LOW DIGITAL LITERACY IN THE UNITED STATES

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MAKING RESEARCH RELEVANT

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Digital technologies are pervasive

- estimated annual U.S. retail trade sales done online doubled in 2012 ($230 Billion), and more than tripled since 2006, now amounting to $389 Billion (2016)

- 86% of Federal Tax filing happen online (2016), up from 81% in 2012

- since 2014, GED testing is exclusively computer-based

- 62% of the internet users say the internet was important or very important for maintaining social relationships in 2016, up from 56% in 2012

Sources: U.S. Census Bureau, Annual Retail Trade Survey; Internal Revenue Service Filing Season Statistics; NPR GED-related stories in January 2015; The 2017 Digital Future Report Center for the Digital Future at University of Southern California Annenberg.

Not all are "plugged in"

- in 2013, 16 percent of U.S. households reported not owning a computer

- 26 percent of U.S. households reported not being connected to the Internet

- individuals that do not have access to the internet anywhere tend to be:

  - aged 65 years and older

  - Blacks and Hispanics

  - less than $25k in household income

  - less than high school completion

Source: U.S. Census. *Computer and Internet Use in the United States: 2013., Digital Divides.*

Program for the International Assessment of Adult Competencies (PIAAC)

- first large-scale international literacy survey to assess adults' digital problem solving skills

- conducted in 2011-12 in the United States and 23 other OECD and partner countries

- consisted of background questionnaire and assessment of literacy, numeracy, and problem solving in technology-rich environments domains (here called "digital problem solving")

PIAAC Digital Problem Solving Domain

- digital problem solving assessment conducted in 19 out of the 24 participating countries, including the United States

- domain extends beyond knowing how to use computer – it reflects an ability to interact effectively with digital information to solve problems

- digital problem solving skills are assessed by simulating tasks commonly performed in computer-based settings, such as email, websites, and spreadsheets

Research Objectives

1: Profile of U.S. adults with low digital literacy

- demographics

- literacy and numeracy skills

- labor force characteristics

2: International comparison of United States on digital literacy and the use of technology
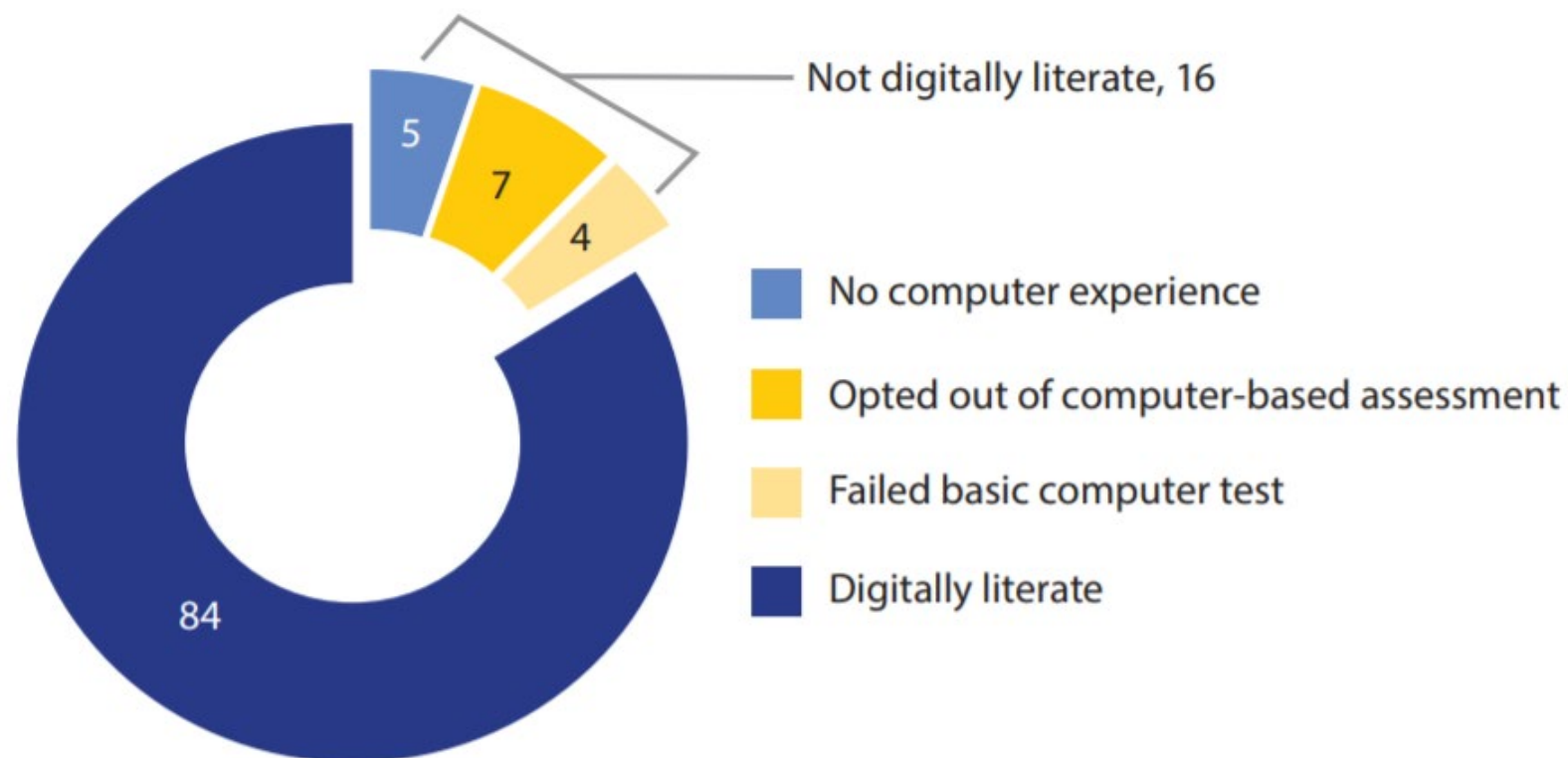
Definition of adults with low digital literacy

