

Review A

For many years, the medically accepted practice of giving aid to a person experiencing a heart attack was to have the person who placed the emergency call administer chest compression (CC) plus standard mouth-to-mouth resuscitation (MMR) to the heart attack patient until the emergency response team arrived. However, some researchers believed that CC alone would be a more effective approach.

In the 1990s a study was conducted in Seattle in which 518 cases were randomly assigned to treatments: 278 to CC plus standard MMR and 240 to CC alone. A total of 64 patients survived the heart attack: 29 in the group receiving CC plus MMR, and 35 in the group receiving CC alone.

- a. Conduct a significance test to see if there is evidence to support the researchers belief that CC alone is a more effective approach.

- b. Interpret what this p-value measures in the context of this study.

- c. Based on your conclusion, which type of error, Type I or Type II, could have been made? What is one potential consequence of this error?

- d. Calculate and interpret a 95% confidence interval for this study.

5. An advertising agency in a large city is conducting a survey of adults to investigate whether there is an association between highest level of educational achievement and primary source for news. The company takes a random sample of 2,500 adults in the city. The results are shown in the table below.

Primary Source for News	HIGHEST LEVEL OF EDUCATIONAL ACHIEVEMENT			Total
	Not High School Graduate	High School Graduate But Not College Graduate	College Graduate	
Newspapers	49	205	188	442
Local television	90	170	75	335
Cable television	113	496	147	756
Internet	41	401	245	687
None	77	165	38	280
Total	370	1,437	693	2,500

- (a) If an adult is to be selected at random from this sample, what is the probability that the selected adult is a college graduate or obtains news primarily from the internet?
- (b) If an adult who is a college graduate is to be selected at random from this sample, what is the probability that the selected adult obtains news primarily from the internet?
- (c) When selecting an adult at random from the sample of 2,500 adults, are the events "is a college graduate" and "obtains news primarily from the internet" independent? Justify your answer.
- (d) The company wants to conduct a statistical test to investigate whether there is an association between educational achievement and primary source for news for adults in the city. What is the name of the statistical test that should be used? Conduct the test.

What are the appropriate degrees of freedom for this test?