

# The effect of education on the racial gender wage gap?

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# Disclaimer

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# Literature Review

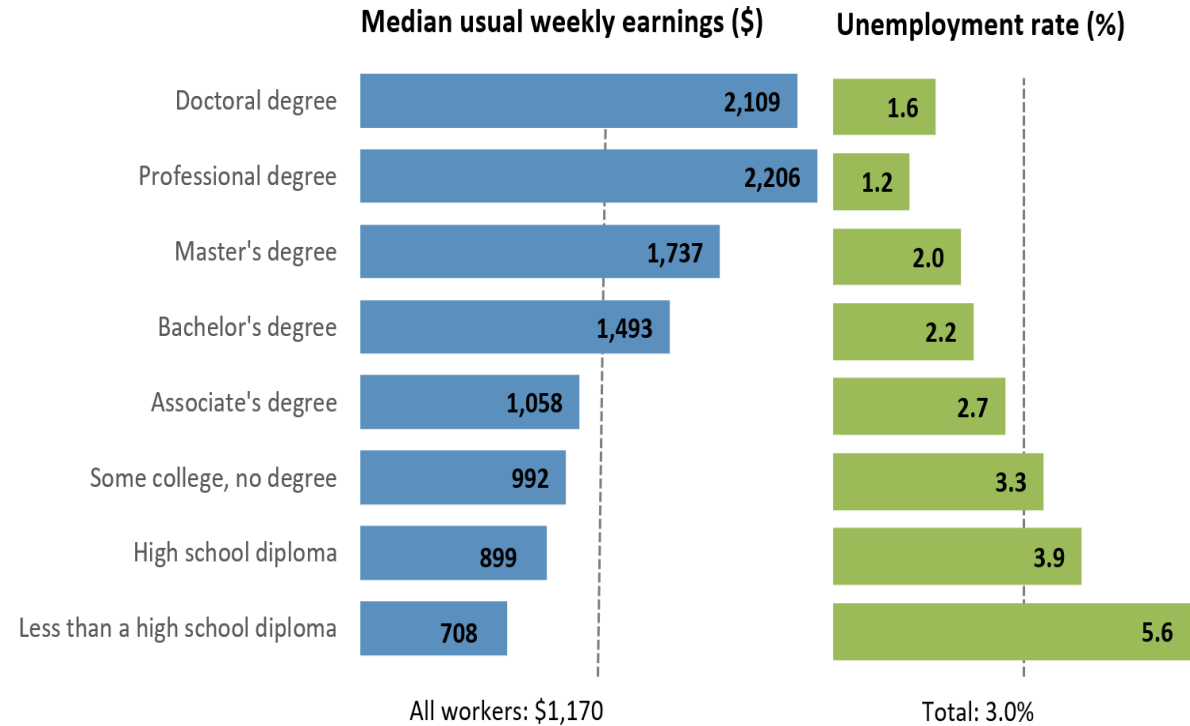
- AAUW: The Simple Truth About the Gender Pay Gap
  - Utilized BLS CPS 2017 annual average median usual weekly earnings data on full-time wage and salary workers ages 25 and older to determine the gender pay gap by education level
  - Overall, in 2017, women who worked full-time and year-round were paid 80.5% of what men were paid
  - Gaps were larger for women with bachelor's and advanced degrees (Pay was 74% of men's salary for each educational attainment level)
  - Gaps were smaller for women with high school diploma and less (77% of men's salary, respectively)
- DOL: 5 Fast Facts: The Gender Wage Gap
  - Utilized BLS CPS 2022 annual average median usual weekly earnings data on full-time wage and salary workers ages 25 and older to determine the gender pay gap by education level
  - Overall, in 2022, women who worked full-time and year-round were paid 83.7% of what men were paid
  - Gaps were larger for women with some college and bachelor's degrees as their highest education level (76.2% and 76.5% of men's salary, respectively)
  - Gaps were smaller for women with high school diploma or less (77.8% and 79.7% of men's salary, respectively)



# Questions That I Want to Answer

- BLS data from 2023 shows that an increase in education leads to higher earnings
- Wanted to analyze the effect of education on racial gender pay gaps
- What racial groups of women experience smaller and larger pay gap differences?

Earnings and unemployment rates by educational attainment, 2023



Note: Data are for persons age 25 and over. Earnings are for full-time wage and salary workers.  
Source: U.S. Bureau of Labor Statistics, Current Population Survey.



# Data Sources

- **Current Population Survey (CPS)**: monthly survey of approximately 60,000 US households to provide monthly demographic and labor force statistics
- Conducted by US Census Bureau for the US Bureau of Labor Statistics
- CPS also has various supplements like the Annual Social and Economic Supplement (ASEC)
- **CPS-ASEC**: conducted annually to “provide data concerning family/household characteristics, marital status, educational attainment, health insurance coverage, foreign-born population, previous year’s income from all sources, work experience, receipt of noncash benefit, poverty, program participation, and geographic mobility.”
- Used iPums CPS-ASEC data for research



