



Welcome

October 27, 2023

Agenda

8:30-10:00am	Problems of Practice Consultancy
10:00-10:15am	Networking and Snack Break
10:15-11:15am	Future of Work Lab
11:15am-12:15pm	Employer Panel on the Future of Work and the Impact on Talent Pipelines and Employer Engagement
12:15-12:30pm	Closing and Connecting the Dots
12:30-1:00pm	Adjourn; Grab-and-Go Lunches



Problems of Practice Consultancies

October 27, 2023

Problem of Practice Consultancy Pairings

- Boston & Denver **Room: Alcott**
- Columbus & Indianapolis **Room: Kennedy (downstairs)**
- Dallas & Nashville **Room: King**



Networking & Snack Break

10:00-10:15



Future of Work Lab

October 27, 2023

Hey, ChatGPT, What is the Future of Work?

“The future of work is a topic of great interest and speculation, as it is constantly evolving due to technological advancements, societal changes, and economic shifts. While I can't predict specific future events, I can outline some trends and possibilities that experts have been discussing:”



“It's important to note that the future of work will vary across different sectors and regions. While these trends provide insights into potential developments, the future workplace will likely be shaped by a complex interplay of technological advancements, economic factors, and social dynamics.”

Future of Work Bridging Research, Policy, & Practice



The Work of the Future:

Building Better Jobs in an Age of
Intelligent Machines



Clearing the Path to a Good Job for All Youth and Young Adults

Georgetown University
Center on Education and the Workforce

ARTIFICIAL INTELLIGENCE AND THE FUTURE OF WORK

THOMAS W. MALONE, DIRECTOR, MIT CENTER FOR COLLECTIVE INTELLIGENCE
PATRICK J. MCGOVERN PROFESSOR OF MANAGEMENT, MIT SLOAN SCHOOL OF
MANAGEMENT

DANIELA RUS, DIRECTOR, COMPUTER SCIENCE AND ARTIFICIAL INTELLIGENCE
LABORATORY (CSAIL)
ANDREW & ERNA VITERBI PROFESSOR OF ELECTRICAL ENGINEERING AND COMPUTER
SCIENCE
MIT TASK FORCE ON THE WORK OF THE FUTURE MEMBER

ROBERT LAUBACHER, ASSOCIATE DIRECTOR, MIT CENTER FOR COLLECTIVE
INTELLIGENCE



Questions to Ponder in this Session

- ❖ When you look at the impact on equity, what do you see or foresee in your own systems?
- ❖ What skills and occupations are most susceptible to change?
- ❖ What can we do within our pathways work/what alterations can we make to help provide our students with a future ready skill set?





