

Design, Sampling, Validity & Explanatory Power

Design Group	Relationship to Theory	Sampling Approach	Internal Validity	External Validity	Explanatory Power
Experiments and Quasi-Experiments	Theory testing	Rule-based. Rules are established to reduce variance in non-experimental factors or variables. Sometimes called screening.	Strong internal validity because of sampling approach and because study subjects are subjected to an intervention or treatment.	Rests primarily on theoretical generalizability, but exhibits statistical generalizability with regard to those members of the theoretical population who meet the screening criteria that were used. Results cannot be generalized to test subjects who did not meet the screening criteria used in sample selection.	Poor explanatory power because the design requires eliminating many non-experimental variables.
Cross-Sectional & Longitudinal	Theory testing or theory building	Relies on a statistically representative sample of the theoretical population.	Moderate to weak. Usually relies on correlation to indicate causality. Causality is implied, not demonstrated.	Rests on statistical generalizability. External validity is high if the sample was truly statistically representative of the theoretical population. Any sampling bias will greatly reduce external validity.	Moderate explanatory power because a fairly large number of variables can be included.
Case Studies	Theory building	Cases are always selected based on the outcome or dependent variable . Often, but not always, relies on purposive sampling. Cases are often selected to maximize explanatory power.	Moderate to strong internal validity because the cases are used to identify variables and the linkages between them. Internal validity is highly related to the adequacy of case selection.	Rests on theoretical generalizability. While statistical tests can be performed, the results cannot be generalized beyond the sample. However, theoretical generalization is usually high if case selection was based on adequate <i>a priori</i> criteria.	Strong explanatory power because the number of variables that can be included and the number of relationships that can be examined are both high.