# Terminology

- **Racial gender wage gap:** Difference(s) in pay between people of different races/ethnicities and genders.
  - Combination of racial wage gap and gender pay gap
  - **Calculated by** comparing median earnings for women and men who work full-time, year-round to control for differences in work hours and experience
  - **Causes for women of all races:** About 30% is due to worker characteristics such as age, education, and industry/occupations. About 70% is due to immeasurable differences between workers
- **Full-time year-round worker:** Someone who worked 35 hours or more per week (full-time) and 50 or more weeks (year-round) during the previous calendar year
- **Class of worker:** Whether a person who worked last year was self-employed, an employee in private industry or the public sector (In data, excluded self-employed, not incorporated workers, and unpaid family workers)
- **Prime working age:** Between the ages of 25-54
- **Race:** Effective in 2003, the 1997 OMB standards of “race alone” categories were implemented into the CPS to reflect the CPS respondent’s self-identification with White (alone), Black or African American (alone), and Asian (alone)
- **Hispanic or Latino ethnicity:** Separate demographic concept from race in the CPS data through 2022. People of Hispanic or Latino ethnicity may be of any race



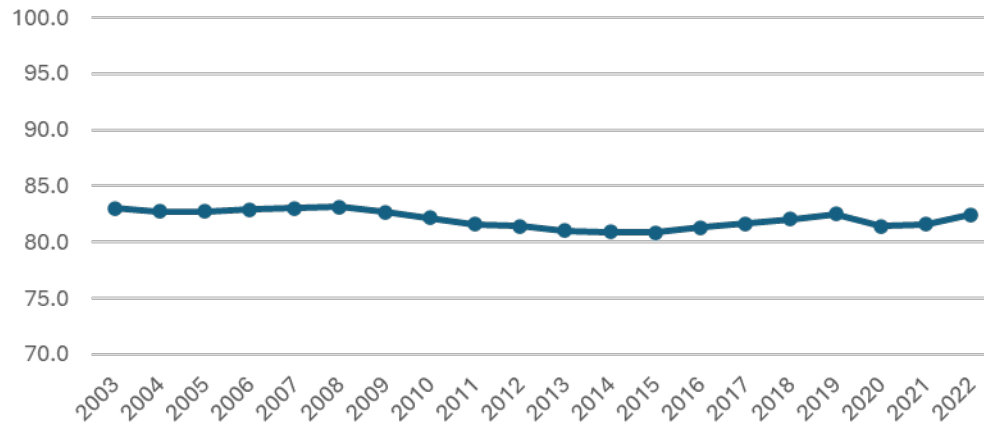
# Methodology

- Created new variables in STATA to match definitions from the “Terminology” slide.
- Used STATA to code variables and determine the median annual wages/salaries for women of major racial/ethnic groups and white non-Hispanic women from 2003-2022
- Used Excel to determine the wage gaps between white non-Hispanic men and women (by race/ethnicity)
- Since historically, white non-Hispanic men have been the largest group of workers, they are often used as a benchmark for the earnings of women of different races and ethnicities

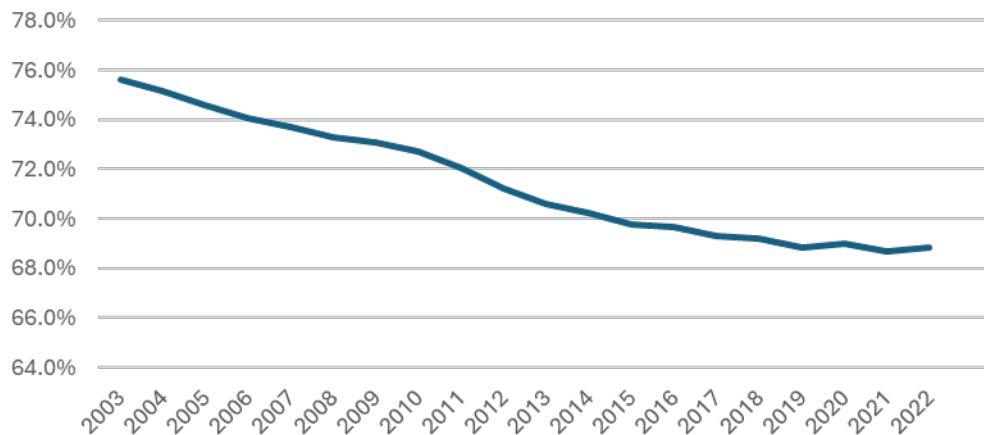


# Why Decided to Focus on Prime Age Workers?

Labor Force Participation Rate (25-54 yrs)



Percent of Employed Full-Time Workers who are 25-54 Years



- Have high labor force participation rate (LFPR)
  - From 2003-2022, the prime-age LFPR ranged from 80.9% to 83.1%
- Because prime age workers are less likely to be in school or retired, they have high LFPR
- Most people ages 25-54 complete their formal education by this age range
- From 2003-2022, 68.9% - 75.6% of employed full-time workers were prime age
  - Therefore, most people ages 25-54 are also most likely to be full-time, year-round workers