Three screening criteria:

- reporting prior computer use

- willing to take the assessment on the computer

- passing a basic computer test

  – ex. using the mouse and highlighting text on the screen

  one had to pass all three in order to proceed to the computer-based assessment

Adults with low digital literacy

Not digitally literate, 16

- No computer experience
- Opted out of computer-based assessment
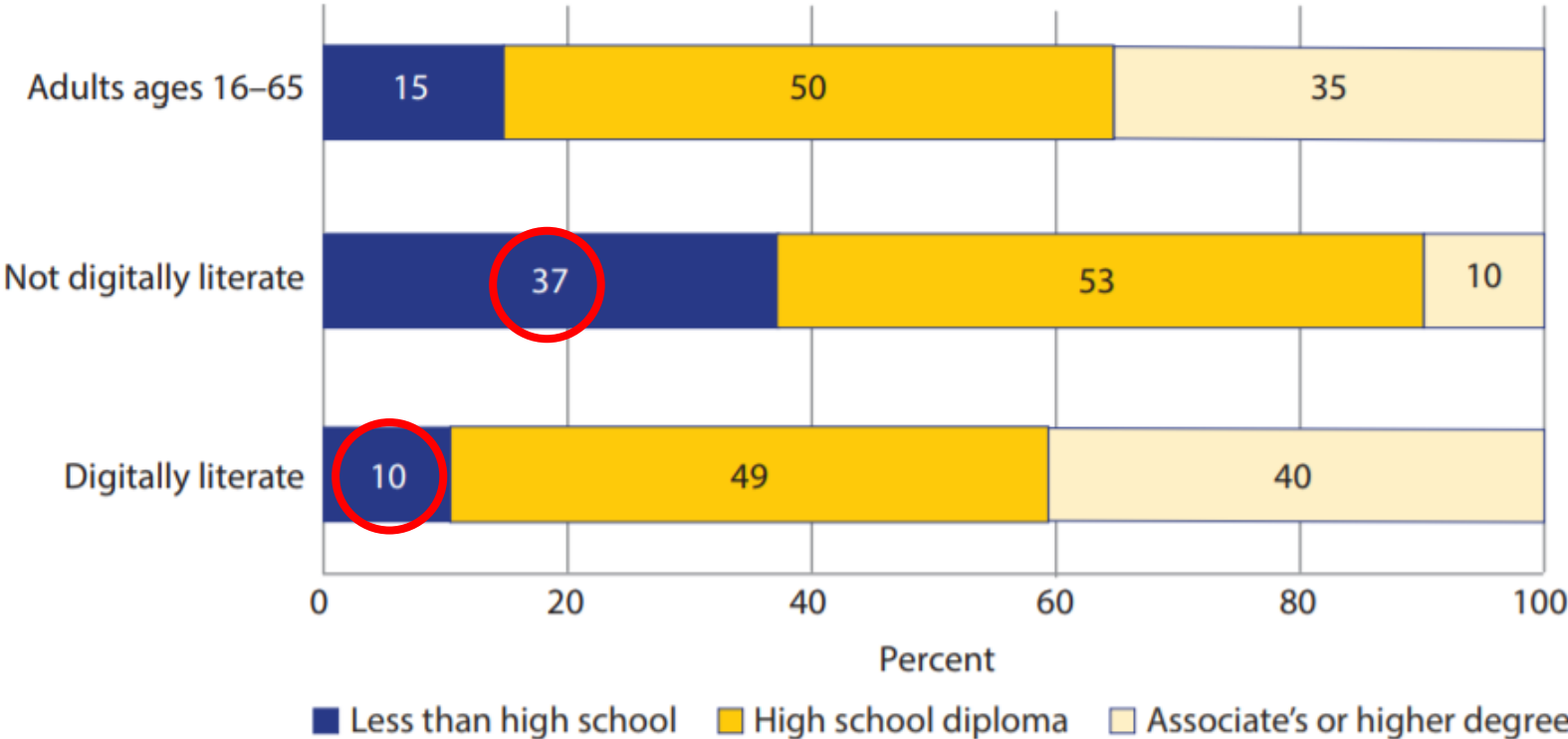- Failed basic computer test
- Digitally literate

- focus of **this analysis** is on the **16 percent of U.S. adults** who did not meet the screening criteria necessary to take the test on the computer, i.e. those with **low digital literacy**

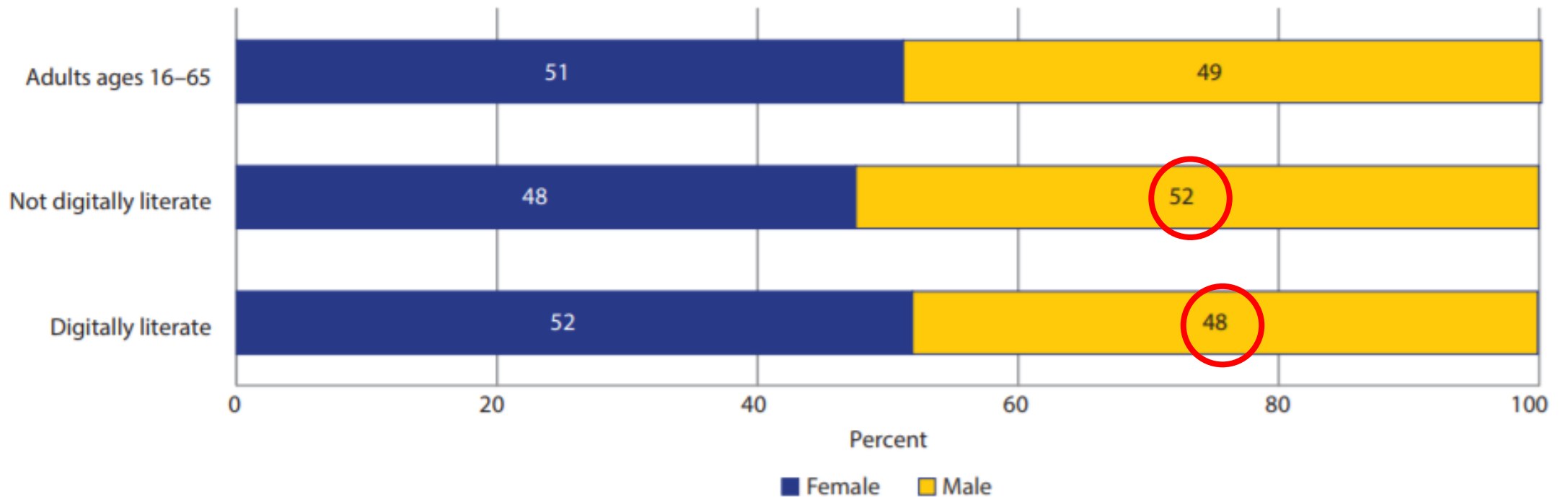# 1: Profile of U.S. adults with low digital literacy

