

Student Name: _____

Gender Gap Worksheet

Use the [CEPR Visualization Applet](#) to explore the data and answer the following questions.

1. Plot the distribution of *earnings*. Focus your analysis on individuals who earned \$150,000 or less. Describe the distribution.

Mean at 20062.30 with high SD of 31053.43.
Skewed right

2. Plot the distribution of *age*. Based on the plot, which value bests captures a typical value in the data?
 - a. Mean
 - b. Median
 - c. Mode
 - d. Standard deviation
3. What plot would you choose to explore the relationship between *earnings* and *education*?
 - a. Scatter plot
 - b. Line graph
 - c. Box plot
 - d. None of the above
4. What is the largest difference in median *earnings* between males and females when you factor in *age*?

24000 at age 35

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5. Explore the relationship between *earnings* and *education* by gender. Do not remove individuals who earned more than \$150,000. Describe your observations.

As education increases, earning increase for both. Males have a greater standard Deviation than females.

For questions 6-8 select the best plot to investigate the question then select the best response to convey your findings.

6. “Does a woman’s occupation affect how much she earns compared to a man?”.
- What plot would you choose to investigate this question?
 - Scatterplot with x: Occupation and y: Earnings separated by gender
 - Stacked bar with x: Occupation and y: Earnings separated by gender
 - Boxplot with x: Occupation and y: Earnings separated by gender
 - Histogram of earnings for each occupation separated by gender
 - Look at the plots of earnings by gender for the following occupations: 18: Lawyers, Judges, and Magistrates and 27: Health Technicians. How would you best convey your findings?
 - Lawyers, Judges, and Magistrates have little difference in earnings, while Health Technicians have a large difference.
 - Lawyers, Judges and Magistrates on average have no difference in earnings, while Health Technicians on average men make about \$13,000 more a year.
 - There is no difference in median earnings between men and women for Lawyers, Judges, and Magistrates, while the median earnings for male health technicians are \$15,000 more than females.
 - Median earnings show no difference between men and women for Lawyers, Judges, and Magistrates, while male health technicians earn more than females.

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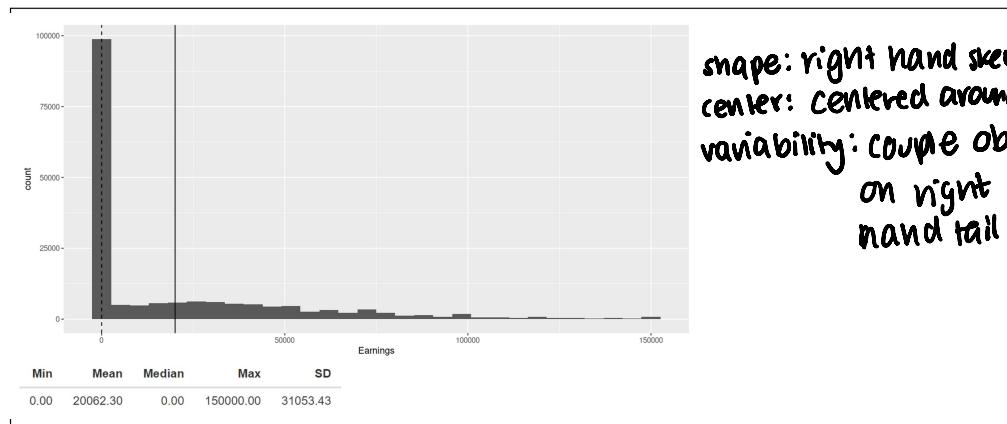
7. “Does a woman’s race affect how much she makes compared to a man?”.
- What plot would you use to investigate this question?
 - Scatterplot with x: Race and y: Earnings separated by gender
 - Stacked bar with x: Race and y: Earnings separated by gender
 - Boxplot with x: Race and y: Earnings separated by gender
 - Histogram of earnings for each race separated by gender
 - Compare earnings between Black and White respondents. How would you *best* convey your findings?
 - Blacks on average earned \$8,000 less than Whites
 - Median earnings for White women were \$5,000 more than Black women.
 - The difference in median earnings for White male and females was \$13,000 compared to a difference of \$5,000 for Black male and females. Additionally, there was a \$5,000 difference between White and Black women.
 - There was a difference of \$18,000 in median earnings between White males and Black females.
8. Suppose you were asked “Do women with children pay a ‘motherhood penalty’?”
- What plot would you use to investigate this question?
 - Scatterplot with x: FamilySize and y: Earnings separated by gender
 - Stacked bar with x: FamilyMakeup and y: Earnings separated by gender
 - Boxplot with x: FamilySize and y: Earnings separated by gender
 - Histogram of earnings for each category of FamilyMakeup separated by gender
 - Which of the following sentences *best* summarizes your findings about the earnings between men and women when we consider the number of children in the family?
 - Men and women react to changes in children differently
 - Both men and women earn less as the number of children increases.
 - The slope of male and female earnings was negative for both men and women, in other words, children had negative effect on earnings regardless of gender.
 - The slopes for earnings as family size increased shows a steeper negative slope for females than it does for males. This suggests that women pay a greater penalty for having children than men do.