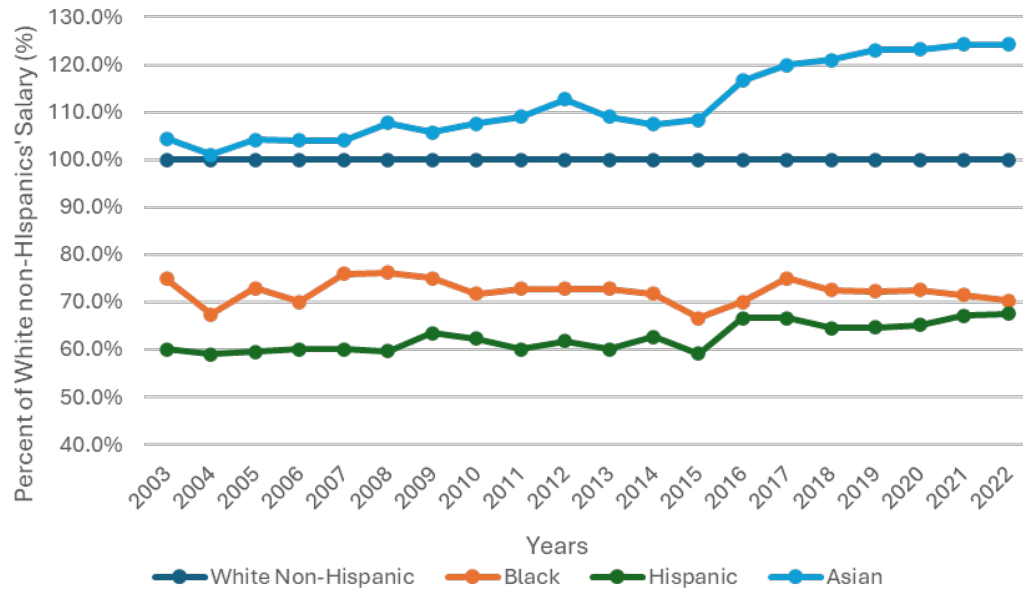




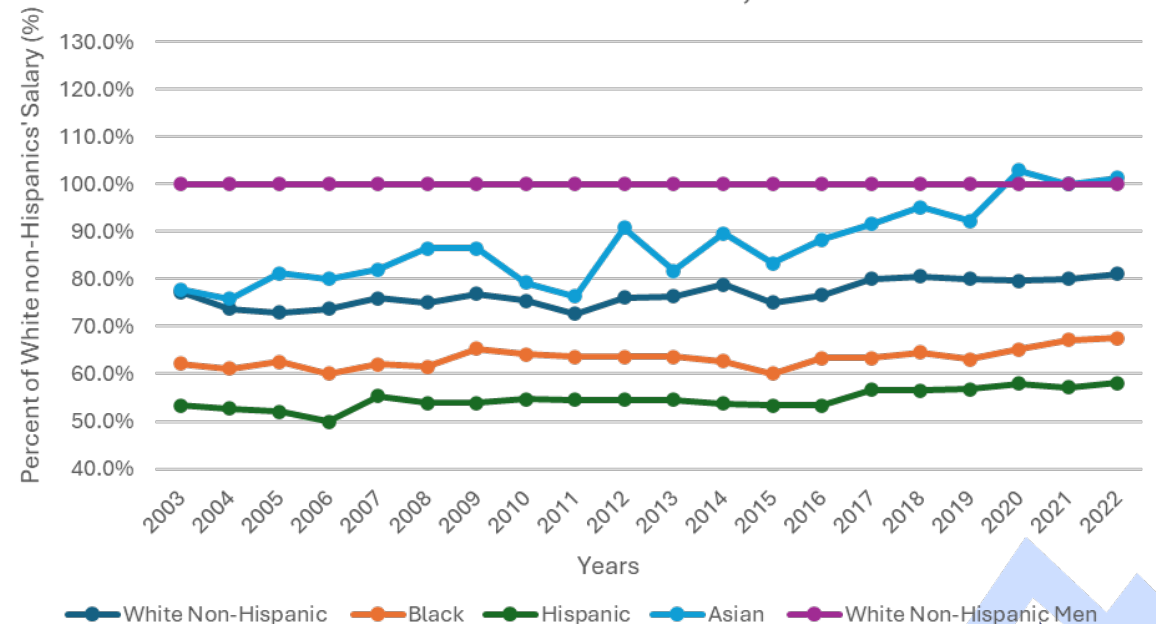
# Wage Gap for Men and Women by Race: Prime Age, Full-Time Year-Round Workers (2003-2022)

- By race, women have larger wage gaps than their male counterparts
- Asian men: Earnings surpassed that of white non-Hispanic men from 2003-2022
  - Asian women: Wage ratio of -2.9% - 22.2% (Negative percent indicates that Asian women earned more than white non-Hispanic men)
- White non-Hispanic women: Wage gap ratio of 18.9% - 27.3%
- Black women: Wage gap ratio of 32.4% - 40.0% & Black men: Wage gap ratio of 25.0% - 33.3%
- Hispanic women: Wage gap ratio of 41.9% - 50.0% & Hispanic men: Wage gap ratio of 32.4% - 40.8%

Wage Gap for Major Racial/Ethnic Groups for Prime Age, Full-Time Year-Round Workers, Men