1: Profile of U.S. adults with low digital literacy: educational attainment

- percentage of those without a high school degree was higher among the not digitally literate group than in the digitally literate group

|	Less than high school	High school diploma	Associate's or higher degree
Adults ages 16–65	15	50	35
Not digitally literate	37	53	10
Digitally literate	10	49	40

Percent

1: Profile of U.S. adults with low digital literacy: gender

- percentage of not digitally literate adults who are men is higher than that in the digitally literate group

|	Female	Male
Adults ages 16–65	51	49
Not digitally literate	48	52
Digitally literate	52	48

Percent

1: Profile of U.S. adults with low digital literacy: nativity

- percentage of foreign-born adults is higher in the not digitally literate group compared to the digitally literate group
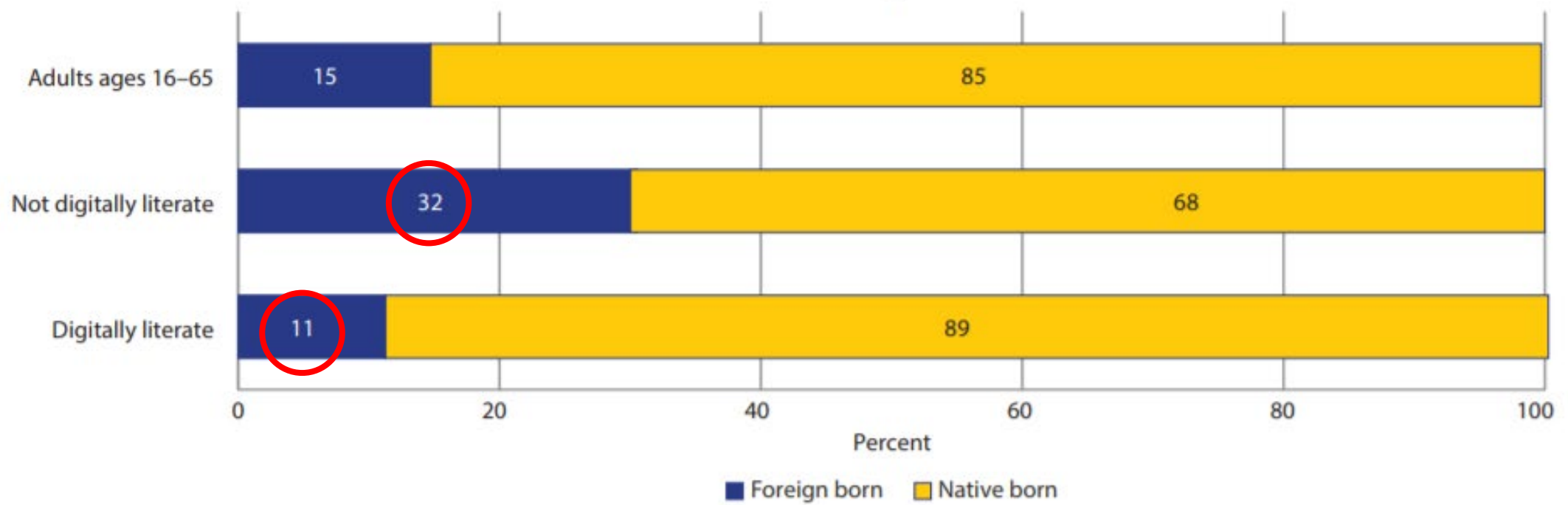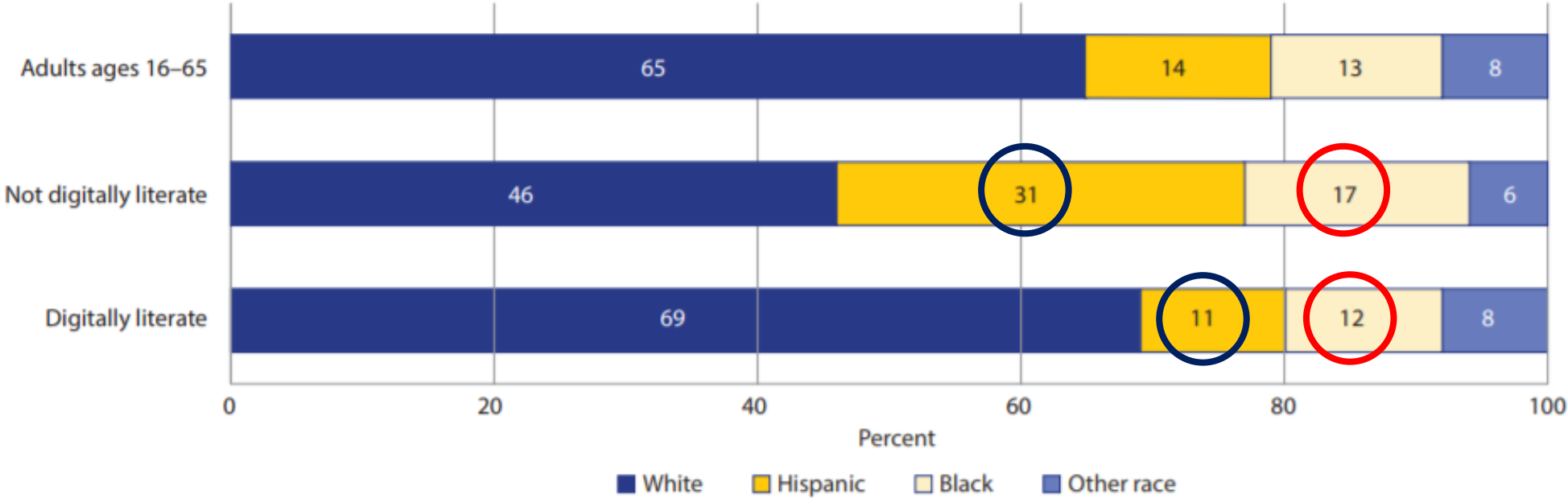
1: Profile of U.S. adults with low digital literacy: age

