

EDUCATION & INCOME: IS THERE A CORRELATION?

By Alfred Savio, Agustin Rodriguez, Connor Chadwick, Tasha Santiago,
& Wisdom Mbaluka



Key Questions

- **Relationships (Gender/State):**
 - How does the poverty rate correlate with education attainment levels across states? Is there a noticeable gender gap?
- **Income Gaps per States:**
 - Is there a significant income disparity between certain states (Texas/ Puerto Rico)
- **Yearly Trends:**
 - How has poverty rates and education attainment levels changed over time and do states with lower poverty rates show any changes in educational outcomes?

Project Overview and Methods

Data	<ul style="list-style-type: none">• https://data.census.gov• 2018-2023
Curation	<ul style="list-style-type: none">• Excel• Python• R and RStudio
Plots	<ul style="list-style-type: none">• Seaborn• Pair grids/Barplots/Correlation plots
Interactivity	<ul style="list-style-type: none">• JavaScript and HTML• Plotly
Database	<ul style="list-style-type: none">• SQL

Education Level by Gender per State - Males

Growth in Higher Education: Across the U.S., there is a clear increase in male educational attainment, particularly in graduate and professional degrees, reflecting a national shift toward advanced education

Regional Variations: States like D.C., Colorado, and Massachusetts lead in educational attainment, while Mississippi, West Virginia, and Louisiana show slower growth

High School Graduation: Graduation rates are stable but show limited growth. West Virginia has the highest rates, while D.C. sees a decline, possibly due to demographic shifts



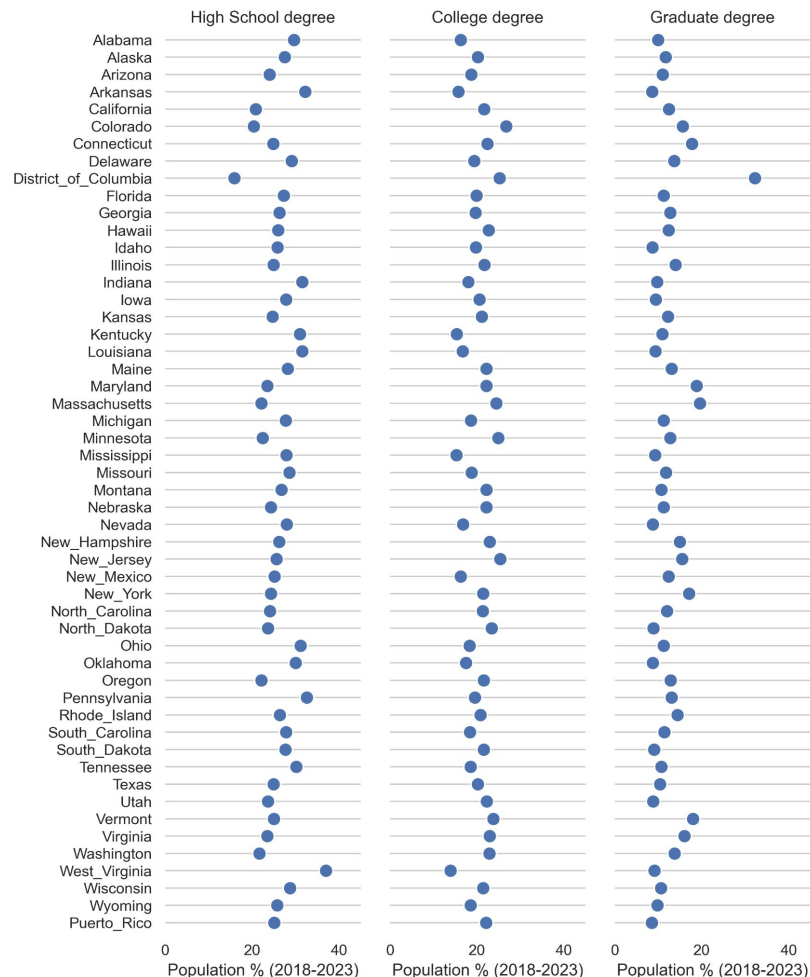
MALES

Education Level by Gender per State - Females

Growth in Higher Education: Most states show an increase in females earning graduate and professional degrees, indicating a national trend toward higher education

Regional Disparities: States like California and Colorado have higher educational attainment (both graduate and bachelor's), while states like West Virginia and Mississippi remain lower but show improvement

High School Graduation: High school graduation rates are stable, but growth is slower than for bachelor's or graduate degrees, with some states seeing slight declines