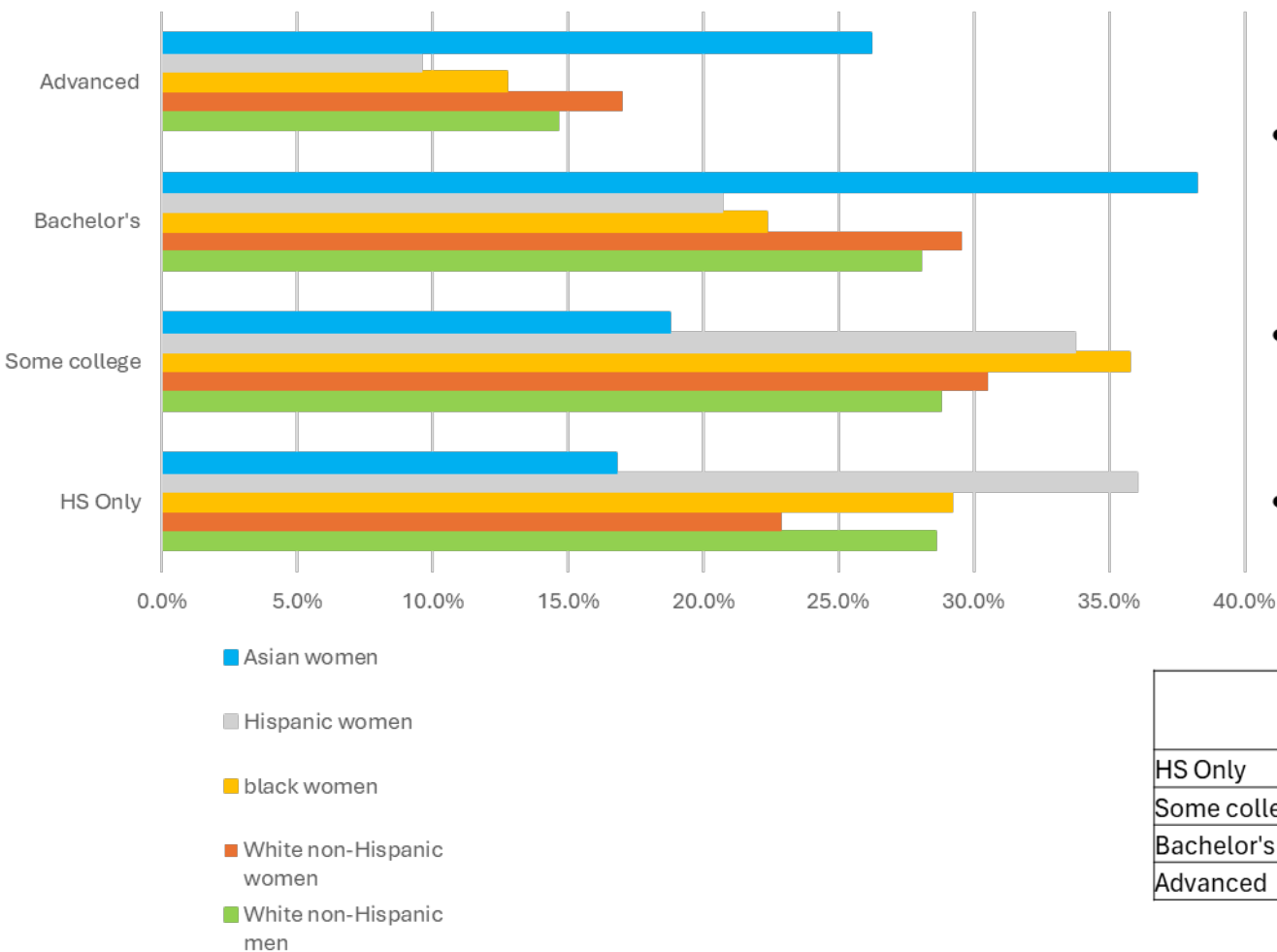


Wage Gap for Major Racial/Ethnic Groups for Prime Age, Full-Time Year-Round Workers, Women



# Highest Education Level Completed for Women & White Non-Hispanic Men

Highest Education Level Completed for Prime Age, Full-Time All-Year Round Workers From 2003-2022



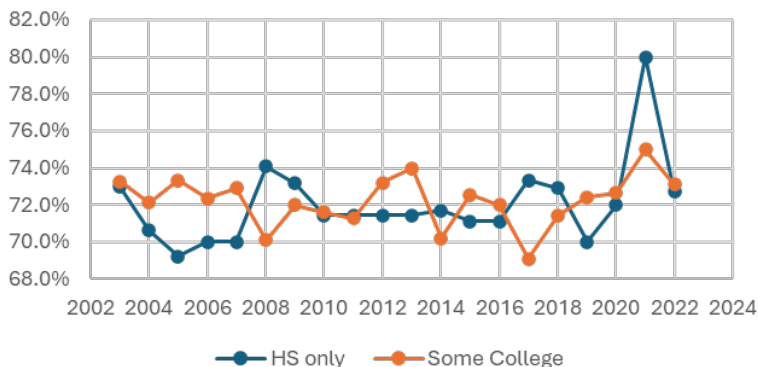
- **High school only:**
  - Most common for Black and Hispanic women: 29.2% and 36.0%, respectively
  - And white non-Hispanic men: 28.6%
- **Some college education/associate's degree:**
  - Most common for Black and Hispanic women: 35.7% and 33.7%, respectively
  - And white non-Hispanic men: 28.8%
- **Bachelor's degree:**
  - Most common for Asian women (38.2%)
  - And white non-Hispanic women (29.6%) and men (28.0%)
- **Advanced degree:**
  - Most common for Asian women (26.2%)
  - And white non-Hispanic women (17.0%)

	White non-Hispanic men	White non-Hispanic women	black women	Hispanic women	Asian women
HS Only	28.6%	22.9%	29.2%	36.0%	16.8%
Some college	28.8%	30.5%	35.7%	33.7%	18.8%
Bachelor's	28.0%	29.6%	22.3%	20.7%	38.2%
Advanced	14.6%	17.0%	12.8%	9.6%	26.2%