- percentage of those who are 45 years old or older is higher in the not digitally literate group compared to the digitally literate group
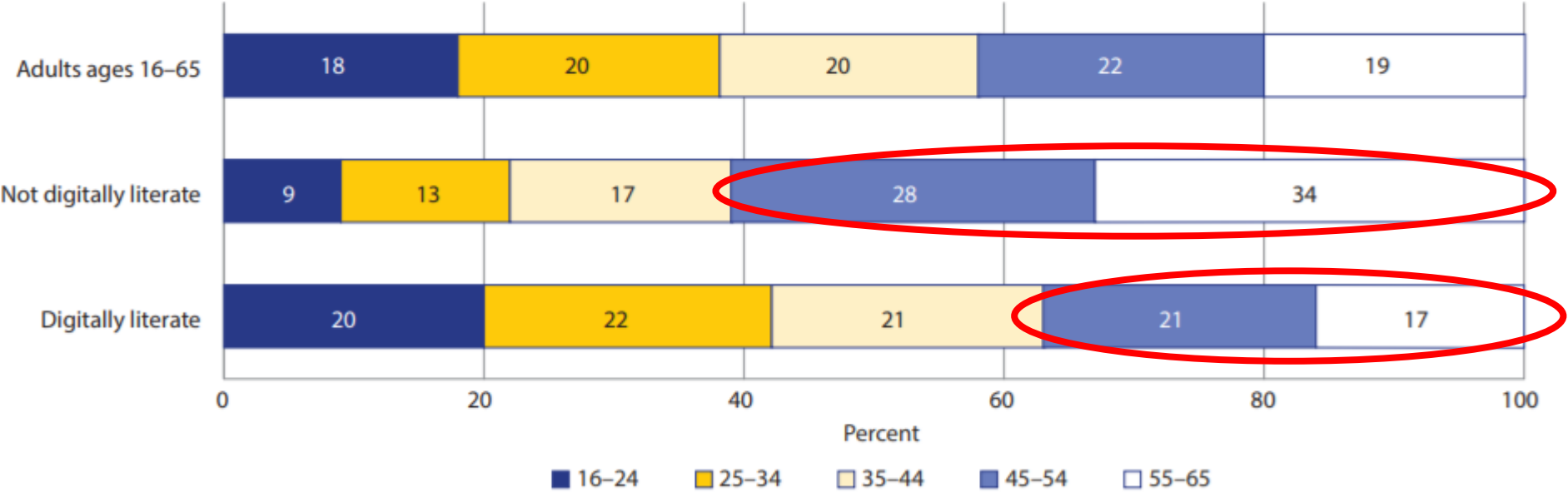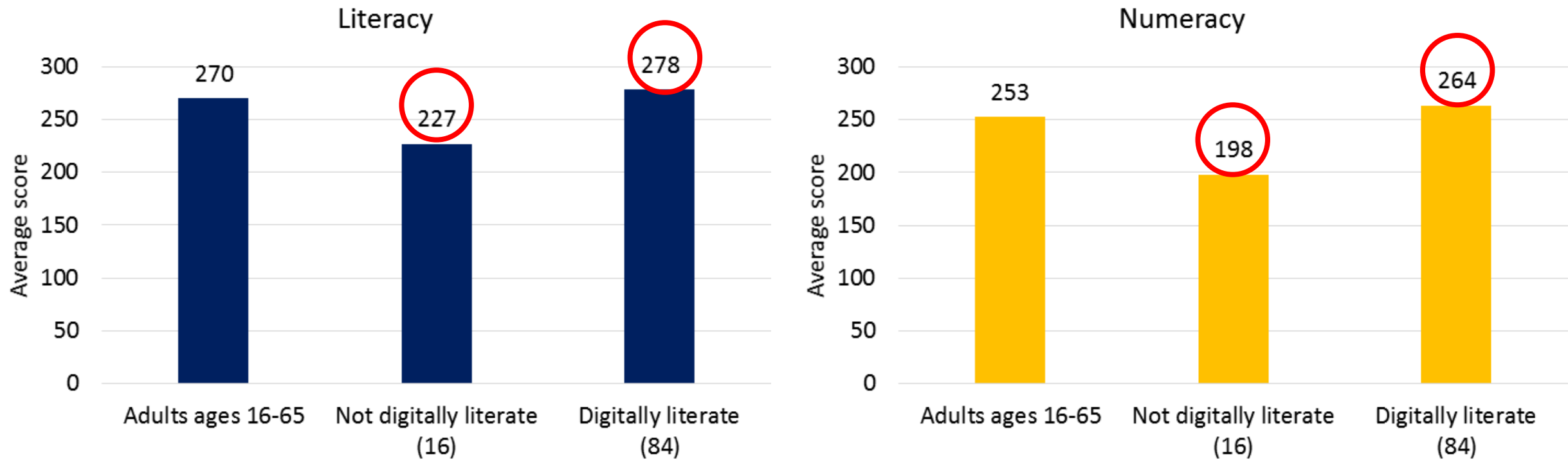
1: Profile of U.S. adults with low digital literacy: race/ethnicity

