SCALING OF DATA

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DEFINITION

- Scaling" in **Research**

  Scaling is the procedure of measuring and assigning the objects to the numbers according to the specified rules. In other words, the process of locating the measured objects on the continuum, a continuous sequence of numbers to which the objects are assigned is called as **scaling**.

- There are four levels of measurement scales or methods of assigning numbers
- **Nominal scale,**
- **Ordinal scale,**
- **Interval scale,**
- **Ratio scale**

Scales are used frequently in **research** because they help to convert qualitative (thoughts, feelings, opinions) information into quantitative data,numbers that can be statistically analyzed.

NOMINAL

- A **nominal scale** is a **scale** (of measurement) that uses labels to classify cases (measurements) into classes or categories. Some **examples** of variables that use **nominal scales** would be religious affiliation, sex, the city where you live, etc.

- **Examples**:

- **Gender**: Male, Female, Other.

- **Hair Color**: Brown, Black, Blonde, Red, Other.

- **Type of living accommodation**: House, Apartment, Trailer, Other.

- **Genotype**: Bb, bb, BB, bB.

- **Religious preference**: Buddhist, Mormon, Muslim, Jewish, Christian, Other.

ORDINAL

* "Ordinal" indicates "order". Ordinal data is <u>quantitative data</u> which have naturally occurring orders and the difference between is unknown. It can be named, grouped and also ranked.
* **Examples:**
* **High school class ranking**: 1st, 9th, 87th...
* **Socioeconomic status**: poor, middle class, rich.
* The <u>Likert Scale</u>: strongly disagree, disagree, neutral, agree, strongly agree.
* **Level of Agreement**: yes, maybe, no.
* **Time of Day:** dawn, morning, noon, afternoon, evening, night.
* **Political Orientation:** left, center, right.
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INTERVAL

* An **interval scale** is one where there is order and the difference between two values is meaningful.

* **Examples:**

* Celsius Temperature.

* Fahrenheit Temperature.

* IQ (intelligence scale).

* SAT scores.

* Time on a clock with hands.

* pH, SAT score (200-800), credit score (300-850).

RATIO

* *Ratio: exactly the same as the interval scale except that the zero on the scale means:* does not exist. *For example, a weight of zero doesn't exist; an age of zero doesn't exist. On the other hand, temperature is not a ratio scale, because zero exists (i.e. zero on the Celsius scale is just the freezing point; it doesn't mean that water ceases to exist).* **Examples**:
* Age.*
* Weight.
* Height.
* Sales Figures.
* Ruler measurements.
* Income earned in a week.
* Years of education.
* Number of children.

IMPORTANCE

- Scale is **important** simply because the magnitude of the problems faced in areas such as poverty reduction, the environment, gender issues and healthcare require solutions at scale. By their nature they are often cross-border or not focused solely on one location.

THANK YOU