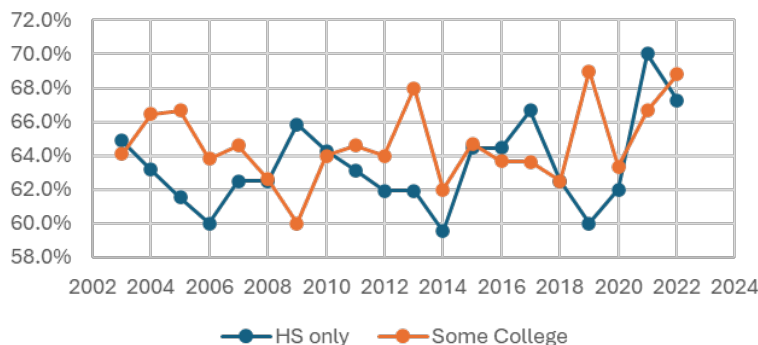
# Wage Gap for Women by Race, Prime Age, Full-Time Year-Round Workers (2003-2022) : High School & Some College Education

White non-Hispanic Women:



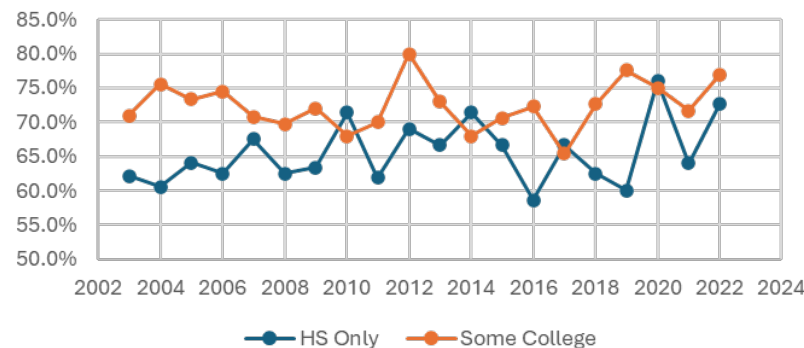
- From 2003-2022, the average percentage points' difference between the "Some College" and "High School Only" wage gap ratios is 0.2%

Black Women



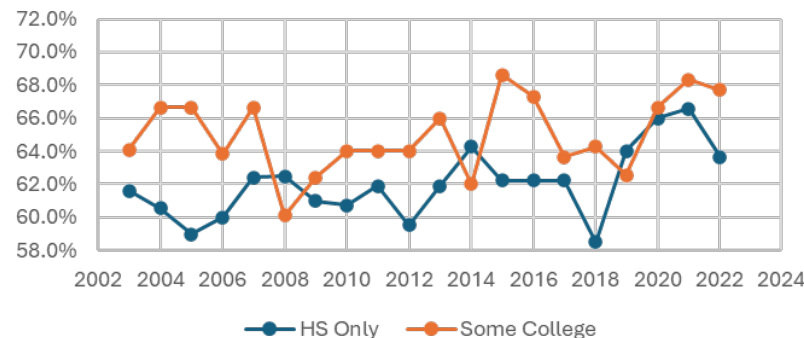
- From 2003-2022, the average difference in percentage points between the "Some College" and "High School Only" wage gap ratios is 1.2%

Asian Women



- From 2003-2022, the average difference in percentage points between the "Some College" and "High School Only" wage gap ratios is 6.9%

Hispanic Women

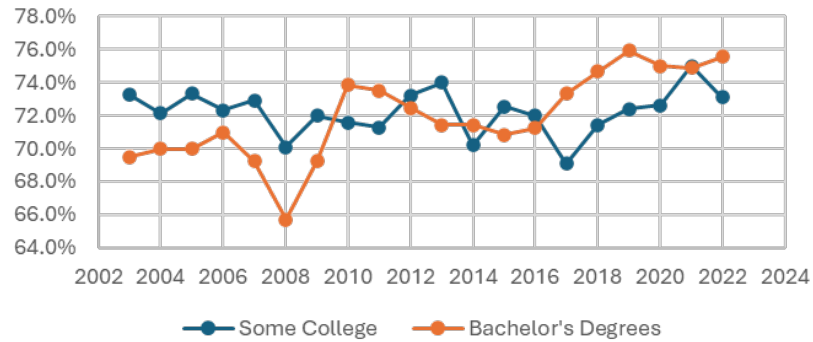


- From 2003-2022, the average difference in percentage points between the "Some College" and "High School Only" wage gap ratios is 2.1%



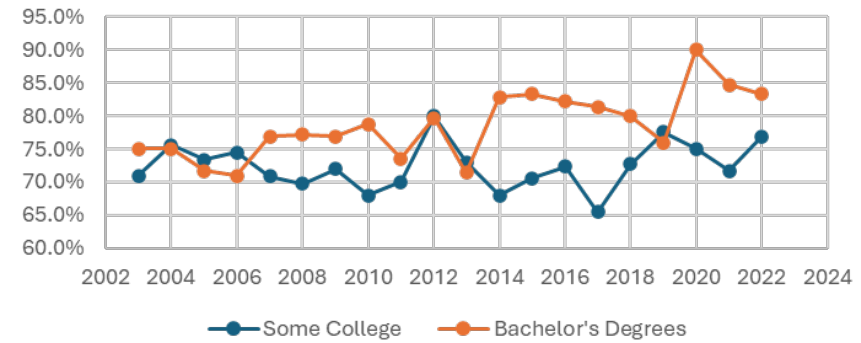
# Wage Gap for Women, Prime Age, Full-Time Year-Round Workers (2003-2022): Some College Education & Bachelor's Degrees

