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MAT 152 - MFE1R

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Project 1

State	Cost of living	School Psychologist Median Pay
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Florida	102.3	77,990					
Utah	101.5	74,730					
Nevada	101.3	83,940					
Pennsylvania	99	84,140					
South Carolina	96.5	74,450					
North Carolina	96.1	67,530					
Wisconsin	95	80,000					
North Dakota	94.6	67,880					
New Mexico	94.2	100,980					
Minnesota	94.1	82,580					
Ohio	94	94,160					
Kentucky	93.8	68,380					
South Dakota	93.8	73,440					
Texas	93	77,940					
Wyoming	92.8	85,810					
Michigan	92.7	80,580					
Louisiana	92	64,260					
Indiana	91.5	76,440					
Georgia	91	88,920					
Illinois	90.8	78,330					
Tennessee	90.4	66,400					
Arkansas	90.3	57,120					
West Virginia	90.3	69,640					
Nebraska	90.1	78,270					

Iowa	89.7	69,020					
Alabama	88.8	65,400					
Missouri	88.4	58,740					
Kansas	87.7	65,740					
Oklahoma	86	62,540					
Mississippi	85.3	65,220					

Career choice – School Psychologist

Describe how you found your sample and tell me what kind of sampling you used.

I found the sampling of states by going to the chart that had the states listed and I chose the bottom 30 states, I did a convenient cluster sample.

I found the career sample by choosing the field of Psychology on the bls.gov website, selected state and area data, then I narrowed down the career to School Psychologist, then selected the industry profile function. I was able to choose which states that I wanted and get the data I needed for the median wage.

Do you think there are any issues that may have occurred in obtaining your data?

I do not think I had any issues obtaining the data. I used what was on the websites that were suggested for the research.

Next share the numerical descriptive information (mean, median, mode, IQR, and the five-number summary) for your data. For each of the two data sets (do not combine them) Explain what each of the numbers represent and how you found them. I found them by putting all of the cost of living and annual median salary data for each of the 30 states into Desmos.

Cost of living data for each state:

Mean - 92.76

Median - 92.35

Mode – Bimodal, 93.8 and 90.3

IQR - 4.15

Five number summary for the cost of living-

Min= 85.3

Q1= 90.2

Median= 92.35

Q3= 94.35

Max= 102.3

Annual Median salary data for each state -

Mean – 74,680

Median – 74,590

Mode – there is not mode for this data

IQR – 14,180

Five Number Summary for the Median salary for each state-

Min= 57,120

Q1= 66,400

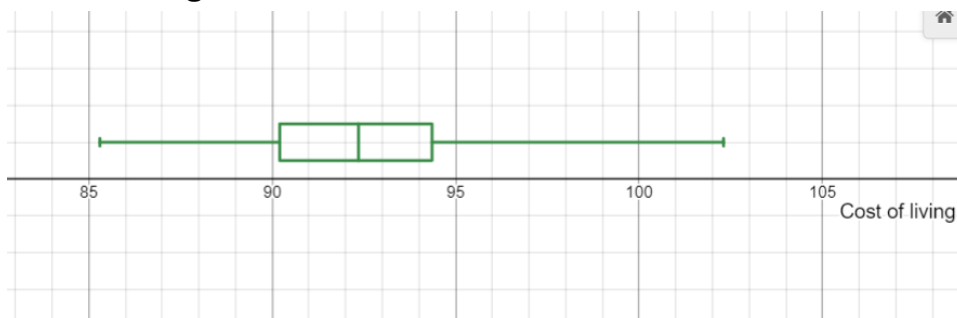
Median= 74,590

Q3= 80,580

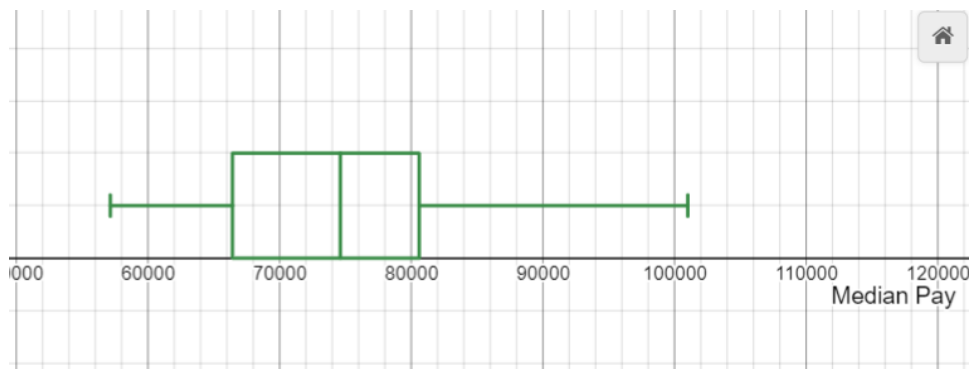
Max= 100,980

Use this numerical information to create a box plots for each of them.

Cost of Living



Annual Median Salary for School Psychologist



Describe what you notice about your data. Is the data normal, skewed to one side, or uniform?

Both sets of data look a very small bit skewed to the right.

From the 30 states I selected, the cost-of-living box plot shows that most states fall somewhere between 90 and 94.

From the career I selected, School Psychologist, the median salary falls somewhere between 68,000 and 80,500 per year.

Find the mean and standard deviation for each of the sets of data

Cost of living standard deviation: 4.350

Cost of living mean: 92.76

Annual Median salary for School Psychologists standard deviation: \$10,319

Annual Median salary for School Psychologists mean: \$74,680

Explain how you can determine which values are outliers based on the calculations.

State any possible outliers using the outlier formula. I used the Range Rule of Thumb

Based on the outlier formula, the normal cost of living range is : 84.6 - 101.46

Outliers for cost of living:

Unusually low: none

unusually high outliers: 101.5 (Utah), 102.3 (Florida)

Although they are outside of the normal range, I would not consider them unusual. The reason is because they are just outside of the normal range.

Based on the outlier formula, the normal annual median salary range for School Psychologists is: \$54,042 - \$95,318

Outliers for Annual Median Salary for School Psychologists:

Unusually low: none

Unusually high: \$100,980 (New Mexico)

I would consider New Mexico and outlier because it is way outside the normal range.

Pick one state you are interested in living in. Find the z-score for that state's cost of living and median pay for your chosen career.

I am picking the state of North Carolina. North Carolina's cost of living score is 96.1. School Psychologists earn an annual median salary of \$67,530.

Cost of living z-score for North Carolina = 0.7678

Annual Median pay z-score for North Carolina = -0.6929

In which of these two data sets would you want your z-score to be lower?

You would want your z-score to be lower in the cost-of-living data set.

In which of these two data sets would you want your z -score to be higher?

You would want your z -score to be higher in the median pay data set.

As a new college graduate, would you expect to make the median salary? Why or why not.

I would only expect to make the median salary as a School Psychologist if I had some experience in the field, such as an internship.

What salary would you recommend someone in this field accept?

Considering training and education, I would recommend the average annual median salary of \$74,680 is someone in this field who had proper education, training, and some experience such as an internship.