

## Quasi-Experimental Design Exercise

Define the theoretical and accessible population for the problem assigned to you. Explain how you would go about constructing a sampling frame and how you would select the sample and how individuals will be assigned to treatment and control groups. Describe the design that you would use, including the treatments that you would implement and the control that you would use. Define (not necessarily in detail) the independent and dependent variables you will use in your study. Describe the pre and post measures that you will use. Explain why it would be difficult (or unethical or not recommendable) to try to use a true experiment instead of a quasi-experiment to answer the question. Discuss the weaknesses in your design.

### Problem 1

Your objective is to compare the efficacy of the peer court system and the traditional juvenile court system in preventing recidivism among youth who commit crimes. You have the cooperation of the appropriate Dade county authorities, where a peer court system is currently being implemented. The Dade County authorities determine which offenders are assigned to the traditional system versus the peer system, based on, among other things, the seriousness of the offense and the history of the individual. Peer court is open only to youth without previous offenses and only to youth who commit misdemeanors. The peer court process involves a community service element. The traditional system uses a variety of punitive measures, ranging from incarceration to community service. You will evaluate recidivism at 6, 12 and 18 months after completion of the sentence. Design a quasi-experiment to answer this question.

### Problem 2

How can we get Americans to reduce energy consumption in the home? Many ways of getting Americans to reduce energy use in the home have been suggested. Some say consumer education is the answer. Others argue that people really pay attention to the pocket book and suggest that incentives like one-time payments for installing insulation or a several year discount on energy bills for installing energy efficient air-conditioners is the answer. You have a grant with a large budget that will extend over the next five years. You will conduct your study in Pinellas County where you have the complete collaboration of the local utility company (TECO). Your objective is to determine which of the different approaches works best. (Hint: don't forget a control!) Design a quasi-experiment to answer this question.

### Problem 3

Selva Verde is a research station in Brazil. It is situated in one of the largest remaining patches of tropical rainforest. Once visited almost exclusively by researchers, improved access has made the station a tourist attraction as well, primarily for nature or eco-tourists. To reduce the demand on the time of station staff, enhance the economic impact of the station on the local community, and increase the value of the intact rainforest to local inhabitants, the station has trained 12 tour guides. These are local people. They have been given instruction about the biology and ecology of the rainforest and taught to find and identify organisms of interest to eco-tourists, such as birds. Tourists to the station may elect for one of three options: (1) a self-guided tour (map and some limited written material) at a cost of \$5; (2) a two-hour guided tour at a cost of \$15 and (3) a half-day (about 4.5 hours) guided tour that includes a canoe trip at a cost of \$25. You want to know whether the three different experiences differ in terms of how they affect tourists' knowledge about and appreciation of the tropical rainforest. Design a quasi-experiment to answer this question.

**Problem 4**

Adolescent obesity is a serious and growing problem in the United States. You have a large grant to conduct an experiment to determine whether participation in a peer group involved in a planned weight reduction program that includes nutrition education, weight monitoring and regular exercise would be an effective to reduce obesity among adolescents. The grant provides funding for three years. You have the collaboration of Shands Hospital for this study. Shands runs a clinic for obese adolescents. The patients in the clinic are referred to the clinic when obesity is diagnosed as putting the youth at immediate risk of serious health problems (e.g., diabetes, cardio-vascular illness, etc.). The youth currently receive nutrition education and staff at the clinic work individually with youth to try to improve diet and increase exercise. The existing program runs for six weeks and participation is voluntary, based on permission of the youth's parents. Design a quasi-experiment to determine which approach works best. Hint: Don't forget the persistent versus short-term effect issue.