White non-Hispanic Women



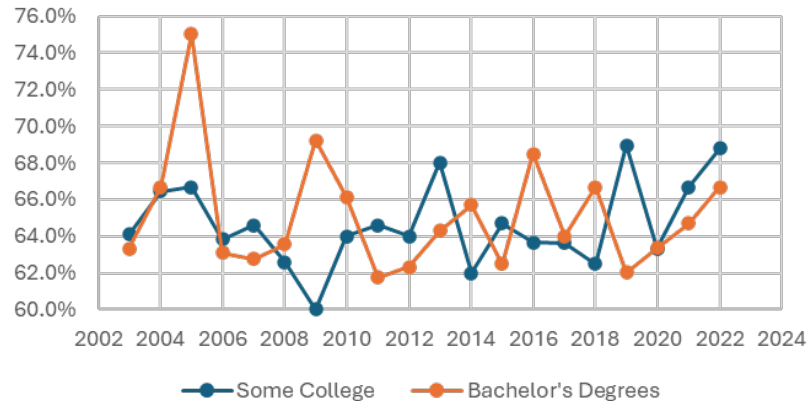
- From 2003-2022, the average difference in percentage points between the “Bachelor’s Degrees” and “Some College” wage gap ratios is -0.3%.
- “Bachelor’s Degrees” wage gap > “Some College” wage gap

Asian Women



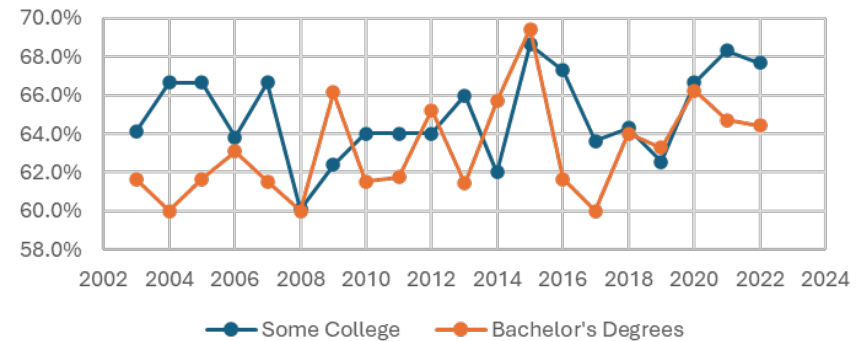
- From 2003-2022, the average percentage points' difference between the “Bachelor’s Degree” and “Some College” wage gap ratios is 6.1%

Black Women



- From 2003-2022, the average percentage points' difference between the “Bachelor’s Degree” and “Some College” wage gap ratios is 0.5%

Hispanic women

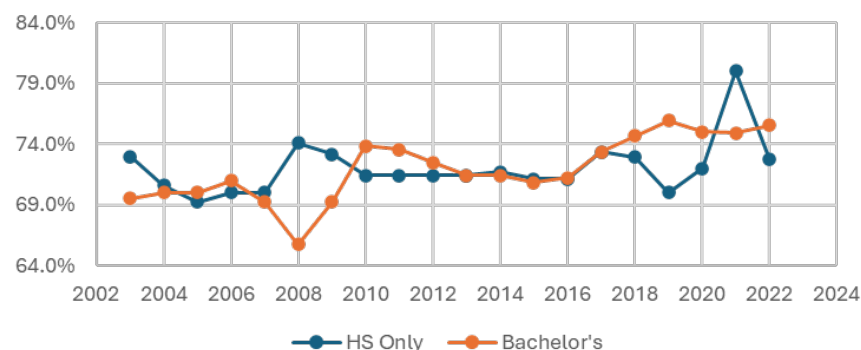


- From 2003-2022, the average difference in percentage points between the “Bachelor’s Degree” and “Some College” wage gap ratios is -1.8%



# Wage Gap for Women, Prime Age, Full-Time Year-Round Workers (2003-2022): HS Diploma/Equivalent & Bachelor's Degrees

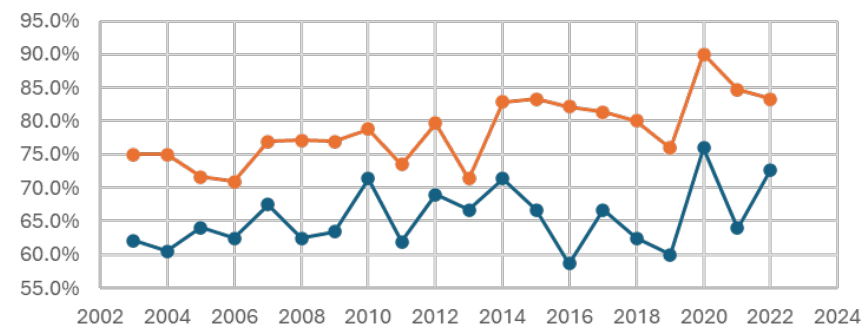
White non-Hispanic Women



— HS Only — Bachelor's

- From 2003-2022, the average difference in percentage points between the “Bachelor’s Degree” and “HS Diploma” wage gap ratios is -0.1%

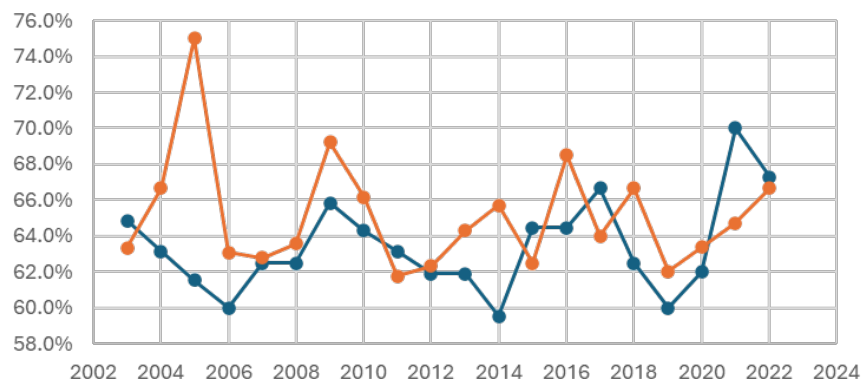
Asian Women



— HS Only — Bachelor's

- From 2003-2022, the average difference in percentage points between the “Bachelor’s Degree” and “HS Diploma” wage gap ratios is 13.0%

