations of human participants, thereby permitting propagandists to mount large-scale influence campaigns on social media by simulating larger and harder-to-detect armies of automated accounts.
3. **Fake reports and videos.** Improving automated news reporting and manipulation of video and audio may enable the creation of seemingly authentic videos of political actors that will irrevocably harm their reputations and become high-powered vectors for false reporting.
4. **Targeted behavioral marketing powered by algorithms and machine-learning.** Here, the concern is that the vast amounts of individually-identifiable data about users will allow ever-improving algorithms to refine the stream of content that individuals receive so as to manipulate their political opinions and behaviors.

Source: https://cyber.harvard.edu/story/2018-07/understanding-media-and-information-quality-age-artificial-intelligence-automation

WORLD ECONOMIC FORUM

COMMITTED TO IMPROVING THE STATE OF THE WORLD

Global Challenge Insight Report

The Future of Jobs

Employment, Skills and Workforce Strategy for the Fourth Industrial Revolution

January 2016

Working Group on Education:

Digital skills for life and work

September 2017

BROADBAND COMMISSION FOR SUSTAINABLE DEVELOPMENT

EUROPEAN COMMISSION

Brussels, 10.6.2016
COM(2016) 381 final

COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS

A NEW SKILLS AGENDA FOR EUROPE

Working together to strengthen human capital, employability and competitiveness

{SWD(2016) 195 final}

EN

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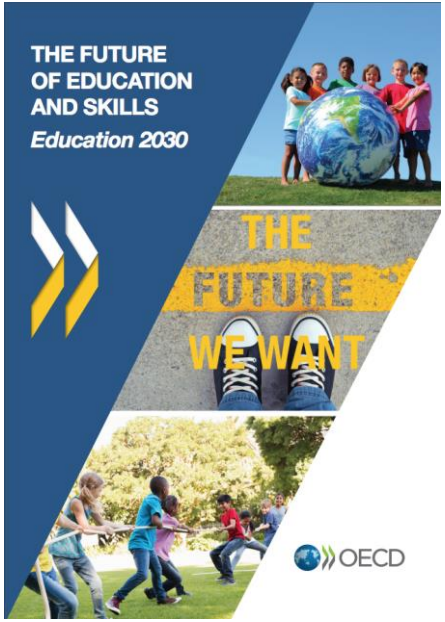
THE FUTURE OF EDUCATION AND SKILLS

Education 2030



OECD