Clearing the Path to a Good Job for All Youth and Young Adults

GEORGETOWN UNIVERSITY



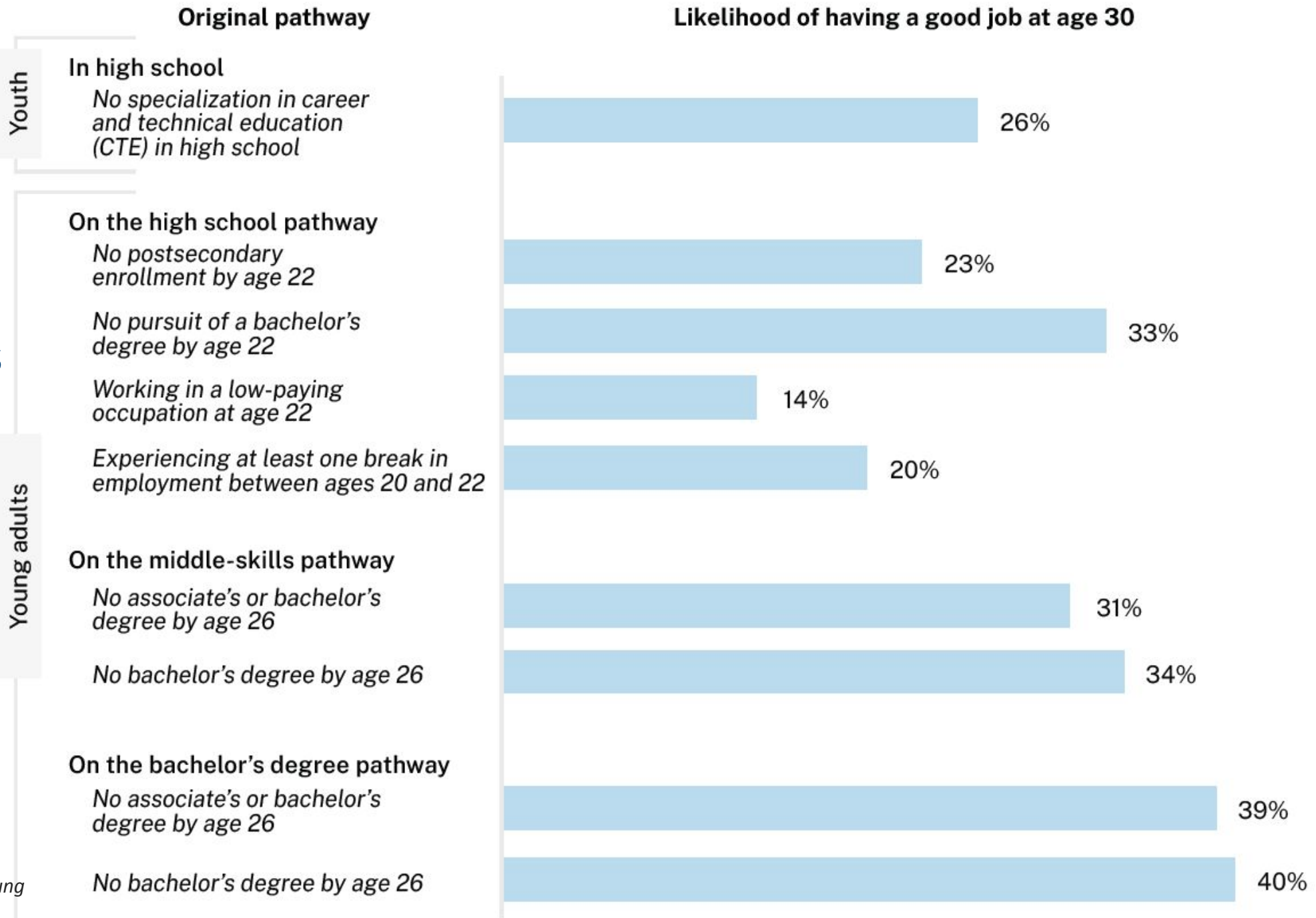
Center
on Education
and the Workforce

McCourt School of Public Policy

Define a Good Job

- Job quality has multiple dimensions, including wages and access to employer benefits.
- Georgetown considered the entry point to a good job to be the minimum earnings required for economic self-sufficiency.
- At the national level, they define a good job as one that pays at least \$43,000 (in 2022\$) for workers younger than age 45 and at least \$55,000 for workers ages 45 and older.
- Good jobs pay a median of \$64,000 for 30-year-old workers nationwide.

Millions of youth and young adults start out on pathways that are unlikely to lead to good jobs



Source: Georgetown CEW, *Clearing the Path to a Good Job for all Youth and Young Adults*.

Pathway changes that could most improve the likelihood of having a good job at age 30

Specialize in
CTE

Entering a
certificate or
AA/AS
program by
age 22

Entering a BA
program by
age 22

Experiencing
continuous
employment
from ages 20
to 22

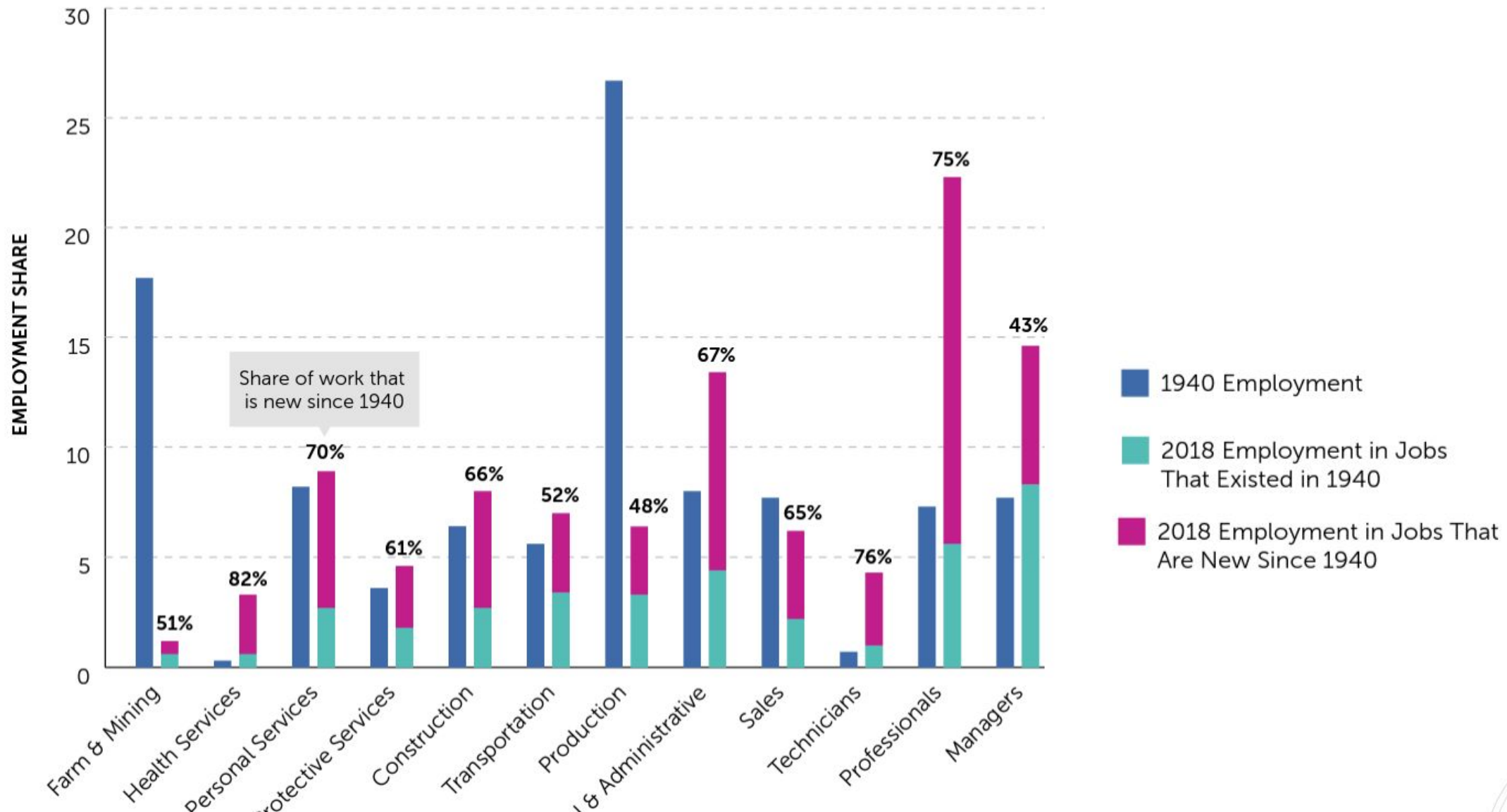
Working in a
blue-collar
occupation at
age 22