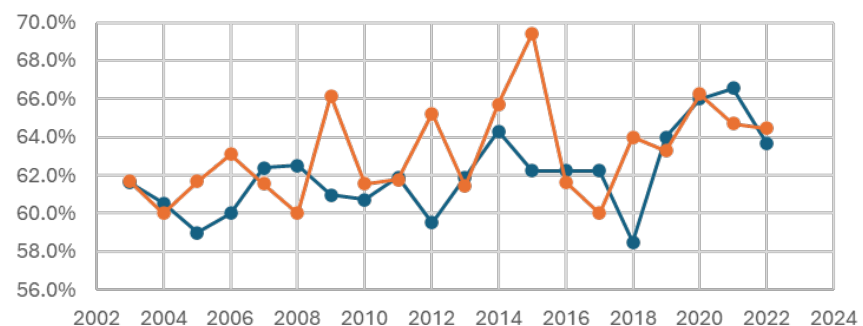
Black Women



— HS Only — Bachelor's

- From 2003-2022, the average difference in percentage points between the “Bachelor’s Degree” and “HS Diploma” wage gap ratios is 1.7%

Hispanic Women



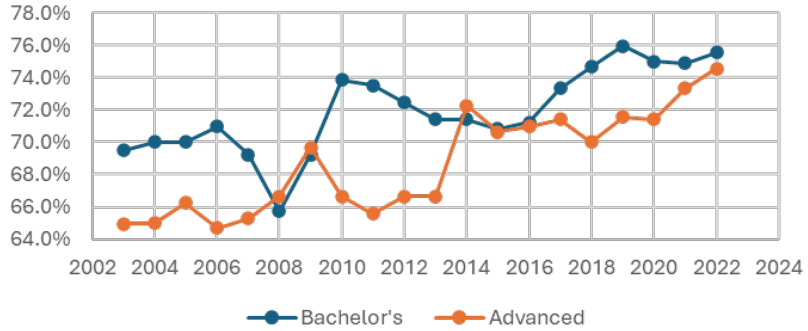
— HS Only — Bachelor's

- From 2003-2022, the average difference in percentage points between the “Bachelor’s Degree” and “HS Diploma” wage gap ratios is 1.1%



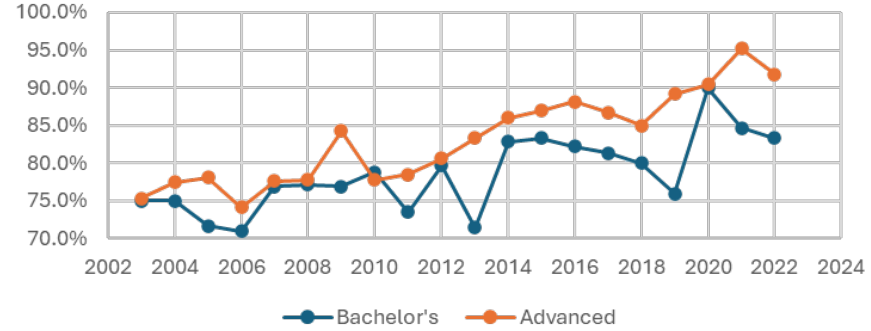
# Wage Gap for Women, Prime Age, Full-Time Year-Round Workers (2003-2022): Bachelor's Degrees & Advanced Degrees

White non-Hispanic Women



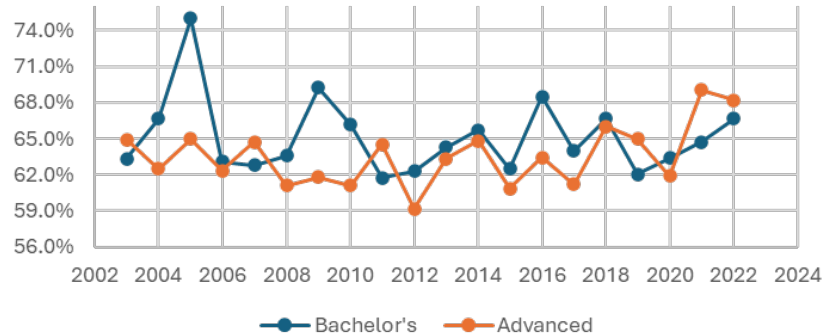
- From 2003-2022, the average difference in percentage points between the “Advanced Degrees” and “Bachelor’s Degrees” wage gap ratios is -3.2%

Asian Women



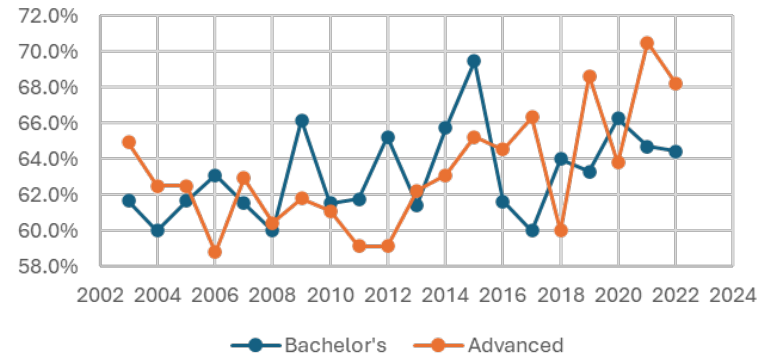
- From 2003-2022, the average difference in percentage points between the “Advanced Degrees” and “Bachelor’s Degrees” wage gap ratios is 4.7%

