Foundations for Statistical Inference on your data from Add Health

1. What variable are you going to use? Write the variable name and the English label.

Categorical	Continuous

2. What is your effective sample size? (Number of non-missing values)

Categorical	Continuous
n=	n=

3. Calculate the point estimate for each variable.

Categorical	Continuous
Sample Proportion $\hat{p}$	Sample mean $\bar{x}$ = **`mean(data$var, na.rm=TRUE)`**

4. Calculate the standard deviation for each variable.

Categorical	Continuous
$s_{\hat{p}} = \sqrt{\hat{p}\,(1-\hat{p})}$	s_x = **`sd(data$var, na.rm=TRUE)`**

5. Calculate the standard error (SE) for each variable.

Categorical	Continuous
$s_{\hat{p}}/\sqrt{n}$	$s_{\bar{x}} = s_x/\sqrt{n}$

6. Assuming a Normal Model : Calculate a 95% Margin of Error (MOE) for your estimate as 1.96*SE

$MOE =$	$MOE =$

7. Explain why the normal model is appropriate to use here. Use the findings from the CLT in your response.

Categorical	Continuous

8. Construct a 95% confidence interval for your estimate.

$(\hat{p} - MOE, \hat{p} + MOE)$	$(\bar{x} - MOE, \bar{x} + MOE)$

9. Interpret this confidence interval in context of your problem.

Categorical	Continuous

10. Construct a testable hypothesis – using English words

Categorical	Continuous

11. Formally test your hypothesis using the full 5 step method described in class. Use your software program of choice to calculate the test statistic and p-value for you. Do not do this by hand!

Categorical	Continuous