Working in a
STEM
occupation at
age 22



What does the future of work research say? Impact on Equity

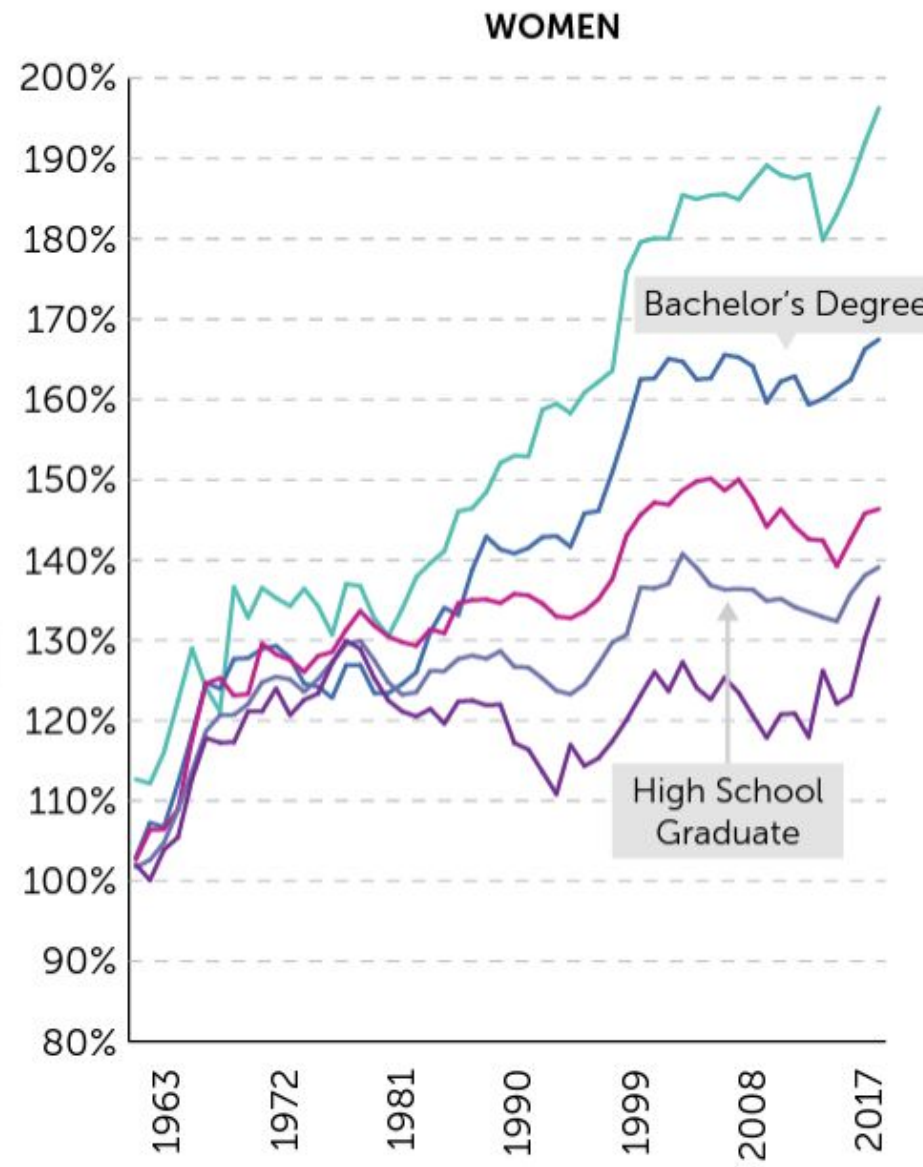
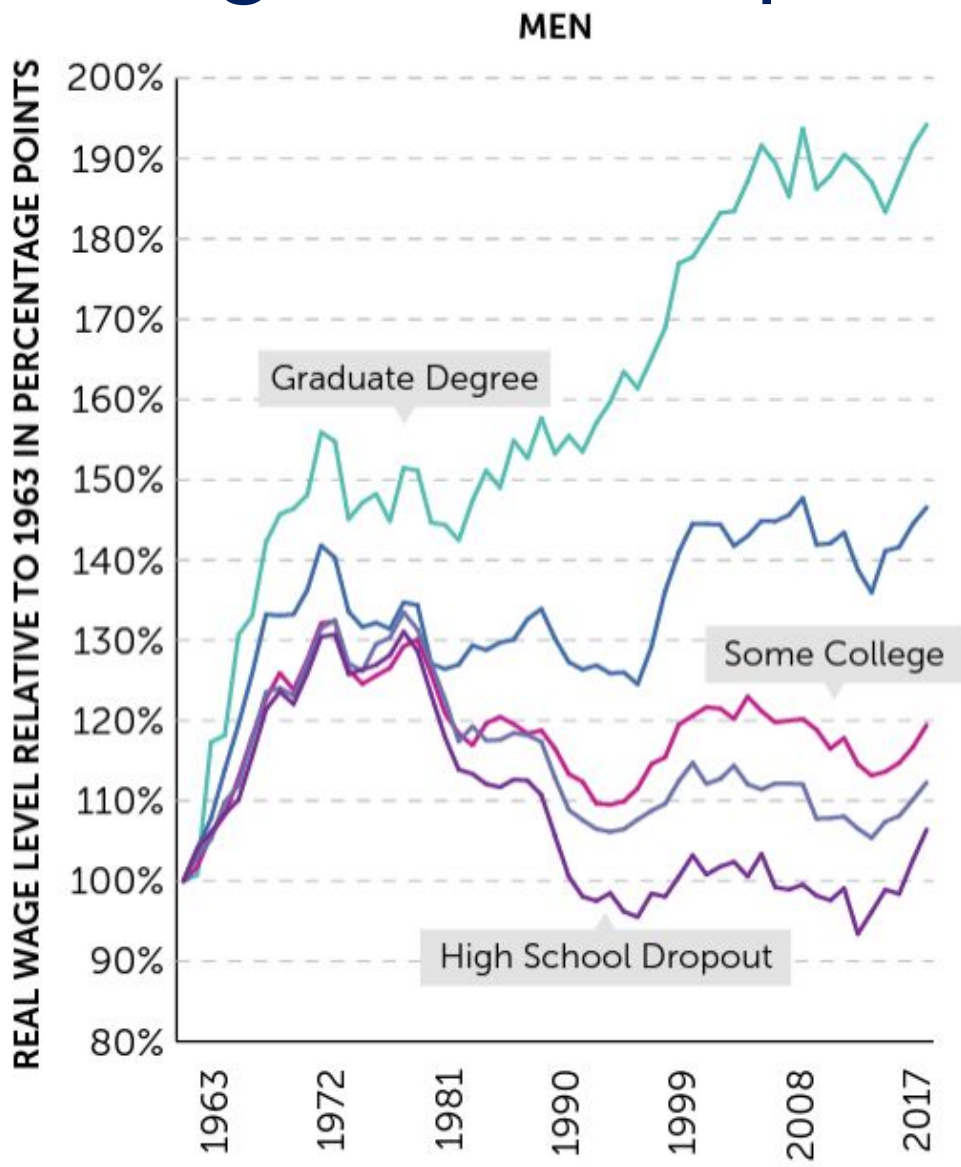
>60% of jobs in 2018 had not been “invented” in 1940



