Integrating Equity and Social Justice Topics in the College Mathematics Classroom

Jim Ham

http://bit.ly/SWregional2019JH
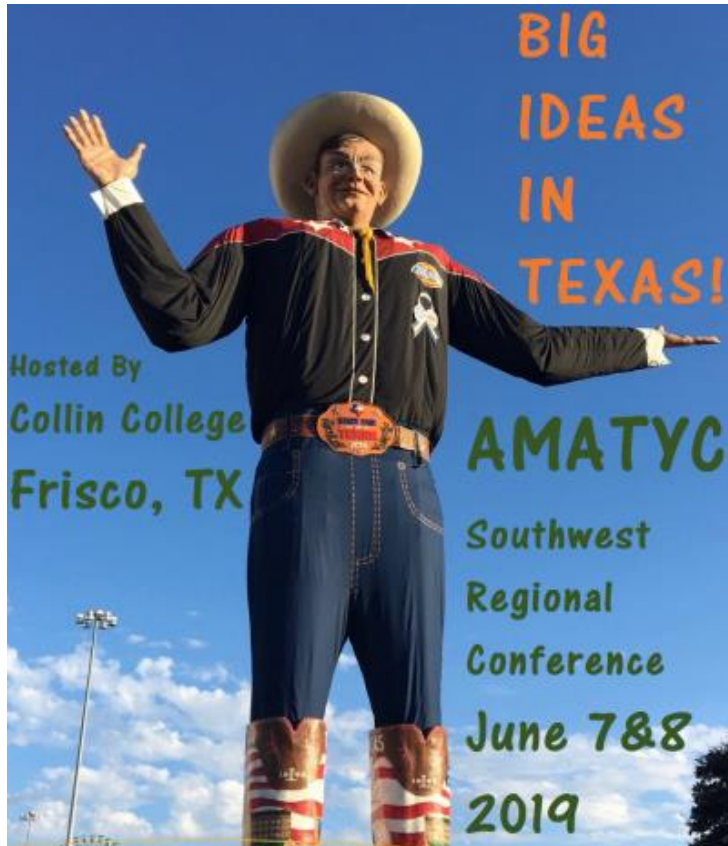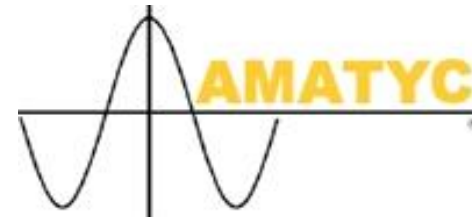
Social Justice and Equity:

- Inequities in completion rates in higher education
- Inequities in the U.S. death penalty
- Inequities in U.S. Poverty
- Inequities in U.S. incarceration rates
- 2018 Tax Cuts and Jobs Act
- Traffic Stops - Racial Profiling?
- LGBT and inequity
- Inequity from climate change
- The Gender Pay Gap
- Immigration and DACA recipients

Social Justice

Health Care

Education

Social justice is the equal access to wealth, opportunities, and privileges within a society.

Legal Representation

Employment

Housing

Social justice is the fair distribution of advantages and disadvantages within a society.

Poverty

Incarceration

Social justice is a concept of fair and just relations between the individual and society.

Politics

Wealth & Income

To remember when talking about topics of equity and social justice:

- We are not experts in social justice and equity. We learn along with our students.
- Our understanding and views about social justice and equity are evolving.
- We will make mistakes when talking about equity and social justice. We will say the wrong thing. Let's understand this, and not let it stop us from integrating social justice topics in our teaching of mathematics.
- It is important to help our students to understand that inequities exist, why they exist, and what can be done to eliminate these inequities. **Awareness is the first step**.

Racial equity is the condition that would be achieved if one's racial identity no longer predicted, in a statistical sense, how one fares.

What do you notice? What do you wonder?

NATIONAL COUNCIL OF TEACHERS OF MATHEMATICS

What is going on with this graph?

The New York Times

Four-Year Public

60%

48.3%

stitutions

Public

Suggested Citation: Shapiro, D., Dundar, A., **Huie, F.**, Wakhungu, P., Yuan, X., Nathan, A & Hwang, Y., A. (2017, April). *A National View of Student Attainment Rates by Race and Ethnicity – Fall 2010 Cohort* (Signature Report No. 12b). Herndon, VA: National Student Clearinghouse Research Center.

Distribution of College Students

Fall 2010 Cohort by Race and Ethnicity and Starting Institution Type
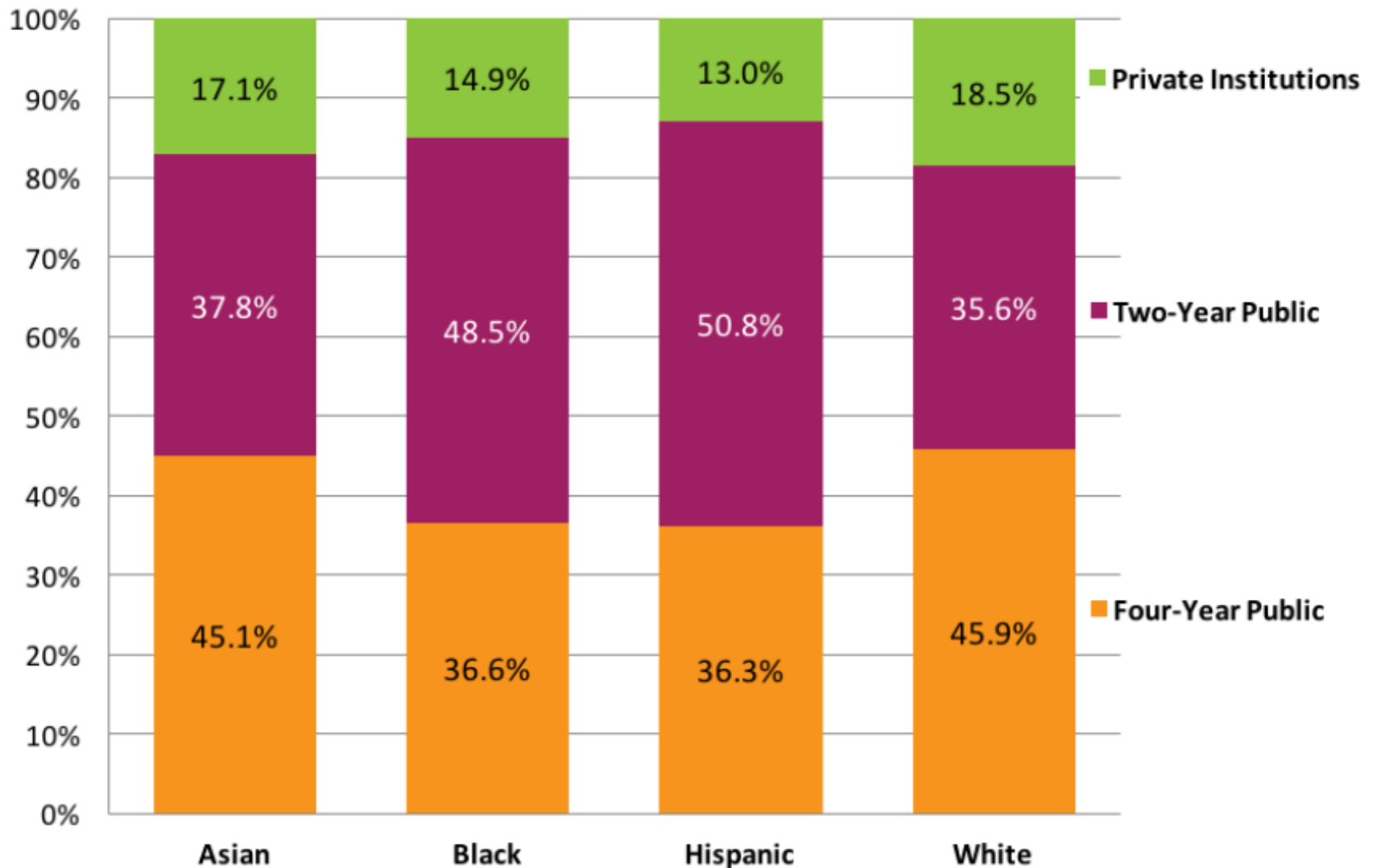
	Asian	Black	Hispanic	White
Private Institutions	17.1%	14.9%	13.0%	18.5%
Two-Year Public	37.8%	48.5%	50.8%	35.6%
Four-Year Public	45.1%	36.6%	36.3%	45.9%

Suggested Citation: Shapiro, D., Dundar, A., **Huie, F.**, Wakhungu, P., Yuan, X., Nathan, A & Hwang, Y., A. (2017, April). *A National View of Student Attainment Rates by Race and Ethnicity – Fall 2010 Cohort* (Signature Report No. 12b). Herndon, VA: National Student Clearinghouse Research Center.

Status of Two-year College Students after 6 years

Six-Year Outcomes and First Completion for Students Who Started at Two-Year Public Institutions by Race and Ethnicity (N=1,089,776)*
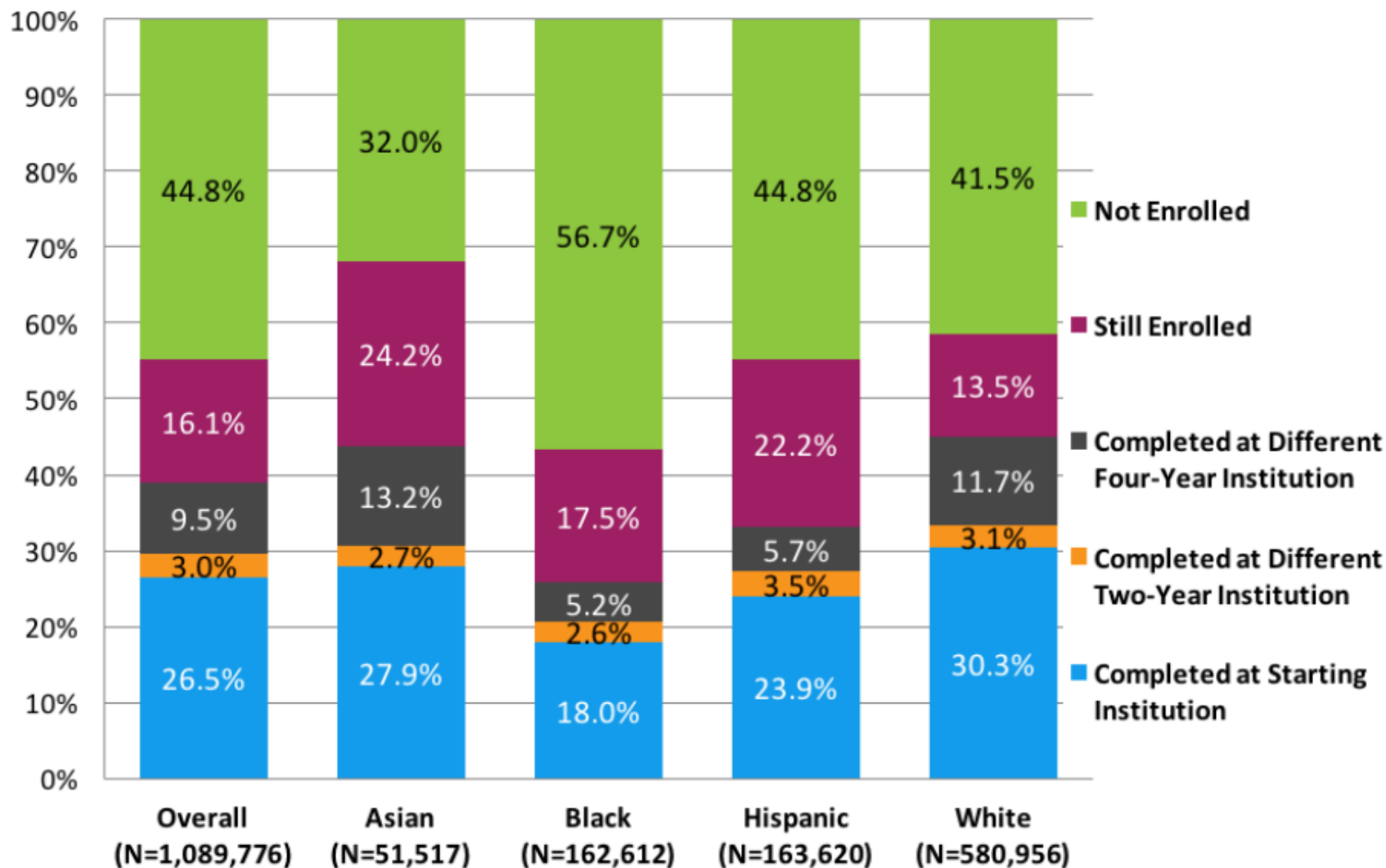
Legend:
- Not Enrolled
- Still Enrolled
- Completed at Different Four-Year Institution
- Completed at Different Two-Year Institution
- Completed at Starting Institution

Category	Overall (N=1,089,776)	Asian (N=51,517)	Black (N=162,612)	Hispanic (N=163,620)	White (N=580,956)
Not Enrolled	44.8%	32.0%	56.7%	44.8%	41.5%
Still Enrolled	16.1%	24.2%	17.5%	22.2%	13.5%
Completed at Different Four-Year Institution	9.5%	13.2%	5.2%	5.7%	11.7%
Completed at Different Two-Year Institution	3.0%	2.7%	2.6%	3.5%	3.1%
Completed at Starting Institution	26.5%	27.9%	18.0%	23.9%	30.3%

Suggested Citation: Shapiro, D., Dundar, A., **Huie, F.**, Wakhungu, P., Yuan, X., Nathan, A & Hwang, Y., A. (2017, April). *A National View of Student Attainment Rates by Race and Ethnicity – Fall 2010 Cohort* (Signature Report No. 12b). Herndon, VA: National Student Clearinghouse Research Center.

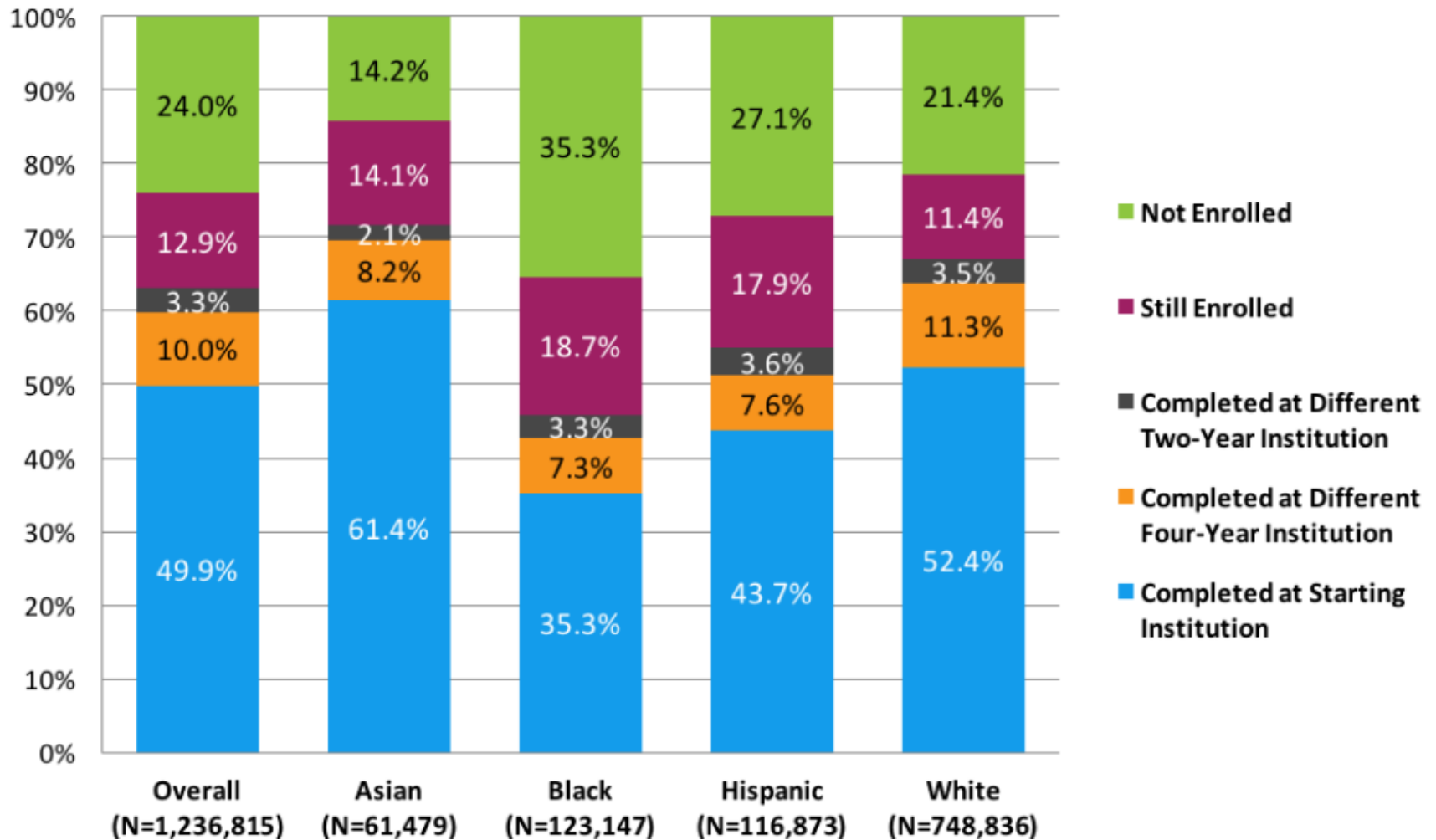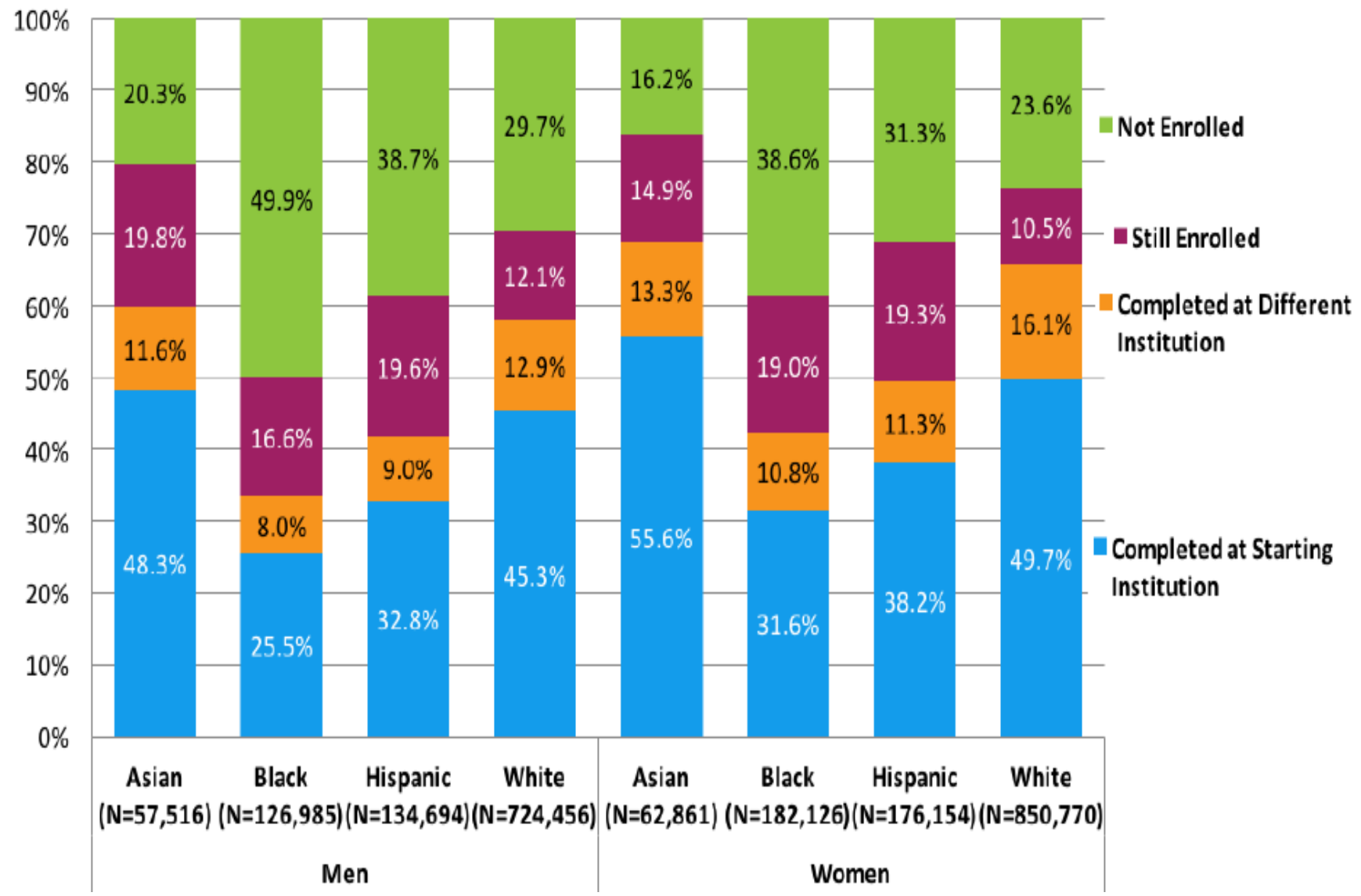# Status of Four-year College Students after 6 years

Six-Year Outcomes for Students Who Started at Four-Year Public Institutions by Race and Ethnicity (N=1,236,815)*

Legend:
- Not Enrolled
- Still Enrolled
- Completed at Different Two-Year Institution
- Completed at Different Four-Year Institution
- Completed at Starting Institution

Overall (N=1,236,815): Completed at Starting Institution 49.9%, Completed at Different Four-Year Institution 10.0%, Completed at Different Two-Year Institution 3.3%, Still Enrolled 12.9%, Not Enrolled 24.0%

Asian (N=61,479): 61.4%, 8.2%, 2.1%, 14.1%, 14.2%

Black (N=123,147): 35.3%, 7.3%, 3.3%, 18.7%, 35.3%

Hispanic (N=116,873): 43.7%, 7.6%, 3.6%, 17.9%, 27.1%

White (N=748,836): 52.4%, 11.3%, 3.5%, 11.4%, 21.4%

Suggested Citation: Shapiro, D., Dundar, A., Huie, F., Wakhungu, P., Yuan, X., Nathan, A & Hwang, Y., A. (2017, April). *A National View of Student Attainment Rates by Race and Ethnicity – Fall 2010 Cohort* (Signature Report No. 12b). Herndon, VA: National Student Clearinghouse Research Center.
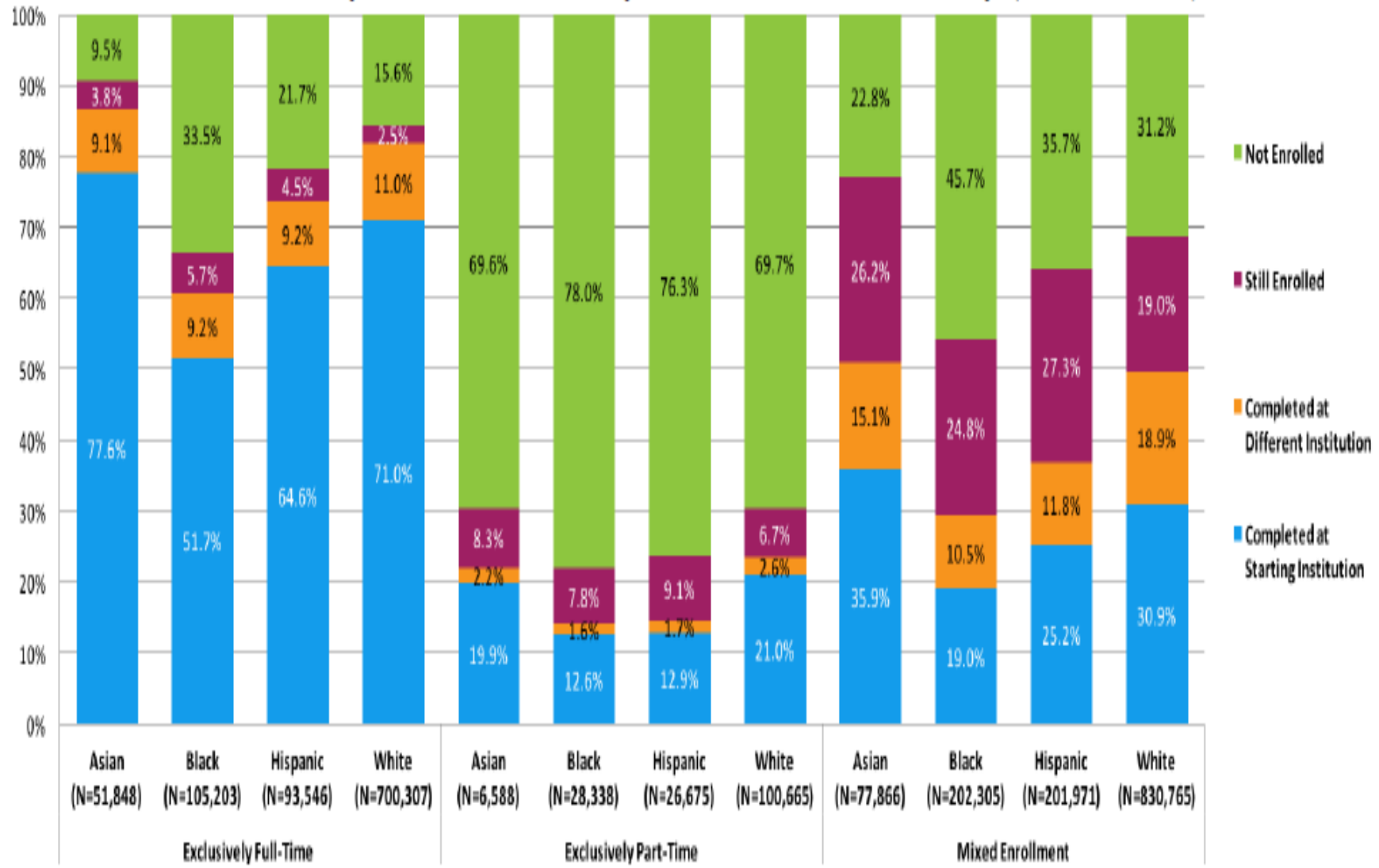
Status of College Students after 6 years

Six-Year Outcomes by Race and Ethnicity and Gender (N=2,315,562)

Six-Year Outcomes by Race and Ethnicity and Enrollment Intensity (N=2,426,077)

Racial inequities in the death penalty

- Equity awareness
- Statistical graphs
- Empirical probabilities
- Hypothesis Testing
- Simpson's Paradox

Questions about the Death Penalty in the U.S.

