

Likert Data

Likert scale data is a common type of ordinal data collected from surveys. It consists of responses to a statement or question that range between two extremes. Examples might include:

How happy are you with your internet provider?

1-very happy 2-fairly happy 3-neutral 4-fairly unhappy 5-very unhappy

Rate your agreement with the following statement: "I need to use the internet every day"

1—agree 2—neutral 3—disagree

The number of possible responses in the range is the number of points in the scale. So the first question above is answered on a 5-point Likert scale, whereas the ratings in the second example are on a 3-point Likert scale.

Opinions vary on the best way to design Likert type questions and analyse Likert type data. Some advise using a scale with few points, eg, 3-5 and analysing using ordinal logistic regression to study the proportions of responses at each level. Others advise using a scale with many points, >7 , and treating the data as quantitative rather than ordinal. In the limit, as the number of points in the scale increases, you move towards slider data, where respondents are asked to position a slider along an interval where the two ends represent the opposite extreme responses.

The difficulty with treating Likert data as quantitative is that even when there are many possible responses, the distribution of responses is not generally normal. Thus normal procedures tend to have low power to detect differences among groups. Ordinal logistic regression has higher power in general for Likert type data.

Additionally, when moving towards more possible points in your scale, you must consider how reliable the data collected will be. If the same person were asked to answer the question at several different times, would they always chose the same point on a scale with 20 values? Position the slider at the same point? Thus an additional advantage of fewer points in a Likert scale is that scales with 3-5 points tend to be more reliable, with more consistent answers from subjects when asked multiple times.

Overall, however, it is important to be aware of the conventions for analysis of Likert data in your discipline. Thus if you intend to use Likert data in your research, it is advisable to look through several papers from your area that analyse Likert type data and see how it is handled in those papers.