Notes: Comparing the Distribution of Employment in 1940 and 2018 Across Major Occupations; Distinguishing Job Categories Added Between 1940 and 2018 from Job Categories Present in 1940.
 Source: Autor, Salomons, and Seegmiller, 2020.

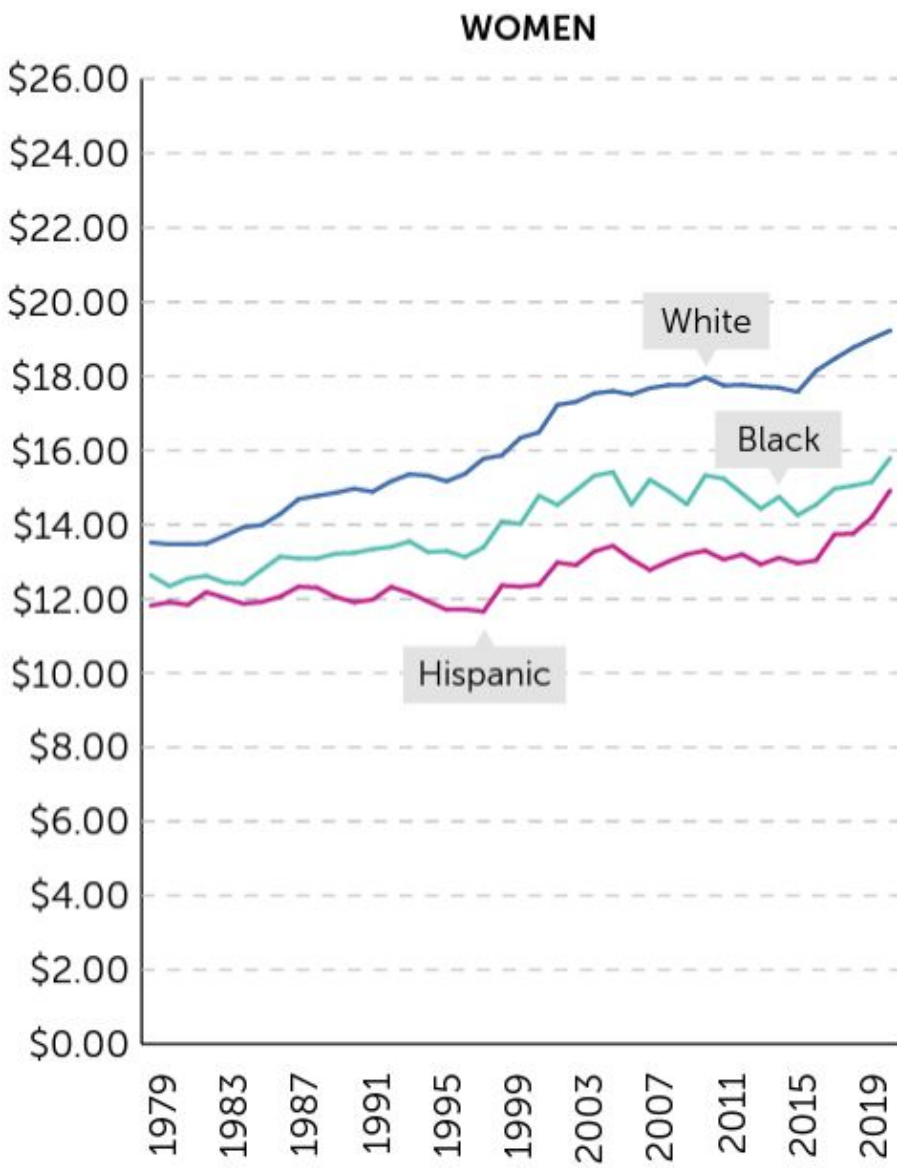
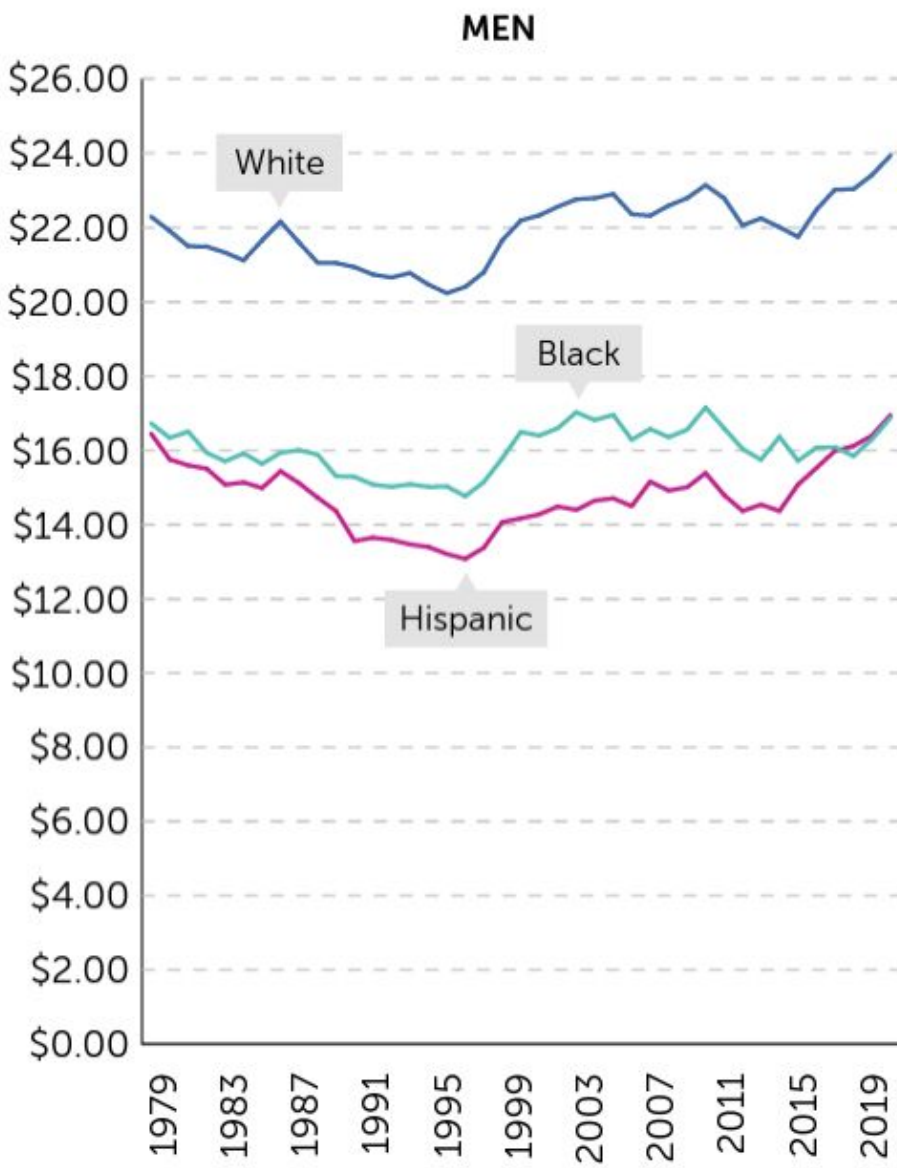
Real Wages Have Risen for College Graduates and Fallen for Workers with High School Diploma or Less Since 1980

