

## SOC510 Homework #10: Chapter 20 & 21

Due November 30 (Tuesday)

1. A politician claims that she will receive 60% of the vote in an upcoming election. The results of a properly designed random sample of 100 voters showed that 50 of these sampled will vote for her. Is it likely that her assertion is correct ( $H_0: P = .60$ ) at the 95% confidence level?

- (a) Compute the 95% confidence level.
- (b) Do hypothesis test at the 95% confidence level.

2. How many samples are required to get a  $\pm 4\%$  maximum margin of error at the 95% confidence level?

3. The Science News reported that smoking boosts death risk for diabetics. And a study of the smoking rates for males and females diabetes in Kansas City obtained the following data.

Gender	n	# who smoke
Male	500	215
Female	500	170

- (a) Compute the interval estimate of the smoking rate difference between males and females at  $\alpha = .01$ .
- (b) Test the research hypothesis that the smoking rate is higher for males than for females ( $H_A: P_m > P_f$ ) at  $\alpha = .01$ .

4. **Extra Credit 5 points: No extra credit for late submission.**

Questions from the textbook

- 20.29; 20.32 (a); 20.37 (a) (b); 20.42
- 21.20; 21.21
- Do Hypothesis test  $H_0: P_{\text{Hispanic}} = P_{\text{White}}$  using 21.28 at  $\alpha = .05$