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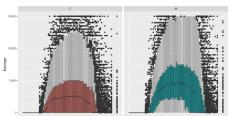
Use the [CEPR Visualization Applet](#) to explore the data and answer the following questions.

1. Plot the distribution of *earnings*. Focus your analysis on individuals who earned \$150,000 or less. Describe the distribution.



2. Plot the distribution of *age*. Based on the plot, which value bests captures a typical value in the data?
 - a. Mean
 - b. Median
 - c. Mode
 - d. Standard deviation
3. What plot would you choose to explore the relationship between *earnings* and *education*?
 - a. Scatter plot
 - b. Line graph
 - c. Box plot
 - d. None of the above
4. What is the largest difference in median *earnings* between males and females when you factor in *age*?

Men at age 35 make the largest difference in median earnings compared to women.



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5. Explore the relationship between *earnings* and *education* by gender. Do not remove individuals who earned more than \$150,000. Describe your observations.



For questions 6-8 select the best plot to investigate the question then select the best response to convey your findings.

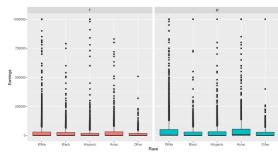
x → categorical y → earnings

6. “Does a woman’s occupation affect how much she earns compared to a man?”
- What plot would you choose to investigate this question?
 - Scatterplot with x: Occupation and y: Earnings separated by gender
 - Stacked bar with x: Occupation and y: Earnings separated by gender
 - Boxplot with x: Occupation and y: Earnings separated by gender*
 - Histogram of earnings for each occupation separated by gender
 - Look at the plots of earnings by gender for the following occupations: 18: Lawyers, Judges, and Magistrates and 27: Health Technicians. How would you best convey your findings?
 - Lawyers, Judges, and Magistrates have little difference in earnings, while Health Technicians have a large difference.
 - Lawyers, Judges and Magistrates on average have no difference in earnings, while Health Technicians on average men make about \$13,000 more a year.*
 - There is no difference in median earnings between men and women for Lawyers, Judges, and Magistrates, while the median earnings for male health technicians are \$15,000 more than females.
 - Median earnings show no difference between men and women for Lawyers, Judges, and Magistrates, while male health technicians earn more than females.

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7. "Does a woman's race affect how much she makes compared to a man?".

- What plot would you use to investigate this question?
 - Scatterplot with x: Race and y: Earnings separated by gender
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quantitative quantitative
x: family y: earn

8. Suppose you were asked "Do women with children pay a 'motherhood penalty'?"

- What plot would you use to investigate this question?
 - Scatterplot with x: FamilySize and y: Earnings separated by gender
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 - Histogram of earnings for each category of FamilyMakeup separated by gender
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Use the [CEPR Visualization Applet](#) to explore the data and answer the following questions.

1. Plot the distribution of *earnings*. Focus your analysis on individuals who earned \$150,000 or less. Describe the distribution.

The data is extremely right skewed.

2. Plot the distribution of *age*. Based on the plot, which value bests captures a typical value in the data?
 - a. Mean
 - b. Median
 - c. Mode
 - d. Standard deviation
3. What plot would you choose to explore the relationship between *earnings* and *education*?
 - a. Scatter plot
 - b. Line graph
 - c. Box plot
 - d. None of the above
4. What is the largest difference in median *earnings* between males and females when you factor in *age*?

The median for men is 34 and the median for women is 37.

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5. Explore the relationship between *earnings* and *education* by gender. Do not remove individuals who earned more than \$150,000. Describe your observations.

Typically, more men receive an education higher than a bachelor's degree and earn more money for each category of education.

For questions 6-8 select the best plot to investigate the question then select the best response to convey your findings.

6. “Does a woman’s occupation affect how much she earns compared to a man?”.
- What plot would you choose to investigate this question?
 - Scatterplot with x: Occupation and y: Earnings separated by gender
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Please wait while OneNote loads this Printout...

iii. Boxplot

iv.

iii. Boxplot



✗

iv.

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Use the [CEPR Visualization Applet](#) to explore the data and answer the following questions.

