



Measuring attitudes: scales

This activity will help you to...

- Distinguish between qualitative and quantitative data
- Understand how scales can be used to measure attitudes
- Distinguish between and construct semantic differential scales and Likert scales
- Evaluate the use of scales to measure attitudes

Qualitative or quantitative data?

In their research, psychologists collect data. These data are the evidence against which psychological theories will be tested. But psychologists can do their research in many different ways and, consequently, data can take many different forms. Broadly speaking, however, all data fall into one of two categories:

- **Quantitative data** are numbers. They describe *quantities*. Quantitative data arise from questions like 'how much?', 'how far?', 'how often?', and 'how long for?'
- **Qualitative data** are non-numerical. They describe *qualities*. Qualitative data arise from attempts to describe things and are often verbal although they can take other forms (e.g. pictures).

Here are some studies we have looked at recently. Which researchers gathered qualitative data and which quantitative (N.B. some might have obtained both)?

- Asch (1951)
- Sherif (1935)
- Milgram (1963)
- Moscovici et al (1969)
- Cialdini et al (1975)

Why might a psychologist prefer quantitative data? Why qualitative? Which do you think would be better if we wanted to assess people's attitudes?

Quantitative measures of attitudes

Psychologists who want to produce quantitative data about people's attitudes often use attitude scales. These consist of a series of standardized questions (or **scale items**) the person (or **respondent**) answers, often by means of a pen and paper questionnaire. Each scale item gives a numerical result depending on how the respondent answers, and the results of all the scale items can be combined to produce an overall score that represents the person's attitude towards whatever the researcher is interested in.

There are several ways of creating scale items. Two that you need to know about are:

- **Semantic differential scales**
- **Likert scales**

Semantic differential scales

The semantic differential (Osgood et al, 1957) is a way of measuring a person's attitude towards something by getting them to rate it according to a series of bi-polar scales. For example, we could measure a student's attitude towards different teachers using a semantic differential scale like this:

| | | | | | | | | |
|-----------------|----|----|----|---|----|----|----|--------------------|
| Kind | +3 | +2 | +1 | 0 | -1 | -2 | -3 | Unkind |
| Helpful | +3 | +2 | +1 | 0 | -1 | -2 | -3 | Unhelpful |
| Patient | +3 | +2 | +1 | 0 | -1 | -2 | -3 | Impatient |
| Calm | +3 | +2 | +1 | 0 | -1 | -2 | -3 | Angry |
| Friendly | +3 | +2 | +1 | 0 | -1 | -2 | -3 | Threatening |

The respondent is asked to think about the attitude object (in this case the teacher) and rate it/them according to how well each adjective pair applies to them. A full semantic differential scale usually has 8-12 items on it and considerable care needs to be taken to ensure that the adjective pairs used will be understood by the respondent and relate to the attitude object in a meaningful way. According to Osgood et al (1957), attitudes break down into three distinct components and a semantic differential scale needs to measure all three. They are:

- **Evaluation** – whether the person thinks positively or negatively about the attitude object.
- **Potency** – how powerful the attitude object is perceived to be.
- **Activity** – whether the attitude object is seen as active or passive.

- In the above semantic differential scale, which items measure evaluation, potency and activity?

The scores for different sets of items (E, P & A) can be summed or averaged to give an overview of the respondent's attitude towards the object/person, or a person's responses can be displayed on a grid to give a 'profile' of their attitude that can be compared with others.

Likert Scales

Likert scales (Likert) require the respondent to state the extent to which they agree or disagree with a series of statements about the attitude object. Each response is given a score and the item scores are summed to produce an overall score that indicates the respondent's attitude. For example, a Likert scale for assessing attitudes towards different teachers might include:

| | | | | | |
|--|----------------|-------|-----------|----------|-------------------|
| This teacher is always helpful | Strongly agree | Agree | Undecided | Disagree | Strongly disagree |
| This teacher is often angry | Strongly agree | Agree | Undecided | Disagree | Strongly disagree |
| This teacher is always rushing me along | Strongly agree | Agree | Undecided | Disagree | Strongly disagree |

It is important that about half of the statements are worded positively and half negatively. The negatively worded statements should be scored in the opposite direction to the positive.

- Why might it be important to ensure that half of the attitude statements are negatively worded?

Design two scales for measuring students' attitudes towards the subjects they study. They should be suitable for application to any subject. Each should have four scale items (or more). One should be a semantic differential scale and the other a Likert scale.

- Which do you think would be more useful for understanding students' attitudes and why?
- What might be the relative advantages and disadvantages of using each type of scale in psychological research?