

## 10.13: Statistical Literacy

### Learning Objectives

- No "Large Conclusions" from "Tiny" Samples?

In July of 2011, Gene Munster of Piper Jaffray reported the results of a survey in a note to clients. This research was reported throughout the media. Perhaps the fullest description was presented on the CNNMoney website (A service of CNN, Fortune, and Money) in an article entitled "Survey: iPhone retention 94% vs. Android 47%." The data were collected by asking people in food courts and baseball stadiums what their current phone was and what phone they planned to buy next. The data were collected in the summer of 2011. Below is a portion of the data:

Table 10.13.1: Sample phone retention data

Phone	Keep	Change	Proportion
iPhone	58	4	0.94
Android	17	19	0.47

The article contains the strong caution: "It's only a tiny sample, so large conclusions must not be drawn." This caution appears to be a welcome change from the overstating of findings typically found in the media. But has this report understated the importance of the study? Perhaps it is valid to draw some "large conclusions."

### Example 10.13.1: what do you think?

Is it possible to conclude the vast majority of iPhone owners in the population sampled plan to buy another iPhone or is the sample size too small to justify this conclusion?

#### Solution

The confidence interval on the proportion extends from 0.87 to 1.0 (some methods give the interval from 0.85 to 0.97). Even the lower bound indicates the vast majority of iPhone owners plan to buy another iPhone. A strong conclusion can be made even with this sample size.

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