

Measurement

by Sophia Tutorial



WHAT'S COVERED

This tutorial will cover the topic of measurement, through the definition and discussion of:

1. Concepts
2. Variables
3. Reliability and Validity

1. CONCEPTS

A lot of things happen in the social world--there are a lot of people acting, a lot of categories that various people fall into, etc., that comprise broader structures and institutions.

Measurement, which is focusing in on these things happening in the social world, is an important part of the research process. You break down broad happenings into variables and **concepts**, and measure those specific variables and concepts, so that you can learn something about what happens in the social world around you.

A concept--specifically the sociological concept--is something that sociologists use to understand the world. It's a simplified, working representation.

IN CONTEXT

Class is a very complex thing with much debate about how to define it. Some people think class can be defined by occupation--whether you're, for instance, a lawyer or a mechanic. Other people think class can be defined by an income level. Still, others think class can be defined by tastes and preferences, taking more of a consumption-side approach to defining class.

Some sociologists will say that the concept isn't even relevant. Nonetheless, it's hard to argue that class is not something, however vaguely defined. Class, then, is a concept. What you do with sociological concept-making is attempt to represent complex reality in a simpler form that you can work with, think with and do research with.



TERM TO KNOW

Concept

A simplified, working representation of the social world; i.e. "class" or "family."

2. VARIABLES

Many concepts can become variables. **Variables** are characteristics, such as class or age, income level, education, marital status, etc. These characteristics--or variables--vary throughout the population as a whole and can change. Focusing on particular variables allows you to isolate them and analyze their influence, which is what you want to do in social research.

There are two kinds of variables: independent variables and dependent variables. Sociologists are often interested in the relationship between them.

- The **independent variable** can be thought of as the cause. It's the driving force, the part that changes, or changes to produce an outcome in the dependent variable.
- The **dependent variable**, then, is the effect. It's the outcome effected by the movement in the independent variable; it is dependent on it.

IN CONTEXT

Here is an example that ties a concept to variables, and shows how we measure those to produce validity.

Suppose you want to know how class transfers from parents to children.

- If you're born into the upper class, will you stay there?
- Or likewise, if you're born into the lower class, will you stay there?
- What chances do you have for advancement?
- How likely is it that you will advance?

The class you're born into, then, is the independent variable, and the class you achieve in adult life is the dependent variable. You have the concept of class, and you have your variables.

Before you begin the process of measuring class, an abstract concept, you need to decide how you're going to measure it. Should you measure it by income level? Occupation, i.e., lawyer or mechanic? Cultural factors, tastes and preferences, such as whether you like to consume certain foods, or do certain cultural activities? Some people define class this way, and these are all issues which come up with respect to **measurement**, or the process of determining how to value a variable.

In this example, suppose that you choose income level as the best way to measure the concept of class and operationalize it. Therefore, you make income level your variable. The income level of your parents, then, is your independent variable, and the income level that you achieve in adult life is the dependent variable.



TERMS TO KNOW

Variable

A characteristic such as age, class, income, education, etc., that varies throughout the population as a whole.

Independent Variable

The "cause" driving the change in the dependent variable.

Dependent Variable

The "effect" or the outcome of the change in the independent variable.

Measurement

The process of determining the value of a variable.

3. RELIABILITY AND VALIDITY

Once you've established your variables, you need to make sure you focus on what sociologists call **reliability**, which is consistency in the measurement of variables.

➦ **EXAMPLE** What if you measured some people's class by their occupation and other people's by their consumption patterns? These are all legitimate ways to measure class, but jumping around would not be consistent or reliable.

The final issue in measurement is **validity**, which is actually measuring what you set out to capture.

IN CONTEXT

In the example above, what if you find that income level isn't actually the best way to measure class. You have a lawyer and a mechanic. The mechanic owns his own mechanic shop, and as the owner, he actively works on cars. He's a mechanic--an occupation not typically seen as prestigious--but he makes \$100,000 a year. On the other hand, you have a criminal defense attorney who earns \$60,000 a year--less than the mechanic.

You can see how class lines are blurred in this scenario. The old way to define class in terms of occupation-- a lawyer being seen a more prestigious, socially honorable position--doesn't necessarily equate to more income. You might say that income is not the best way to measure class, and your study, then, would not be a valid representation of the concept of class operating within American society.



TERMS TO KNOW

Reliability

Consistency in the valuation of a variable.

Validity

Actually measuring the data that you set out to capture.



SUMMARY

Today you learned about sociological **concepts** and **variables** (dependent and independent). You also learned about measurement of these constants and variables, as well as the ideas of **reliability** and **validity**.

Source: This work is adapted from Sophia author Zach Lamb.



TERMS TO KNOW

Concept

A simplified, working representation of the social world; i.e. "class" or "family."

Dependent Variable

The "effect" or the outcome of the change in the independent variable.

Independent Variable

The "cause" driving the change in the dependent variable.

Measurement

The process of determining the value of a variable.

Reliability

Consistency in the valuation of a variable.

Validity

Actually measuring the data the you set out to capture.

Variable

A characteristic such as age, class, income, education, ect.. that varies throughout the population as a whole.