1. How many U.S. states currently have the death penalty?
(a) 10   (b) 20   (c) 30   (d) 40   (e) 50

2. Approximately how many inmates are currently sitting on death row?
(a) 100   (b) 500   (c) 1000   (d) 3000   (e) 5000

3. What percentage of death row executions since 1976 were male defendants?
(a) 50   (b) 75   (c) 90   (d) 95   (e) 99

4. Approximately how many death row inmates were exonerated since 1976?
(a) 0   (b) 5   (c) 20   (d) 50   (e) 150

5. About 13% of the U.S. population is black. Approximately, what percentage of the U.S. death penalty executions since 1976 were black defendants?
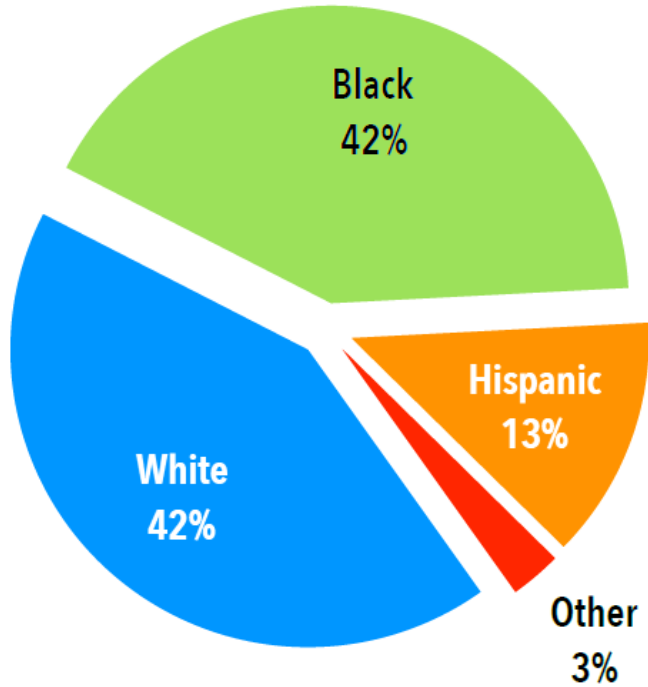(a) 15   (b) 25   (c) 35   (d) 50   (e) 80

What significant mathematics could be assigned using this data set?

ROSTER OF THE EXECUTED

DATE OF EXECUTION	NAME OF DEFENDANT/ NUMBER IF MULTIPLE VICTIMS	STATE	RACE DEF / VICTIM	VICTIM GENDER
01-17-77	1. Gary Gilmore [*]	UT	W/W	M
05-25-79	2. John Spenkelink	FL	W/W	M
10-22-79	3. Jesse Bishop [*]	NV	W/W	M
03-09-81	4. Steven Judy [*] / 3	IN	W/3W	FFF
08-10-82	5. Frank Coppola [*]	VA	W/W	F
12-07-82	6. Charlie Brooks	TX	B/W	M
04-22-83	7. John Evans	AL	W/W	M
09-02-83	8. Jimmy Lee Gray	MS	W/W	F
11-30-83	9. Robert Sullivan	FL	W/W	M
12-14-83	10. Robert W. Williams	LA	B/B	M
12-15-83	11. John Eldon Smith / 2	GA	W/2W	MF
01-26-84	12. Anthony Antone	FL	W/W	M
12-06-16	1441. William Sallie	GA	W/W	M
12-08-16	1442. Ronald B. Smith	AL	W/W	M
01-11-17	1443. Christopher Wilkins / 2	TX	W/BL	MM
01-18-17	1444. Ricky Jovan Gray / 2	VA	B/2W	FF
01-26-17	1445. Terry Edwards / 2	TX	B/2W	MF
01-31-17	1446. Mark Christeson / 3	MO	W/3W	MFF
03-07-17	1447. Rolando Ruiz	TX	L/L	F
03-14-17	1448. James Bigby / 2	TX	W/2W	MM

www.deathpenaltyinfo.org

DEATH ROW INMATES BY RACE

Black 42%

White 42%

Hispanic 13%

Other 3%

EXECUTIONS BY REGION*

Region	Executions
South	1190
Midwest	181
West	85
Northeast	4
TX & OK	654
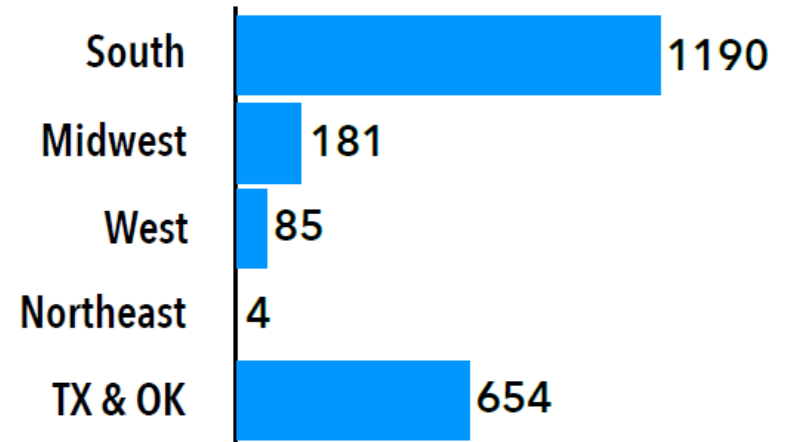
*Federal executions are listed in the region in which the crime was committed.

Murder Rates per 100,000 (2014)

Region	Rate
South	6.7
Midwest	5.3
West	5.5
Northeast	4.2
Nat'l	5.6

The death penalty does not seem to be a deterrent.

www.deathpenaltyinfo.org

		Victim				Total
		White	Black	Latinx	Asian	
Defendant	White	747 94.6%	20 2.5%	17 2.2%	6 0.8%	790
	Black	287 58.7%	167 34.%	20 4.1%	15 3.1%	489
	Latinx	51 44.7%	3 2.6%	58 50.9%	2 1.8%	114
	Asian	2 28.6%	0 0%	0 0%	5 71.4%	7
	TOTAL:	1087	190	95	28	1400

		Victim				Total
		White	Black	Latinx	Asian	
Defendant	White	747 68.7%	20 10.5%	17 17.9%	6 21.4%	790
	Black	287 26.4%	167 87.9%	20 21.1%	15 53.6%	489
	Latinx	51 4.7%	3 1.6%	58 61.1%	2 7.1%	114
	Asian	2 0.2%	0 0%	0 0%	5 17.9%	7
	TOTAL:	1087	190	95	28	1400

www.deathpenaltyinfo.org

	Victim				Total
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Defendant White	747	20	17	6	790
Black	287	167	20	15	489
Latinx	51	3	58	2	114
Asian	2	0	0	5	7
TOTAL:	1087	190	95	28	1400

P(Executed Defendant was White) = 790/1400 = .564

P(Victim was Latinx) = 95/1400= .068

P(Victim was White | Executed Defendant was Black) = 287/489 = .587

P(Victim was Latinx and Executed Defendant was Black) = 20/1400 = .014

P(Asian Executed Defendant or Asian Victim) = 30/1400 = .021

Defendant		White	Black	Latinx	Asian	Total
		Victim				
	White	747	20	17	6	790
	Black	287	167	20	15	489
	Latinx	51	3	58	2	114
	Asian	2	0	0	5	7
	TOTAL:	1087	190	95	28	1400

Persons Executed for Interracial Murders

287

20

White Def./ Black Victim

Black Def./ White Victim
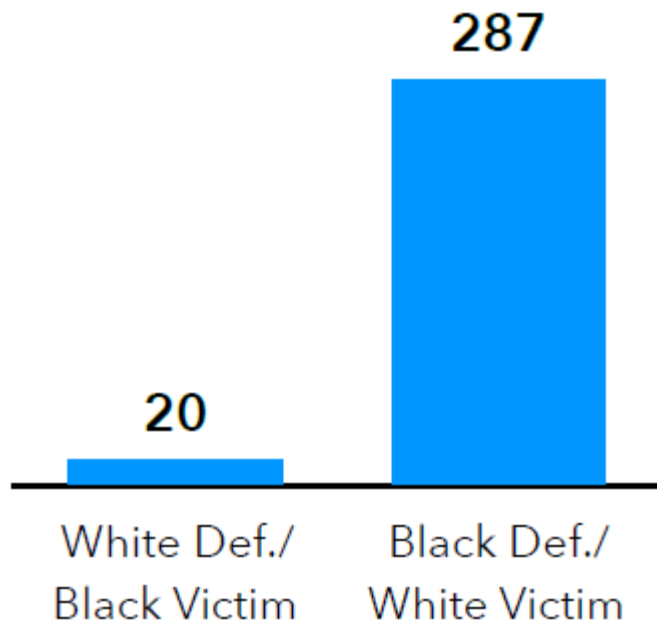
Chi-square Test (w/o Asian)

$$X^2 = 656$$

$$P = .0000$$

www.deathpenaltyinfo.org

Simpson's Paradox
1976-1977 Murder Cases in Florida

		Race of Defendant		Total
		White	**Black**	
Was indicted defendant sentenced to death?	Yes	19 11.9%	17 10.2%	36
	No	141 88.1%	149 89.8%	290
	Total	160	166	326

Simpson's Paradox

		Race of Defendant		Total
		White	Black	
Was indicted defendant sentenced to death?	Yes	19 11.9%	17 10.2%	36
	No	141 88.1%	149 89.8%	290
	Total	160	166	326

p=.64

White Victims only		Race of Defendant		Total
		White	Black	
Was indicted defendant sentenced to death?	Yes	19 12.6%	11 17.5%	30
	No	132 87.4%	52 82.5%	184
	Total	151	63	214

p=.35

Black Victims only		Race of Defendant		Total
		White	Black	
Was indicted defendant sentenced to death?	Yes	0 0%	6 5.8%	6
	No	9 100%	97 94.2%	106
	Total	9	103	112

Simpson's Paradox

		Race of Defendant		Total
		White	**Black**	**Total**
Was defendant indicted on a first degree murder charge?	**Yes**	128 80.0%	114 68.7%	242
	No	32 20.0%	52 31.3%	84
	Total	160	166	326

p=.02

White Victims only		Race of Defendant		Total
		White	**Black**	
Was defendant indicted on a first degree murder charge?	**Yes**	124 82.1%	58 92.1%	182
	No	27 17.9%	5 7.9%	32
	Total	151	63	214

p=.06

Black Victims only		Race of Defendant		Total
		White	**Black**	
Was defendant indicted on a first degree murder charge?	**Yes**	4 44.4%	56 54.4%	60
	No	5 55.5%	47 45.6%	52
	Total	9	103	112

Inequities in poverty rates
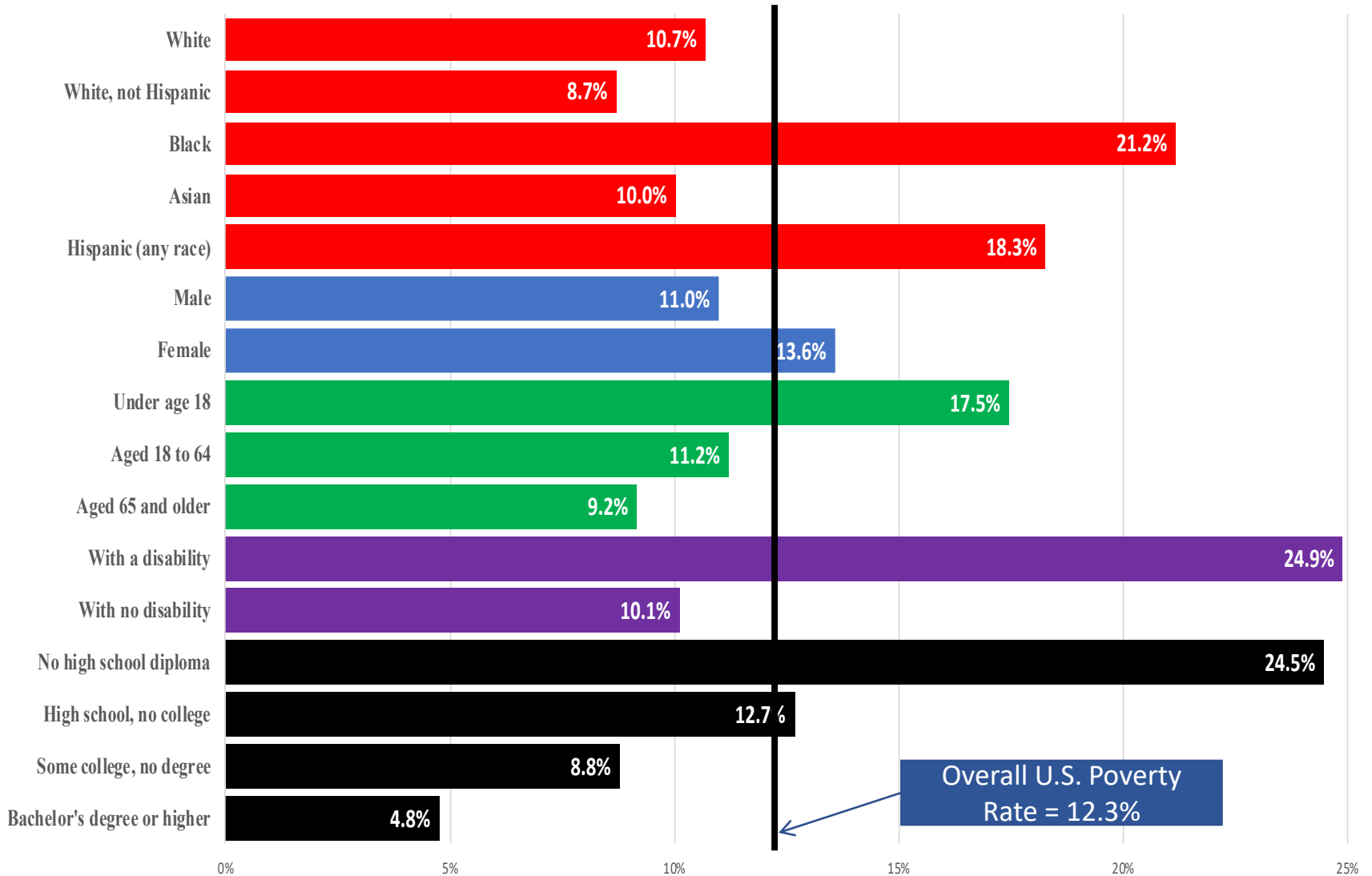
- Poverty awareness
- Statistical graphs
- Empirical probabilities
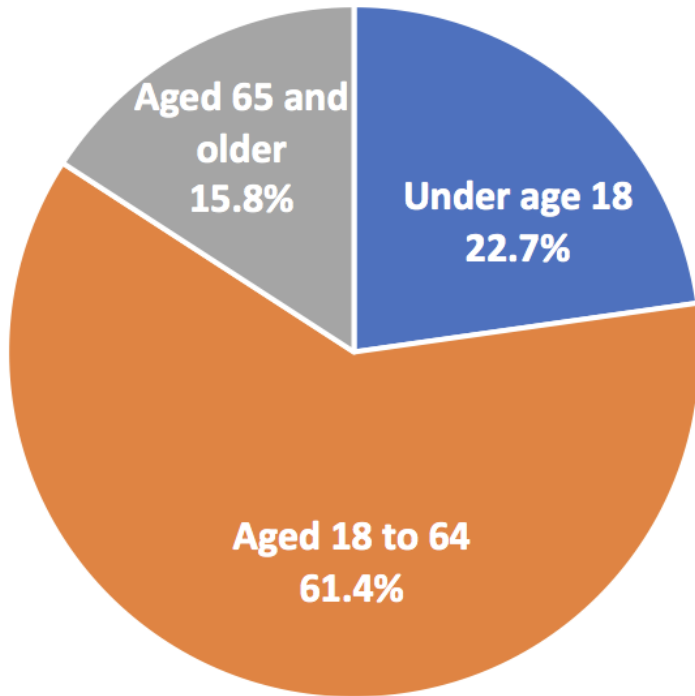- Infographic

Questions about Poverty in the U.S.

1. Approximately what percentage of U.S. citizens live in poverty?
(a) 2   (b) 8   (c) 12   (d) 18   (e) 33

2. Approximately what percentage of U.S. children live in poverty?
(a) 2   (b) 8   (c) 12   (d) 18   (e) 33

3. Approximately what percentage of U.S. citizens living in poverty are children?
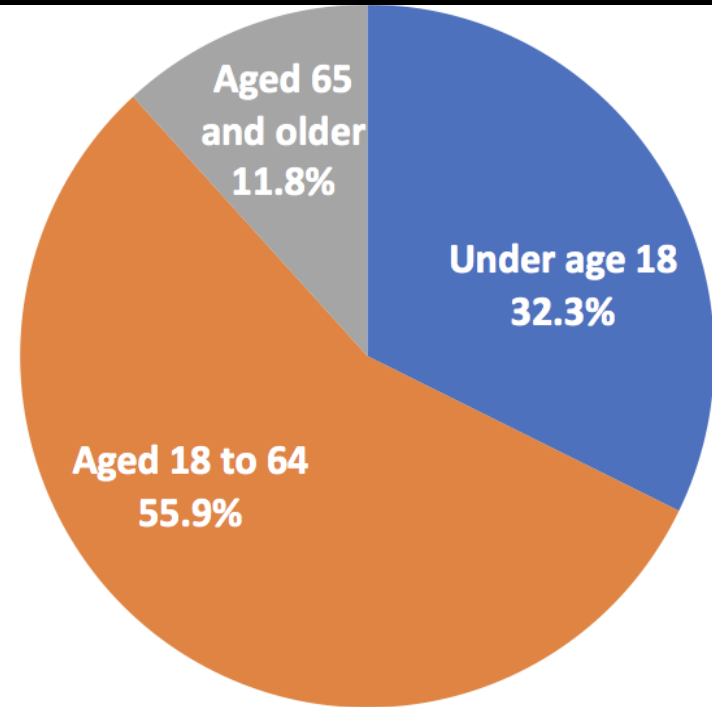(a) 2   (b) 8   (c) 12   (d) 18   (e) 33

Percent of Americans in various groups living in poverty in 2017

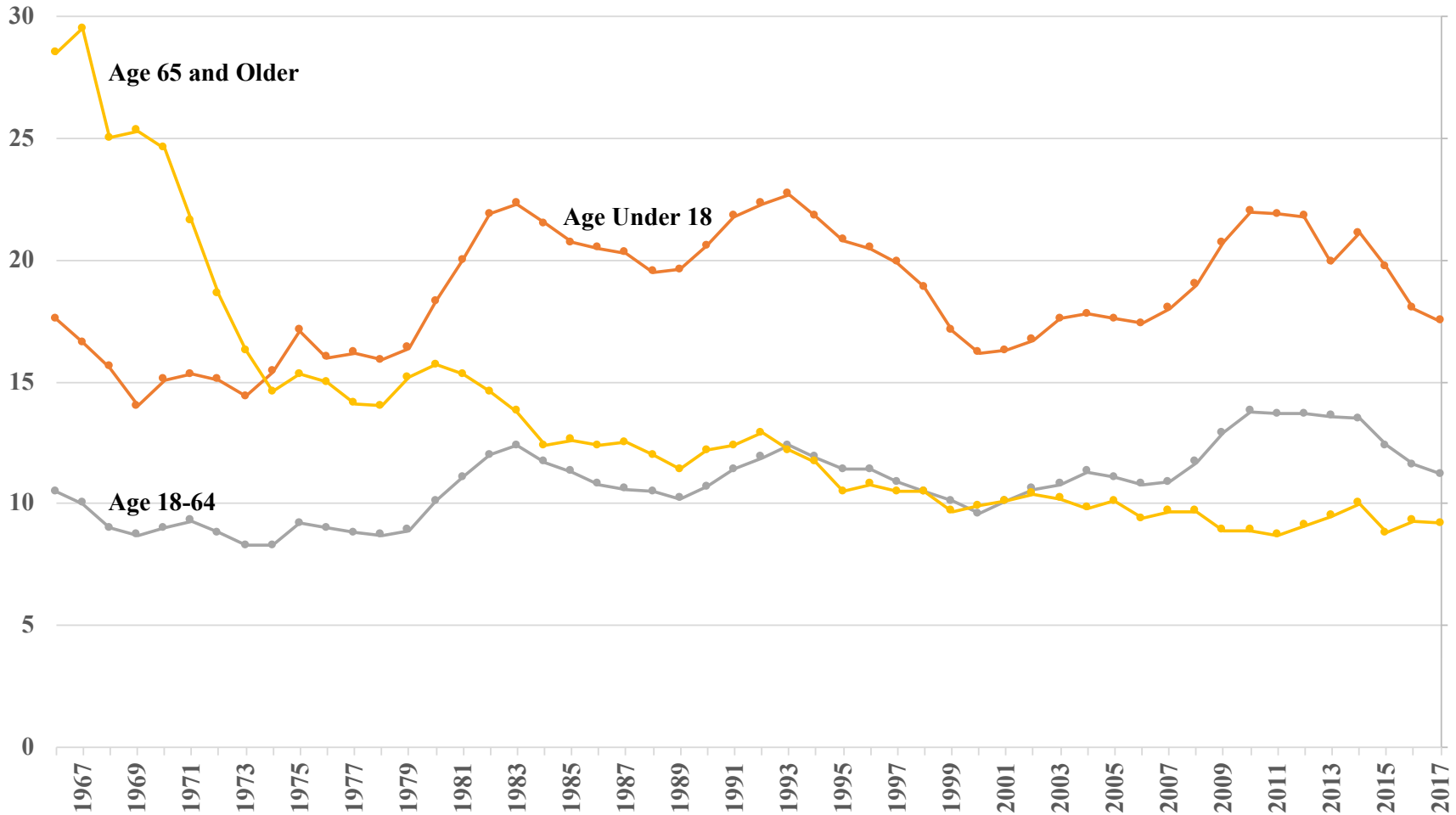| Group	Percent
White	10.7%
White, not Hispanic	8.7%
Black	21.2%
Asian	10.0%
Hispanic (any race)	18.3%
Male	11.0%
Female	13.6%
Under age 18	17.5%
Aged 18 to 64	11.2%
Aged 65 and older	9.2%
With a disability	24.9%
With no disability	10.1%
No high school diploma	24.5%
High school, no college	12.7%
Some college, no degree	8.8%
Bachelor's degree or higher	4.8%