- percentages of Hispanic and Black adults are higher among the not digitally literate group compared to the digitally literate group
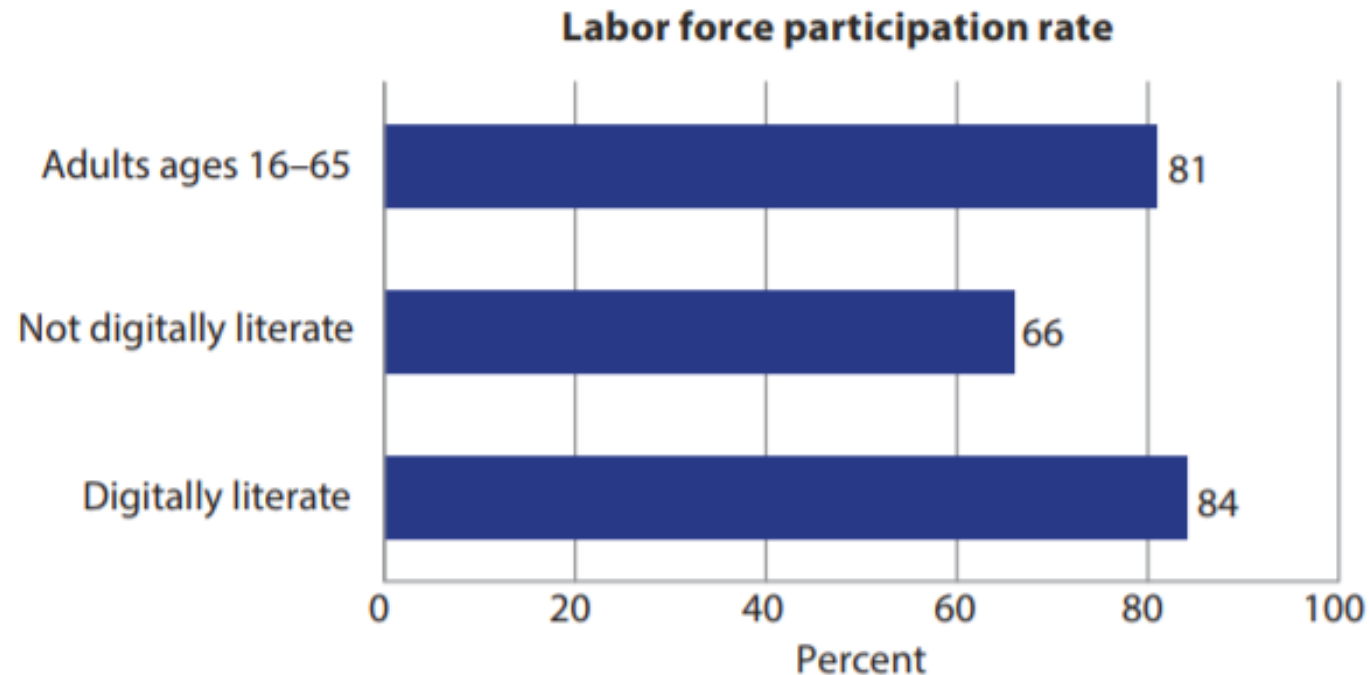
1: Profile of U.S. adults with low digital literacy: literacy and numeracy skills

- not digitally literate adults had significantly lower literacy and numeracy scores than digitally literate adults
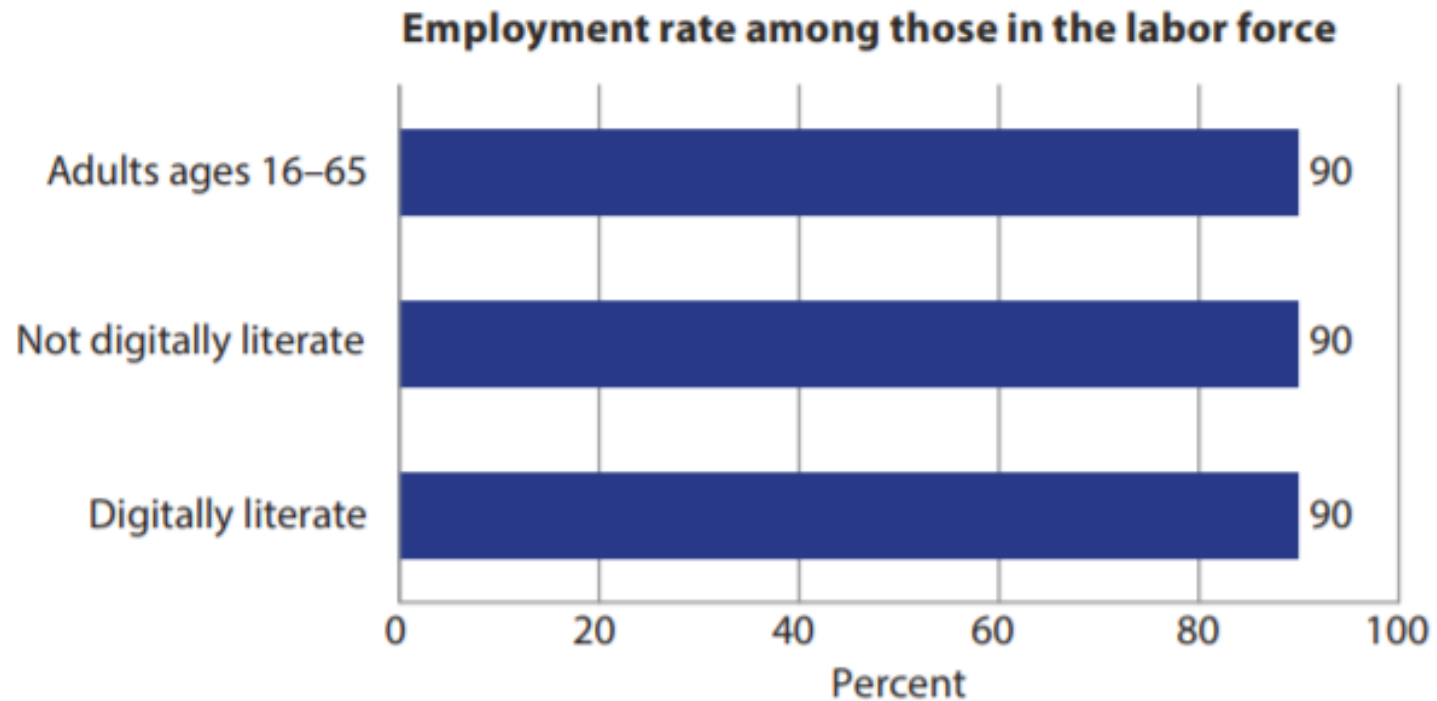
1: Profile of U.S. adults with low digital literacy: labor force participation

