Descriptive & Inferential Statistics

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Several Meanings

- Collections of numerical data
- Summary measures calculated from a collection of data
- Activity of using and interpreting a collection of numerical data

- Last year's enrollment figures
- Average enrollment per month last year
- Evaluators made a projection of next year's enrollments

Descriptive Statistics

- ‣ Use of numerical information to summarize, simplify, and present data.
- ‣ Organized and summarized for clear presentation
- ‣ For ease of communications
- ‣ Data may come from studies of populations or samples

Inferential Statistics

- To generalize or predict how a large group will behave based upon information taken from a part of the group is called and INFERENCE
- Techniques which tell us how much confidence we can have when we GENERALIZE from a sample to a population

Examples of Descriptive and Inferential Statistics

Descriptive Statistics

- Graphical
  - Arrange data in tables
  - Bar graphs and pie charts
- Numerical
  - Percentages
  - Averages
  - Range
- Relationships
  - Correlation coefficient
  - Regression analysis

Inferential Statistics

- Confidence interval
- Margin of error
- Compare means of two samples
  - Pre/post scores
  - *t* Test
- Compare means from three samples
  - Pre/post and follow-up
  - ANOVA = analysis of variance