

Notes on Measurement

Measurement consists of assigning labels to observations in a systematic way. It is the process of observing variables and assigning some type of score or value to people's responses. We need measurement for analysis of data.

Measurement is important:

- Because it creates standardized units that allow a researcher to compare and study apparently different objects, processes and events. For example, if we measure social class by using education, income and occupation, then we have a standard unit to compare individuals from different social classes.
- Because it makes it easier to analyze things by breaking them into smaller distinctions.
- By measuring properties of variables precisely, we are able to statistically relate those variables to test relationships.
- With measurement we can use statistics as tools of analysis.

When working with measurement it is important to know the unit of analysis i.e. the person, event or social structure that the researcher is actually measuring. For example, if you are interested in studying the views of university students, the unit of analysis is the individual student, not the university; or the unit of analysis could be the family e.g. the effect of drug abuse on the family's financial status.

There are different levels of measurement in social research and the level will depend on how detailed and precise your variables are. Since some variables like age and sex are numeric while others like sex and religion are not numeric, they will have different levels of measurement. The levels of measurement are in ascending order of the amount of information each level carries. So as one moves from the lowest to the highest, the quality of the data changes from categories to numbers that can be statistically manipulated.

Nominal level

The most basic level of measurement is the nominal level which involves naming or labeling something and categorizing things under that label. There is no order or degree to nominal measurement. It is simply classifying individuals on shared common categories. But the categories must be mutually exclusive and exhaustive, that is all cases must fit into one of the categories. For example, sex, religion, marital status, ethnicity and race are all nominal measures. There is no order, no category is higher than the other and each case fits into only one category.

Ordinal level

This goes one step beyond nominal level, in that observations are not only categorized but the categories are ranked. Therefore there is a rank order of some sort. It is higher than the