

Different levels of measurement – and how they relate to “qualitative” and “quantitative”

A reminder: a **variable** is a concept that could have multiple values (words or numbers). For example, “satisfaction” is a variable. It has multiple possible values – satisfied, neutral, unsatisfied etc.

Variables are often defined at one of four levels: nominal, ordinal, interval or ratio. But lots of researchers group interval and ratio variables together, as they are pretty similar (the difference is very technical).

This leaves you with three categories, which are, broadly speaking, defined as follows:

1. **Nominal:** nominal variable’s values are words that tell you nothing about “degree” or “amount” and cannot be put in an order. For example, “colour” is a nominal variable. Its different values are things like “blue,” “black,” “yellow,” “green.” You can’t say “Is blue more than green?” It doesn’t make sense. You can’t *order* colours – there is no order to them.

In our research, this is often things like gender, ethnicity, religion etc. Often nominal variables are described as qualitative.

2. **Ordinal:** ordinal variables are the ones Mieke asked about (if I understood the question correctly!) These are variables whose values can be ORDERED but they still don’t tell you “how much.” For example, you know that someone who says they are “highly satisfied” is MORE satisfied than someone who says they are “marginally satisfied” but you don’t know HOW MUCH more. You can’t measure *how much more* from this information.

In our research they are often things like “strongly agree, agree, neutral, disagree, strongly disagree” or “highly satisfied, somewhat satisfied, neutral, somewhat dissatisfied, highly dissatisfied” etc They may also be things like “more progressive, somewhat progressive, less progressive” and so on. There is a bit of debate about whether these should be described as “qualitative” or “quantitative.” In my experience, most people say “qualitative” but they kind of fall in the middle.

3. **Interval and ratio variables:** these are variables that can be rank ordered and that also tell you HOW MUCH. So I can tell you that 37 years old is three years younger than 40 years old. I can tell you that 200 beneficiaries is 100% more than 100 beneficiaries. These are measurable amounts. Just like ordinal variables, these fall on a scale, but unlike with ordinal variables, the distance between the values on the scale is measurable. These variables tell you about amounts.

In our research they are often things like numbers of people, percentage of income increase, acres farmed, number of companies adopting an innovation, proportion of logframe targets met etc etc. These are quantitative indicators.

YOU DO NOT NEED TO KNOW these definitions to do good qualitative research. They are more often used in statistics. The only reason I brought them up is because we were having a discussion about how messy the qualitative/quantitative definitions are.

The problem with my rule of thumb for defining qual/quant data, is that you can actually do quantitative analysis (like stats) on qualitative data, just as you can do qualitative analysis on quantitative data (though less commonly). So really, there is no “qualitative” and “quantitative” research – it’s more of a matrix like this:

Analysis	Data	
	Qualitative	Quantitative
Qualitative	a) Interpretive text studies. Hermeneutics, Grounded Theory	b) Search for and presentation of meaning in results of quantitative processing
Quantitative	c) Turning words into numbers. Classic Content Analysis, Word Counts, Free Lists, Pile Sorts, etc.	d) Statistical and mathematical analysis of numeric data

FIGURE 15.1.

Qualitative-quantitative data analysis.

SOURCE: H. R. Bernard. 1996. “Qualitative Data, Quantitative Analysis.” *Cultural Anthropology Methods Journal*, Vol. 8, pp. 9–11. Sage Publications. Used by permission.

Usually, when I talk about qualitative research, I’m talking about doing **qualitative analysis** of **qualitative information** (i.e. information about nominal variables). But, don’t worry too much about these definitions. The objective for this course is to understand that:

1. It is important to collect information about qualitative (nominal and ordinal) variables AS WELL AS about quantitative (interval and ratio) variables.
2. It is important to know how to do qualitative data analysis.

I like this youtube video for explaining nominal, ordinal and interval/ratio. Start at 1:00 minute in and stop at 3:23 minutes: <https://youtu.be/hZxznfnt5v8>