Overall U.S. Poverty Rate = 12.3%

https://www.census.gov/data/tables/2018/demo/income-poverty/p60-263.html

U.S. Population Age Distribution

Aged 65 and older 15.8%
Under age 18 22.7%
Aged 18 to 64 61.4%

Percent of those in poverty in each age group

Aged 65 and older 11.8%
Under age 18 32.3%
Aged 18 to 64 55.9%

https://www.census.gov/data/tables/2018/demo/income-poverty/p60-263.html

Percent of Age Groups in Poverty over Time in the U.S.

https://www.census.gov/data/tables/2018/demo/income-poverty/p60-263.html

Educational Attainment (Age 25 and Older) of Entire U.S. Population and Those in Poverty

https://www.census.gov/data/tables/2018/demo/income-poverty/p60-263.html

Educational Attainment (Age 25 and Older) of Entire U.S. Population and Those in Poverty

Legend: Entire U.S. Population / In Poverty

- In Poverty 35.8%
- Entire U.S. Population 28.5%
- Entire U.S. Population 26.3%
- Entire U.S. Population 35.0%
- In Poverty 24.7%
- Entire U.S. Population 10.2%
- In Poverty 22.9%
- In Poverty 16.5%

X-axis: No high school diploma | High school, no college | Some college, no degree | Bachelor's degree or higher
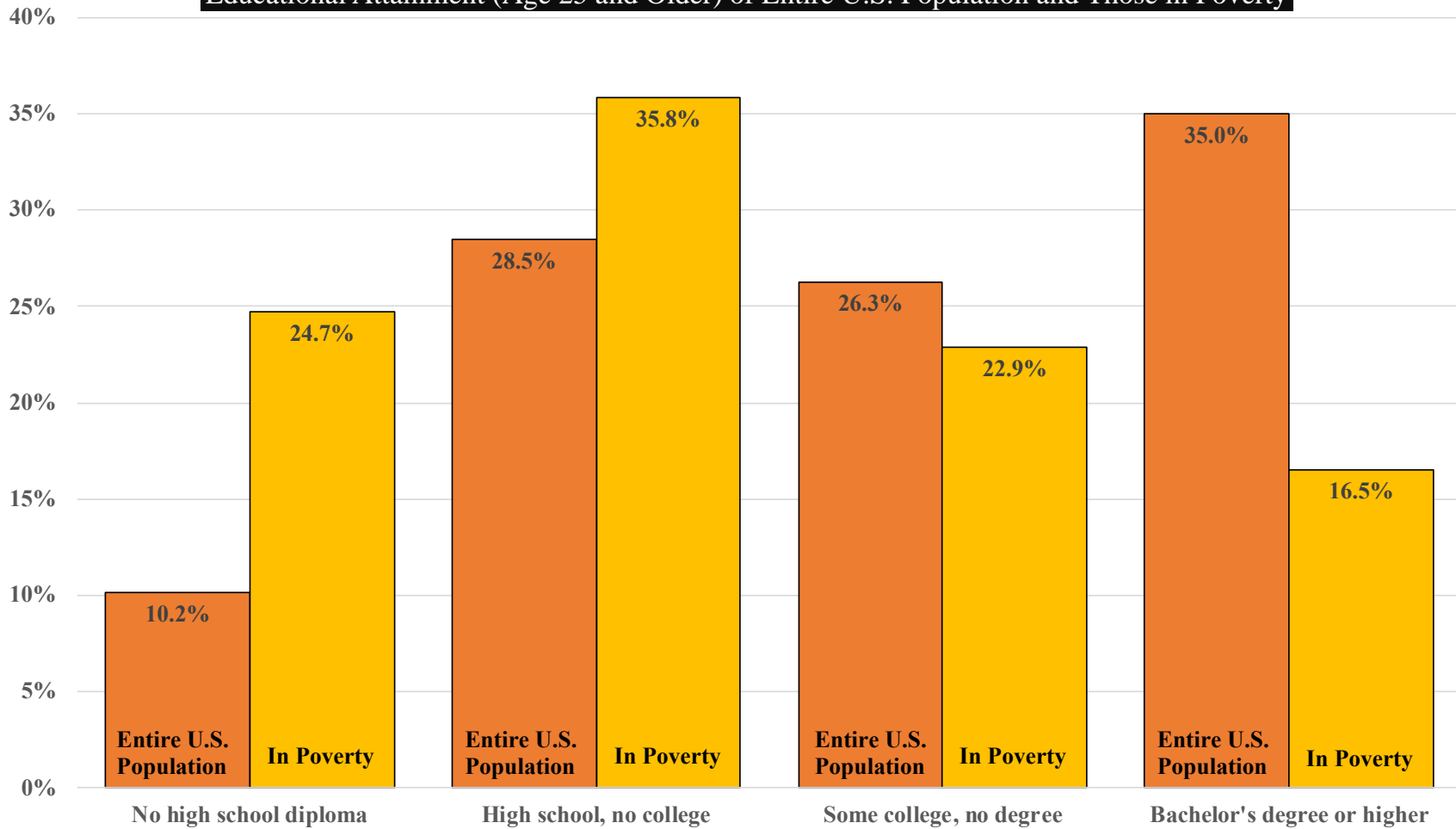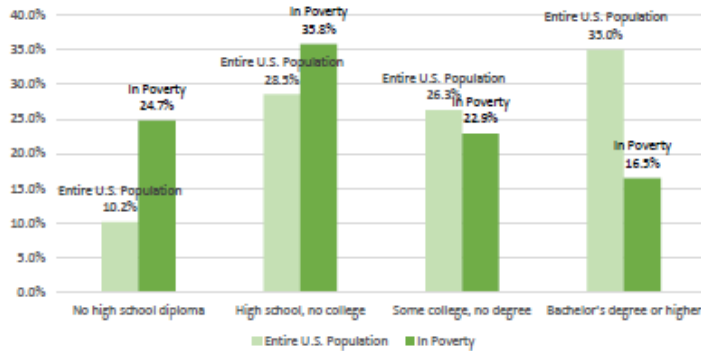
24.7% of Americans without a highschool diploma are in poverty.

Out of the 35% of Americans with a Bachelor's degree of higher 16.5% of them live in poverty.

Of the 28.5% of Americans who graduated college 35.8% of them live in poverty.

Percent of Age Groups in Poverty over Time in the U.S.
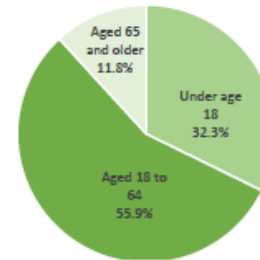

Age 65 and Older
Age Under 18
Age 18-64
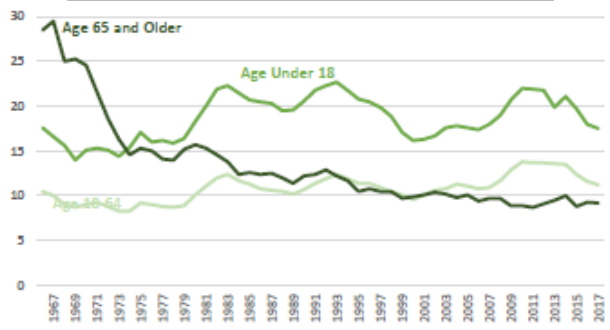
Poverty in the age group 65 and older has dropped from 28% to 8% in 50 years.

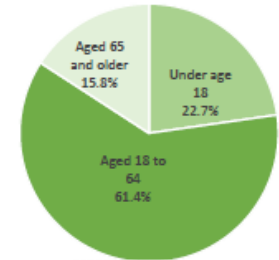In the age group 18 and under 20% of Americans were in poverty in 1997.

In 2005 10% of Americans in the age group 18-64 were in poverty.

| 1 in 4 children in rural areas live in poverty | Women are more likely to live in poverty than males | 25% of single moms live in poverty | 9.3% of senior citizens live in poverty | 39.7 million Americans live in poverty |

| Poverty is most common in Kentucky | 1 in 8 Americans are considered poor | U.S. African Americans have the highest poverty rates of any ethnic group at 27.4% | 1 in 5 children live in poverty | 21.2% percent of children are in poverty |

Poverty in the United States

Percent of Age Group in U.S. Population in Poverty

- Aged 65 and older 11.8%
- Under age 18 32.3%
- Aged 18 to 64 55.9%

U.S. Population Age Distrubution

- Aged 65 and older 15.8%
- Under age 18 22.7%
- Aged 18 to 64 61.4%

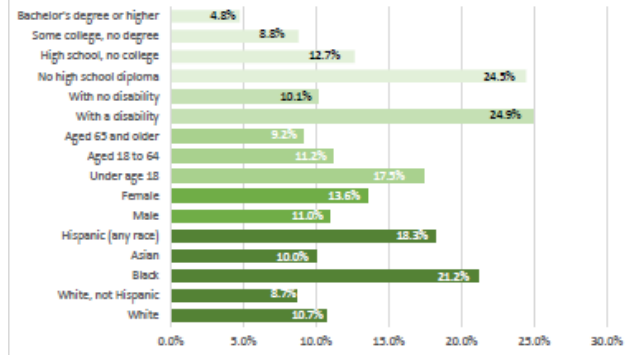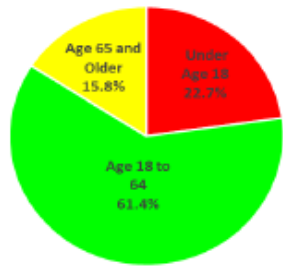22.7 % of U.S. Population is under the age of 18, and 32.3% of them are in poverty

61.4% of the U.S. Population are ages 18-64 and 55.9% of them are in poverty.

Of the 15.8% in the U.S. Population who are 65 or older, 11.8% of them are in poverty.

Percent of Americans in various groups living in poverty in 2017

- Bachelor's degree or higher 4.8%
- Some college, no degree 8.8%
- High school, no college 12.7%
- No high school diploma 24.5%
- With no disability 10.1%
- With a disability 24.9%
- Aged 65 and older 9.2%
- Aged 18 to 64 11.2%
- Under age 18 17.5%
- Female 13.6%
- Male 11.0%
- Hispanic (any race) 18.3%
- Asian 10.0%
- Black 21.2%
- White, not Hispanic 8.7%
- White 10.7%

A Female in America is more likely to be in poverty than a male.

A person with a bachelor's degree has a 4.8% chance of living in poverty.

A person with a disibility has double the chance of living in poverty than someone who is not disabled.

United States Poverty Statistics:

U.S. Population Age Distribution

Percent of Age Groups in U.S. Population in Poverty

Pie chart 1 (U.S. Population Age Distribution):
- Age 65 and Older 15.8%
- Under Age 18 32.7%
- Age 18 to 64 61.4%

Pie chart 2 (Percent of Age Groups in U.S. Population in Poverty):
- Age 65 and Older 11.8%
- Under age 18 32.3%
- Age 18 to 64 55.9%

15.8% of those living in the U.S. are over the age of 65, and 11.8% of them live in poverty.

61.4% of those living in the U.S. are 18-64 years of age, and 55.9% of them live in poverty

22.7% of those living in the U.S. are under the age of 18, and 32.3% of them live in poverty.

In 2016, the poverty rate for single-parent families with no wife present was 13.1%, while single-parent families with no husband present was 26.6%
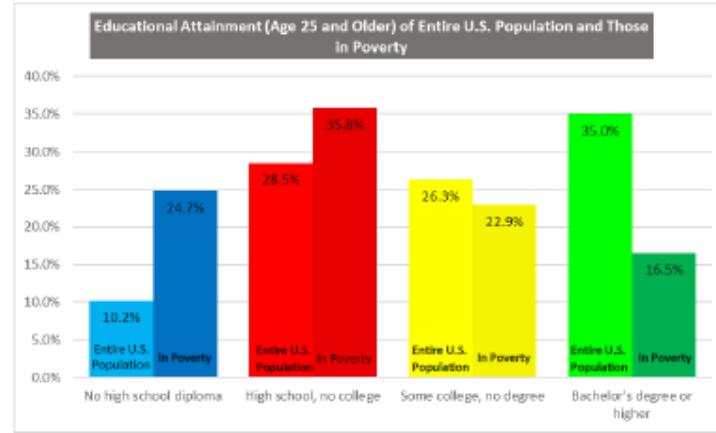
In 2016, 40.6 million people lived in Poverty USA.

Almost 1 out of every 5 children lived in poverty as of 2016.

According to the 2016 US Census Data, the highest poverty rate by race is found among Native Americans (27.6%), with Blacks (26.2%), and Hispanics (23.4%).

Educational Attainment (Age 25 and Older) of Entire U.S. Population and Those in Poverty

Category	Entire U.S. Population	In Poverty
No high school diploma	10.2%	24.7%
High school, no college	28.5%	35.8%
Some college, no degree	26.3%	22.9%
Bachelor's degree or higher	35.0%	16.5%

Out of the entire U.S. population, 10.2% have no high school diploma. Of that 10.2%, 24.7% live in poverty.

Out of the entire U.S. population, 28.5% have high school experience, but no college experience. Out of that 28.5%, 35.8% live in poverty.
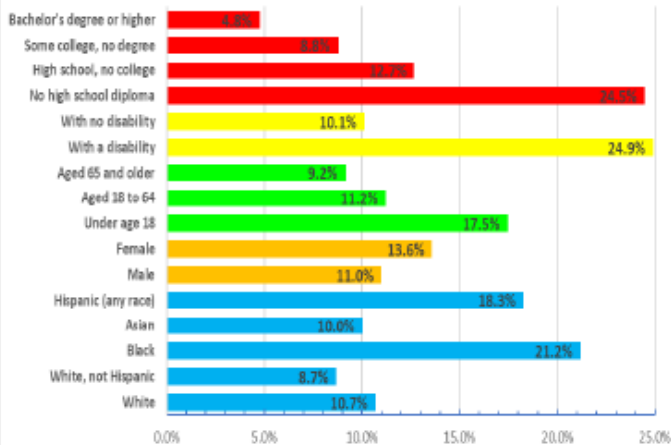
Out of the entire U.S. population, 35.0% have a bachelor's degree. Of that 35.0%, 16.5% live in poverty.

In 2016 the median income for family households was $75,062, while the median income for nonfamily households was $35,761.

In 2016 approximately 15.6 million households had difficulty providing enough food for their families due to lack of resources.

The official poverty rate is 12.3%, based on the U.S. Census Bureaus' 2017 estimates, which is an approximated 39.7 million Americans whom lived in poverty.
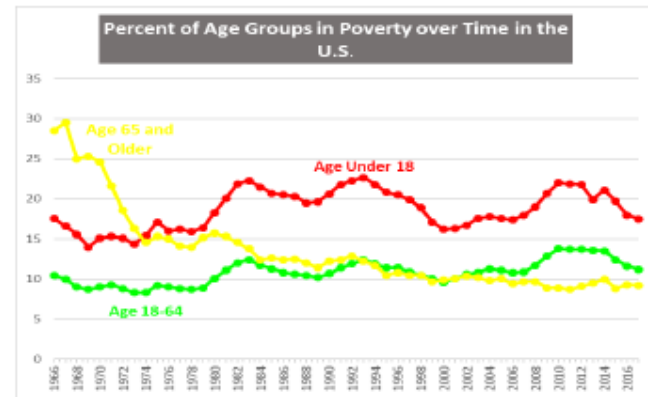
Percent of Americans in Various Groups Living in Poverty in 2017

Group	Percent
Bachelor's degree or higher	4.8%
Some college, no degree	8.8%
High school, no college	12.7%
No high school diploma	24.5%
With no disability	10.1%
With a disability	24.9%
Aged 65 and older	9.2%
Aged 18 to 64	11.2%
Under age 18	17.5%
Female	13.6%
Male	11.0%
Hispanic (any race)	18.3%
Asian	10.0%
Black	21.2%
White, not Hispanic	8.7%
White	10.7%

Those living in the U.S. without a high school diploma are more likely to live in poverty than those who have a bachelor's degree.

When compared to other races, Hispanics and African American's are more likely to live in poverty.

There is a higher percentage of those living in poverty in the U.S. under the age of 18 than other age groups.

Percent of Age Groups in Poverty over Time in the U.S.

(Line chart showing Age 65 and Older, Age Under 18, Age 18-64 from 1966 to 2016)

Poverty levels have decreased over a 50-year span for those aged 65+, from 28.5% in 1966 to 9.2% in 2017.

From 1982-1996, poverty levels for those under the age of 18 increased to the 20% range.

Poverty levels have stayed fairly consistent for the group 18-64, as levels have been between 8-15% over the course of 50 years.

According to the U.S. Census Bureau, the following states had the highest poverty percentages in 2017:
1.) Mississippi
2.) New Mexico
3.) Alabama
4.) Louisiana
5.) West Virginia

U.S. Poverty Thresholds:
Three people: $19,105
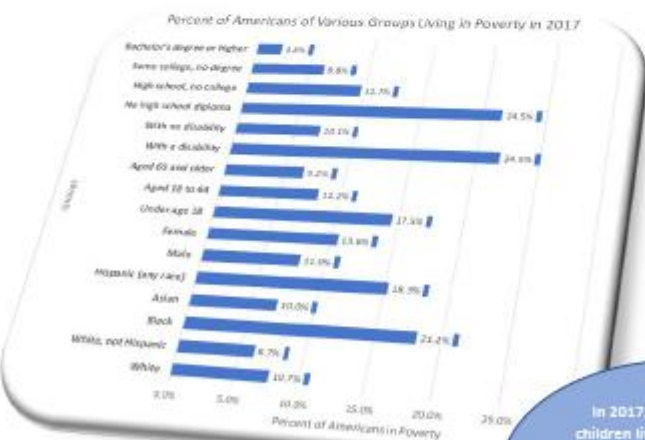Four people: $24,563
Five people: $29,111
Six people: $32,928

21.3 million people live in deep poverty, with incomes below 50% of their poverty thresholds.

Poverty Trends in America

U.S. Population Age Distribution

Percent of Age Group in Poverty in the U.S in 2017
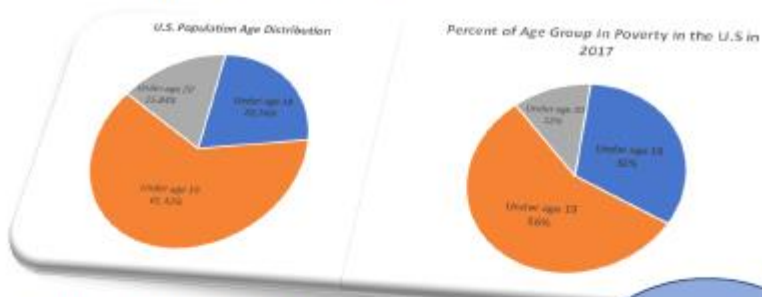
The pie charts emphasize that poverty is directly proportional to age. As people get older, there are fewer people in poverty. In 2017, people in poverty under 20 years old was almost 3 times less than under age 19.
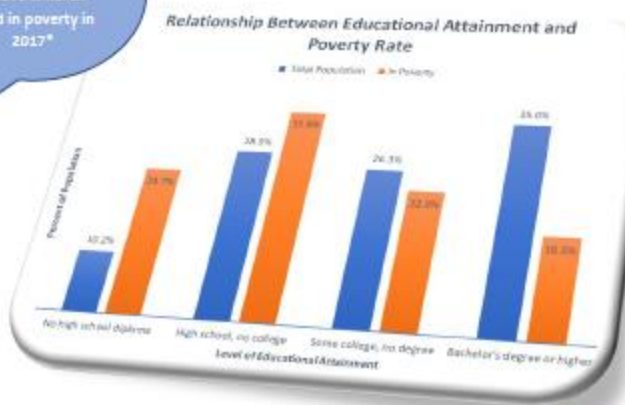
Poverty is defined as an annual income below $25,283 for a family of four in 2017*.

36.2% of American Indian/Alaska Native children lived in poverty in 2017*

Relationship Between Educational Attainment and Poverty Rate

■ Total Population ■ In Poverty

Level of Educational Attainment

33.7% of Black children under age 5 lived in poverty in 2017*

Here, educated people above a high-school level consists of 61.3% of the population but 39.4% of the poverty rate. Almost 39% of the population has no higher education but consists of 60.5% of the poverty rate. Even having some education above the high school level improves chances of not living in poverty.

The median income of White families with children in 2017 was $89,462 while Black families with children had a median income of $43,245; nearly half of Whites*

Percent of Americans of Various Groups Living in Poverty in 2017

Percent of Americans in Poverty

Clearly, Whites lived in lower poverty levels than 9 other groups represented. Educated people experience less poverty while the disabled, Blacks, and uneducated have high rates of poverty. Disabled Americans have a rate of poverty two and a half times that of non-disabled Americans in 2017.

In 2017, 58.2% of all poor children lived in single-mother families while 33.5% lived in married couple families and only 8.3% of poor children lived in single-father families*.
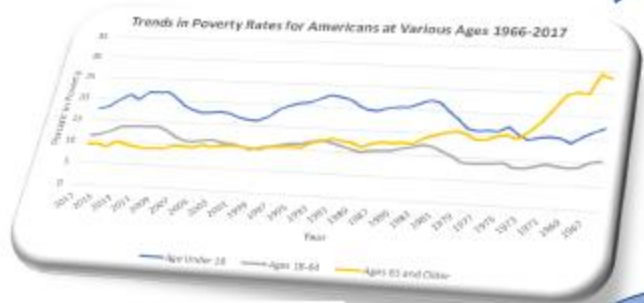
Trends in Poverty Rates for Americans at Various Ages 1966-2017

Over time, the poverty level of people ages 65 and older fell dramatically. Trends of poverty of people ages 18-65 were mostly stagnate. There does seem to be a trend of Americans under 18 maintaining a fairly high poverty rate.

In 2017, nearly 1 in 5 (19.6%) infants, toddlers, and preschoolers lived in extreme poverty*.

*Additional reference: Children's Defense Fund

Inequities in incarceration rates

- Inequity awareness
- Statistical graphs (Constructing and Interpreting)
- Percentages in a context

Incarceration Rates in the U.S.

