

Name _____

Investigation 6: Are Gender and Pay Related?

Worksheet 6.2 Gender and Pay

Scenario

“Did you know that in 2016, women working full time in the United States typically were paid just 80 percent of what men were paid, a gap of 20 percent? The gap has narrowed since the 1970s, due largely to women’s progress in education and workforce participation and to men’s wages rising at a slower rate. Still, the pay gap does not appear likely to go away on its own. At the rate of change between 1960 and 2016, women are expected to reach pay equity with men in 2059. But even that slow progress has stalled in recent years. If change continues at the slower rate seen since 2001, women will not reach pay equity with men until 2119.”

Source: <http://www.aauw.org/research/the-simple-truth-about-the-gender-pay-gap/>

Statistical Question _____

Collection of Data

Source: <https://www.census.gov/data.html>

Years since 1970	Median Income Men (\$)	Median Income Women (\$)	Earnings ratio
0	9,184	5,440	
5	12,934	7,719	
10	19,173	11,591	
15	24,999	16,252	
20	28,979	20,591	
25	32,199	23,777	
30	38,891	29,123	
35	42,188	33,256	
39	49,164	37,234	
45	50,119	40,022	

Earnings ratio is the percent that women were paid compared to men.

1. Find each of the earnings ratio.
2. Interpret the earnings ratio for 45 years since 1970.
3. What trends do you observe in the earnings ratio over time?
4. Could the earnings ratio could exceed 1? What would that mean?

Analyze the Data

5. Use technology to create a scatter plot of time and earnings ratio. Sketch a copy of the scatterplot below.

6. Describe the relationship between the earnings ratio and time since 1970.

7. Estimate r , the correlation coefficient.

8. Do you think it would be appropriate to draw a line through the data?

9. Use technology to find the value of r and interpret this value in terms of the data.

Interpret the Results in the Context of the Original Question

Based on the information gathered, write a few sentences to answer the statistical question:
“To what extent are the median income of males and the median income of females related?”