Sample Studies for Discussion of Internal Validity*

1. To study the effects of a new reading program, all children in a classroom are given a reading test at the beginning of the term, and then the program is initiated for everyone. Six months later the children are retested, and it is found that their reading scores have risen markedly. Can this improvement be attributed to the reading program?

2. An investigator pursues the question of the effects of psychotherapy upon bizarre behavior by administering the therapy in one mental hospital ward and comparing it with a "control" ward, perhaps supervised by different personnel. When the experimenter compares the frequency of bizarre behavior of these two groups, she will want to attribute any differences between them to the presence or absence of therapy. Can she draw this inference with confidence?

3. Suppose that an investigator wished to explore the influence of a treatment for reducing smoking. He forms two groups that are approximately equal in the number of cigarettes per day that they smoke. One of these groups is given the treatment, and the other (control) group is not. During the experiment many subjects drop out of the experimental (treatment) group but few drop out of the control group. At the end of the experiment it is found that the experimental group smokes fewer cigarettes, on the average, than the control. Can the difference between the experimental and control groups in their frequency of smoking be attributed confidently to the presence or absence of the treatment?

4. A researcher wishes to test the effect of Ritalin (a drug) on hyperactive behavior in children. She asks doctors to recommend subjects for her experiment. She then asks the children's parents for permission to use the children in her study. She carefully observes all subjects and records their hyperactive behavior (according to her good operational definition). She then gives them the drug for one year and again records their behavior. The children's hyperactive behavior is significantly less than it was at the beginning of the study.

5. A YMCA official in a small town wanted some evidence to prove that his program was valuable in training future leaders. He went back to the membership records and got the names of those boys who were active members in his program 20 years ago. He also took school records and got the names of boys who were not YMCA members. He compared the two groups as to their occupations, salaries, etc., at the present and found that the YMCA group was doing much better. He concluded that this result was due to the influence of his program.

6. A group of 2nd graders are given reading tests, and the lowest scorers are selected for participation in a special remedial reading program. Six months later they are retested and their reading speed and comprehension scores show improvement. Can this improvement be attributed to the special program?

7. A social psychologist is interested in finding out whether exposure to violence on TV leads to subsequent violent behavior in young children. To determine this he sets up, in a kindergarten class, an experimental group and a control group, allowing the children to
choose the group to which they want to belong. After three weeks of showing violent episodes on closed circuit television each day to the experimental but only educational programs to the control group, the experimenter is able to determine that the children in the experimental group are more prone to commit acts of violence than those in the control group. Can she conclude that exposure to violence on television leads to subsequent violent behavior?

*Adapted from Neale and Liebert, Science and Behavior.