1. About 13% of the U.S. population is black. Approximately what percent of those incarcerated in the U.S. are black?
(a) 10   (b) 15   (c) 25   (d) 35   (e) 40

2. Approximately what percent of the U.S. black population is incarcerated?
(a) 2   (b) 7   (c) 12   (d) 17   (e) 33

3. The incarceration rate for blacks is _____ times higher than whites.
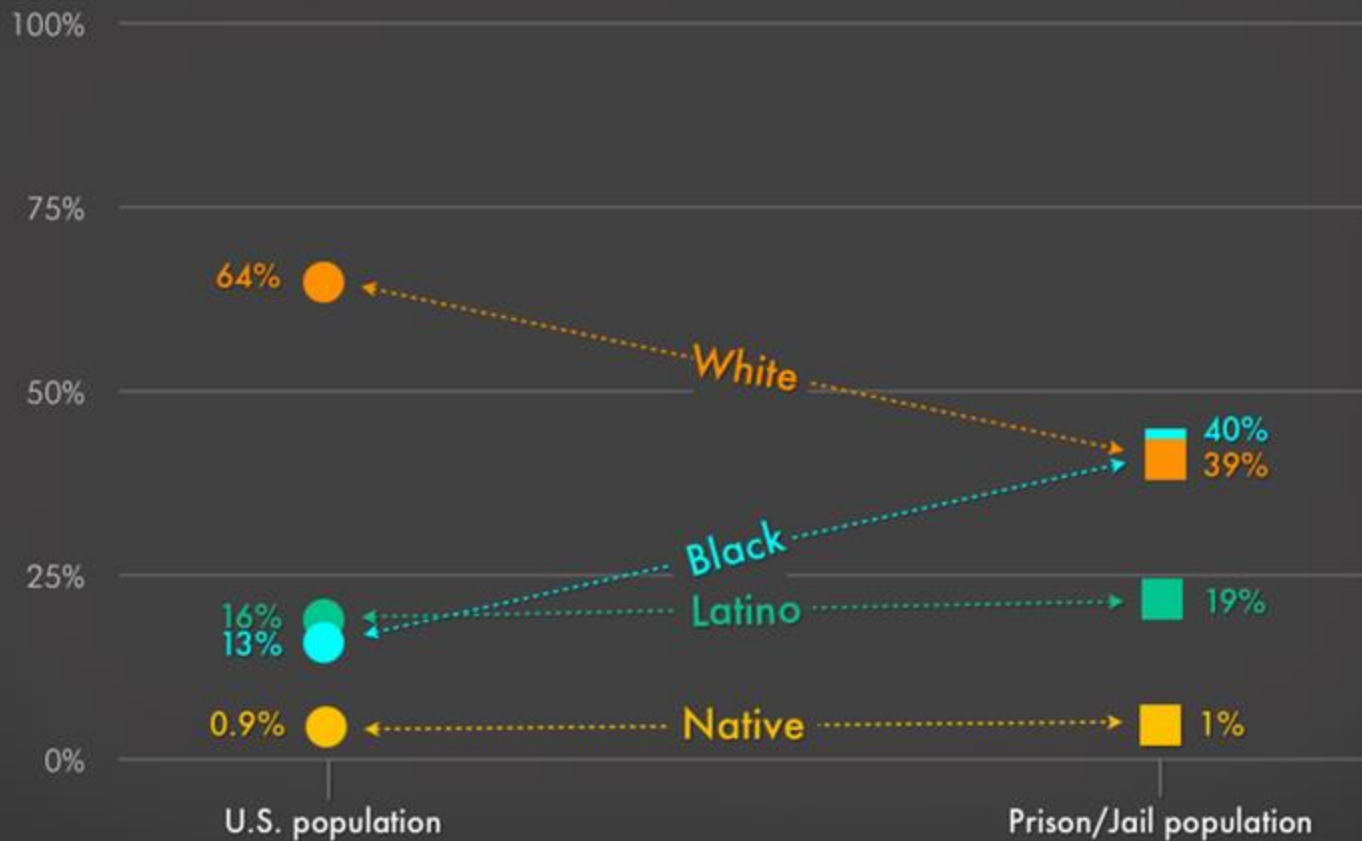(a) 2   (b) 3   (c) 5   (d) 7   (e) 10

4. 38% of U.S. citizens are people of color (non white). Approximately what percent of juveniles serving life without parole are people of color?
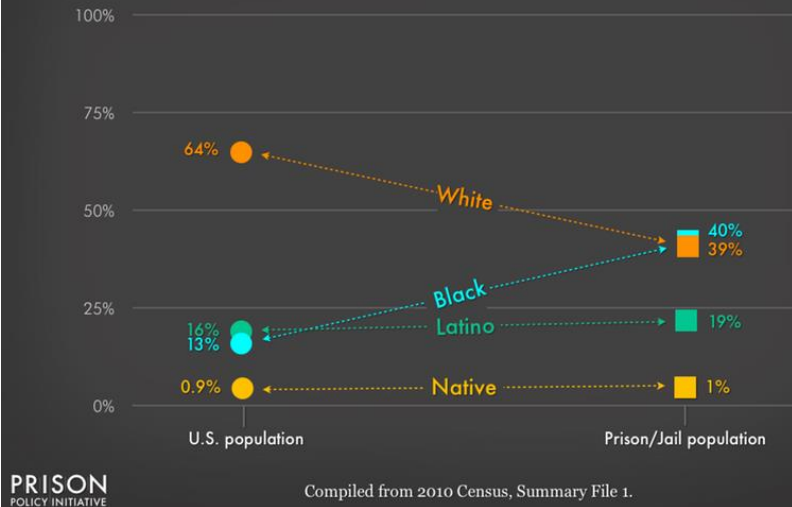(a) 15   (b) 40   (c) 50   (d) 70   (e) 80

www.prisonpolicy.org

www.prisonpolicy.org

Racial and ethnic disparities in prisons and jails

Whites are underrepresented in the incarcerated population while Blacks are overrepresented.

64% White
40% / 39%
16% / 13% Black / Latino → 19%
0.9% Native → 1%

U.S. population — Prison/Jail population

Compiled from 2010 Census, Summary File 1.

PRISON POLICY INITIATIVE

Based on this graph, which racial group makes up the largest percent of the total U.S. population? Approximately what percent is this?

Which racial group makes up the largest percentage of people currently incarcerated?

In 2000, there were approximately 265,000,000 total people in the U.S., and 2,185,000 of them were in prison. Based on the graphs:

Estimate how many people of each race there were in the U.S. in 2000.

Estimate how many people of each race there were in prison in 2000.

For each race, determine what percent of their total population is currently incarcerated.

Racial and ethnic disparities in prisons and jails

Whites are underrepresented in the incarcerated population while Blacks are overrepresented.

64% White 40% / 39%
16% / 13% Black / Latino 19%
0.9% Native 1%

U.S. population — Prison/Jail population
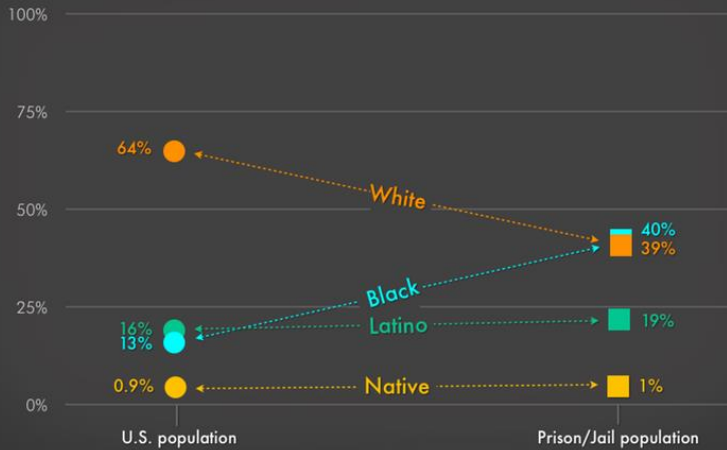
PRISON POLICY INITIATIVE

Compiled from 2010 Census, Summary File 1.

www.prisonpolicy.org

For each race, determine what percent of their total population is currently incarcerated.

	Total Population	Incarcerated	% Incarcerated
White	169,600,000	852,150	0.5%
Black	37,100,000	874,000	2.4%
Latino	42,400,000	415,150	0.9%
Native	2,385,000	21,850	0.9%
Total	265,000,000	2,185,000	

Economic Inequities

- Awareness: Inequities in wealth
- Statistical graphs (Constructing and Interpreting)
- Expected value

A comparison between the Top 10% and Bottom 90%, Average Income in the U.S.
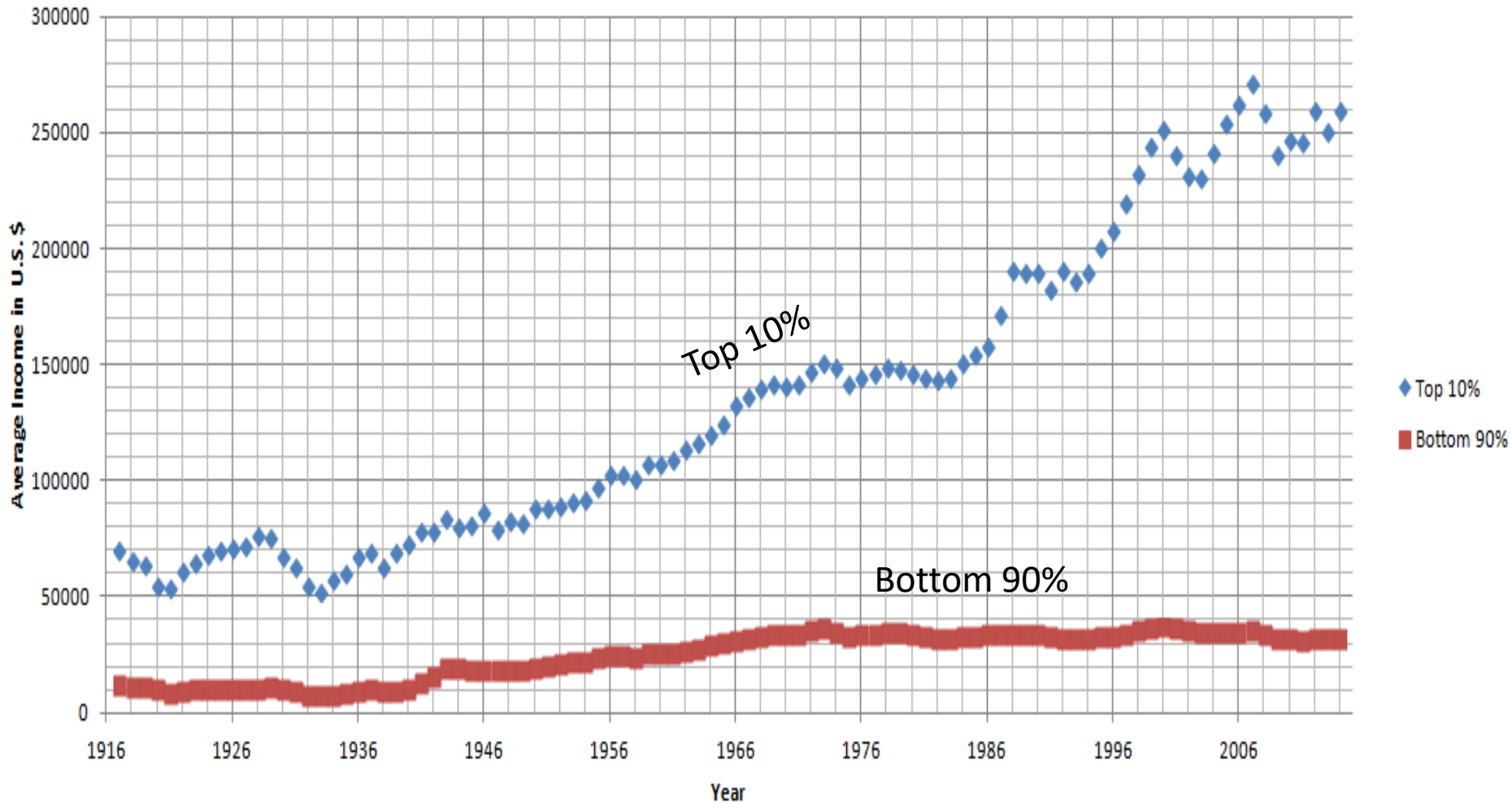
Top 10%

Bottom 90%

◆ Top 10%

■ Bottom 90%

Average Income in U.S. $

Year

The accelerating decline in wealth over the past 30 years has left many Black and Latino families unable to reach the middle class. Between 1983 and 2013, the wealth of median Black and Latino households decreased by 75% (from $6,800 to $1,700) and 50% (from $4,000 to $2,000), respectively, while median White household wealth rose by 14% (from $102,200 to $116,800).

Draw a graph that displays the information above.

The accelerating decline in wealth over the past 30 years has left many Black and Latino families unable to reach the middle class. Between 1983 and 2013, the wealth of median Black and Latino households decreased by 75% (from $6,800 to $1,700) and 50% (from $4,000 to $2,000), respectively, while median White household wealth rose by 14% (from $102,200 to $116,800).

The Ever-Growing Gap: Black, Latino and White Household Wealth, 1983-2013

MEDIAN HOUSEHOLD WEALTH

$200K
$161,400
$150K
$140,000
$121,400
$102,200
$110,500
$116,800
$100K
$50K
$14,000
$3,900
$10,400
$10,200
$6,700
$2,900
$6,800
$4,000
$3,100
$2,500
$1,700
$2000
0

1983   1989   2001   2007   2010   2013

White   Black   Latino
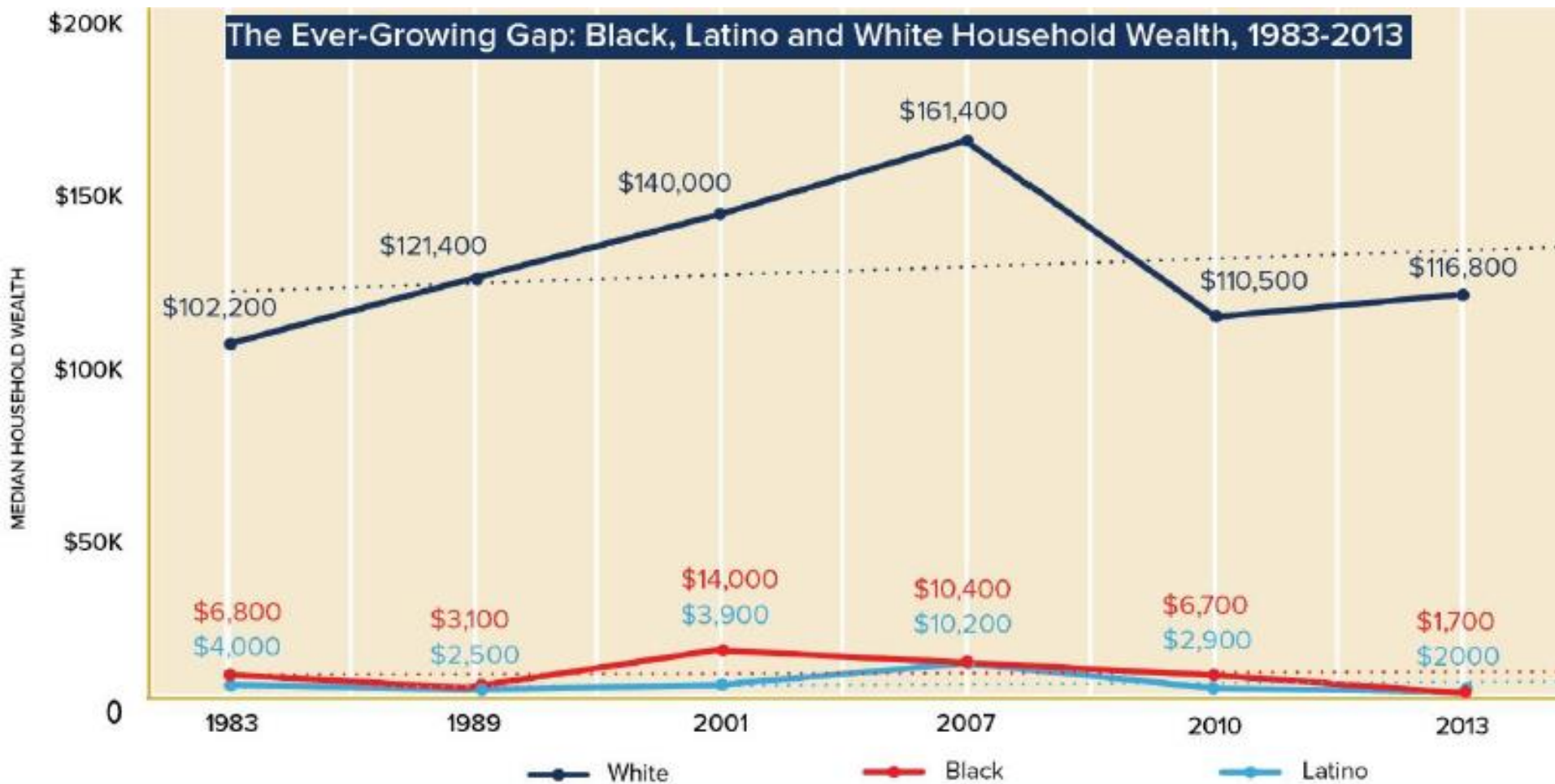
Low- and middle-income families have lost ground in both income and wealth

Percentage change in average family income and median net wealth between 2001 and 2013, by income quintile

Lowest fifth: Change in average family income -13%, Change in median net wealth -41%
Second fifth: Change in average family income -7%, Change in median net wealth -54%
Third fifth: Change in average family income -6%, Change in median net wealth -26%
Fourth fifth: Change in average family income -4%, Change in median net wealth -16%
Top fifth: Change in average family income -2%
Next to top 10th (80th–90th): Change in median net wealth -13%
Top 10th: 3%

■ Change in average family income
■ Change in median net wealth

Note: For wealth data, families are grouped into income quintiles by the Federal Reserve using the Survey of Consumer Finances' concept of "usual" before-tax income. For income data, families are grouped into income quintiles by the Census Bureau using the Current Population Survey's concept of before-tax "money" income.
Sources: Income data from U.S. Bureau of the Census, *Current Population Survey* (U.S. Department of Commerce, 2014), Table F3, Historical Income. Net wealth data from Federal Reserve System, "Survey of Consumer Finances" (2014), Table 4, Historic Tables Based on Internal Data.

https://talkpoverty.org/2014/09/16/poverty-income-data/

TAX CUTS & JOBS ACT

Are all single taxpayers treated equitably in the 2018 tax relief law?

What would be the 2018 income tax savings for a single person with no dependents who has a gross income of $75,000, adjustments of $4,000, one exemption, $2,475 in itemized deductions, and no tax credits?

2017 Tax Bracket	2017 Income Range	Your 2017 tax is ...
10%	$0-$9,325	10% of your taxable income
15%	$9,326-$37,950	$932.50 plus 15% of your income above $9,325
25%	$37,951-$91,900	$5,226.25 plus 25% of your income above $37,950
28%	$91,901-$191,650	$18,713.75 plus 28% of your income above $91,900
33%	$191,651-$416,700	$46,643.75 plus 33% of your income above $191,650
35%	$416,701-$418,400	$120,910.25 plus 35% of your income above $416,700
39.60%	$418,401 and above	$121,505.25 plus 39.6% of your income above $418,400

2018 Tax Bracket	2018 Income Range	Your 2018 tax is ...
10%	$0-$9,525	10% of your taxable income
12%	$9,525-$38,700	$952.50 + 12% of the amount over $9,525
22%	$38,700-$82,500	$4,453.50 + 22% of the amount over $38,700
24%	$82,500-$157,500	$14,089.50 + 24% of the amount over $82,500
32%	$157,500-$200,000	$32,089.50 + 32% of the amount over $157,500
35%	$200,000-$500,000	$45,689.50 + 35% of the amount over $200,000
37%	Over $500,000	$150,689.50 + 37% of the amount over $500,000

Compute the 2018 tax cut or tax savings for the individual with the gross income of $75,000.

	2017	2018
Adjusted Gross Income	$71,000	$71,000
Exemptions	$4,050	$0
Deductions	$6,350	$12,000
Taxable Income	$60,600	$59,000
Marginal Tax Bracket	25%	22%
Tax Owed	$10,888.75	$8,919.50
Savings	$1,969.25	

TAX CUTS & JOBS ACT

Effect of the new tax bracket on individual filers

Gross Income	2018 Tax Savings		Gross Income	2018 Tax Savings
$10,000	$0		$250,000	$3,478
$20,000	$174		$280,000	$2,878
$30,000	$504		$300,000	$2,478
$40,000	$804		$320,000	$2,078
$50,000	$1,269		$340,000	$1,678
$60,000	$1,639		$360,000	$1,278
$70,000	$1,939		$380,000	$878
$80,000	$2,239		$400,000	$478
$90,000	$2,539		$420,000	$78
$100,000	$2,729		$440,000	$451
$110,000	$3,060		$460,000	$1,371
$120,000	$3,460		$480,000	$2,291
$130,000	$3,860		$500,000	$3,211
$140,000	$4,260		$550,000	$4,751
$150,000	$4,660		$600,000	$6,051
$160,000	$5,060		$700,000	$8,651
$170,000	$5,420		$800,000	$11,251
$180,000	$5,020		$900,000	$13,851
$190,000	$4,620		$1,000,000	$16,451
$200,000	$4,220		$2,000,000	$42,451
$220,000	$4,078		$3,000,000	$68,450
$240,000	$3,678			

TAX CUTS & JOBS ACT

2018 Tax Savings for Individual Filers by Income

Not all single taxpayers are treated equitably; Some taxpayers benefit much more than others

If income = $40,000, then tax cut = $804

If income = $170,000, then tax cut = $5,420

If income = $430,000, then tax **increase** = $10

If income = $600,000, then tax cut = $6,051

Tax Savings from 2017 to 2018 ($)

Adjusted Gross Income ($)

TAX CUTS & JOBS ACT

2018 Tax Savings for Individual Filers by Income
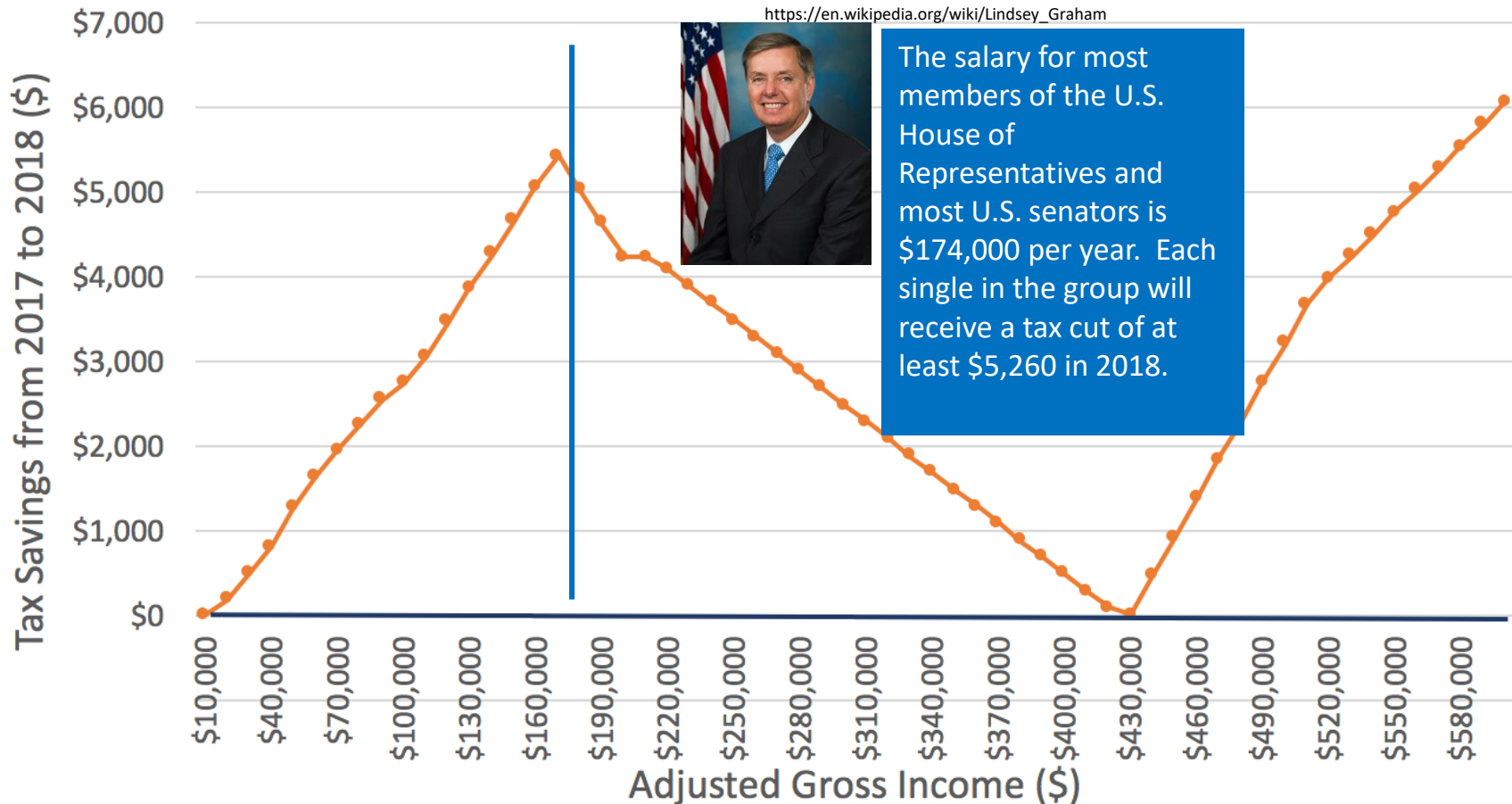
https://en.wikipedia.org/wiki/Lindsey_Graham

The salary for most members of the U.S. House of Representatives and most U.S. senators is $174,000 per year. Each single in the group will receive a tax cut of at least $5,260 in 2018.

