

DESIGNING STUDIES

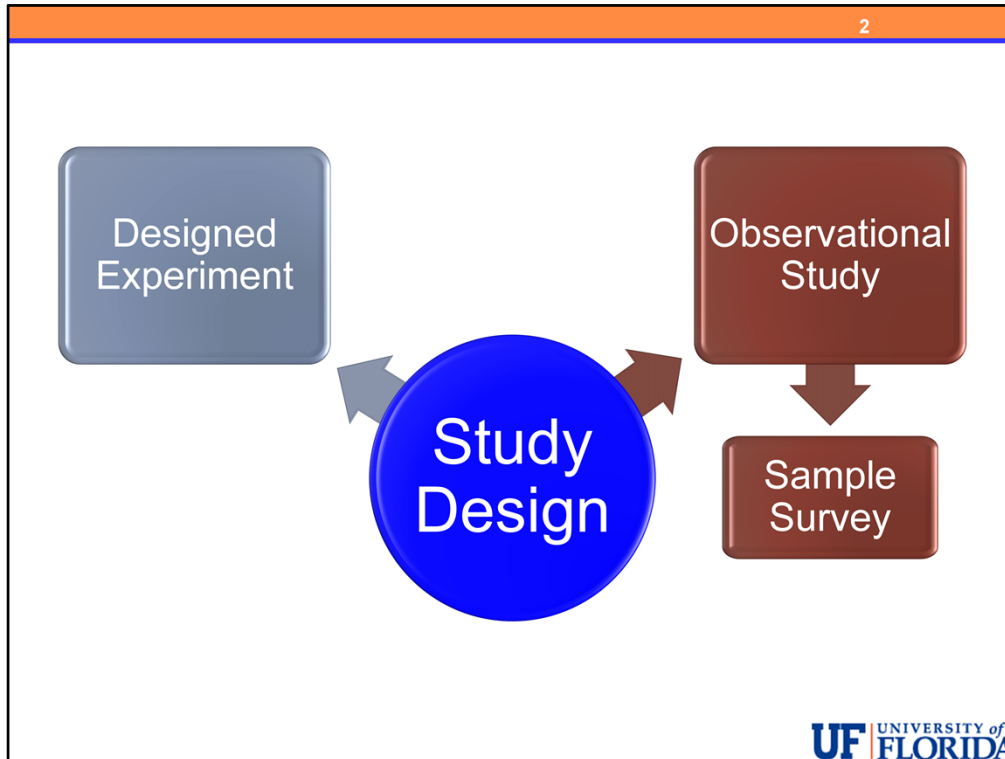
Unit 2: Producing Data



After we have determined our sample, we still must collect data on the individuals in our sample.

How the data are produced from our sample depends upon the study design.

In this section we will discuss the primary types of study design and their strengths and limitations.



The two main types of study designs are

Designed experiments – in which the researcher randomly assigns individuals a value of the explanatory variable – the researcher takes control of the values of the explanatory variable in order to see how changes in this variable affect the response variable.

And

Observational studies – in which the values of the variables of interest are recorded as they naturally occur. There is no interference by the researcher who conducts the study.

Sample surveys are special cases of observational studies in which the individuals self-report the values of the variables of interest.



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As you review the discussion and examples in this section, remember that in designed experiments, the researcher decides – through randomization – which study participants will receive which value of the explanatory variable – this is often a treatment or intervention of some kind.

In observational studies, the values of all variables occur naturally and we simply observe their values. Data may be collected by the researcher or self-reported in a survey by the individuals in the sample.