- not digitally literate adults have a lower rate of labor force participation than digitally literate adults

Labor force participation rate

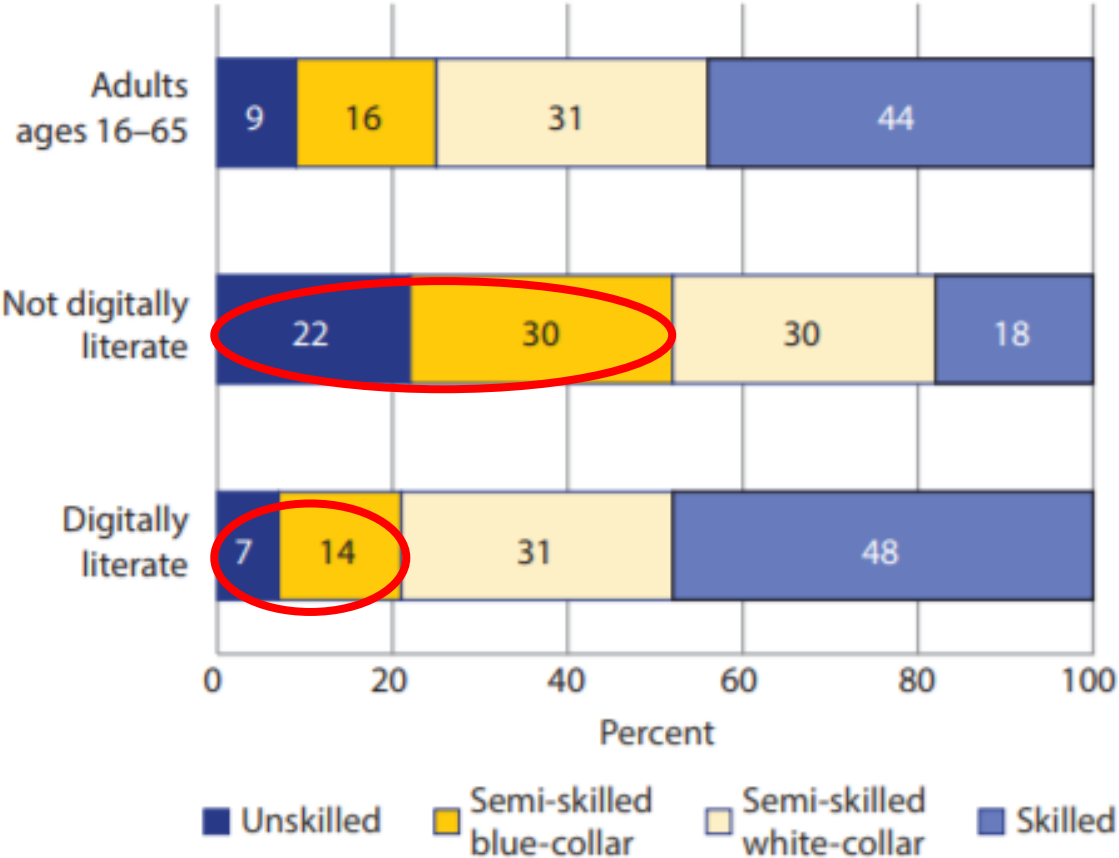|	Percent
Adults ages 16–65	81
Not digitally literate	66
Digitally literate	84

1: Profile of U.S. adults with low digital literacy: employment

- but both digitally literate and not digitally literate adults have similar employment rates

