Using Scale in Conducting Research
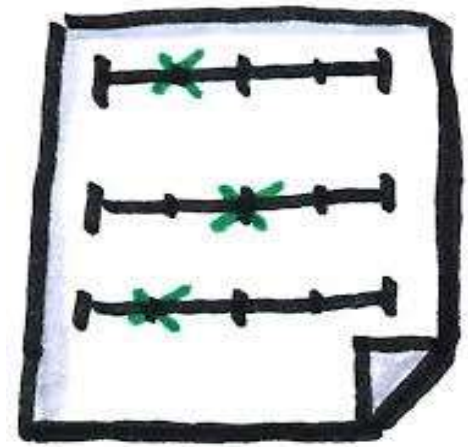
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Scaling is means of measurement that helps develop quantitative attribute for a qualitative construct.

Likert Scale

- Created by Rensis Likert.
- Method of rating in social science
- Commonly used in surveys.
- Each individual item is called Likert item.
- Each answer is given a score. The score is then added to obtain overall Likert score.

Example Of Using Likert Scale

Survey on awareness about road safety in Motihari

1. Helmet is must for riders of two wheelers

Strongly disagree (0)   Disagree (1)   Neither agree nor disagree(2)

Agree (3)

2. While driving a car seat belt is compulsory.

Strongly disagree (0)   Disagree (1)   Neither agree nor disagree(2)

Agree (3)

3. Stopping at zebra crossing or red light is important.

Strongly disagree (0)   Disagree (1)   Neither agree nor disagree(2)

Agree (3)

4. It is important to not speed drive

Strongly disagree (0)   Disagree (1)   Neither agree nor disagree(2)

Agree (3)

Each response has a score. Collective score can give an idea about awareness of an individual towards road safety.

Bogardus Social Distance Scale

- Created by Emory S. Bogardus.
- Social distance is defined as "the degree of sympathetic understanding that functions between person and person, between person and group, and between groups" (Bogardus 1959:7).
- It measures the readiness or acceptance of people towards others.
- It is unidimensional. It is often used to study linkage between social distance and prejudice, sense of closeness etc.
- It can be complimented with Likert scale.

Example of Using Bogardus Scale

Circle the number that best describes your response to these statements according to the following scale:

1=Strongly agree; 2=agree; 3=Neither agree or Disagree; 4=Disagree; 5=Strongly disagree

Statement	Scale
I would be willing to accept [group member] as a close relative by marriage	1 2 3 4 5
I would be willing to accept [group member] as a close personal friend	1 2 3 4 5
I would be willing to accept [group member] as a neighbor on the same street	1 2 3 4 5
I would be willing to accept [group member] as a coworker	1 2 3 4 5
I would be willing to accept [group member] as a citizen in my country	1 2 3 4 5
I would be willing to accept [group member] as a visitor in my country	1 2 3 4 5
I would not exclude [group member] from my country*	1 2 3 4 5

https://www.surveypractice.org/article/2770-improving-upon-bogardus-creating-a-more-sensitive-and-dynamic-social-distance-scale

Example of Using Bogardus Scale

- "I would be willing to accept [group member] as a close relative by marriage" is a Bogardus Statement indicating lowest level of social distance.

- It is ranked 1 in the original Bogardus scale. The Bogardus scale is from 1 to 7

- This 1 is then multiplied by the Likert score given by the respondent.

- a respondent who answers that she strongly agrees that she would accept members of a group as relatives by marriage would receive a score of 1 (1×1) for that item.

- Likewise, a scale can be created just using Bogardus scale or combining it with Likert scale and mean response can be calculated.

Thustone Scale

- It is used to produce an attitude scale.
- Developed by L.L. Thustone.
- It is used to measure respondents attitude on certain issue.
- The attitude towards particular problem is measured from least favorable to most favorable 1 being least favorable and 11 being most faorable.
- The research works out a range of questions on the topic concerned and asks the respondents to rank them from 1 to 11.
- Based on their response for each statement a median. Inter quartile range can be calculated.
- The participant can also be given list of agree disagree statement and average of agree or disagree can help us locate the position of attitude of participant.

Example of Using Thustone Scale

- Corona virus can affect us all.
- People with Corona virus positive should not be allowed in neighborhood.
- Corona Virus spreads through blood.
- Social distance is must as a safety measure.
- Washing of hands properly is just a hoax.

Now elaborate the list and rank them from 1 to 11 with 1 being least informed to 11 being most informed. Using the data collected attitude of people towards Corona Virus pandemic can be quantified and represented graphically.

Semantic Differential Scale

* Given by Charles E. Osgood.
* Various Dimensions of a particular variable can be measured using this scale.
* It helps in measuring the perception and attitude of respondents on multi-dimesional scale.
* The response collected can help develop proximity distance scale.
* Opposite pairs are combined at either end of scale.
* A five or seven point scale can be used.
* The respondent places his/her attitude, experience and the like in between these seven points.

Example of using Semantic Differential Scale

- Mark your response between these two opposite.
- Dominos Motihari is : Clean * * * * Dirty
- Food served by them is : Unhygenic * * * * hygenic
- Their Online delivery system is : Poor * * * * User friendly.
- The respondent has to mark between the two opposite.
- The Mean and median of response can be calculate. Profile analysis can be done.
- Useful in Market research.

Reference

- Bogardus, E.S, 1959. *Social Distance*. Los Angeles, CA: University of Southern California Press.

- https://www.sciencedirect.com/topics/computer-science/semantic-differential