Black Women



- From 2003-2022, the average difference in percentage points between the “Advanced Degrees” and “Bachelor’s Degrees” wage gap ratios is -1.6%

Hispanic Women

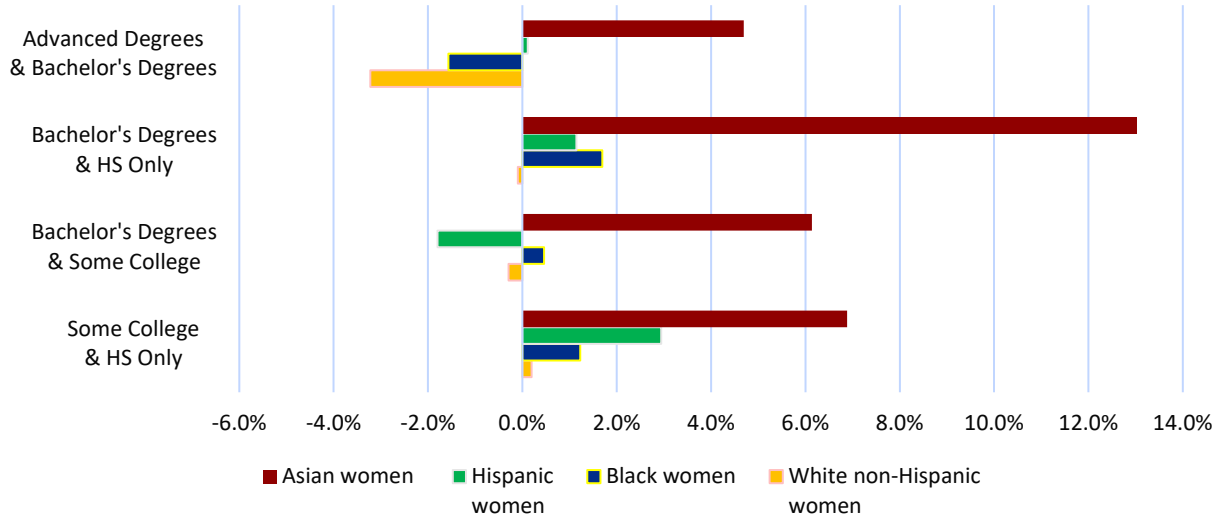


- From 2003-2022, the average difference in percentage points between the “Advanced Degrees” and “Bachelor’s Degrees” wage gap ratios is 0.1%



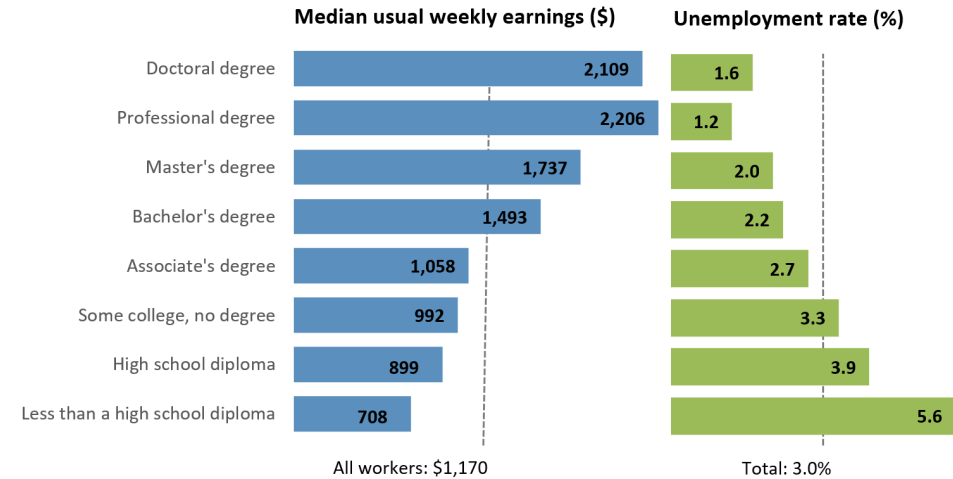
# Key Takeaways

Average Wage Gap Differences for Women by Highest Education Level Completed (2003-2022)



- Education doesn't drastically close the racial gender pay gaps as education levels increase other than for Asian women, although earnings increase as education levels increase

Earnings and unemployment rates by educational attainment, 2023



Note: Data are for persons age 25 and over. Earnings are for full-time wage and salary workers. Source: U.S. Bureau of Labor Statistics, Current Population Survey.

Average Wage Gap Differences for Women by Highest Education Level Completed (2003-2022)

Education Level	White non-Hispanic women	Black women	Hispanic women	Asian women
Some College & HS Only	0.2%	1.2%	2.9%	6.9%
Bachelor's Degrees & Some College	-0.3%	0.5%	-1.8%	6.1%
Bachelor's Degrees & HS Only	-0.1%	1.7%	1.1%	13.0%
Advanced Degrees & Bachelor's Degrees	-3.2%	-1.6%	0.1%	4.7%



# Contact Information

Thank you so much for listening to my  
presentation

Feel free to contact me if you have any  
questions or feedback

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