

PLANNING AND CONDUCTING EXPERIMENTS

Types of Experiments

- **Lab experiment - Takes place in an environment expressly designed for research**
- **Field experiment - Conducted in a natural setting, where the behavior of interest might occur naturally.**

NOTE: It is often more a matter of degree than just being one or the other.

- **Kitty Genovese incident inspired both a lab and a field experiment.**

In 1964, Kitty Genovese was knifed to death in the parking lot of her apt. building in New York City. While this is quite shocking, it is hardly uncommon. The case drew national attention when it was revealed that 38 people had witnessed the murder (which took 35 minutes), yet none had aided the victim or called the police.

The incident inspired a lot of talk about the deterioration of modern society, but it also led to a great deal of research on prosocial behavior - what is it that makes people helpful, sharing, charitable, and generous to others?

One of the ideas that came to be advanced was that, before individuals will act, they first have to take personal responsibility - that is, they have to feel that it is their duty to intervene.

Latane and Darley theorized that the knowledge that others have witnessed an event inhibits the taking of personal responsibility; that is, there is a diffusion of responsibility when there are multiple witnesses to an act, and as a result, any one individual is less likely to take action. This happens because everyone thinks someone else will do something, and if you don't do anything, you know that you won't be the only one who gets blamed. In the Kitty Genovese case, neighbors could see each other, but they couldn't know whether anyone else had called the police for help.

**• A lab study was done by Latane and Darley
("Epileptic seizure" experiment)**

To test their hypothesis, Latane and Darley conducted a laboratory experiment.

1. Students were asked to participate in a discussion about personal problems associated with college life.
2. Each student was taken into a room with a microphone. The experimenter told the students that, in order to avoid embarrassment, all discussants would remain anonymous; further, the experimenter would not listen to their discussion, but would get their reactions afterward via questionnaire.
3. Now, of course, since the experimenter wouldn't be there, there had to be some kind of organization; so, students were told that each discussants microphone would remain on for a period of 2 minutes, and all other microphones would be off during that time.
4. Unfortunately, while one of the discussants was speaking, he suddenly went into an epileptic seizure. Further, since his was the only live mike, there was no way of knowing whether anyone else was doing anything to help him. Fortunately, the epileptic fit was a fake; in fact, it was tape-recorded, as were all the speeches of the other members of the discussion "group."
5. Darley and Latane wanted to see whether, and how fast, students would go out to seek help, and they wanted to see whether this would vary with the size of the group. Some students were told that only they and the epileptic were in the group, others thought that it was a three person group, and still others believed that there were six members to the group.
6. They found that, when subjects thought they alone knew of the victims plight, every one of them eventually went for help. However, when subjects thought there were 6 people in the group, only 62% ever went for help, and they did so much less quickly than those in the 2 person groups.
7. They therefore concluded that situational factors (in this case, the number of other observers) could affect the likelihood of an individual giving help.

- **A field study was done by Piliavin (The “subway” experiment)**

Piliavin, Rodin, and Piliavin were also interested in helping behavior. They thought that one potential problem with Latane and Darley's work was that the emergency was only heard, and not seen. They thought that, if visual cues were also available, the emergency would seem more real, especially if it was obvious that the victim was not being helped. They also thought that willingness to help might be affected by characteristics of the victim.

1. To test their hypothesis, they conducted a field experiment using the New York Subway system.
2. Investigators boarded a train that made a 7.5 minute trip. One investigator served as the "victim", while the others would record data as unobtrusively as possible for the duration of the ride. This data included the number of people who were in the train.
3. The "victims" always wore the same clothes, but on some trials, they would appear to be drunk, while on other trials they would appear sober but be carrying a black cane. About 70 seconds into the trip the "victim" would stagger forward and collapse.
4. The dependent variables were the number of observers who came to the victim's aid, and how quickly they did so.
5. They found that drunk victims did not receive help as much help or as quick help as the victims carrying canes. However, there was no evidence for a diffusion of responsibility effect - the number of witnesses to the collapse did not affect helping. They therefore concluded that, when individuals can actually see the emergency (instead of just hearing) and know whether or not help is being given, there is no diffusion of responsibility effect; or, if there is such an effect, it is outweighed by the additional number of observers that can take action (that is, any one individual may be less likely to take action, but since there are more witnesses it is more likely that at least one of them will do something).

So, comparing these two studies:

1. Latane and Darley had a great deal of control in their laboratory experiment; however, they also had a very artificial setting. About 30% of the subjects indicated afterwards that they thought the seizure was some sort of fake.
2. The Piliavin study was in a more natural setting, and subjects were totally unaware that the collapse was a fake. However, they had a great deal of difficulty maintaining full control over the situation. They had nothing analogous to there being a solo witness to the accident. The mere fact that some of the investigators just sat there during the emergency (recording data, which of course others did not know) may have created a role model for others to not take action. The "victims" were supposed to alternate between being drunk and carrying canes - however, one of the "victims" didn't like being a drunk, so he always carried a cane. Finally, the whole study had to be cut short because of the Columbia student strike.