Employment rate among those in the labor force

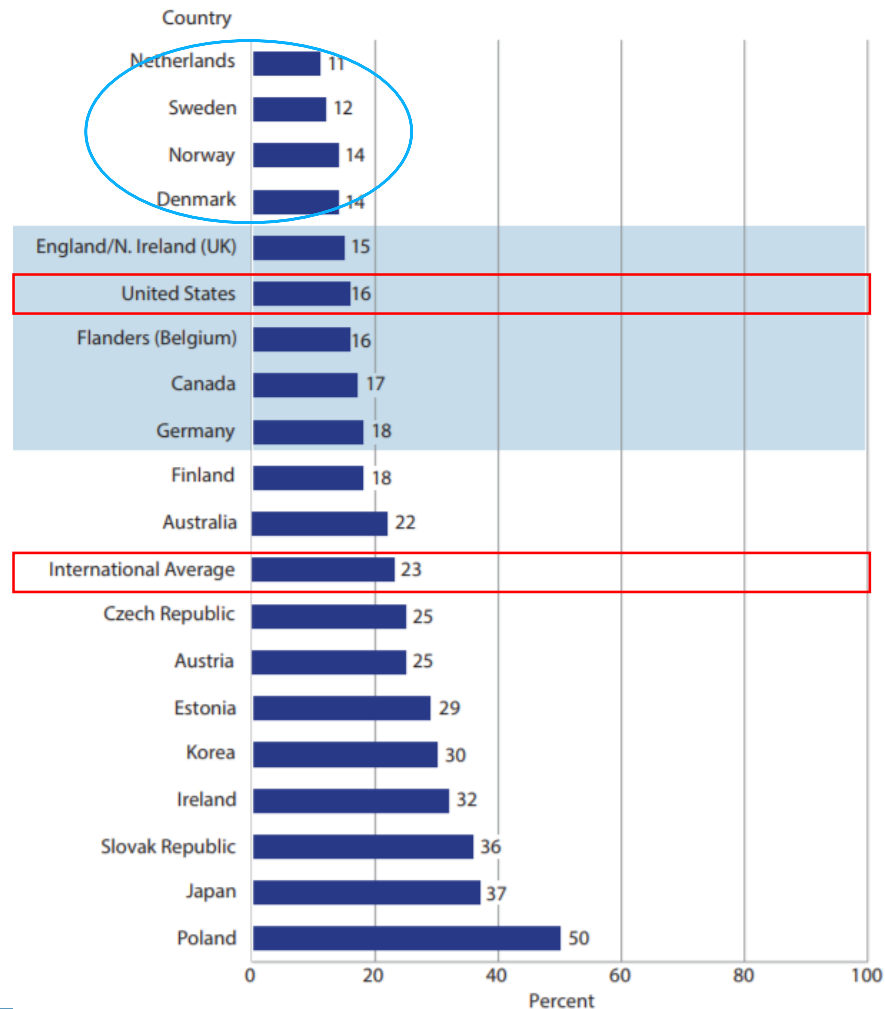|	Percent
Adults ages 16–65	90
Not digitally literate	90
Digitally literate	90

1: Profile of U.S. adults with low digital literacy: occupation

- higher percentage of not digitally literate adults work in unskilled or semi-skilled blue-collar occupations compared to the digitally literate adults
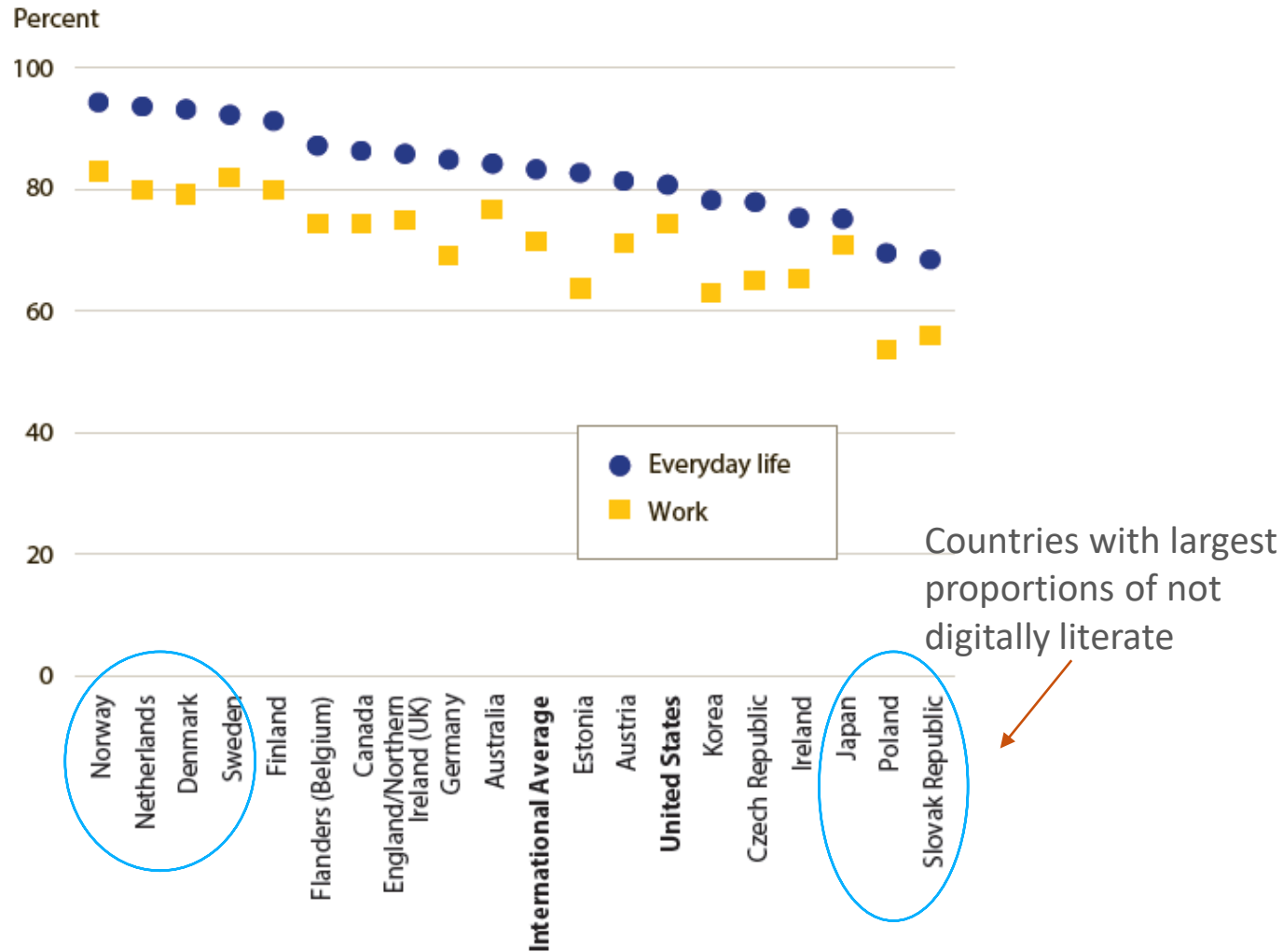
2: International comparison of United States on digital literacy and the use of technology

2: Overall digital literacy in the United States compared to other countries

Country — Percent (not digitally literate)

- Netherlands: 11
- Sweden: 12
- Norway: 14
- Denmark: 14
- England/N. Ireland (UK): 15
- United States: 16
- Flanders (Belgium): 16
- Canada: 17
- Germany: 18
- Finland: 18
- Australia: 22
- International Average: 23
- Czech Republic: 25
- Austria: 25
- Estonia: 29
- Korea: 30
- Ireland: 32
- Slovak Republic: 36
- Japan: 37
- Poland: 50

- percent of adults who are not digitally literate in the U.S. was lower than the international average 👍

- what is the level of computer-use of the countries that have even lower percentages of not digitally literate?