Y-axis: Tax Savings from 2017 to 2018 ($): $0, $1,000, $2,000, $3,000, $4,000, $5,000, $6,000, $7,000

X-axis: Adjusted Gross Income ($): $10,000, $40,000, $70,000, $100,000, $130,000, $160,000, $190,000, $220,000, $250,000, $280,000, $310,000, $340,000, $370,000, $400,000, $430,000, $460,000, $490,000, $520,000, $550,000, $580,000

Tax credit doubles to $2,000 per child for most tax payers.

TAX CUTS & JOBS ACT

AVERAGE BENEFIT FROM TAX BILL

Income	Benefit
Less than $10K	$10
$10K–$20K	$50
$20K–$30K	$180
$30K–$40K	$360
$40K–$50K	$570
$50K–$75K	$870
$75K–$100K	$1,310
$100K–$200K	$2,260
$200K–$500K	$6,560
$500K–$1M	$21,240
More than $1M	$69,660

~75% of taxpayers (Less than $10K through $30K–$40K)

~ 15% of taxpayers ($40K–$50K through $75K–$100K)

~ 10% of taxpayers ($100K–$200K through More than $1M)
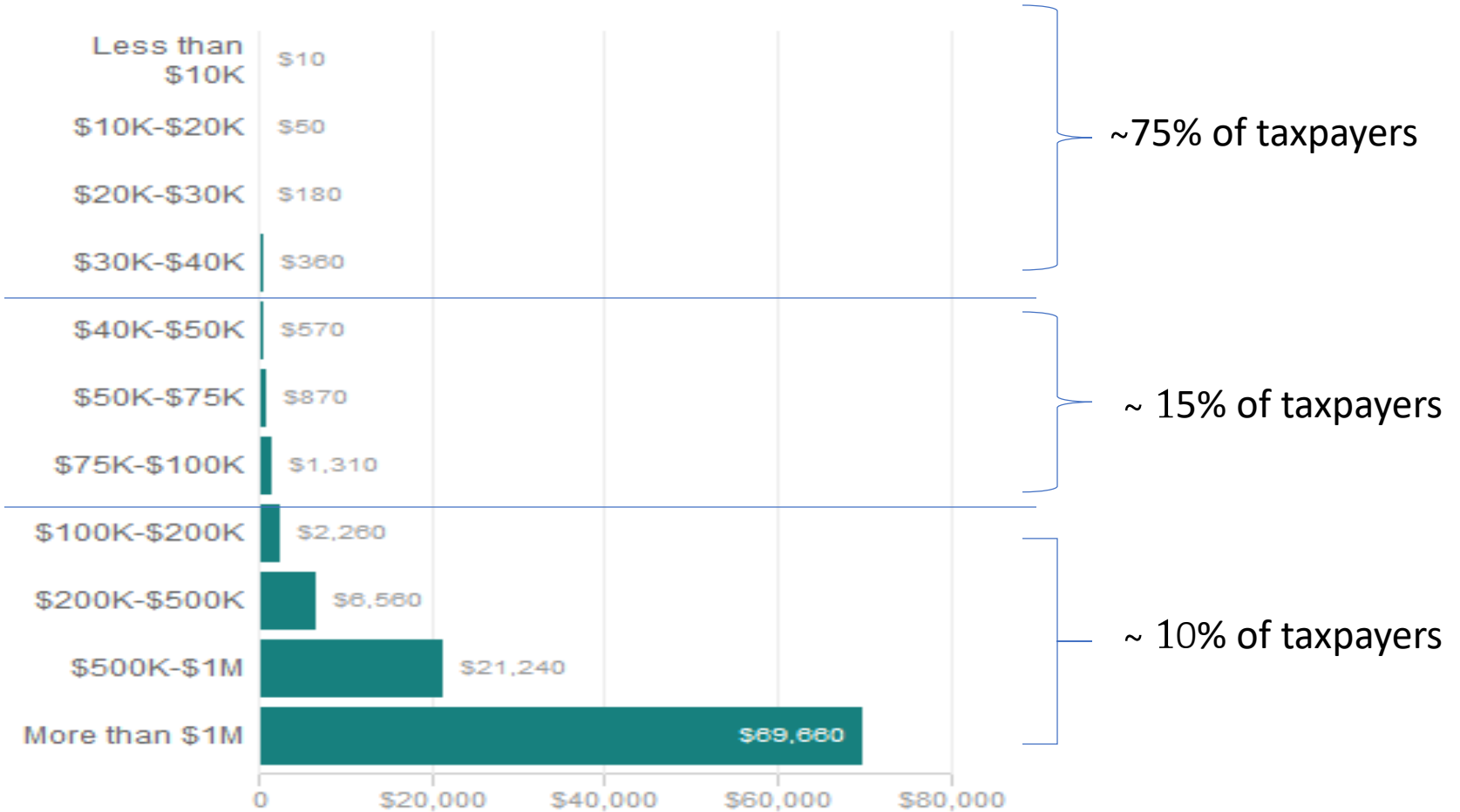
Source: Tax Policy Center

Credit: Danielle Kurtzleben & Katie Park/NPR

https://taxfoundation.org/how-many-taxpayers-fall-each-income-tax-bracket/

https://www.npr.org/2017/12/19/571754894/charts-see-how-much-of-gop-tax-cuts-will-go-to-the-middle-class

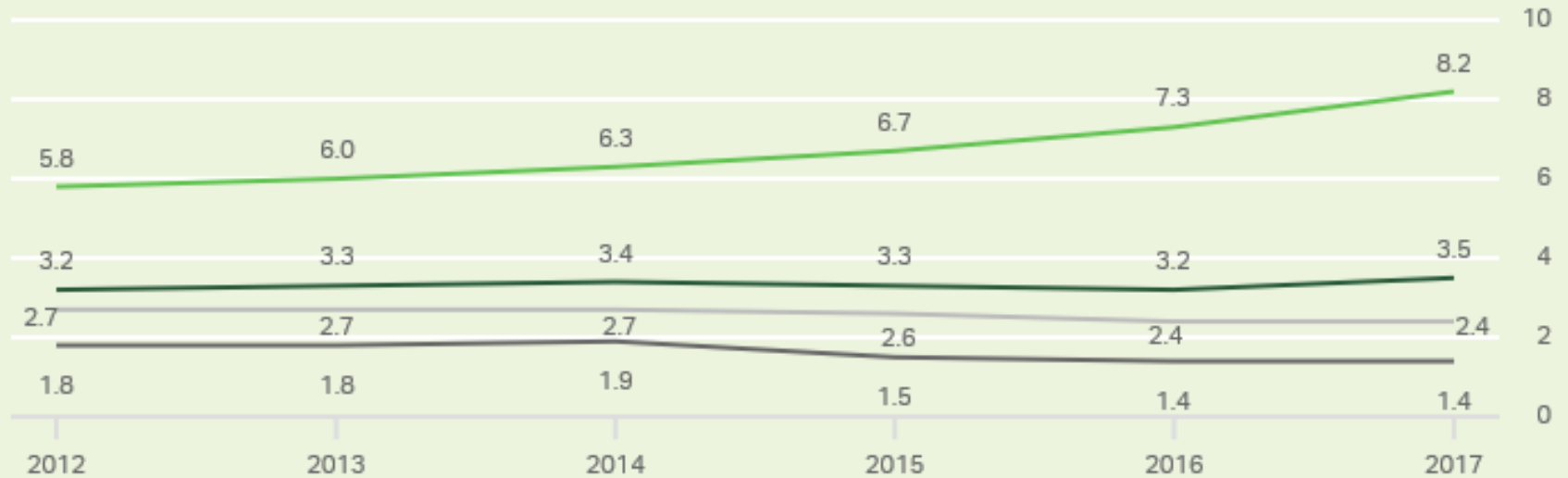| Gross Household Income Range	Midpoint of Income Class	Average Tax Cut in 2018	Percent of the Households in the Income Range
$0-$10,000	$5,000	$10	6%
$10,001-$20,000	$15,000	$50	11%
$20,001-$30,000	$25,000	$180	11%
$30,001-$40,000	$35,000	$360	9%
$40,001-$50,000	$45,000	$570	8%
$50,001-$75,000	$62,500	$870	18%
$75,001-$100,000	$87,500	$1,310	17%
$100,001-$200,000	$150,000	$2,260	14%
$200,001-$450,000	$325,000	$7,100	5%
$450,001+	$1,200,000	$41,800	1%

Average (expected) Tax Cut = $1,573

Inequities – Sexuality/LGBT

- Awareness: Where do we find inequities in the LGBT community?
- Statistical graphs (Constructing and Interpreting)
- Percent increase/decrease
- Hypothesis testing

Percentage of Americans Identifying as LGBT, by Birth Cohort

■ % Millennials (1980-1999)   ■ % Generation X (1965-1979)   ■ % Baby boomers (1946-1964)
■ % Traditionalists (1913-1945)

Millennials: 5.8 (2012), 6.0 (2013), 6.3 (2014), 6.7 (2015), 7.3 (2016), 8.2 (2017)

Generation X: 3.2 (2012), 3.3 (2013), 3.4 (2014), 3.3 (2015), 3.2 (2016), 3.5 (2017)

Baby boomers: 2.7, 2.7, 2.7, 2.6, 2.4, 2.4

Traditionalists: 1.8, 1.8, 1.9, 1.5, 1.4, 1.4

Years: 2012, 2013, 2014, 2015, 2016, 2017

Percentage of U.S. Adults Identifying as LGBT by Gender 2012-2017

	2012 %	2013 %	2014 %	2015 %	2016 %	2017 %
Gender						
Male	3.4	3.5	3.6	3.7	3.7	3.9
Female	3.5	3.6	3.9	4.1	4.4	5.1

https://news.gallup.com/poll/234863/estimate-lgbt-population-rises.aspx

Who Are Unemployed

9%
5%
0%   100%

LGBT
non-LGBT

Who Are Uninsured

15%
12%
0%   100%

Who Are Food Insecure

27%
15%
0%   100%

In 2016, the Williams Institute found that 0.6% of U.S. adults identify as transgender.

Who Have Income <$24K

25%
18%
0%   100%

https://williamsinstitute.law.ucla.edu/visualization/lgbt-stats/?topic=LGBT#economic

Who Are Unemployed

9%
0%   100%
5%

LGBT citizens are _____% more likely to be unemployed than non LGBT citizens

LGBT
non-LGBT

Who Are Uninsured

15%
0%   100%
12%

Who Are Food Insecure

27%
0%   100%
15%

Who Have Income <$24K

25%
0%   100%
18%

Who Are Unemployed

9%
0% 5% 100%

Who Are Uninsured

15%
0% 12%
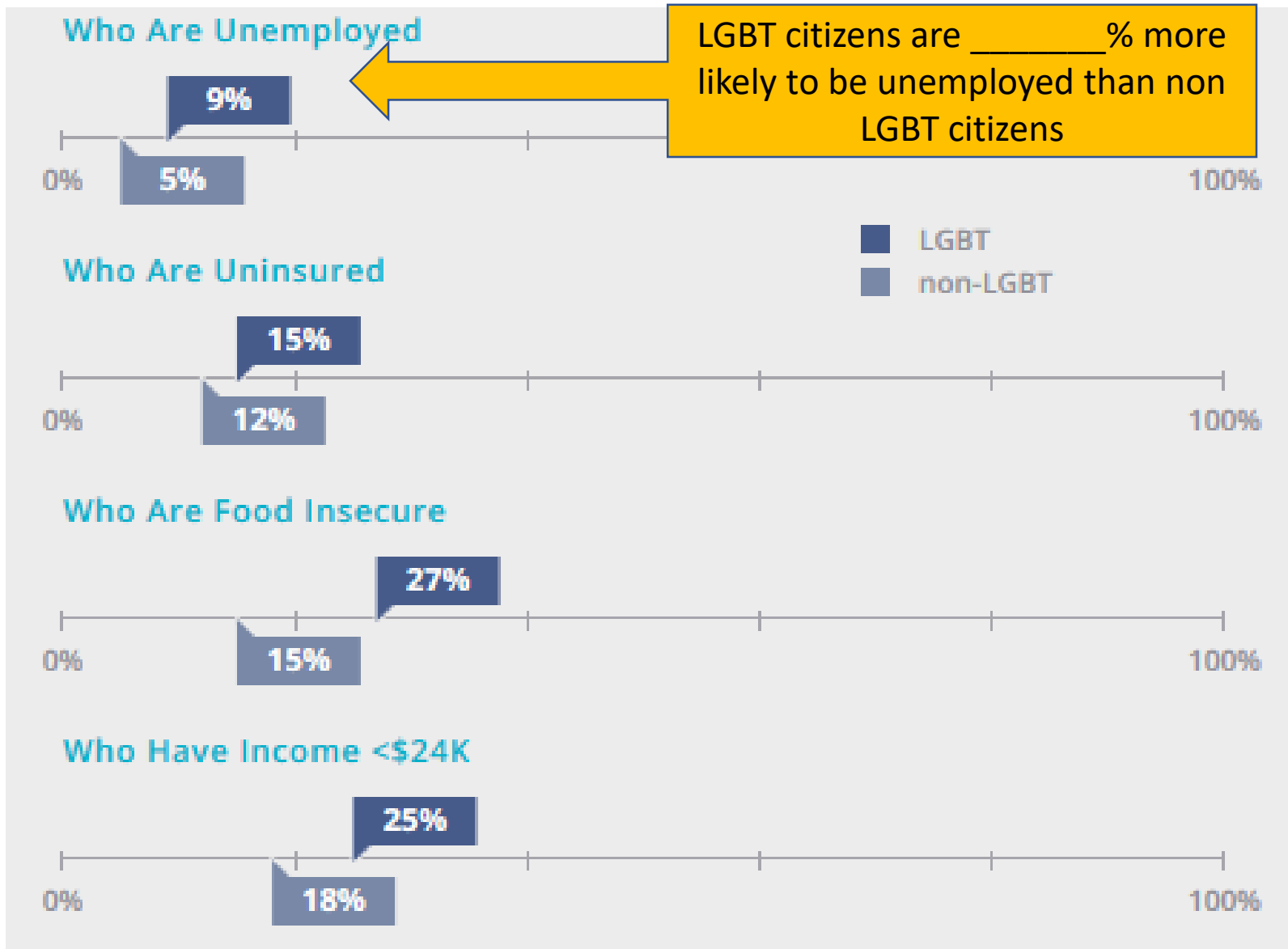
In a random sample of 980 LGBT citizens, 15% were uninsured. In a random sample of 800 non LGBT citizens, 12% were uninsured. Test the claim that LGBT citizens are more likely to be uninsured.

Who Are Food Insecure

27%
0% 15% 100%

Who Have Income <$24K

25%
0% 18% 100%

https://williamsinstitute.law.ucla.edu/visualization/lgbt-stats/?topic=LGBT#economic

Gender Pay Gap

- Awareness: Is the gender pay gap really a thing?
- Ratios
- Times series graphs (Constructing and Interpreting)
- Regression (Making predictions from trend lines.)
- Other statistical graphs

The Gender Pay Gap in the U.S.

What is the ratio of women's median earnings to men's median earnings in the U.S.? _____
(a) .70:1   (b) .75:1   (c) .80:1   (d) .90:1   (e) .95:1

For every dollar a white man earns, an Hispanic woman will earn _____ cents.
(a) 43   (b) 53   (c) 63   (d) 73   (e) 83
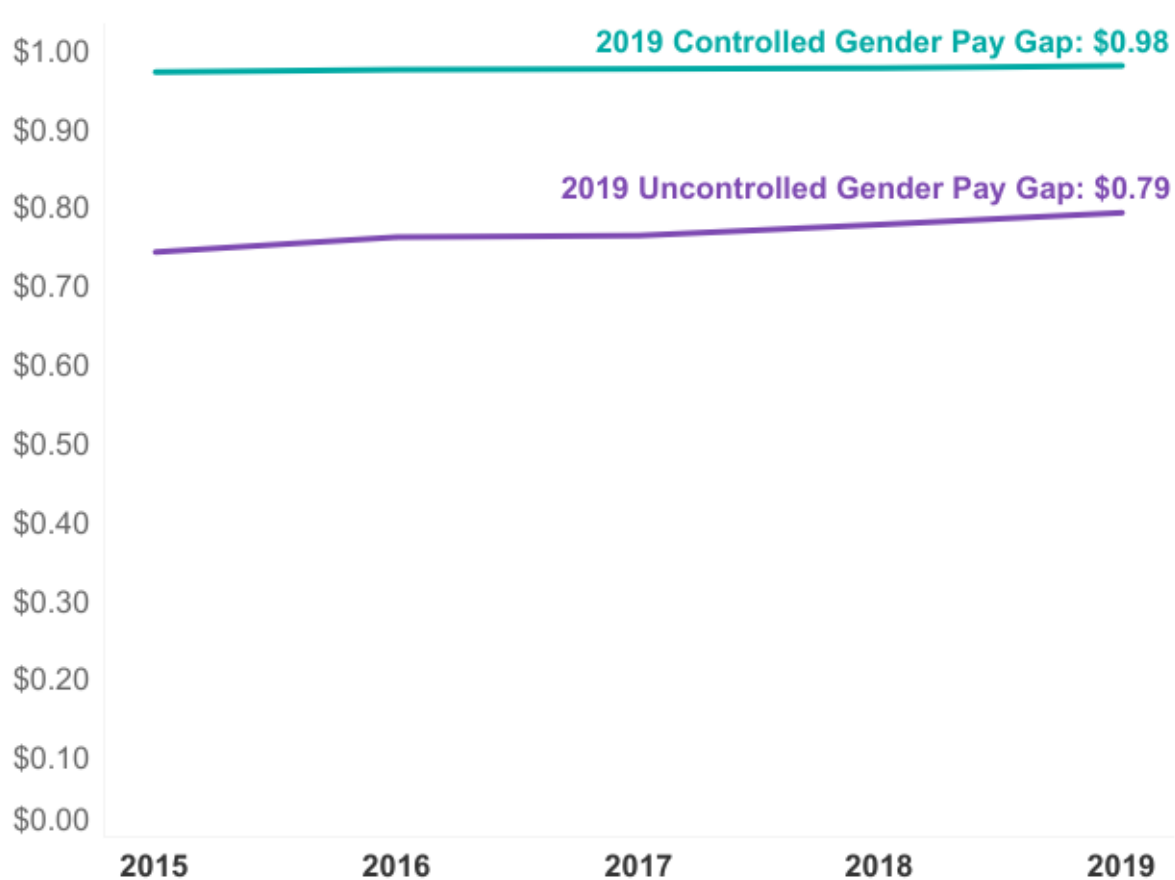
EARNINGS RATIO = $\dfrac{\text{WOMEN'S MEDIAN EARNINGS}}{\text{MEN'S MEDIAN EARNINGS}}$

2017 EARNINGS RATIO = $\dfrac{\$41,997}{\$52,146}$ = **80%**

https://www.aauw.org/research/the-simple-truth-about-the-gender-pay-gap/

The Gender Pay Gap Over Time
Using PayScale's crowdsourced compensation data

2019 Controlled Gender Pay Gap: $0.98

2019 Uncontrolled Gender Pay Gap: $0.79

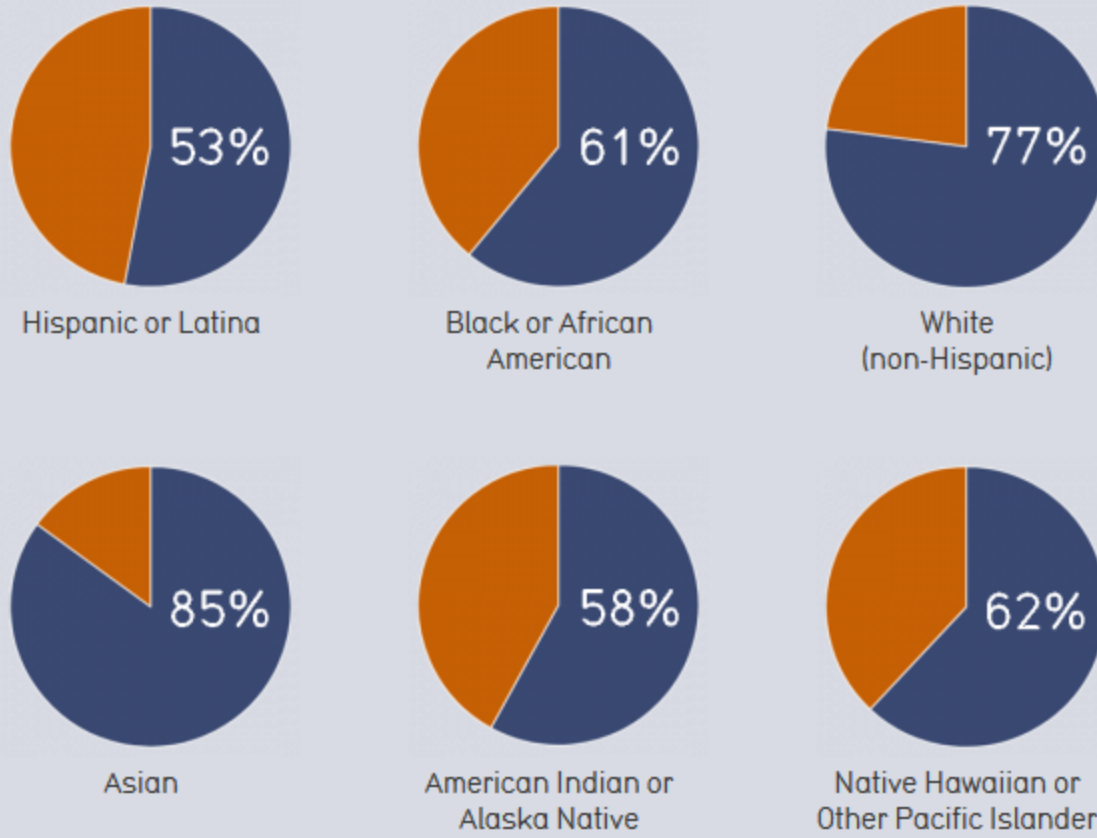|				
$1.00				
$0.90				
$0.80				
$0.70				
$0.60				
$0.50				
$0.40				
$0.30				
$0.20				
$0.10				
$0.00				
2015	2016	2017	2018	2019

Uncontrolled Gender Pay Gap: Measures median salary for all men and all women regardless of job type, seniority, location, industry, years of experience, etc.

Controlled Gender Pay Gap: Measures pay for men and women with the same job and qualifications.