Cumulative change in real weekly earnings of working-age adults ages 18 - 64 1963 - 2017



Source: Autor, David H. "Work of the Past, Work of the Future." AEA Papers and Proceedings 109 (May 2019): 1-32

AND it's not equal: Modest Median Wage Increases in the U.S. Since 1979 Were Concentrated Among White Men and Women



Source: Economic Policy Institute, State of Working America Data Library, "Median/Average Hourly Wages," 2019.
<https://www.epi.org/data/#?subject=wage-avg>

Non-college educated workers used to be able to earn more by moving to cities, but no longer

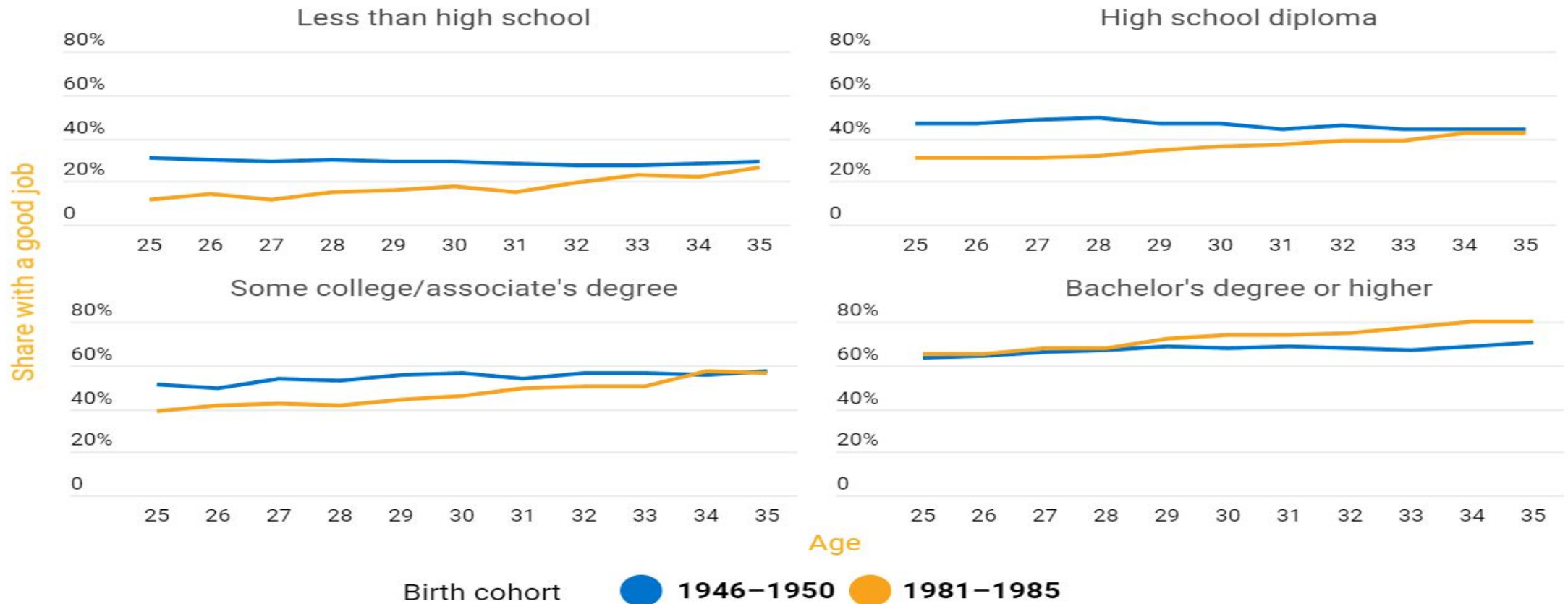
Changes in occupational employment shares in urban vs. Non-urban labor markets by education, gender, and race/ethnicity, 1980 - 2015



Source: David Autor, "The Faltering Escalator of Urban Opportunity," MIT Work of the Future Research Brief (July 2020).