2: U.S. adults use of technology compared to adults in other countries

Percent

Countries with largest proportions of not digitally literate

Legend:
- Everyday life (blue dot)
- Work (yellow square)

Countries (x-axis): Norway, Netherlands, Denmark, Sweden, Finland, Flanders (Belgium), Canada, England/Northern Ireland (UK), Germany, Australia, International Average, Estonia, Austria, United States, Korea, Czech Republic, Ireland, Japan, Poland, Slovak Republic

- Norway, the Netherlands, Denmark and Sweden had the highest percentage of adults using computer in everyday life

- Japan, Poland and Slovak Republic had the lowest percentage of adults using computer in everyday life

2: U.S. adults use of technology compared to adults in other countries
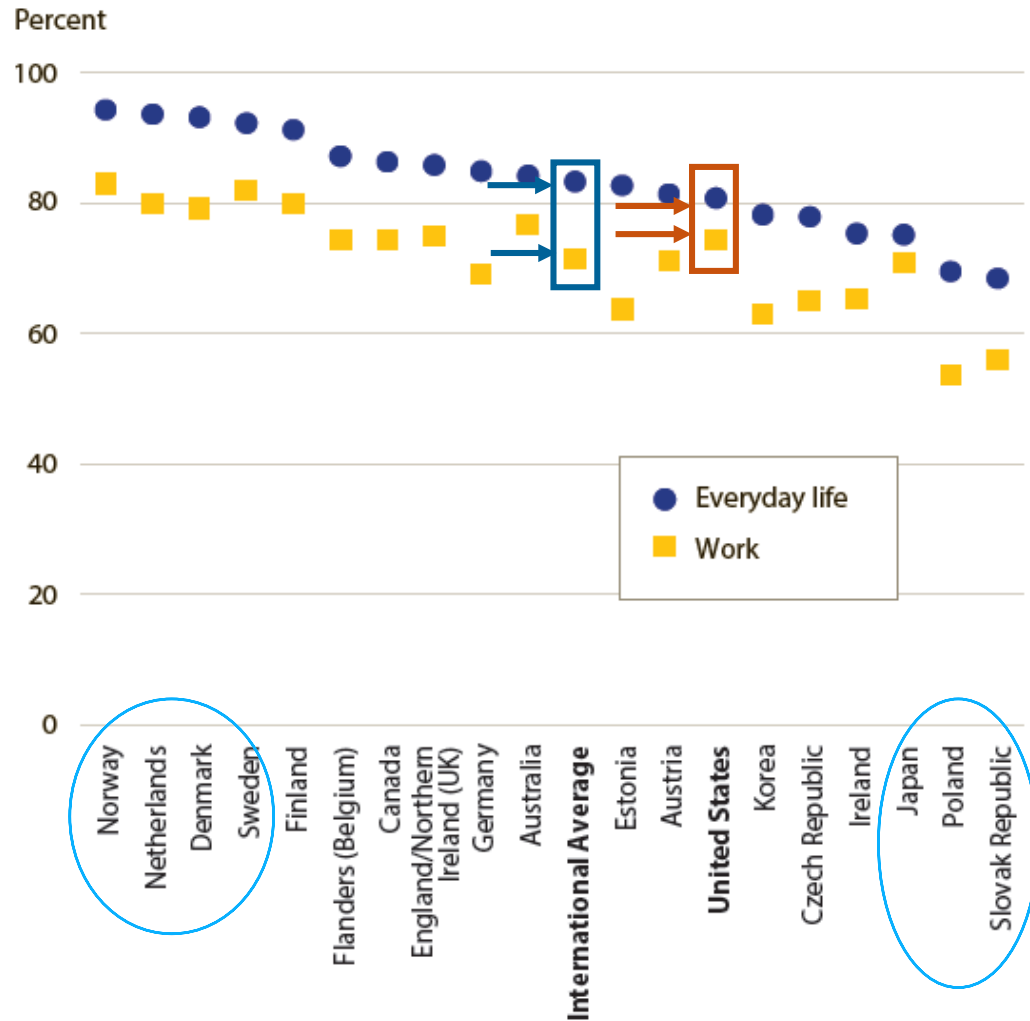
- a larger portion of U.S. adults use computers at work compared to adults internationally.

- but a smaller proportion of U.S. adults use computers in everyday life compared to adults internationally

Summary of Results:

- low digitally literate adults in U.S. tend to be **less educated**, **male**, **45 years old or older**, **Black or Hispanic**, **have lower literacy and numeracy scores**, **have lower labor force participation rates and tend to work in lower-skilled jobs**

- a **smaller proportion** of adults in U.S. have **low digital literacy** than on average internationally

- internationally, there is a negative relationship between percentage of adults **using computer in everyday life** and the percentage of **low digitally literate adults**

Policy Implications:

- targeted interventions:

  - reflecting digital literacy needs of older adults, i.e. in the later stages of their working years, in digital literacy course offerings and curricula;

  - incorporating digital literacy skills into other basic skills interventions;

  - more funding for those not in the workforce with the aim of improving digital literacy and increasing access to computers in everyday life

- focus on increasing use and proficiency with technology in everyday life

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