PayScale
HUMAN CAPITAL

https://www.payscale.com/data/gender-pay-gap

Women's Earnings as a percentage of White Men's Earnings, by Race/Ethnicity, 2017

Hispanic or Latina — 53%
Black or African American — 61%
White (non-Hispanic) — 77%
Asian — 85%
American Indian or Alaska Native — 58%
Native Hawaiian or Other Pacific Islander — 62%

https://www.aauw.org/research/the-simple-truth-about-the-gender-pay-gap/

Women's Median Annual Earnings as a Percentage of Men's for Full-time, Year-round Workers, 1960–2017 and Projections

https://www.aauw.org/research/the-simple-truth-about-the-gender-pay-gap/
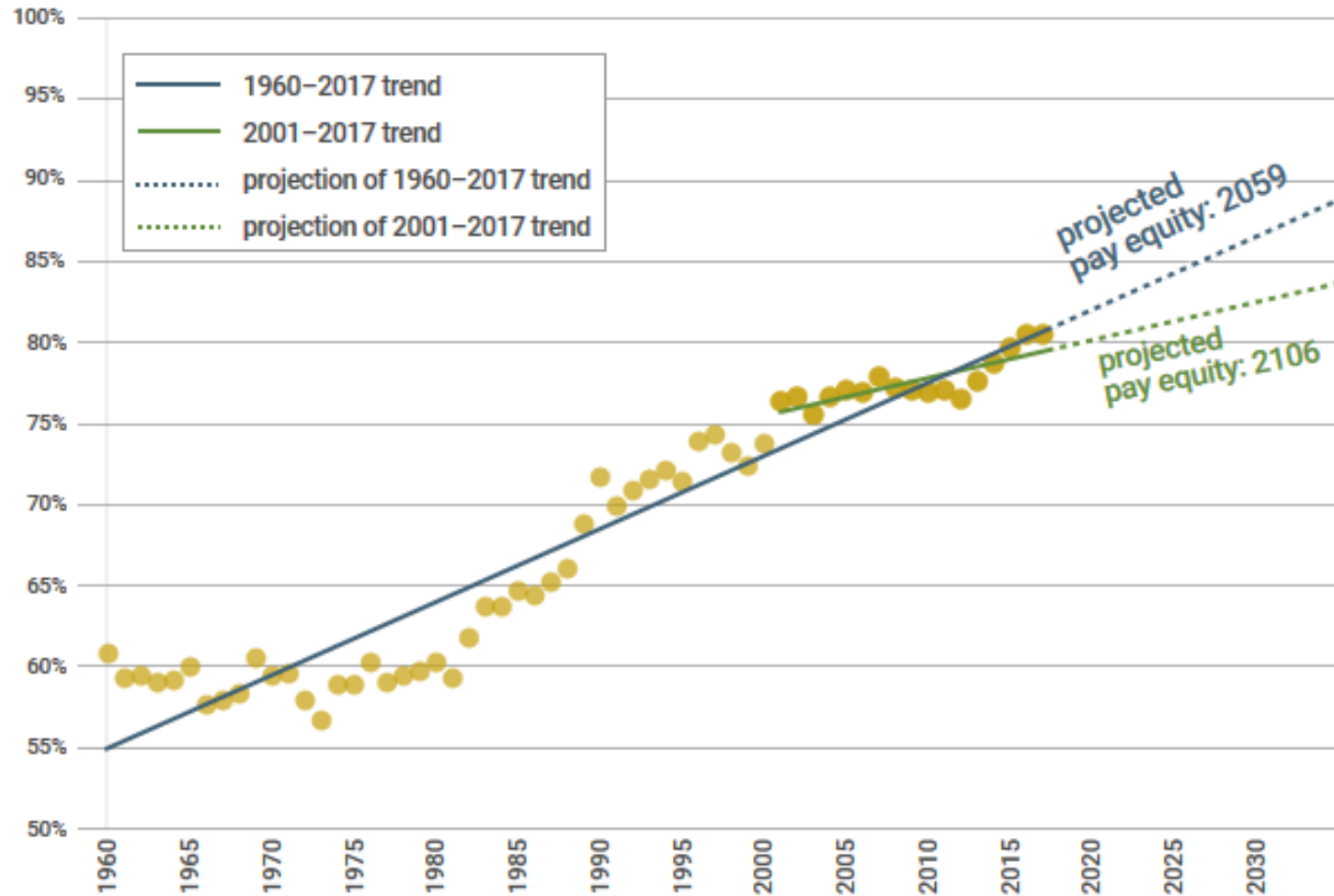
10 Occupations Where Women Collectively Lose the Most Money

	Women Employed	Men's Earnings	Women's Earnings	Pay Ratio	Profession Gap
Financial managers	554,104	$100,575	$65,237	65%	$19,581,000,000
Physicians and surgeons	274,511	$243,072	$171,880	71%	$19,543,000,000
Accountants and auditors	1,014,827	$77,320	$60,280	78%	$17,293,000,000
First-line supervisors of retail sales workers	1,177,835	$47,774	$35,217	74%	$14,790,000,000
Registered nurses	2,092,489	$71,590	$65,612	92%	$12,509,000,000
Marketing and sales managers	383,998	$100,288	$71,066	71%	$11,221,000,000
Lawyers	320,159	$140,270	$106,837	76%	$10,704,000,000
Chief executives	266,890	$148,867	$111,236	75%	$10,043,000,000
Medical and health services managers	456,984	$87,451	$67,129	77%	$9,287,000,000
Education administrators	500,325	$83,383	$64,989	78%	$9,203,000,000

https://www.aauw.org/research/the-simple-truth-about-the-gender-pay-gap/

10 Largest Pay Gaps for Women

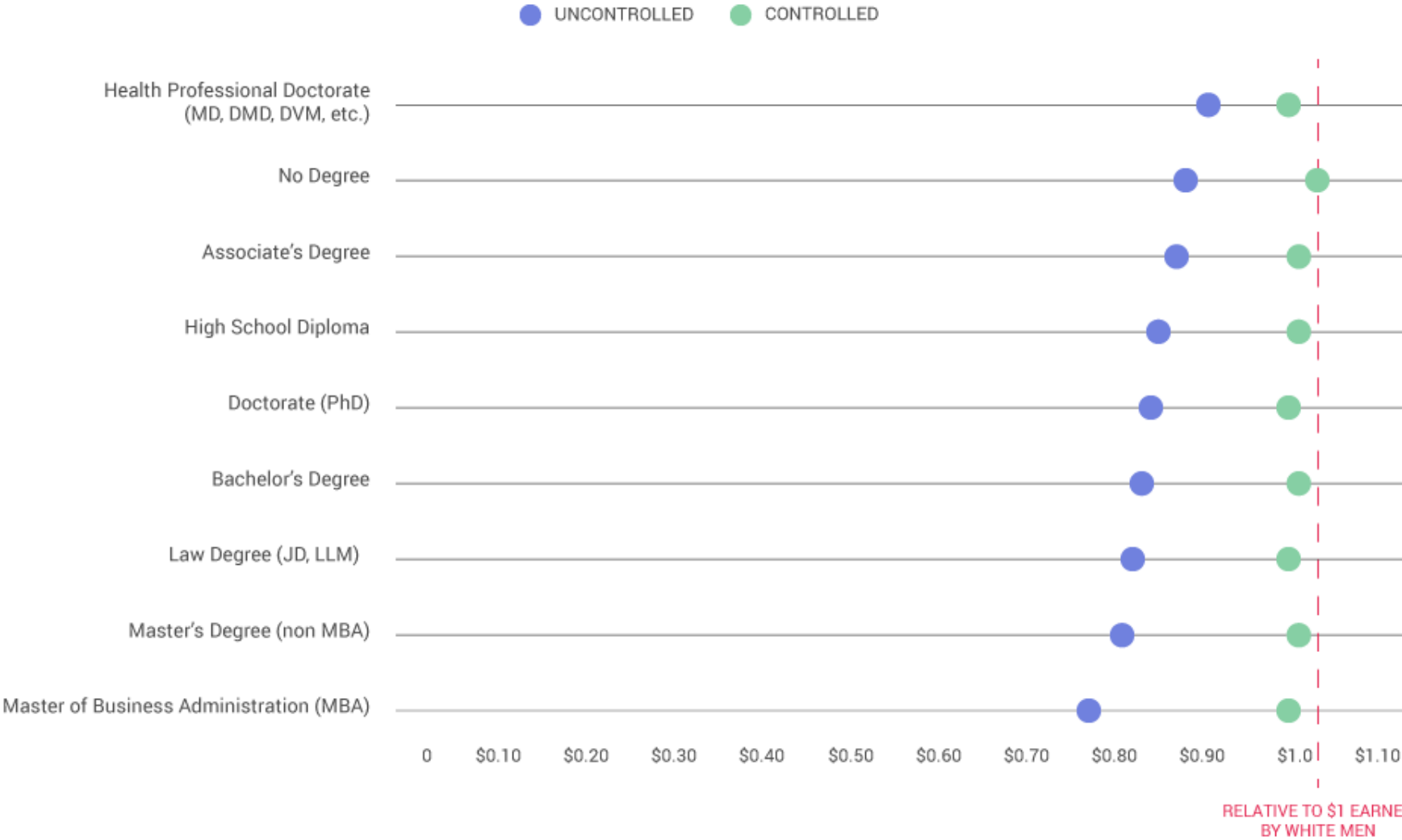|	Women Employed	Men's Earnings	Women's Earnings	Pay Ratio	Profession Gap
Securities, commodities, and financial services sales agents	60,572	$101,423	$61,936	61%	$2,392,000,000
Financial managers	554,104	$100,575	$65,237	65%	$19,581,000,000
Personal financial advisors	109,105	$108,199	$71,154	66%	$4,042,000,000
Production, planning, and expediting clerks	162,744	$60,836	$41,040	67%	$3,222,000,000
Credit counselors and loan officers	150,841	$77,214	$52,257	68%	$3,765,000,000
Inspectors, testers, sorters, samplers, and weighers	242,910	$46,955	$32,280	69%	$3,565,000,000
Retail salespersons	644,453	$40,182	$27,800	69%	$7,980,000,000
First-line supervisors of housekeeping and janitorial workers	71,736	$43,968	$30,461	69%	$969,000,000
Insurance sales agents	212,096	$61,768	$42,951	70%	$3,991,000,000
Sales and related workers, all other	83,106	$67,634	$47,543	70%	$1,670,000,000

https://www.aauw.org/research/the-simple-truth-about-the-gender-pay-gap/

10 Smallest Pay Gaps for Women

	Women Employed	Men's Earnings	Women's Earnings	Pay Ratio	Profession Gap
Wholesale and retail buyers, except farm products	65,395	$41,903	$45,496	109%	-$235,000,000
Combined food preparation and serving workers, including fast food	87,640	$20,886	$20,592	99%	$26,000,000
Writers and authors	78,568	$56,059	$55,092	98%	$76,000,000
Pharmacists	111,516	$122,441	$120,173	98%	$253,000,000
Counselors	416,330	$47,207	$46,104	98%	$459,000,000
Social workers	586,871	$46,906	$45,644	97%	$741,000,000
Clinical laboratory technologists and technicians	179,012	$50,108	$48,241	96%	$334,000,000
Receptionists and information clerks	617,205	$30,319	$28,919	95%	$864,000,000
Computer occupations, all other	137,341	$73,301	$68,923	94%	$601,000,000
Security guards and gaming surveillance officers	156,280	$32,003	$30,072	94%	$302,000,000

https://www.aauw.org/research/the-simple-truth-about-the-gender-pay-gap/

GENDER PAY GAP BY EDUCATION LEVEL

UNCONTROLLED   CONTROLLED

Health Professional Doctorate (MD, DMD, DVM, etc.)
No Degree
Associate's Degree
High School Diploma
Doctorate (PhD)
Bachelor's Degree
Law Degree (JD, LLM)
Master's Degree (non MBA)
Master of Business Administration (MBA)

0   $0.10 $0.20 $0.30 $0.40 $0.50 $0.60 $0.70 $0.80 $0.90 $1.0 $1.10

RELATIVE TO $1 EARNED
BY WHITE MEN

https://www.payscale.com/data/gender-pay-gap

WOMEN OF COLOR ARE FAR MORE LIKELY TO REMAIN IN THE INDIVIDUAL CONTRIBUTOR LEVEL THAN WHITE MEN

https://www.payscale.com/data/gender-pay-gap
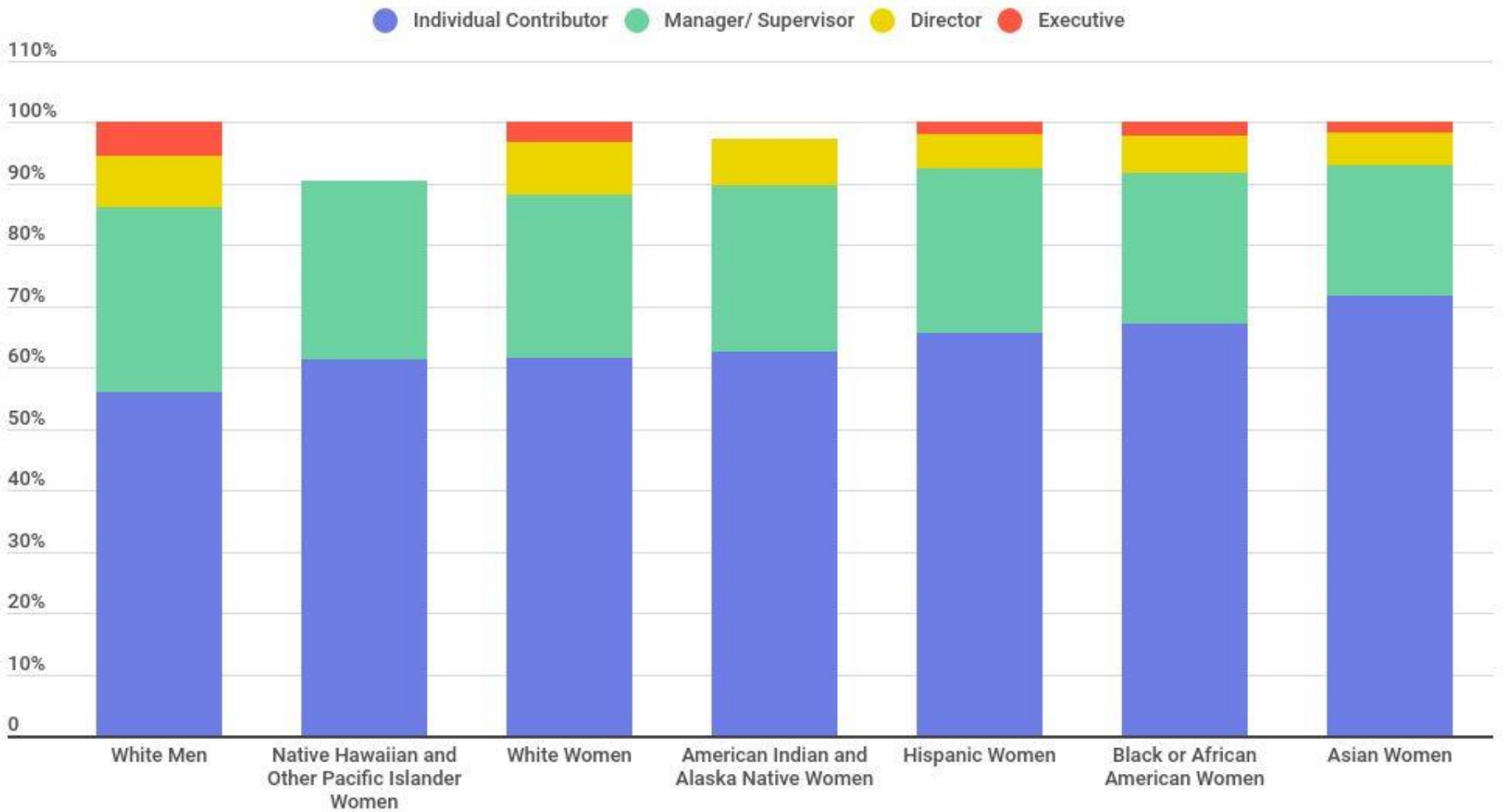
THE OPPORTUNITY GAP WIDENS AS WOMEN PROGRESS THROUGH THEIR CAREER

JOB LEVEL- INDIVIDUAL CONTRIBUTORS

UNCONTROLLED · CONTROLLED

RELATIVE TO $1 EARNED BY WHITE MEN

Asian Women	
Native Hawaiian and Other Pacific Islander Women	
White Women	
American Indian and Alaska Native Women	
Hispanic Women	
Black or African American Women	

0    $0.1 $0.2 $0.3 $0.4 $0.5 $0.6 $0.7 $0.8 $0.9 $1 $1.1

https://www.payscale.com/data/gender-pay-gap

THE OPPORTUNITY GAP WIDENS AS WOMEN PROGRESS THROUGH THEIR CAREER

JOB LEVEL - MANAGER/SUPERVISOR

● UNCONTROLLED ● CONTROLLED

RELATIVE TO $1 EARNED BY WHITE MEN

Asian Women

Native Hawaiian and Other Pacific Islander Women

White Women

American Indian and Alaska Native Women

Hispanic Women

Black or African American Women

0 $0.1 $0.2 $0.3 $0.4 $0.5 $0.6 $0.7 $0.8 $0.9 $1 $1.1

https://www.payscale.com/data/gender-pay-gap

THE OPPORTUNITY GAP WIDENS AS WOMEN PROGRESS THROUGH THEIR CAREER

JOB LEVEL - DIRECTOR

UNCONTROLLED   CONTROLLED

RELATIVE TO $1 EARNED BY WHITE MEN

- Asian Women
- Native Hawaiian and Other Pacific Islander Women — N/A
- White Women
- American Indian and Alaska Native Women
- Hispanic Women
- Black or African American Women

0   $0.1 $0.2 $0.3 $0.4 $0.5 $0.6 $0.7 $0.8 $0.9 $1 $1.1

https://www.payscale.com/data/gender-pay-gap
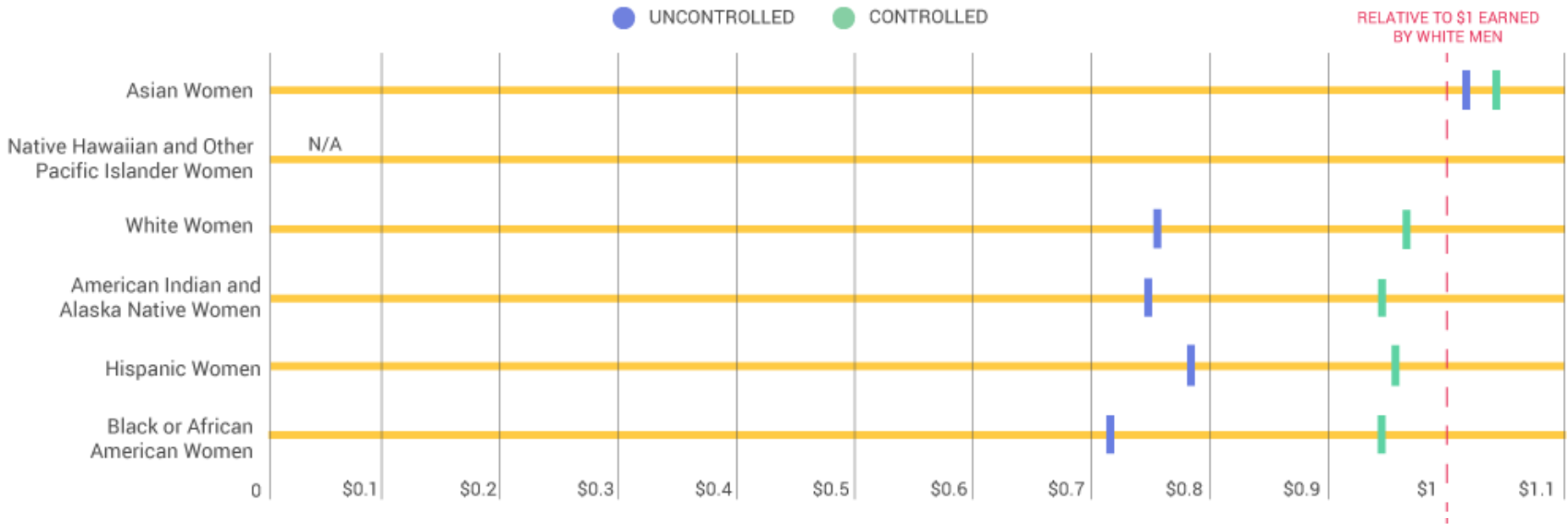
THE OPPORTUNITY GAP WIDENS AS WOMEN
PROGRESS THROUGH THEIR CAREER

JOB LEVEL - EXECUTIVE

● UNCONTROLLED ● CONTROLLED

RELATIVE TO $1 EARNED
BY WHITE MEN

- Asian Women
- Native Hawaiian and Other Pacific Islander Women — N/A
- White Women
- American Indian and Alaska Native Women — N/A
- Hispanic Women
- Black or African American Women

0   $0.1 $0.2 $0.3 $0.4 $0.5 $0.6 $0.7 $0.8 $0.9 $1 $1.1

https://www.payscale.com/data/gender-pay-gap
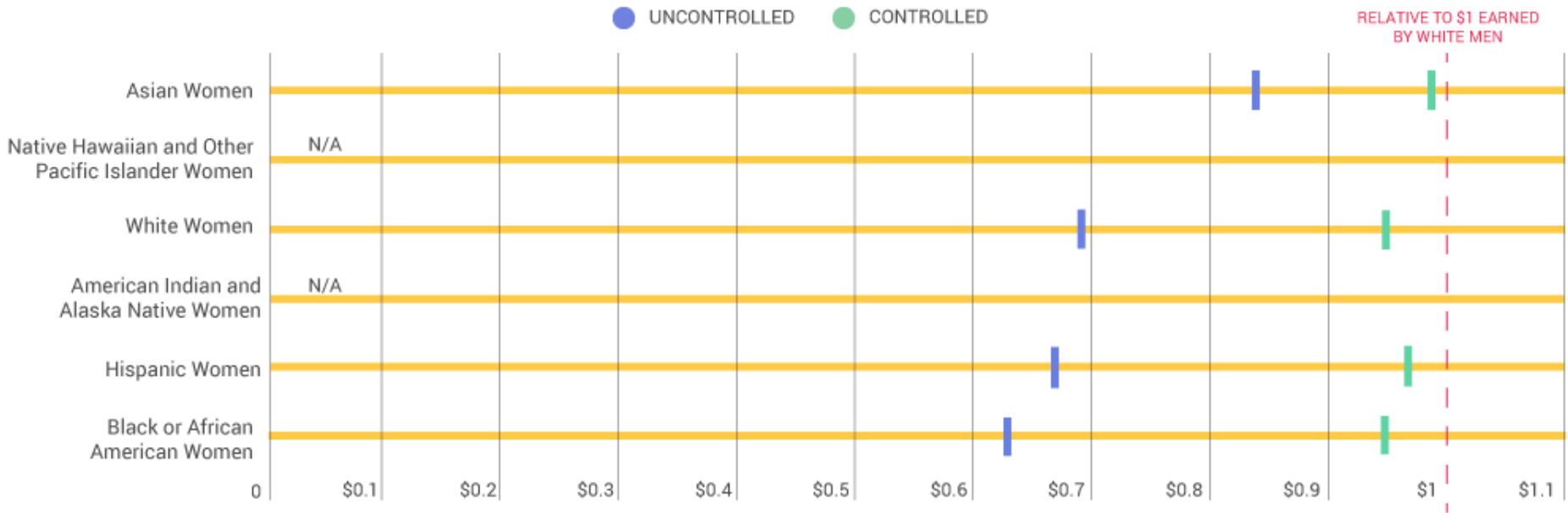
Racial Inequities – Traffic Stops

- Awareness: Racial inequities
- Statistical graphs (Constructing and Interpreting)
- Conditional proportions, percentages, probabilities

