

Campbell and Stanley Research Design Summary

Threats To Validity

Internal Validity: Did the treatment make a difference in this instance?

1. History: the specific events occurring between the first and second measurement which will have an impact on the outcome in addition to the experimental variable.
2. Maturation: processes within the respondents operating over time not specific to the particular events, such as growing older, getting tired, hungry, etc.
3. Testing: the effects of responding to the first test upon the scores of the second test (learning, sensitization).
4. Instrumentation: changes in the measuring instrument or changes in the observers or scorers used may produce changes in the measurements.
5. Statistical Regression:
the movement of post test scores toward the mean, independent of any treatment effect. Operates where groups have been selected on the basis of their extreme scores.
6. Selection: biases resulting from the non-random selection of cases into treatment and control groups.
7. Experimental Mortality:
the loss of cases from either the experimental or the control groups for reasons connected to the variables under study.
8. Interaction Effects:
selection - maturation, etc. Interactions may produce effects which may be mistaken for the effect of the treatment variable.

External Validity: Generalizability to other similar situations.

9. Reactive or Interaction Effects of Testing:
the sensitization effects of pre-testing which may cause the results obtained from the treatment groups to be different from what would have been obtained. (See Hawthorne Effect.)
10. Interaction of Selection and Treatment:
the results observed in the treatment group are due in part to selection biases.
11. Reactive Effects of Experimental Arrangements:
the experimental environment is so different from the real world that generalization is not possible.
12. Multiple Treatment Interference:
occurs when multiple treatments are applied to the same cases. The effects of prior treatments are usually not erasable.