



# Gender Differences in the Association between Education level and Personal Annual Income among Black Adults

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## Introduction

- Higher education has benefited whites more financially than black individuals over a 10 year period because of United States economic and public policy favoring whites (Assari et al., 2018).
- The gender wage gap as of 2012 was that a woman made 84 cents for every dollar a man made in the U.S. (Kochhar, 2012). Within the Black population, the median earnings of full-time male workers in 2012 were \$41,197 and women made \$36,244 (Gould et al., 2018).
- In the U.S., more Black women have their bachelors than their male counterparts as seen in the 2009-2010 academic year where 66% of the bachelor's degrees and 71% of the master's degrees belonged to Black women within the Black student population (Rose, 2017).
- The literature has lacked to discuss how the different types of education levels one might receive may play a role in income when looking solely at Black individuals and does not discuss in detail whether a Black woman gaining higher education affects their income; Are they able to close the gender wage gap a bit more among their male counterparts when they receive higher education?

## Research Questions

- Does a higher education level dictate a higher income solely among Black adults?
- When controlling for gender, does the association between Black individuals' respective educational level and their personal annual income differ?

## Methods

### Sample

- Black adults over 18 years old (n=1278) were drawn from the first wave of the Outlook On Life study (OOL) in 2012. 59.2% of this sample is female (n = 757) and 40.8% is male (n = 521)
- (OOL) is a nationally representative sample of non-institutionalized adults in the U.S.

### Measures

- Education level was measured with four response codes and participants were to select what level of education they received. (1) indicated less than high school, (2) was high school, (3) was some college, and (4) was a bachelors degree or higher.
- Personal annual income was measured with a series of nineteen response codes. Participants were asked to select the response code that reflected their personal annual income, where 1 reflected an annual income of less than \$5,000 and 19 reflected an income of \$175,000 or more. Responses were summed to create a 19 quantitative variable with higher scores reflecting a higher income.
- Gender was measured with two response codes and participants were to select the gender they identified with, 1 being male and 2 being female.

## Results

### Univariate

- 30.20% of respondents have received their bachelors degree or higher.
- A majority of the sample, 14.2%, had an income of less than \$5,000 while 9.8% reported to have a personal income of \$100,000 or more.

### Bivariate

- As expected, an ANOVA analysis showed that there was a significant association between **gender and income** ( $F=13.42$ ,  $p=0.0003$ ), which means that Black men were significantly more likely to have a higher income than Black women
- An ANOVA analysis showed that the **education level** Black Adults receive was significantly associated with **income**. ( $F=161.93$ ,  $p<0.001$ ). (Fig. 1) The mean income becomes higher as the education levels increase, meaning that the more education one receives, the higher annual income the Black adult makes.

