

I) Statistics

A) Descriptive- is an index that is some way characteristic of or informative about a large group of numbers (ex. Mean)

B) Inferential-is a method of drawing conclusions about a population from samples taken from populations.

Population is all the scores/measurements of a group

Sample is a subset of scores/measurements

Practice:

_____ Every student I've talked to is angry about the big tuitions increase, so I wouldn't be surprised if a lot of students transferred out next term.

_____ Enrollment is already down by 5%

_____ Well, last spring's graduating high school senior classes in this area were down 10%, too, so there isn't as big a crop of freshman.

_____ This college draws over half its students from outside this area.

C) Parameters- constant characteristics of a population.

EX. MU μ

D) Statistics-is some variable numerical or nominal characteristic of a sample.

EX. Sample mean \bar{X}

II) Measurement

A) Variables- “anything that varies”, a special concept that contains within it a notion of degree or differentiation.

1) Quantitative-are expressed in amounts and have upper and lower limits.

What are the upper and lower limits?

---4.3 minutes

--6 errors

--\$45.50

2) Qualitative- have names and are expressed as kind

ex. 2 styles of sonnets

3 types of trees

B) Scales of Measurement-numbers can have different attributes

1) Nominal-numbers are simply used to name/classify (i.e., race, sex)

2) Ordinal- indicate greater than or less than, but equal distances between numbers do not represent equal amounts of the things being measured: order (class, formal education).

3) Interval/ratio-equal distance on the scale represent equal amounts (income, age, weight).

C) Relationships between Variables

1) independent variables

2) dependent variables

3) extraneous/control variables

An educational psychologist wanted to know the effects of four different methods of teaching math. He selected three classrooms of third graders to receive each of the four teaching methods. At the end of the school year, all pupils took the same achievement test, and the means for groups receiving different methods were compared. Identify-dependent variable, independent variable, statistic, parameter, sample, population.