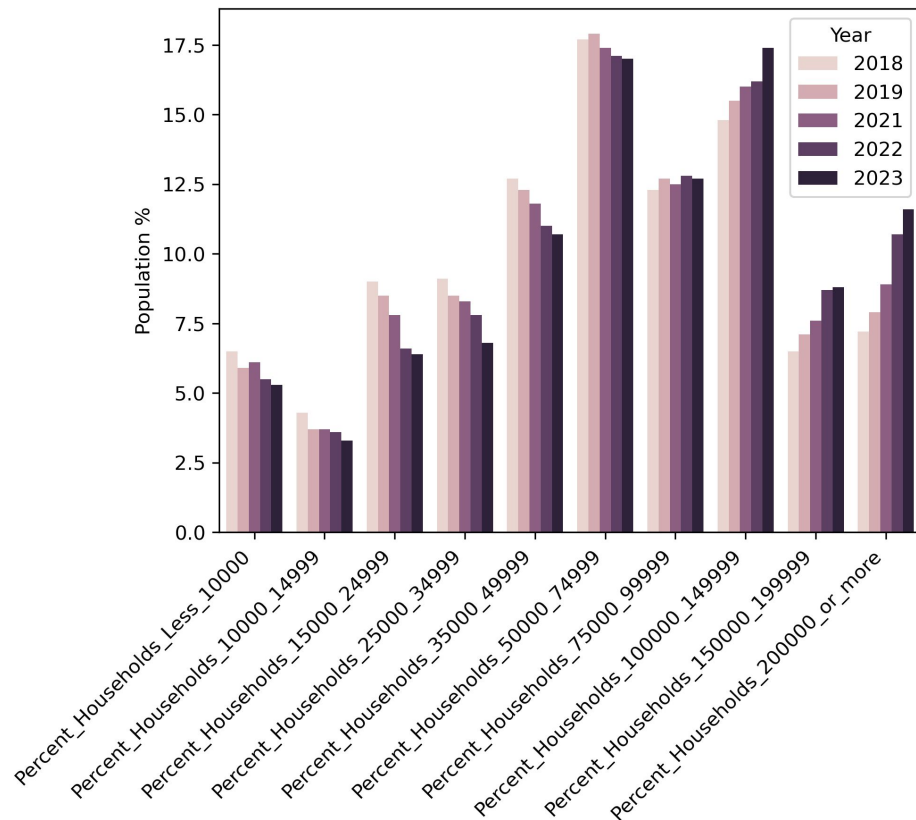
FEMALES

Texas Household Income Distribution per Year

Large Middle Class: Highest population percentages in state between \$50k - \$99k for all years

Shift in Income Distribution: Percentage of lower income households steadily decreased, while percentage of higher income households steadily increased

Economic Stability: Lack of population change in middle ranges suggests strong middle class in Texas