Figure 1. Education Level and Personal Annual Income

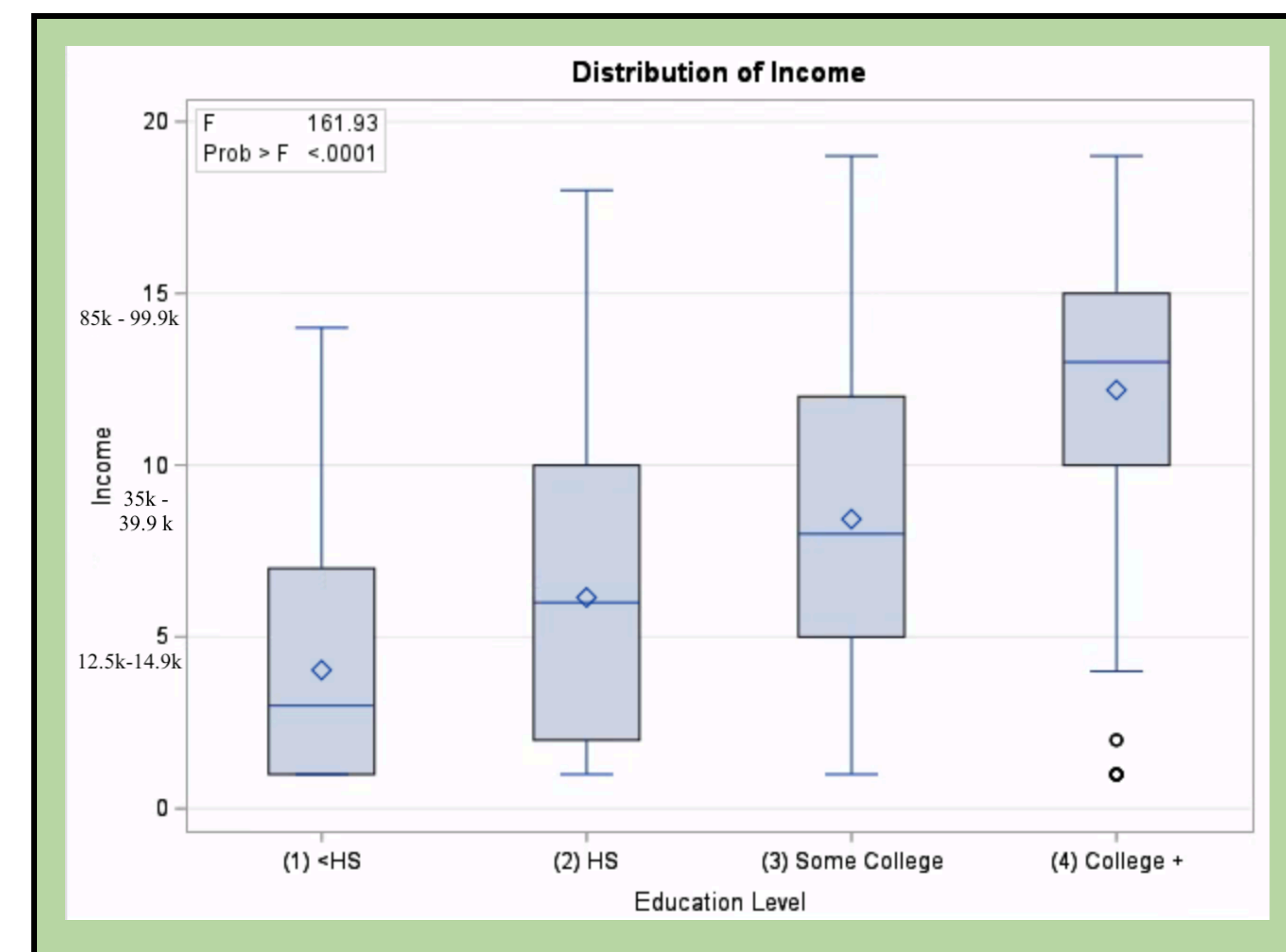
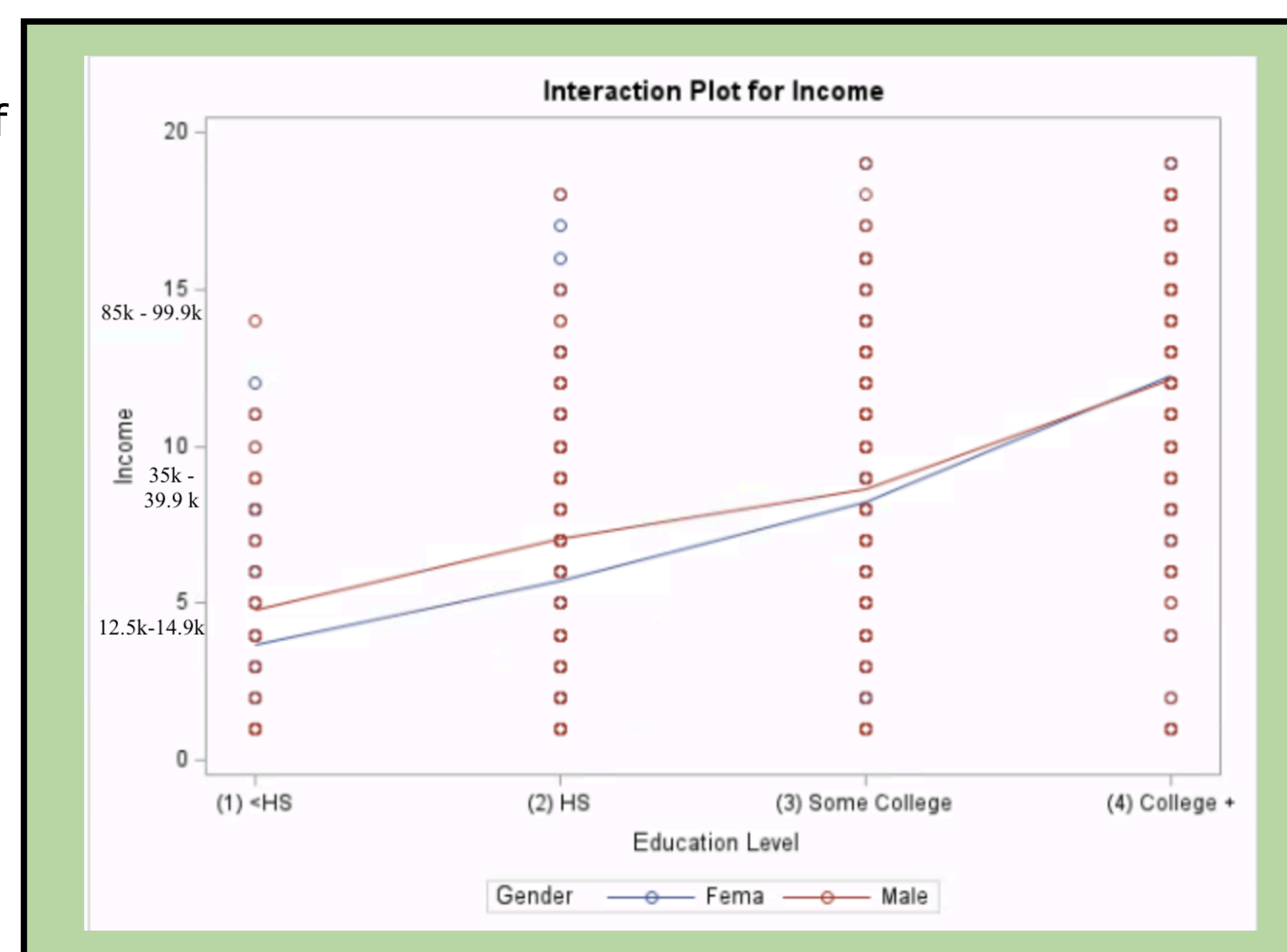