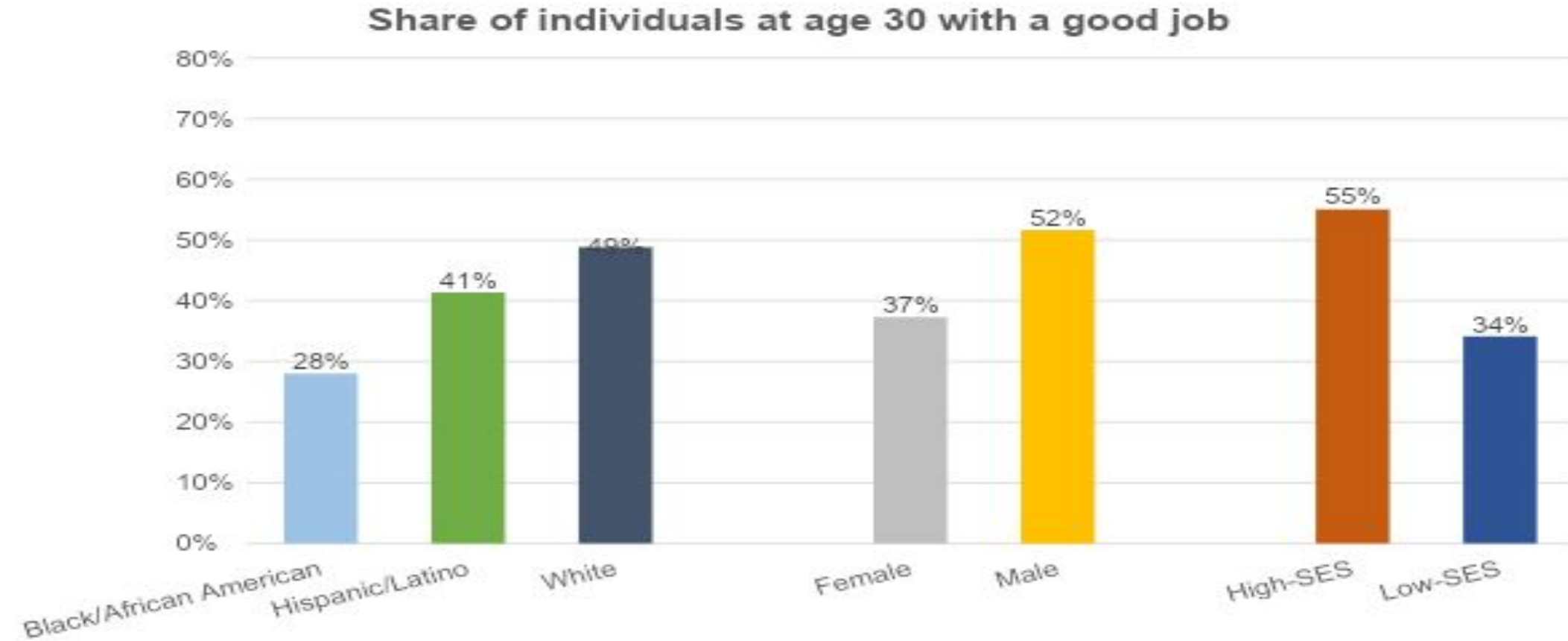
Add to this information what Georgetown found about good jobs: *The increase in likelihood of having a good job after age 30 is driven entirely by young workers with a BA or higher*

Share of workers at each education level with a good job



Source: Georgetown CEW, *Clearing the Path to a Good Job for all Youth and Young Adults*.

Much like the data on median and high wages, good jobs are much more likely to be held by men, white young adults, and young adults from upper-class families



Turn and Talk

- ❖ When you look at the impact on equity, what do you see or foresee in your own systems?



What does the future of work research say? Impact on Occupations

No law requires the number of new jobs = elimination of old jobs; but that tends to be the case

New technologies can take decades from the birth of invention to their assimilation into business processes and widespread adoption.

This pace of change opens opportunities to craft policies, develop skills, and create investments to shape pathways.

Year in Which New Occupation Added to US Census	New Occupation
2000	Artificial Intelligence Specialist


23 years ago!

Occupations Most Susceptible to Automation & AI

meet median wages of \$43,000

meet median wages of \$64,000

Good jobs pay a median of \$64,000 for 30-year-old workers nationwide.

Advanced Manufacturing & Construction

- Assembly line workers
- **Machine operators**
- **Welders and metal workers**
- **Material handlers**
- **Quality control inspectors**
- **Bricklayers and masons**
- **Heavy equipment operators**
- **Demolition workers**
- **Surveyors**

Business

- **Administrative assistant**
- **Bookkeeping and accounting clerks**
- Retail workers
- Telemarketers
- **Sales Reps**
- **Procurement officers**
- **Human Resources***-some tasks such as applicant screening and benefits admin

Healthcare

- Medical Transcriptionist
- **Radiologic Technologists**
- **Pathology & Lab Techs**
- Pharmacy Technicians
- **Nursing***-some administrative tasks, vital signs, patient records

Information Technology

- **IT support specialist**
- Data entry and processing
- **Network and system administrator**
- **Software testing**
- **IT security analysts**
- **Quality assurance analyst**
- **Basic programming and scripting**

The machines are not completely taking over jobs: It's about augmentation, skills, and skill development

- In research on implementing AI-based software systems, they found that it did not result in laying off entire teams of people, but it did slow down hiring in related departments.
- AI, machine learning, robotics, and additive manufacturing are indeed poised to transform the economy. Those transformations will be the culmination of thousands of innovations and will take time.
- Occupations are augmented with different skills and competencies and people can be supported through professional development and upskilling.

