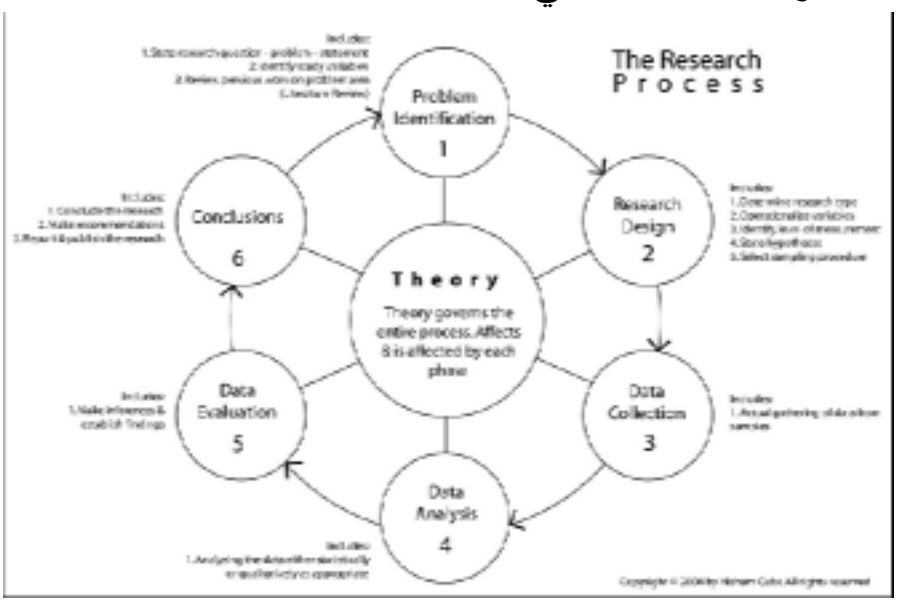
Descriptive Statistics

The Research Process خطوات البحث العلمي



- Analysis of Research Data
- Descriptive Statistics
    - For Categorical Data
    - For Continuous Data

Analysis of Research Data

Depending upon the type of data collected, an appropriate technique of analysis is used

1. Quantitative Data
2. Qualitative Data

Descriptive Statistics

Descriptive statistics is used to summarize data and make sense out of the raw data collected during the research. Since the data usually represents a sample, then the descriptive statistics is a quantitative description of the sample.

The level of measurement of the data affects the type of descriptive statistics. Nominal and ordinal type data (often termed together as categorical type data) will differ in the analysis from interval and ratio type data (often termed together as continuous type data).

Descriptive statistics for categorical data

Contingency tables (or frequency tables) are used to tabulate categorical data.

A contingency table shows a matrix or table between independent variables at the top row versus a dependent variable on the left column, with the cells indicating the frequency of occurrence of possible combination of levels.

Descriptive statistics for continuous data

The central tendency and variability of the data are the two aspects of descriptive statistics used for continuous type data.

Descriptive statistics for continuous data

A - Measures of central tendency

Measures of central tendency "refers to a number (statistic) that best characterizes the group as a whole" (Sommer & Sommer, 1997, pp.250).

It is generally referred to as the average.

The three types of averages are: the mean, the median, the mode

Descriptive statistics for continuous data

B - Measures of variability

Measures of variability "refers to the spread or dispersion among a set of scores" (Sommer et. al. 1997, pp. 251). The different statistics used are the following:

Descriptive statistics for continuous data

B - Measures of variability

Standard Deviation

Variance

Range

Inferential Statistics

http://www.socialresearchmethods.net/kb/statinf.php

Infer from sample to population

Infer from data to more general conditions

“With inferential statistics, you are trying to reach conclusions that extend beyond the immediate data alone. For instance, we use inferential statistics to try to **infer from the sample data** what the population might think. Or, we use inferential statistics to make judgments of the probability that an observed **difference between groups** is a dependable one or one that might have happened by chance in this study. Thus, we use inferential statistics to **make inferences from our data to more general conditions**; we use descriptive statistics simply to describe what's going on in our data.”

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