1. Plot the distribution of *earnings*. Focus your analysis on individuals who earned \$150,000 or less. Describe the distribution.
The distribution of wealth follows a somewhat normal curve and has a long tail on right end of the graph. Therefore, the earnings data is skewed to the right.
2. Plot the distribution of *age*. Based on the plot, which value bests captures a typical value in the data?
 - a. Mean
 - b. Median
 - c. Mode
 - d. Standard deviation
3. What plot would you choose to explore the relationship between *earnings* and *education*?
 - a. Scatter plot
 - b. Line graph
 - c. Box plot
 - d. None of the above
4. What is the largest difference in median *earnings* between males and females when you factor in *age*?
I was unable to generate the proper data to answer this question because it doesn't seem to be able to compare the two variables and it only shows the x-axis.

5. Explore the relationship between *earnings* and *education* by gender. Do not remove individuals who earned more than \$150,000. Describe your observations.
I was unable to explore the relationship between earning and education by gender, but I was able to see the count of males and females and their level of education. From the data I was unable to draw a conclusion between gender and education but there was an interesting trend where a majority of the bachelor's degrees were held by women and the higher education after bachelors was majority male. I think that is something that can be explored with further research.

For questions 6-8 select the best plot to investigate the question then select the best response to convey your findings.

6. "Does a woman's occupation affect how much she earns compared to a man?".

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- a. What plot would you choose to investigate this question?
- i. Scatterplot with x: Occupation and y: Earnings separated by gender
 - ii. Stacked bar with x: Occupation and y: Earnings separated by gender
 - iii. Boxplot with x: Occupation and y: Earnings separated by gender
 - iv. Histogram of earnings for each occupation separated by gender
- b. Look at the plots of earnings by gender for the following occupations: 18: Lawyers, Judges, and Magistrates and 27: Health Technicians. How would you best convey your findings?
- i. Lawyers, Judges, and Magistrates have little difference in earnings, while Health Technicians have a large difference.
 - ii. Lawyers, Judges and Magistrates on average have no difference in earnings, while Health Technicians on average men make about \$13,000 more a year.
 - iii. There is no difference in median earnings between men and women for Lawyers, Judges, and Magistrates, while the median earnings for male health technicians are \$15,000 more than females.
 - iv. Median earnings show no difference between men and women for Lawyers, Judges, and Magistrates, while male health technicians earn more than females.

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- What plot would you use to investigate this question?
 - Scatterplot with x: FamilySize and y: Earnings separated by gender
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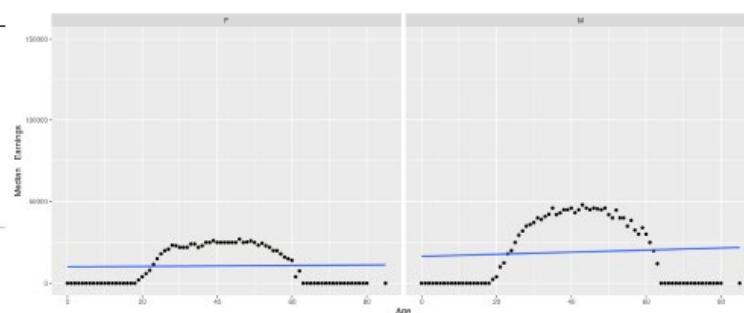
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The graph does not have a normal distribution and is skewed to the left.

- Plot the distribution of *age*. Based on the plot, which value bests captures a typical value in the data?
 - Mean
 - Median
 - Mode
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- What plot would you choose to explore the relationship between *earnings* and *education*?
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 - None of the above
- What is the largest difference in median *earnings* between males and females when you factor in *age*?

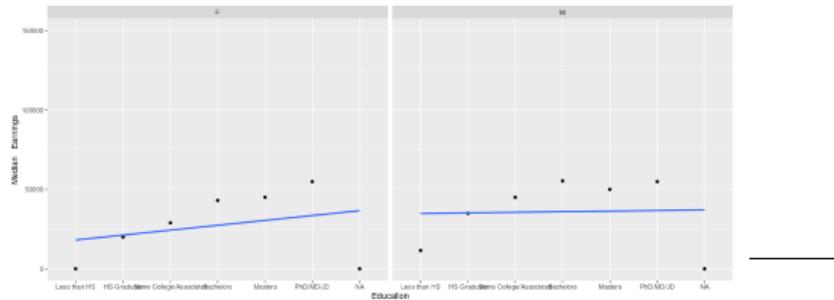
Older males makes more money than older females.



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5. Explore the relationship between *earnings* and *education* by gender. Do not remove individuals who earned more than \$150,000. Describe your observations.

Men make more than women, even at the same level of education.



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