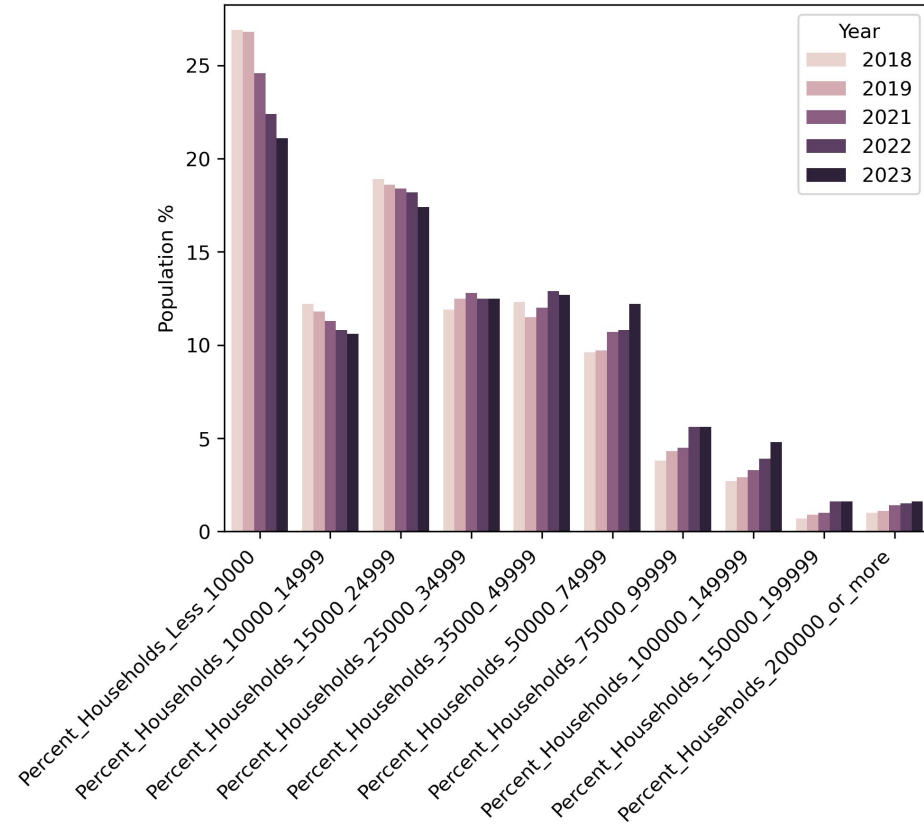


Puerto Rico Household Income Distribution per Year

Decrease in Low Income Brackets: Highest population density in low income households, however these brackets quickly decreasing in population

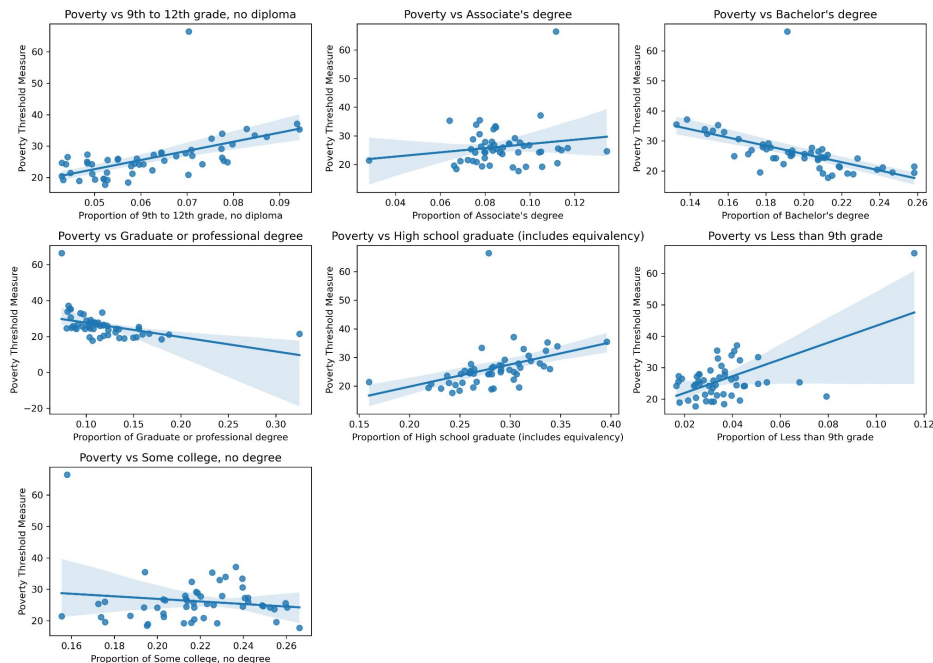
Small Wealthy Population: Limited Representation in brackets \$100k<, but population steadily increasing

Progressive Economy: These trends may indicate a slow progress towards economic growth?



Correlation between Education Level and Poverty Threshold

Positive correlation between Poverty and individuals with no diploma and negative correlation between Poverty and individuals who attained a Bachelor's degree.

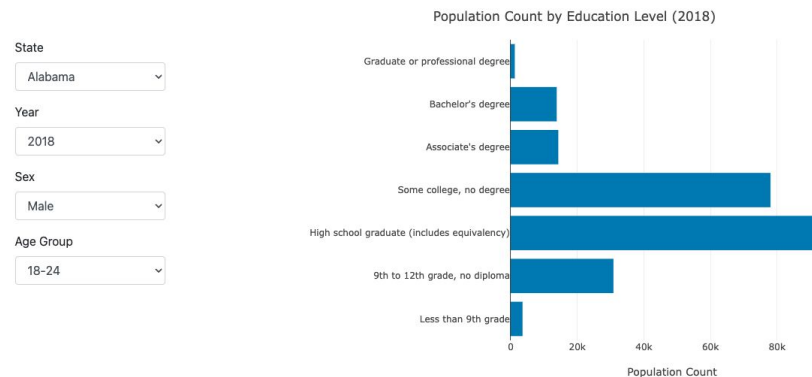


Education Level and Income per State/District/Territory

Education Level Dropdown Filter provides the option to select state, year, sex and age group to visualize raw population counts

Income Filter provides the option to select state, and year to visualize raw population counts

Education Level per State/District/Territory



Income per State/District/Territory

