Lecture One

Monday, 17 July 2017 1:19 PM

Intro to Statistics and Frequency Distributions

Assessment

- The assignment for HPS201/771 casts you into the role of a research psychologist. You will be provided with a weekly research scenario, accompanying research question and a data set. You will also be provided with the SPSS output of a statistical analysis that has been run on the data set to answer the research question. Importantly, you will have to answer a set of questions requiring you to interpret the results of the analysis and present them in APA format.
- MC two hour exam during the examination period. All formulae and critical tables provided. Calculators permitted.

Population vs. Sample

The aim of research in Psychology is to answer questions about human behaviour.

Population

The entire set of individuals or events of interest in a particular study.

Sample

Set of individuals selected from a population.

Representative Sample

A sample that shares key characteristics of the population from which it has been taken.

Parameter vs. Statistic

Parameter

A value that describes a key characteristic of the population.

Statistic

A value that describes a key characteristic of the sample. Statistics are used to estimate values that exist in the population.

Sampling Error

There will almost always be a discrepancy between your sample characteristics and the population characteristics due to sampling error (particularly in small samples).

Variables

Before we can answer a research question we need data. Data is obtained by measuring specific variables of interest to your research question.

Variable = A characteristic or condition that changes or has different values for different individuals.

Independent and Dependent Variables

Independent Variable (IV)
The variable that we manipulate. As a researcher, we believe that the independent variable will influence our dependent variable.

Dependent Variable (DV)
The variable that we measure.

Statistics and Research
As a researcher you have decided on a research question, what variables you are going to measure, you have taken a sample of individuals and measured your variable. You have collected your data. Now what?

Statistics
Using mathematics to organize, summarize and interpret numerical data.

Descriptive Statistics
Organizing and summarizing data (this week).

Inferential Statistics
Interpreting data and drawing conclusions (week 3 onwards).

Descriptive Statistics - Frequency Tables and Graphs

- Frequency tables and graphs are a way of organizing and simplifying the data we have collected. They provide two key pieces of information.
- The set of scores or range of categories that people could have either obtained or fallen into on the value of interest.
- A record of frequency or number of individuals, who obtained each score or fell in each category.

Normal Distribution

- Unimodal
- Symmetrical
- Score with the highest frequency is in the middle of the distribution.
- The relative frequency of scores decreases as you move towards the tail.