

STAT 110 – Fall 2009 – Section 4 - Exam 1

- 1) Which of these two set-ups could provide evidence that computer usage caused a change in performance?
A) (A) - Page 12
- 2) If a neighborhood association collects sample data about the number of speeding cars through a neighborhood by sitting on a street corner during rush hour, what type of sample has been collected?
B) Convenience sample – Page 21
- 3) If a neighborhood association had a notice in their newsletter inviting residents to email the association president with any comments about the speeding problem, what type of sample would be collected?
E) Voluntary response sample – Page 21
- 4) An experiment that always over-estimates the value it is trying to determine is said to be
D) Biased – Page 21
- 5) The **sampling frame** in this example is:
E) The students listed in the university telephone directory – Page 54
- 6) The target **population** in this example is:
B) The 27,488 students on the USC campus – Page 8 and 9
- 7) If in actuality, 562 numbers were used in order to get the 400 responses desired. What term is used to describe the 162 subjects that chose not to answer this sample survey?
C) Nonresponse – Page 57
- 8) If instead of using a simple random sample of 400 numbers they had used every 68th person on the list (1st, 69th, 137th, etc...), it would have been a :
E) Systematic Sample – Defined in class
- 9) Wording the question in such a way that it made the problem sound more severe (“many courses would not be offered”) or less severe (“only a few courses would not be offered”) would likely change the outcome of the survey and misrepresent the students’ actual views. This is an example of a:
A) Nonsampling Error – Chapter 4
- 10) The **percentage** (\hat{p}) of those surveyed who favored the tuition increase was:
D) $\frac{238}{400} = 0.595 = 59.5\%$ - Page 34
- 11) What would the **margin of error** be at the 95% confidence level?
B) $\frac{1}{\sqrt{400}} = 0.050 = 5.0\%$ - Page 40
- 12) The **parameter** is:
D) The percentage of all USC students who favor increasing tuition – Page 34
- 13) The **statistic** is:
C) The percentage of the 400 students who favor increasing tuition – Page 34

14) It is believed that seniors and graduate students would be more concerned about having the courses they need to graduate being offered than would freshmen, sophomores, and juniors. Much like using blocks in an experiment, using a stratified random sample to help account for this would mean we could no longer use the usual formula for margin of error. It would however:

E) Reduce the variability of the statistic – Page 62

15) Which of the following statements is true:

D) We are 95% confident that the true percentage of all South Carolinians opposed to the bailout is between 54% and 60%. – Page 41

16) Increasing the sample size used in the survey would

E) Reduce the variability of the statistic – Page 38

17) **Response variable(s)** in this experiment are

E) The number of heart attacks suffered– Page 77

18) **Explanatory variable(s)** in this experiment are

C) Taking aspirin or placebo and taking vitamin C or a placebo – Page 77

19) **Lurking variable(s)** in this experiment include

B) Smoking/not-smoking and exercising regularly/not-exercising regularly – Page 78

20) Using only physicians will likely make it hard to:

A) Allow for the results to be generalized to all men – Page 102

21) Having a large number of physicians participate should:

E) Increase the chances that the results found are statistically significant – Page 83

22) Randomly assigning the physicians to the four groups should:

D) Control for confounding between the effects of the explanatory and lurking variables – Chapter 5

23) An early proposal for this experiment had only two groups – one receiving both aspirin and vitamin C, and the other receiving two placebo pills. Using the actual four group design gave what benefit?

B) Control for confounding between the effects of the different explanatory variables – Chapter 5 & 6

24) One issue not addressed in the study design is what to do with doctors who failed to take some of the pills as directed (such as skipping days). These doctors would be described as:

B) Nonadherers – Page 99

25) The doctors not being told which pills they were receiving makes this study:

D) Single blind - Defined in class