

1. For the following (fake) studies, is the conclusion justified? Why or why not? (Provide more than one reason if you think more than one reason is applicable).

(a) A survey of American doctors finds that more of them use Crest toothpaste than Colgate.

Conclusion: Crest is a healthier toothpaste.

(b) A study finds that college students who take regular baths get fewer colds than students who do not.

Conclusion: Taking baths helps to prevent colds.

(c) A study randomly assigns 300 participants to one of three groups: one group takes a daily warm bath, the second takes a daily cold bath, the third only takes showers. The first group reports 87 colds over the winter. The second reports 156, and the third reports 152.

Conclusion: Daily warm baths help to prevent colds. Daily cold baths encourage them.

(d) A study finds that women who go into labor between noon and four pm are more likely to have a C-section than women who go into labor between midnight and 4am.

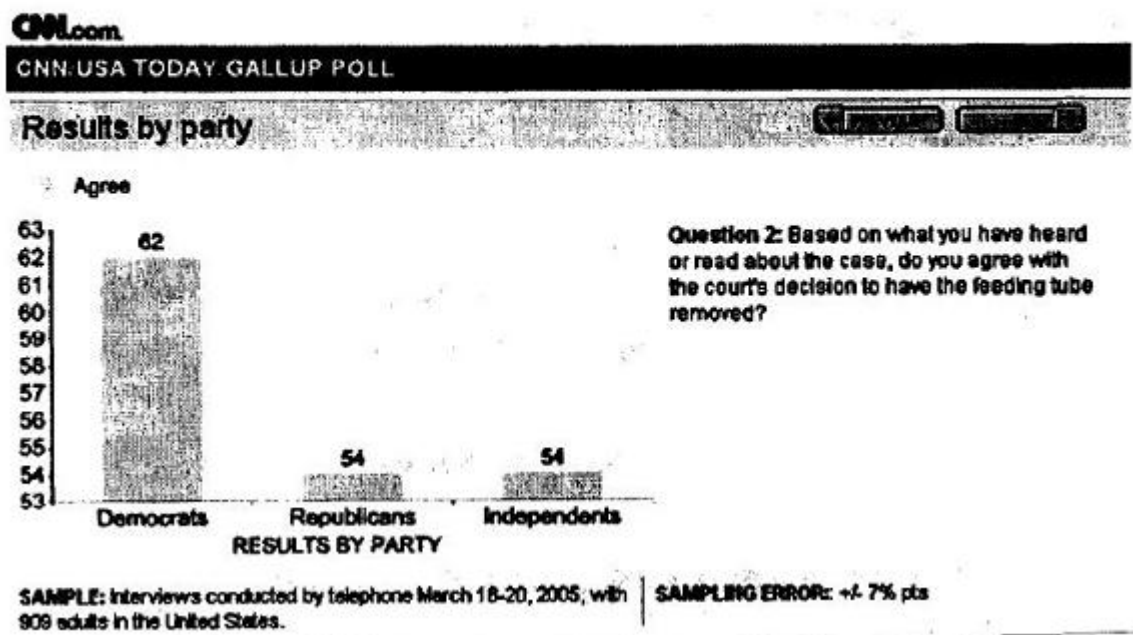
Conclusion: It is better to go into labor in the middle of the night.

(e) A telephone survey of parents in America talks to 403 parents, 5 of whom home-school their children. 4 of the 5 homeschooling parents are Baptist.

Conclusion: 80% of homeschoolers in America are Baptist.

2. What is wrong with the following graphs?

CNN polled 909 adults and asked if they agreed with the court's decision to have Terri Schiavo's feeding tube removed. The results of that poll were posted in this manner on cnn.com.



THE SHRINKING FAMILY DOCTOR In California

Percentage of Doctors Devoted Solely to Family Practice

1964	1975	1990
27%	16.0%	12.0%



Los Angeles Times, August 5, 1979, p. 3.

3. You suspect that reading mystery books improves grades in math classes. How would you design a study to test this theory?