Science Dynamics Masterclass
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Research Labs, Proverbs,a.s.

Statistics I

Basic division

Characteristics of subjects

Variables

Variables
E.g. Height of Person

Constants

Constants
E.g.Grade of the firstgraders

Descriptive

Descriptive
description of the data collected

Inferential

Inferential
Used to generalize or infer

Sample

Sample
the smaller group on which we have data

Population

Population
Large group to whom conclusions are generalized. Assessment of the level of certainty.

Measurement of variables

Nominal Level

Nominal Level
Similarity or Nonsimilarity of objects

- focused on distinction
- NOT comparison
- Ex. Ice cream flavors

Ordinal Level

1 st Rule

1 st Rule
different numbers are assigned to objects that possess different amounts of the underlying characteristics

2nd Rule

2nd Rule
the higher the number assigned to an object the less (more) of the underlying characteristics that object is observed to possess

- Ex. Runners order of finish

Interval Level (SPSS Scale)

- Ex. Temperature measured in Centigrades

Interval Level...
Scale - meaningful statement about the difference between any two points along the scale

Ratio Level (SPSSScale)

1000 A.D. is not 1000 revolutions around the sun, absolute zero is unknown.

!!!

!!!
Number zero on the numeric scale must correspond to zero (none) of the underlying characteristics being observed

- Ex. Annual salary of Individuals

Variables

Discrete

- is integer
- underlying nature is integer
- Ex.
  - Regions, areas
  - Bed occupancy in % (beds are integer)

Continuous

- could be between integer values
  - Ex. Heights of freshman in US
  - IQ

IQ
IQ of 109 is in fact between 108.5 and 109.5