Assessing CI Interpretations

(Solution)

Below are your interpretations of the confidence interval that you constructed. Now assess the quality of each interpretation. Below each number, assign a rating (from 0 to 10) to each interpretation. The correlation between your ratings and my ratings will be calculated, and your score for this activity will be based on this correlation.

I assigned marks on the basis of correctness, context (i.e. units), reference to population, reference to “mu” (pop. mean) and not x (individual scores), reference to confidence level interval with units. and the quality of your writing.

1. from ages (in months) of students in our class (240.45, 254.13). A 95% confidence interval for the mean age in months of SRS of Witt student population (µ) of size 24 is between 240.45 and 254.13 months.

[7] “of SRS of Witt student population (µ) of size 24 is between “ does not describe the population

2. The Confidence Interval for 95% is (240.45, 254.13). Our interpretation is that we are 95% confident that the population mean for the age of all Wittenberg students, within normalish distribution of a SRS of size n=24, lies between 240.45 and 254.13 months of age.

[9] “within normalish distribution of a SRS of size n=24” - ??? – not needed (or clear)

3. The confidence interval of 240.45 < x-bar <254.13 indicates that when a SRS of size n= 24 is selected then 95% of the samples will lie between +17.09 or -17.09 of the unknown population mean.

[4] it’s backwards; population not identified; no units; 95% confidence level not mentioned

4. We are 95% confident that the mean of the Wittenberg population will fall between 240.13 months and 254.45 months based on our sample population mean of 247.29 months old. Our sample population is the Fall 2011 Stats 127 class.

[8] mean what of Wittenberg population?

5. 240.45, 254.13

[0] no interpretation

6. 95% of all Wittenberg students will have a mean age between 240.45 and 254.13 months.

[4] This confuses individual ages with mean age: “5% of all … students will have mean age”?

7. Assuming that the class is a SRS of the student body and the survey was designed and conducted in a way that eliminated bias, we can say that we are 95% certain that the unknown mean age of the population of students at Wittenberg is between 240.45 to 254.13 months old. That is to say, using a similar method would result in similar results 95% of the time.

[10]
8. We are 95% confident that the mean age of students at Wittenberg University falls between 241.24-254.60 months.

9. We are 95% confident that the Population Mean of the class is greater than 240.45 months and less than 254.13 months. This 95% confidence level shows that 95% of the intervals would include the parameter.

10. My interpretation is that we can be 95% sure in stating that all students at Witt are aged between 240.45 and 254.13 months old.

11. The age sample mean 247.29 months suggests that it is a general age of sophomores or juniors, indicating that the population highly likely consists of a greater number of sophomores and juniors than other years or that the population consists more of students who are close to the age of 20.6 year-old than of students who are younger or older than the age.

In addition, focusing on the marginal error, 6.84 months, it is reasonable to say that the number is fairly small when compared to the general age range of university students, which is, from a conventional perspective, approximately 48 months, from 18 to 22 year-old.

12. The probability of getting x-bar of the age of students between 240 months and 254.13 months for a SRS of Wittenberg students will occur 95% of the time.

13. I am 95% confident that the mean age of the population of Wittenberg will fall within the range of 240.45 and 254.13.

14. I am 95% confident that the population mean for student age at Wittenberg University is between 241.55 and 253.03 months.

15. The confidence interval is 240.45 to 254.13. This means that we are about 95% positive that the mean age in months for Wittenberg students falls within 240.45 and 254.13 months.

16. 95% CI (240.45, 254.13). I am 95% confident that the Witt Student population has a mean age, in months, of 240.45 months and 254.13 months.