It may start slow, but it's coming around.

The AI industry is expected to experience a steady job growth of 37% between 2023 and 2030 and currently, more than 77% of the world's population uses an AI-powered device or service.

Boston Dynamics: Robotics & AI Example



Boston Dynamics: Robotics & AI Example

At your tables, discuss

- What jobs did you hear/see them use to develop and maintain the robot?
- What industries did the developers say humanoid robots would be most suited for?
- Where do you have pathways that support this?

Answers:

Jobs: animation software developer; team/project management lead; software engineer; electrical engineering technician; senior mechanical technician

Industries: manufacturing; construction; disaster response

12 School Districts Adopt University of Florida- AI Education Program

The world is changing, and artificial intelligence (AI) is becoming increasingly prevalent – even in schools in Florida.

High schools across the state will offer AI coursework this upcoming year through a UF-designed education program. The program’s goal is to equip youth with the skills required for an AI-enabled workforce.

Nancy Ruzycki, a professor at UF’s Herbert Wertheim [College of Engineering](#), is one of the architects of the coursework, called AI Foundations, which will be delivered through the state’s [Career and Technical Education \(CTE\)](#) programs.

“We’ve been building out this supportive pipeline for AI and data science in the state of Florida with the ultimate goal of infusing AI throughout the state’s public-school curriculum, from kindergarten through 12th grade,” she said in a news release



AI Is Changing the Workforce. At This District, It's Changing the Curriculum Too.

Anaheim Union High School District laid out a commitment to preparing students for the future workforce. One element of its Career Preparedness Systems Framework includes embedding career pathways that provide **“intensive learning experiences and internships” in cutting-edge careers like AI, biotechnology and cybersecurity.**

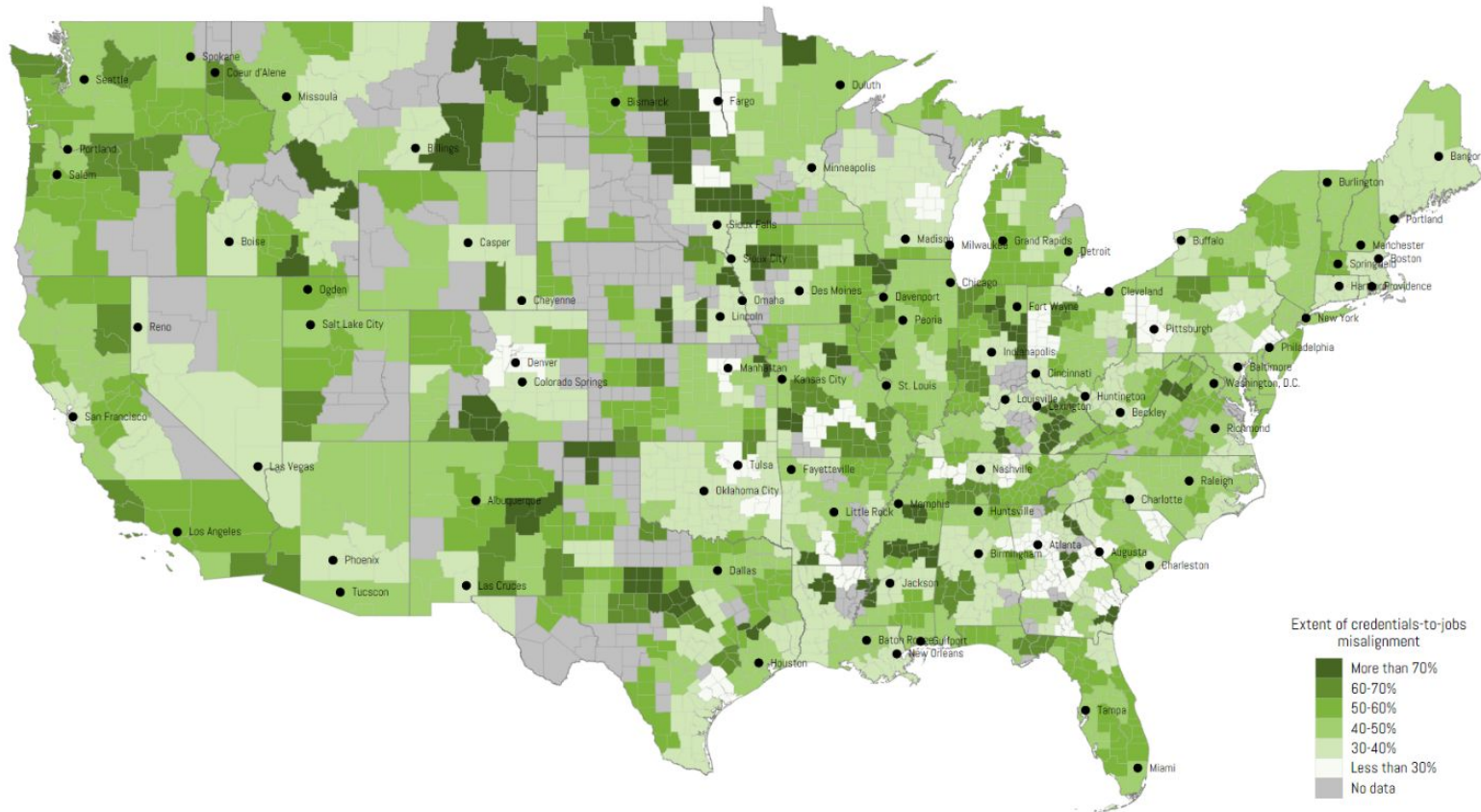
Focusing on three essential drivers—21st century skills (soft skills), technical skills (hard skills) and what the district calls the cultivation of student voice and purpose—Anaheim is preparing students for an AI-fueled future. They are training students to serve as cybersecurity experts and data scientists; to orchestrate teams of AI-enabled robotic chefs in commercial kitchens; or launch startups that use AI to transform healthcare delivery.