LOS ANGELES POLICE DEPARTMENT
FIELD DATA STATISTICS
CITYWIDE

DESCRIPTION OF ITEM	DRIVER						
	White	Black	Hispanic	Asian	Amer. Ind.	Other	Total
NUMBER OF DRIVERS							
	102873	52456	120120	24489	608	4094	304640
GENDER							
Male	67158	35003	91369	15491	457	3101	212579
Female	35715	17453	28751	8998	151	993	92061
APPARENT AGE							
1 - 17	1139	634	1870	154	3	65	3865
18 - 25	20903	14789	38877	4876	131	1077	80603
26 - 35	27355	15318	37880	6918	166	1123	88760
36 - 45	24165	10998	24602	5298	152	827	66042
46 - 55	16832	6917	11955	4142	112	639	40597
56+	12479	3800	4936	3101	44	413	24773
INITIAL REASON FOR STOP							
Vehicle Code Moving Violation	67017	26481	65599	15205	348	2634	177284
Vehicle Code Pedestrian Violation	217	168	284	42	1	7	721
Vehicle Code Equipment/Registration Violation	28036	22947	47435	6836	211	1165	106630
Municipal Code Violation	6181	1466	2783	2102	42	204	12778
Suspect Flight	11	16	54	4		1	86
Consensual	154	87	188	33		2	464
Call For Service	542	311	1217	116	1	27	2214
Department Briefing (Crime Broadcast, Bulletins, Roll Call)	63	101	219	10		6	399
Penal Code Violation	341	522	1394	88	5	28	2278
Health & Safety Code Violation	186	187	323	18		10	724
Other	125	170	622	35		10	962
DID DRIVER EXIT VEHICLE?							
Yes	9333	12820	30512	1990	50	562	55267
No	93540	39636	89608	22499	558	3532	249373
DID YOU ASK DRIVER TO EXIT?							
Yes	5766	10441	25777	1134	35	347	43500
PAT DOWN/FRISK SEARCH CONDUCTED?							
Yes	3595	8260	16461	650	14	216	29196
DETAINEE ASKED TO SUBMIT TO CONSENSUAL SEARCH?							
Yes	2017	4638	9023	306	8	117	16109
GRANTED?							
Yes	1869	4419	8625	284	6	110	15313
WAS SEARCH CONDUCTED?							
Yes	4310	8263	20723	775	20	249	33940
IF WARRANTLESS SEARCH CONDUCTED, SEARCH							
Parole/Probation	448	1765	1493	35		24	3765
Odor of Contraband	208	451	585	21	1	25	1291
Incident to Pat Down/Frisk	619	1491	3006	95	4	58	5273
Incident to Arrest	1795	1792	5704	421	5	83	9800
Impound Authority	1172	1577	7827	186	11	47	10780
Visible Contraband	133	149	323	14		10	629
Consent	1915	4575	8853	289	5	123	15760
Other	30	43	97	4		4	178
IF SEARCH WAS CONDUCTED, WHAT WAS SEARCHED?							
Vehicle	2804	5567	14401	452	14	170	23408
Person	3384	6825	13923	628	9	201	24970
Container	170	129	245	11		8	523
Other	17	20	42	1		1	81
WAS ANYTHING DISCOVERED/SEIZED?							
Yes	1956	2709	10384	313	12	108	15482
IF SEARCH WAS CONDUCTED, WHAT WAS DISCOVERED?							
Weapons	47	87	201	6		5	346
Money	120	124	348	11		6	609
Drugs	492	658	1198	58		40	2446
Alcohol	69	73	301	8		1	452
Other Contraband	86	76	202	7		5	376
Other Evidence of Crime	99	89	319	11		5	523
Other Property	262	350	805	49	1	13	1480
Vehicle	1070	1546	7711	187	11	46	10571
ACTION TAKEN:							
Warning	23026	11567	22678	6201	142	823	64437
Citation	77847	37998	90940	17917	453	3241	228396
Arrest - Total	4092	3510	9696	854	18	281	18451

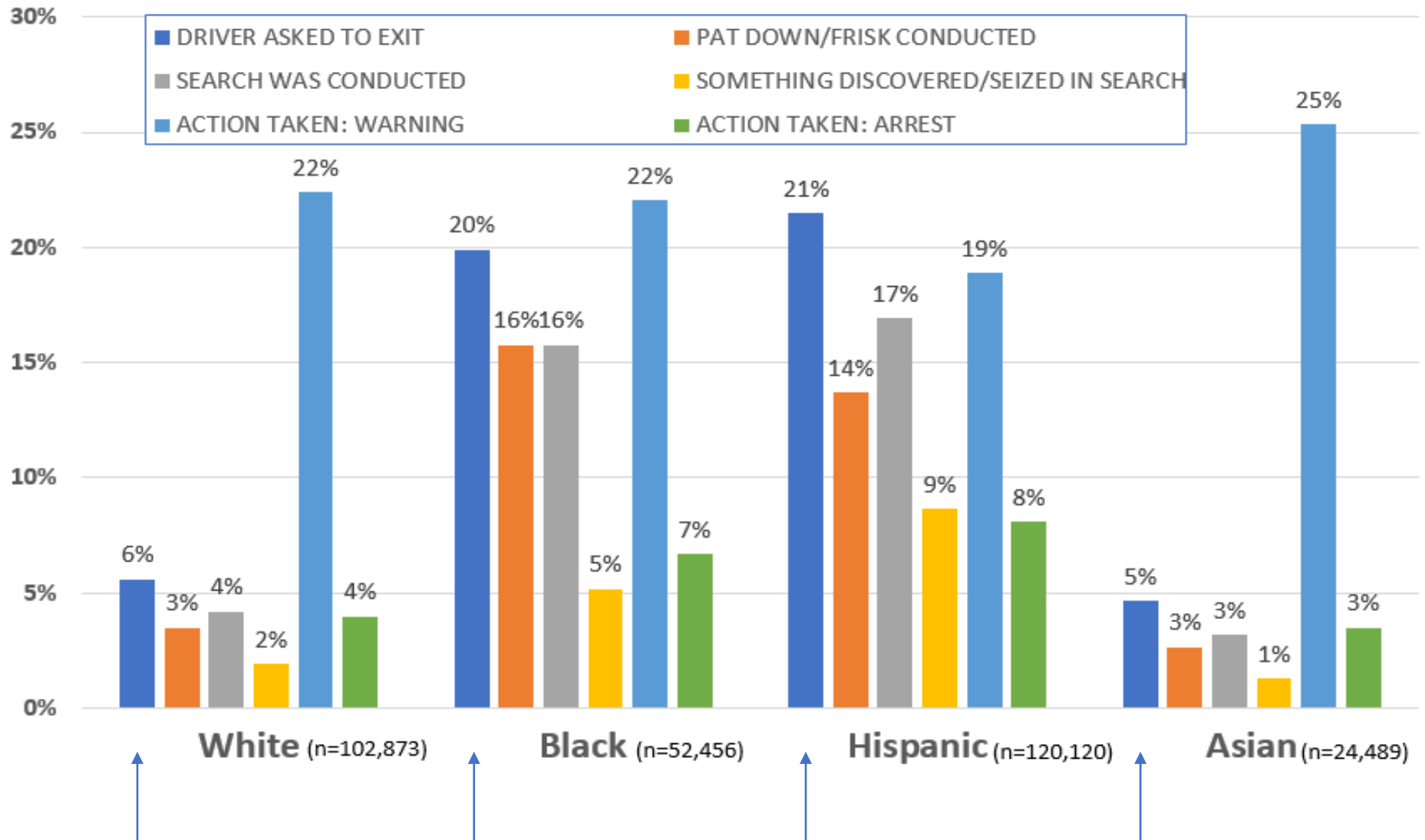The LAPD publishes their field statistics online.

This report summarizes all traffic stops in the City of Los Angeles over the first six months of 2008.
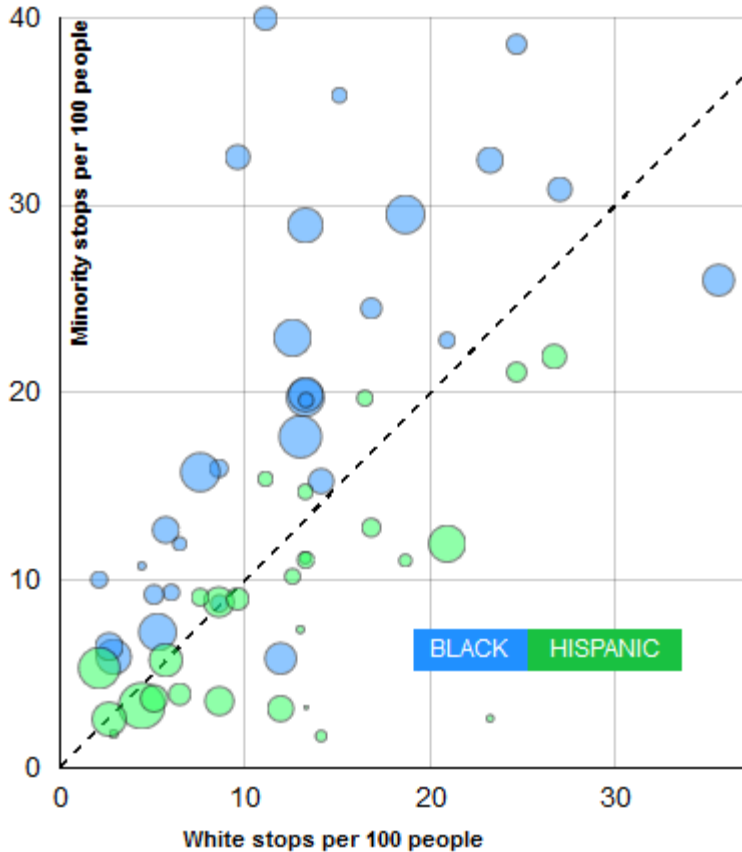
Students compare and contrast the way drivers of different races were treated by police officers during traffic stops. Here is a subset of the data from the LAPD traffic stop summary.

	White	Black	Hispanic	Asian	Amer. Ind.	Other	Total
NUMBER OF DRIVERS STOPPED	102873	52456	120120	24489	608	4094	304640
DRIVER ASKED TO EXIT	5766	10441	25777	1134	35	347	43500
PAT DOWN/FRISK CONDUCTED	3595	8260	16461	650	14	216	29196
SEARCH WAS CONDUCTED	4310	8263	20323	775	20	249	33940
SOMETHING WAS DISCOVERED/SEIZED IN THE SEARCH	1956	2709	10384	313	12	108	15482
ACTION TAKEN: WARNING	23026	11567	22678	6201	142	823	64437
ACTION TAKEN: ARREST	4092	3510	9696	854	18	281	18451

Comparison between Race of Driver and Actions taken at Traffic Stops in Los Angeles

Legend:
- DRIVER ASKED TO EXIT
- PAT DOWN/FRISK CONDUCTED
- SEARCH WAS CONDUCTED
- SOMETHING DISCOVERED/SEIZED IN SEARCH
- ACTION TAKEN: WARNING
- ACTION TAKEN: ARREST

White (n=102,873): 6%, 3%, 4%, 2%, 22%, 4%

Black (n=52,456): 20%, 16%, 16%, 5%, 22%, 7%

Hispanic (n=120,120): 21%, 14%, 17%, 9%, 19%, 8%

Asian (n=24,489): 5%, 3%, 3%, 1%, 25%, 3%

Traffic Stops in the U.S.

BLACK DRIVERS ARE 30% MORE LIKELY TO BE PULLED OVER.

Officers generally stop black drivers at higher rates than white drivers, and stop Hispanic drivers at similar or lower rates than whites.

Data from 21 state patrol agencies and 29 municipal police departments, comprising nearly 100 million traffic stops.

https://openpolicing.stanford.edu/findings/

What do you notice?   After the Stop   What do you wonder?

Searches   Arrests
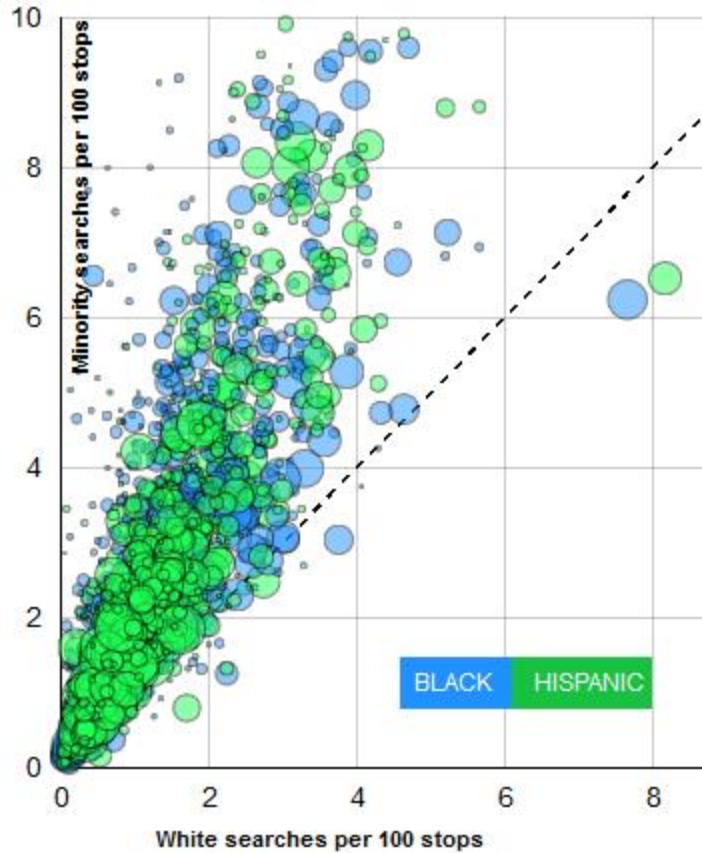
https://openpolicing.stanford.edu/findings/
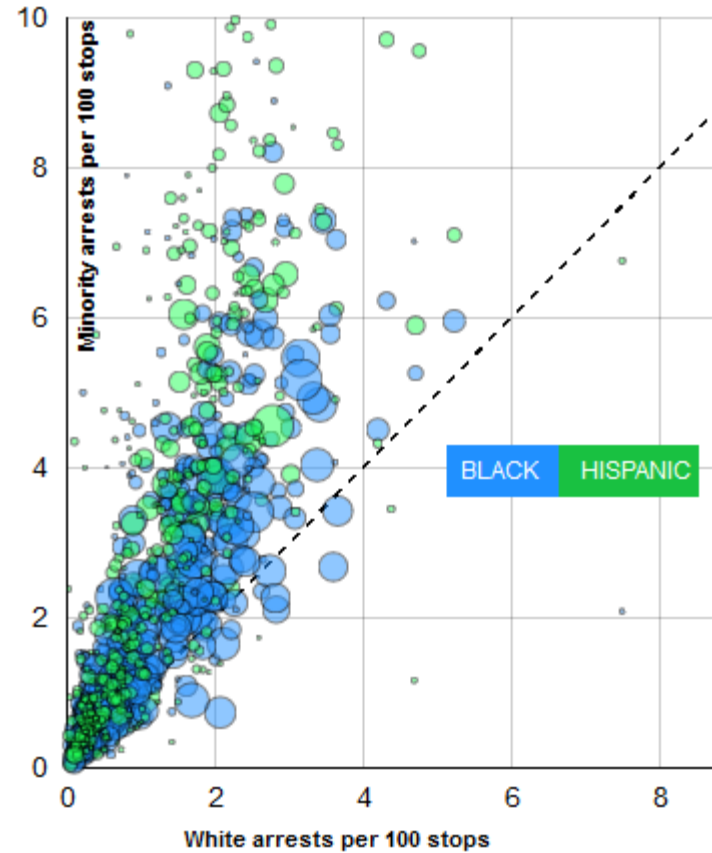
Climate Change

- Awareness: What is the connection between climate change and social inequity?
- Times series graphs (Constructing and Interpreting)
- Hypothesis testing

Cities Most Vulnerable to Coastal Flooding by 2050

Top 25 cities and their populations at risk (thousands) within FEMA's 100-year coastal floodplain as augmented by projected sea level rise

	City	Pop. at Risk (1000s)	% Black	% Hispanic
1	New York	426	24%	27%
2	Hialeah, FL	204	3%	94%
3	Miami	154	19%	68%
4	Fort Lauderdale, FL	127	32%	16%
5	Pembroke Pines, FL	120	20%	41%
6	Coral Springs, FL	119	22%	25%
7	Miramar, FL	100	46%	35%
8	St. Petersburg, FL	91	24%	8%
9	Davie, FL	90	10%	34%
10	Miami Beach, FL	87	4%	53%
11	Charleston, SC	83	23%	3%
12	Pompano Beach, FL	80	32%	19%
13	Sunrise, FL	79	34%	27%
14	Hollywood, FL	76	17%	32%
15	Miami Gardens, FL	72	73%	22%
16	Norfolk, VA	66	42%	7%
17	Lauderhill, FL	66	78%	7%
18	Cape Coral, FL	66	4%	20%
19	Boston	62	25%	16%
20	Tamarac, FL	60	28%	27%
21	Virginia Beach, FL	58	19%	7%
22	Tampa, FL	57	25%	23%
23	Fountainebleau, FL	56	2%	91%
24	Margate, FL	53	27%	24%
25	Kendale Lakes, FL	51	2%	89%

https://www.climatecentral.org/news/us-cities-most-vulnerable-major-coastal-flooding-sea-level-rise-21748

Climate Change: CO2 Emissions

http://www.gcrio.org/NationalAssessment/overpdf/overview.html

https://climate.nasa.gov/
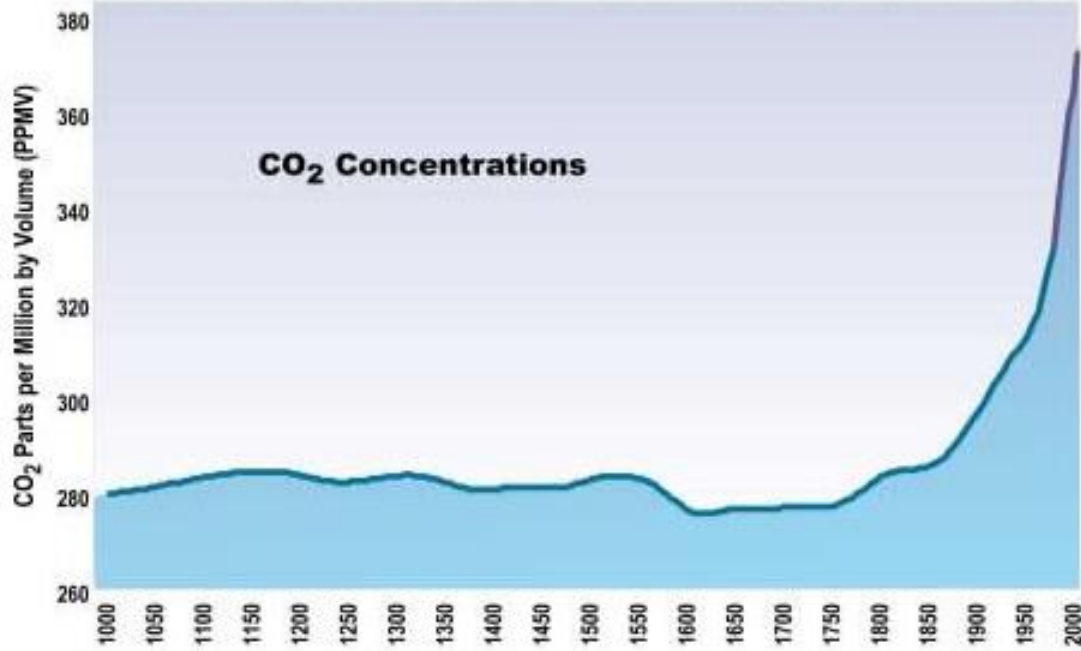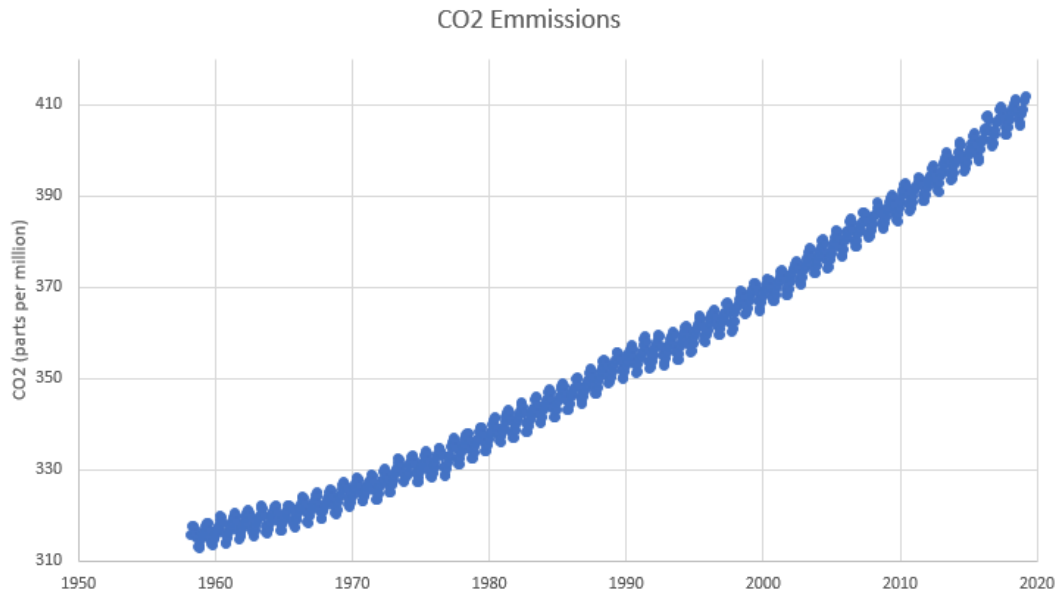
ftp://aftp.cmdl.noaa.gov/products/trends/co2/co2_mm_mlo.txt

Climate Change

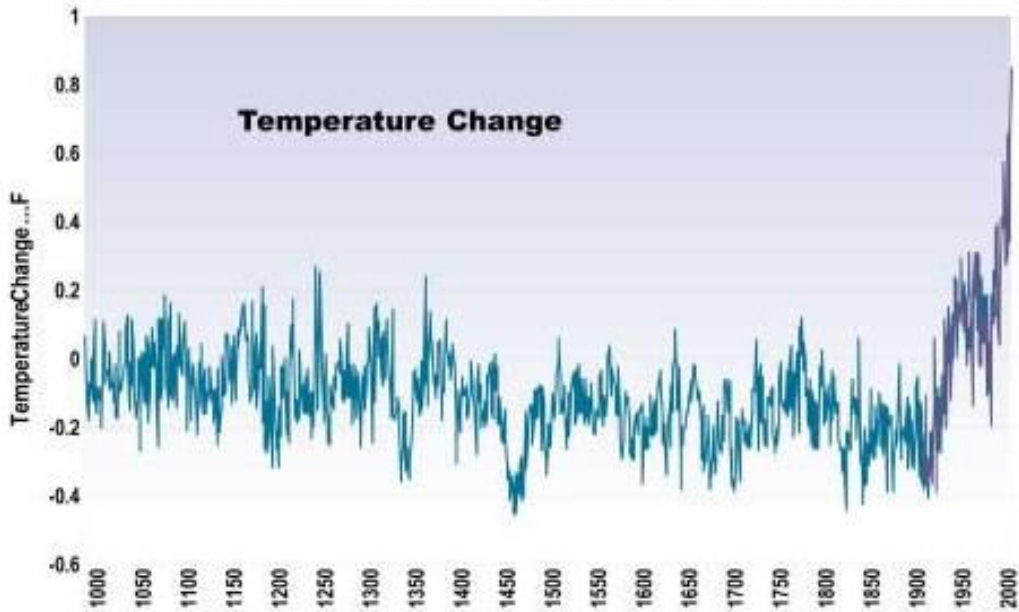## Misleading Graph?

https://climate.nasa.gov/
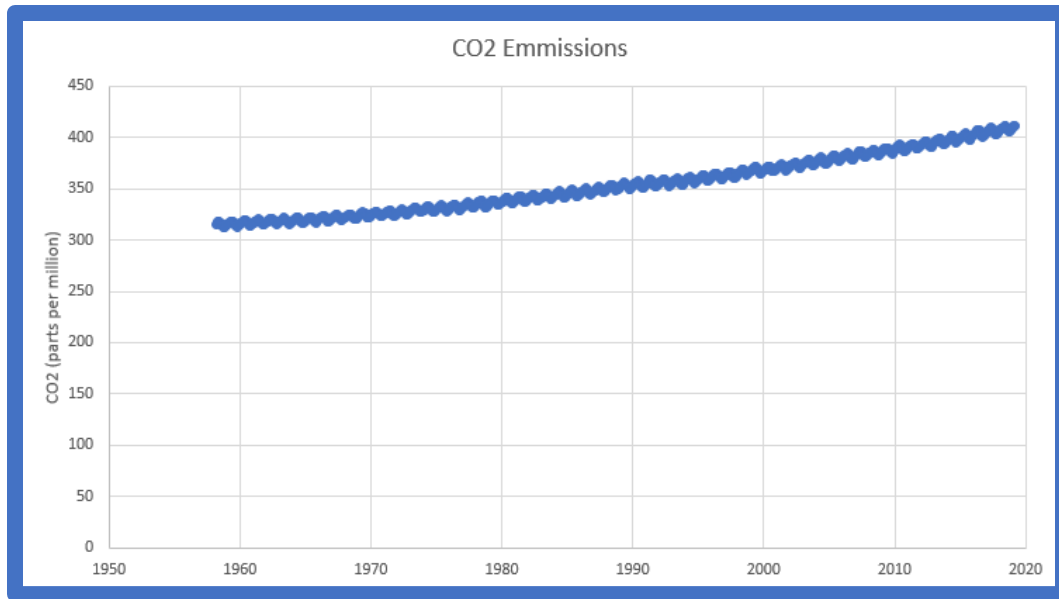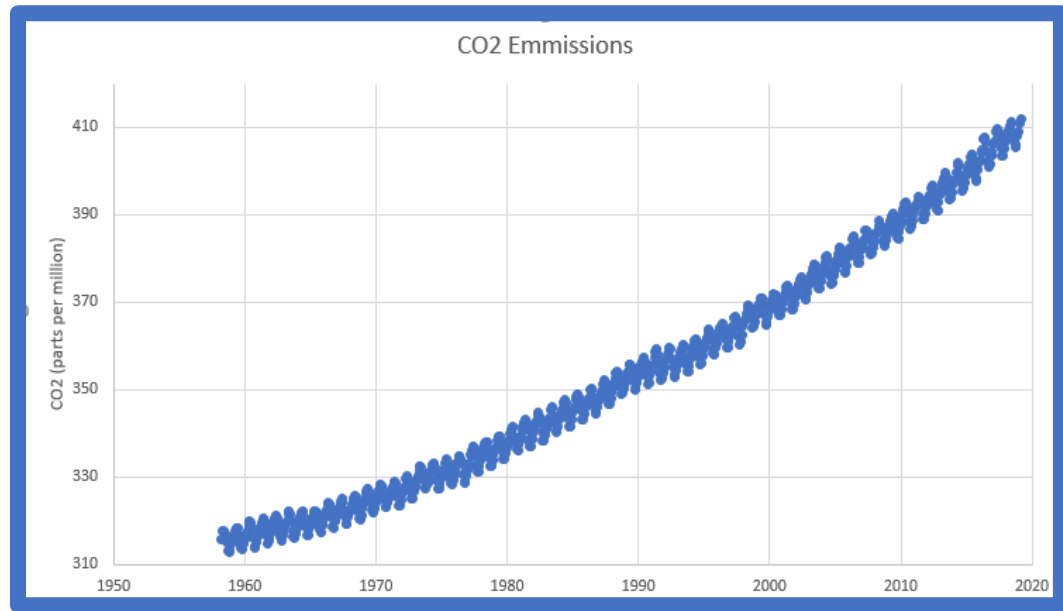
ftp://aftp.cmdl.noaa.gov/products/trends/co2/co2_mm_mlo.txt

