

3.4: Some Complexities

The previous classification scheme that we discussed is very useful in most variables that we would come across in psychological research. However, there are some variables that may not fit neatly into this classification scheme.

Let's take a classic example of a psychological measurement tool, the Likert scale. The Likert scale is the bread and butter of survey design. You've likely filled out hundreds (if not thousands) of these and may have even used one yourself. Consider a survey question like this:

Which of the following best describes your opinion of the statement 'pizzas are awesome'?

And then the options presented to the participant are these:

1. Strongly disagree
2. Disagree
3. Neither agree nor disagree
4. Agree
5. Strongly agree

This set of items is an example of a 5-point Likert scale, in which people are asked to choose among one of several (in this case, 5) clearly ordered possibilities, generally with a verbal descriptor given in each case. However, it's not necessary that all items are explicitly described. This is a perfectly good example of a 5-point Likert scale too:

1. Strongly disagree
- 2.
- 3.
- 4.
5. Strongly agree

Likert scales are handy but limited tools. The question is, what measurement are they? They're obviously discrete, since you can't give a response of 2.5. They're not nominal scale, since the items are ordered, and they're not ratio scale, since there's no natural zero.

But are they ordinal or interval scale? One argument is that we can't prove that the difference between "strongly agree" and "agree" is the same as the difference between "agree" and "neither agree nor disagree". In fact, it's pretty obvious in everyday life that they're not the same. This suggests that Likert scales should be treated as ordinal variables. On the other hand, most participants tend to take the "on a scale from 1 to 5" aspect seriously, acting as if the differences between the five response options are similar to one another. As a result, many researchers treat Likert scale data as interval scale. It's not interval scale but, in practice, it's close enough that it's often thought of as quasi-interval scale.

If you're interested in these kinds of debates, you can read the following commentary on this very important (ahem, nerdy) matter.
[\[1\]](#)

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1. Carifio, J., & Perla, R. (2008). Resolving the 50-year debate around using and misusing Likert scales. *Medical Education*, 42(12), 1150–1152. doi.org/10.1111/j.1365-2923.2008.03172.x ↩

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