Superintendent Michael Matsuda says the district, which includes 21 campuses and serves about 31,000 students that speak 49 different languages in their homes, wants to build a system of workforce alignment. **“Both myself and the school board feel that whether young people have access to meaningful jobs that they’re interested in,” he explains, “will be the ultimate barometer of equity and social justice in society.”**



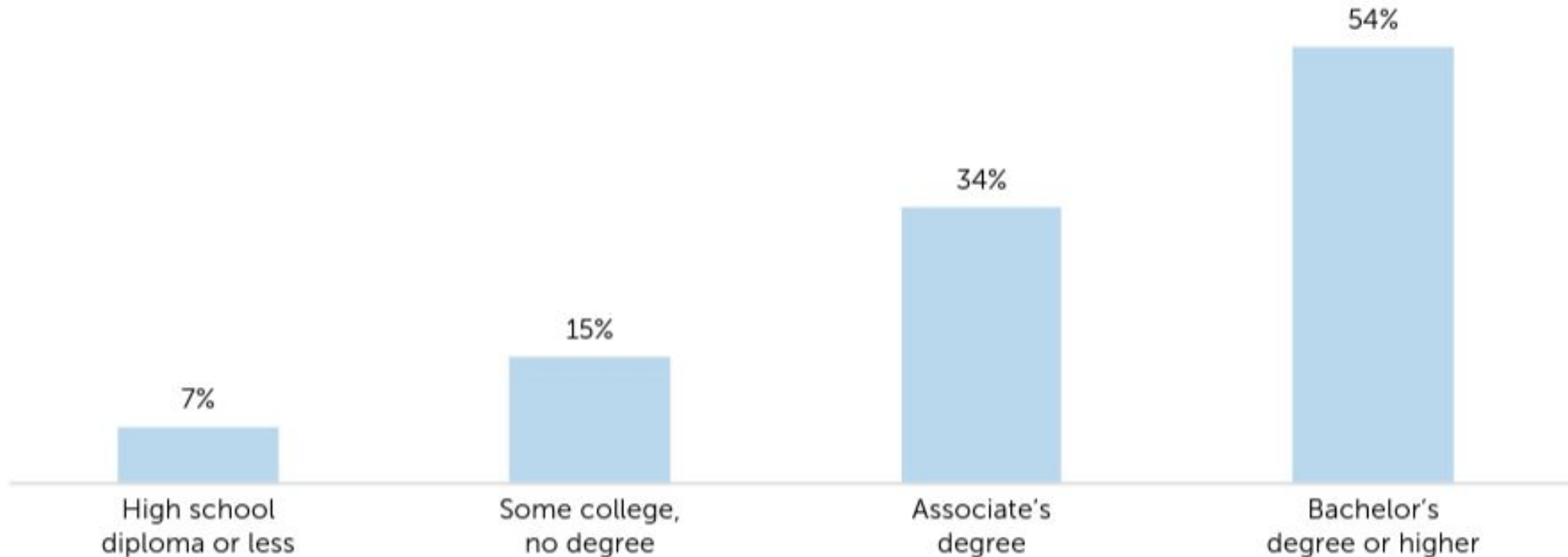
Recommendations

1. We must improve alignment between the supply of credentials and the needs of local economies



2. We must expand work-based learning so it is the rule, not the exception

Share of young adults (ages 25–35) who completed a work experience program



3. We need a comprehensive career counseling system

- Career navigation has become extremely complicated.
 - The number of occupations has grown 3x since 1950.
 - The number of postsecondary programs has grown 5x since 1985.
 - The number of unique credentials exceeds one million.
- And yet, we have not developed a comprehensive career counseling system that this complexity requires.
 - Only 14% of high school students talk with a counselor about their career interests and plans.
 - Fewer than 25% of college graduates utilize campus career services.



4. **We must pursue an all-one-system strategy that extends beyond education, training and work**
 - We need to embed college and career pathway initiatives in a holistic strategy that addresses the many root causes of job insecurity and economic disadvantage.



Four Square: Discuss at your tables and fill in your chart paper

Pathways
Alignment

What
alterations or
innovations
can we make to
help provide
our students
with a future
ready skill set?

WBL

Career
Advising

Equity

NEW SKILLS
READY NETWORK



Employer Panel on the Future of Work and the Impact on Talent Pipelines and Employer Engagement

October 27, 2023

Employer Panel



Rosalin Acosta
Managing Director,
Government and Public Sector
Ernst and Young



Aimee Z. Sprung
Director
Microsoft State Government Affairs



Moderated by
Matthew Muench
Executive Director
JPMorgan Chase & Co.



Connecting & Closing the Dots

October 27, 2023

Innovate



- When you think about the fundamental reimagining of how our K-12, postsecondary, and workforce systems connect with one another in service of greater student opportunity and success, what is one commitment you are taking back with you?

The New Skills Ready Network



Education is a core driver of strong economies and thriving communities. **K-12 and their partners must prepare students to both learn and earn, complete and compete** to drive economic mobility.



Postsecondary readiness should be the core mission of high schools. Every student should graduate with the momentum & readiness to seamlessly enroll in quality postsecondary education and training.



To do this, we must **support students to and through demand-driven education to workforce pathways** that build their readiness for a range of high-value postsecondary options from which they choose their path forward.

Next Steps

1. Fill out the exit tickets on your table!
1. And, save the date for the NSrn Spring Convening in Dallas, TX! Dates coming soon.