Climate Change: Global Temperature
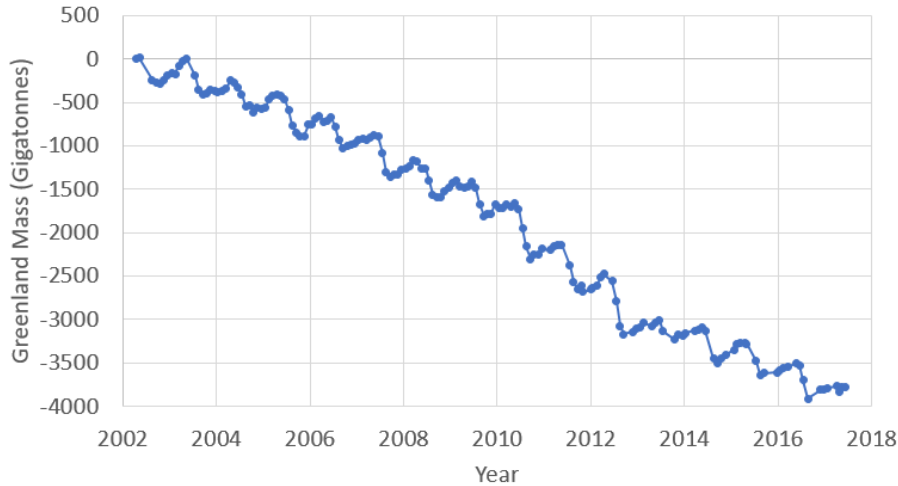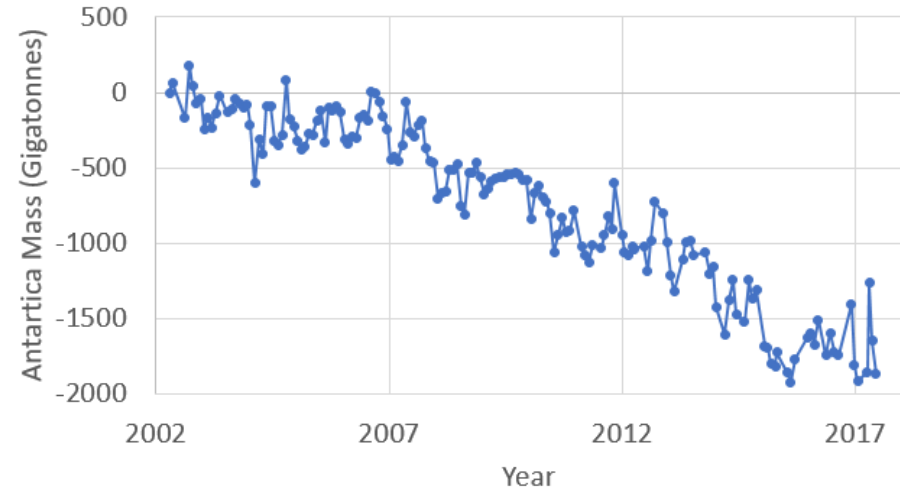
1000 Years of Global CO₂ and Temperature Change

http://www.gcrio.org/NationalAssessment/overpdf/overview.html

Global Temperature

https://climate.nasa.gov/

Climate Change

Antarctica Glaciers Relative to April 2002

Greenland Glaciers Relative to April 2002

Global Mean Sea Level

https://climate.nasa.gov/
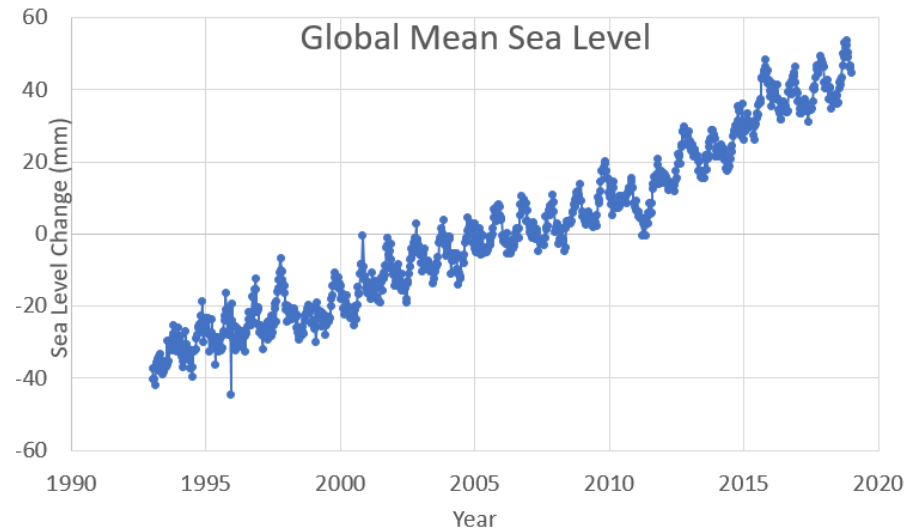
Most Illegal Immigration Isn't Coming From The Mexican Border

Visa overstays continue to outpace border apprehensions. In fiscal 2017, the number of immigrants who overstayed their visas was double the number of people caught trying to cross the U.S.-Mexico border.

■ Visa Waiver Program* overstays **■ Other visa overstays** **■ Border apprehensions**

Source: *Department of Homeland Security*

	FY 2015	FY 2016	FY 2017
Other visa overstays	374K	569K	520K
Visa Waiver Program overstays	153K	171K	150K
Border apprehensions	331K	409K	304K
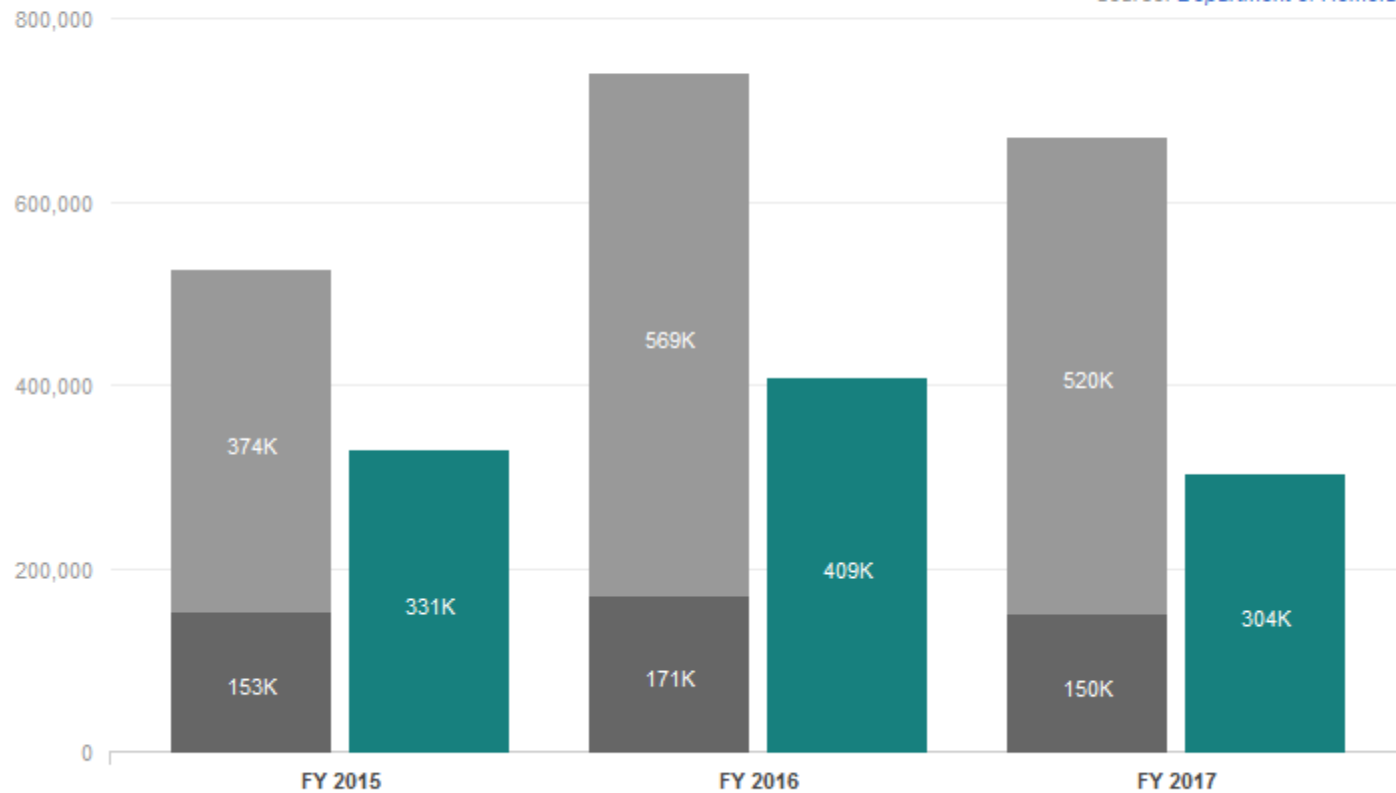
* The Visa Waiver Program enables people from 38 countries to travel to the U.S. for 90 days or less without a visa. Designated VWP countries include Germany, France, Japan, the United Kingdom and Singapore.

Immigrant population and violent crime by metro area
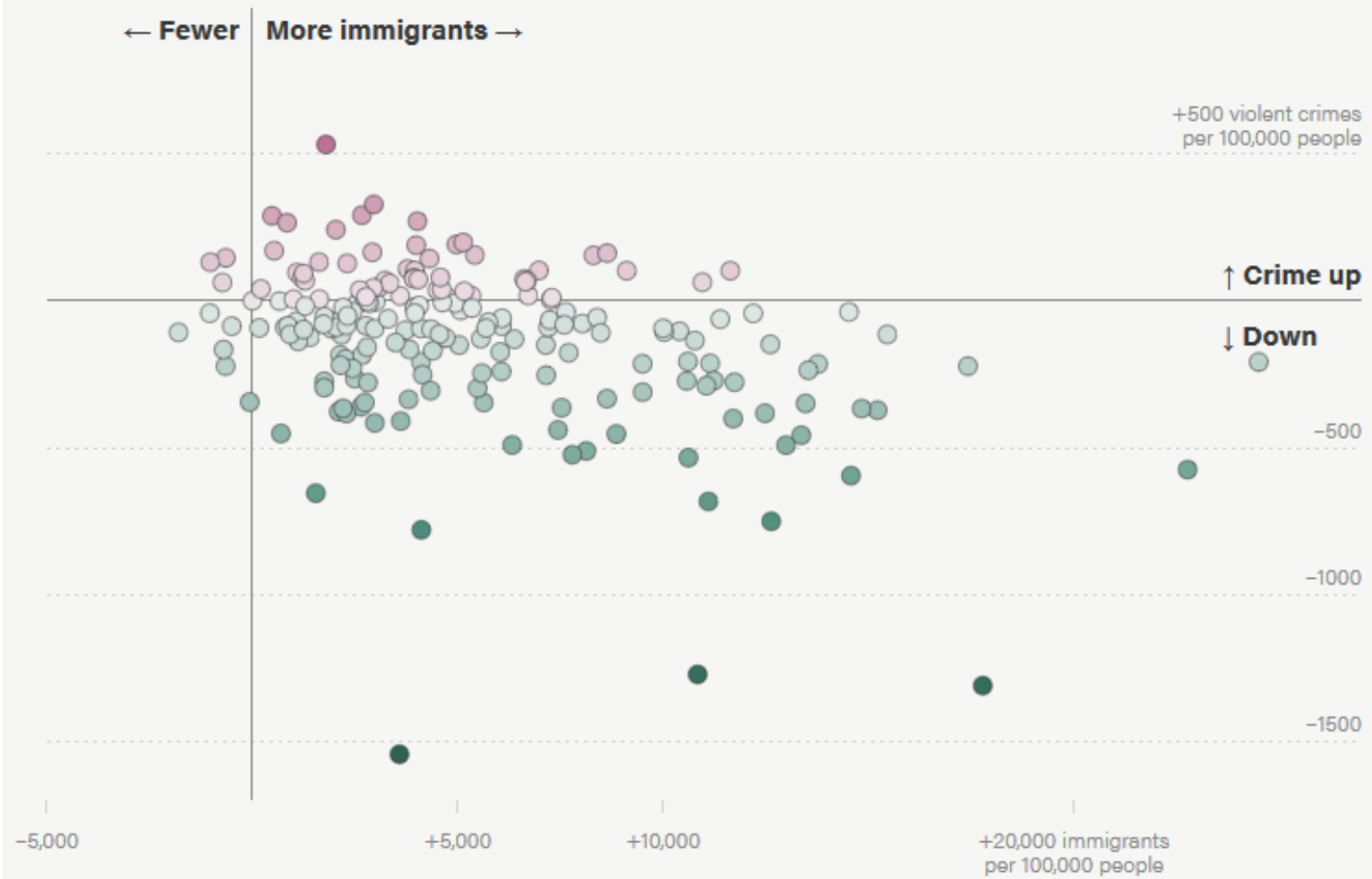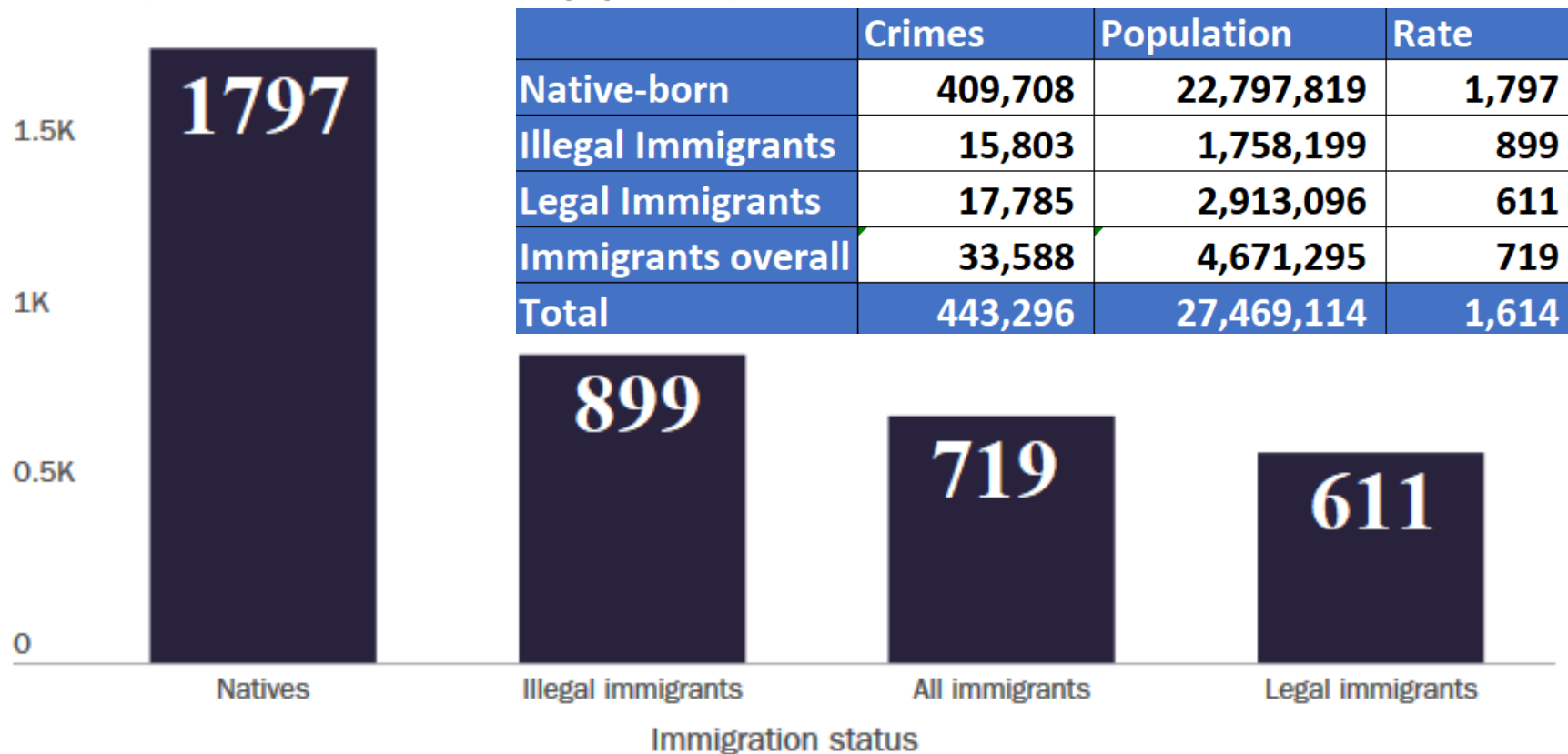
Change between 1980 and 2016

← Fewer | More immigrants →

+500 violent crimes
per 100,000 people

↑ Crime up

↓ Down

−500

−1000

−1500

−5,000   +5,000   +10,000   +20,000 immigrants
per 100,000 people

Figure 1: Criminal conviction rates by immigration status in Texas
Per 100,000 residents in each subpopulation, 2015

	Crimes	Population	Rate
Native-born	409,708	22,797,819	1,797
Illegal Immigrants	15,803	1,758,199	899
Legal Immigrants	17,785	2,913,096	611
Immigrants overall	33,588	4,671,295	719
Total	443,296	27,469,114	1,614

Sources: Author's analysis of Texas Department of Public Safety data, the American Community Survey, and the Center for Migration Studies.

Figure 2: Homicide conviction rates by immigration status in Texas

Per 100,000 residents in each subpopulation, 2015

	Homicides	Population	Rate
Native-born	709	22,797,819	3.1
Illegal Immigrants	46	1,758,199	2.6
Legal Immigrants	30	2,913,096	1.0
Immigrants overall	76	4,671,295	1.6
Total	785	27,469,114	2.9

Immigration status
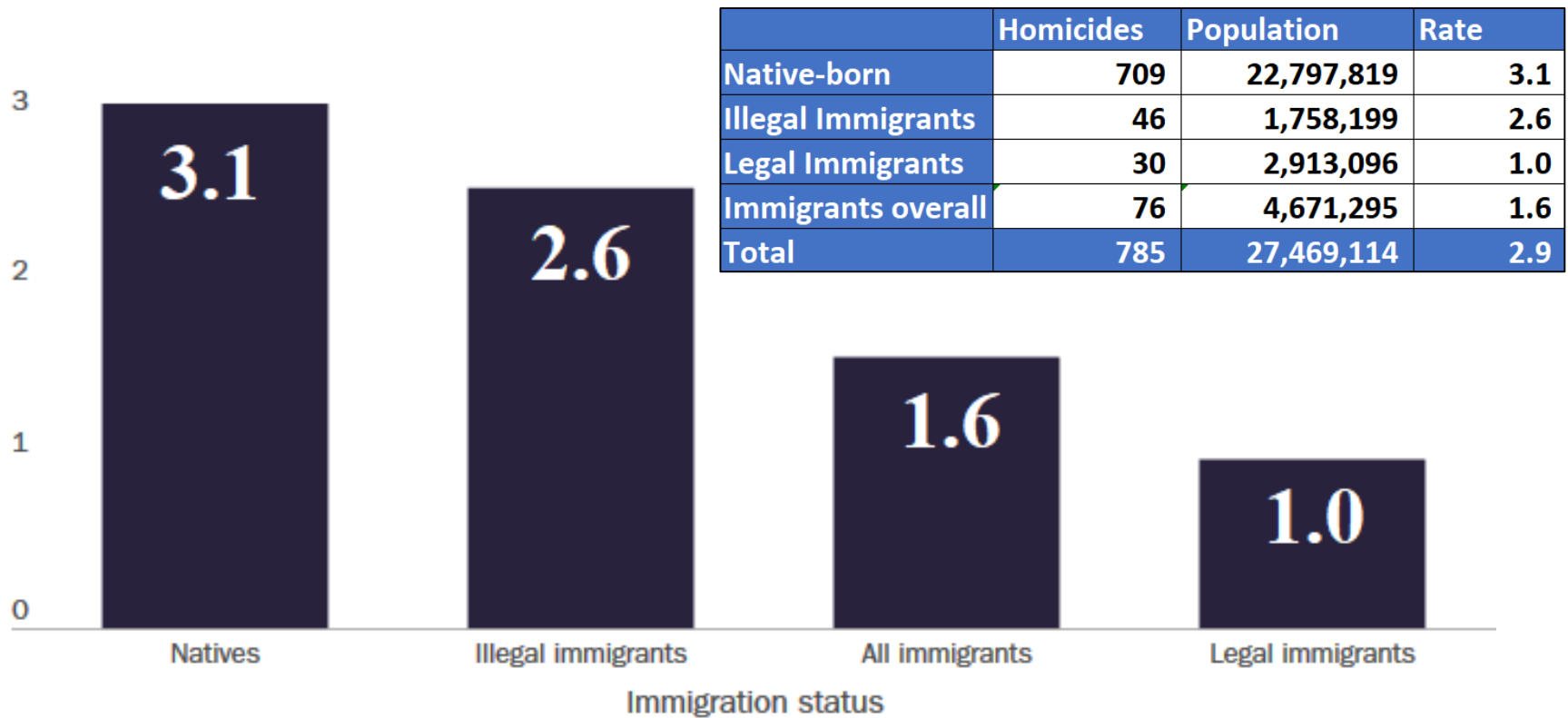
Sources: Author's analysis of Texas Department of Public Safety data, the American Community Survey, and the Center for Migration Studies.

Why integrate social justice examples in the classroom?

- Creates an awareness of inequities that exist in the U.S.

- Allows students to determine the validity of statements made in the media
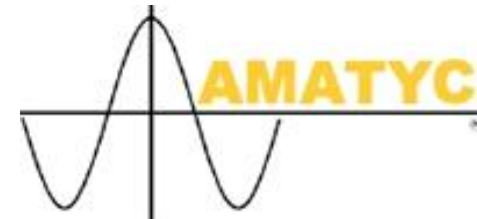
- Makes the mathematics or statistics relevant

BIG IDEAS IN TEXAS!

Hosted By Collin College Frisco, TX

AMATYC Southwest Regional Conference June 7&8 2019

45th Annual Conference
November 14-17, 2019
Milwaukee, WI

Thank You!

Jim Ham

Delta College

jimham@amatyc.org

AMATYC

http://bit.ly/SocialJusticeDataJH