Figure 2. Education Level vs. Personal Annual Income by Gender



### Multivariate

- When **education** is controlled, there is no significant gender effect on income. ( $B = 0.13$ ,  $p = 0.78$ )
- After controlling for **gender**, the more education a Black adult has, the higher the income. (Fig. 2) <HS makes 7.33 units less than College + ( $B=-7.33$ ), HS makes 5.05 units less than College + ( $B=-5.05$ ), and Some College make 3.48 units less than College + ( $B= -3.48$ ).  $P<0.0001$  for all.
- However, the one interaction that exists is that **men make more money than women if they have graduated high school**, ( $B=-1.48$ ,  $p = 0.02$ ). Women are paid roughly \$6,700 less than males annually. But this difference disappears if they graduate college.

## Discussion

- When education is controlled, there is no significant difference between men and women in terms of personal income.
- A Black adult's income was more so determined by their education level when gender is controlled. However, for Black adults who have graduated high school, Black males significantly make more than their female counterparts. But this difference does not carry on with college educated adults.
- This data could help support more programs to fund Black women's post-secondary education in order to remedy the wage gap. Additionally, programs can be made to make sure the transition from high school to college is smooth so there is a completion of college and/or upper level education.
- More research can be used to show the cost of pursuing higher education such as student loan debt and whether it is worth going to college given the extra financial burden afterwards. Moreover, what college degrees yield the best income that subsides the debt accumulated could also be looked into. Additionally, more research can be made to figure out if child care and having a child affects the gender wage gap and whether this hinders women's ability to go to college significantly.