Lab Vs. Field

- **Lab experiments tend to be high in internal validity, lower in external validity**
- **Field experiments tend to be high in external validity, lower in internal validity**

1. Lab experiments tend to score very highly in terms of internal validity; because researchers have a great deal of control over the situation, it is easier to determine whether a treatment produced the observed effect.
2. Lab experiments tend to have problems with external validity though. Samples are often not very representative of the general population - subjects are almost always volunteers (although they do not necessarily realize what they have volunteered for), often they are chosen more because of their convenience than their representativeness (e.g. college students), they generally know some kind of experiment is going on.
3. In addition, lab settings are frequently somewhat artificial - for example, how likely do you think it is you will be in a room with a dead microphone listening to someone have an epileptic seizure? When was the last time you could give electric shocks to somebody you didn't like?
4. Field experiments, on the other hand, tend to have a greater diversity in their samples. They are generally not limited to volunteers or to college sophomores, subjects do not realize that they are part of an experiment.
5. On the other hand, in a field experiment you have far less control. You can't randomly assign subjects to crowded and uncrowded buses. Procedures may not get carried out like they are supposed to be, more things can go wrong.
6. Your measures can still be somewhat artificial - when was the last time you saw a drunk fall down in the subway? So, field experiments tend to be stronger in external validity but weaker in internal validity.

CONDUCTING LAB EXPERIMENTS

**The first step in a laboratory experiment is to set the stage.
The setting must make sense to people**

Stage 1: Setting the Stage

- **Frequently, experiments will involve deception**
- **Must offer a sensible, internally consistent rationale for the research**
- **This false rationale is often referred to as a cover story.**

A good cover story:

Embraces all the necessary aspects of the experiment in a plausible manner

Eliminates speculation about what the experimenter has in mind.

Makes the collection of data flow naturally.

Examples:

Milgram Obedience studies - Supposedly, these were “learning” experiments. The real purpose was to see what affected obedience to authority.

Latane and Darley - Students were asked to participate in a discussion about problems with college life. True purpose was to see how group size affected helping behavior.

Stage 2: Manipulating the IVs

- **Ideally, the experimenter should have complete control over the IVs**
- **The treatment could involve some set of instructions to the subject. And/Or, it could involve some event.**

Characteristics which subjects bring to the experiment should not be regarded as IVs in a true experiment.

Example: subjects might rate photographs with regards to how honest and how hardworking they think the person is. We could see how the ratings varied with attractiveness. Or, we could see how subject evaluations of work varied by the gender of the author.

It would be silly to have a person fall down once with a cane, and then fall down again in front of the same people while acting drunk (e.g. Piliavin Subway experiment)

Instructions: * Tell people that the next thing they are about to read will be either easy or difficult
* Tell them that some student is bright or normal
* Tell them some author is male or female.

Events. In an event manipulation, something happens to the subject. They might be asked to perform some sort of activity. Or, different things could happen to them. EX: Johnson had students engage in different levels of activity in a Billy Graham meeting. EX: In the Piliavin study, subjects saw either a drunk or a man with a cane fall down. EX: Haney et al had subjects act as either prisoners or guards.

Stage 3: Measuring the DV

- **You can rely on subjective self-reports.**
- **Or, you can rely on observations of behavior.**
- **Put another way, you can look at what subjects say, or look at what they do.**

You can rely on subjective self-reports. Ask people about how liberal they are.

Or, you can rely on observations of behavior. Does a subject act prejudiced in a particular situation?

Stage 4: Postexperimental Followup - 4 Goals

- **Insure that subjects are in a good and healthy frame of mind**
- **Be certain subjects understand the experimental procedures and the hypotheses**
- **Use the subject as a consultant - were instructions clear, did IVs produce desired effect?**
- **Followup is particularly important if deception has been used.**

Was the deception effective, or were subjects suspicious?

The need for deception must be made clear. Don't make them feel stupid!

FIELD EXPERIMENTS

**SOME KEY DIFFERENCES
FROM LAB STUDIES**

Field Experiments: Setting the Stage

- **It is much more difficult to control all aspects of the setting in a field study.**
- **On the other hand, subjects generally have no reason for being suspicious; they generally don't even realize an experiment is going on.**

Field Experiments: Manipulating the IVs

- **You usually can't randomly assign subjects. It is therefore often more difficult to control for all other relevant variables. But, you can do some things.**
- **It can be more difficult in a field study to check whether the experimental treatment produced the desired internal states**

Researchers can, however, introduce systematic variation into existing conditions (e.g. Piliavin study).

Other times, the researcher does not manipulate the stimulus conditions; instead s/he selects among naturally occurring stimulus conditions

In some instances naturally occurring events will be distributed in a haphazard manner - "natural randomization".

Field Experiments: Measuring the DV

- **You can still ask people questions, or see how they behave.**
- **However, you don't want your measurement to be excessively intrusive or to destroy the natural flow of events.**
- **Therefore, you might want to try for more unobtrusive measures**

Example: filling out a questionnaire at a football game is somewhat unnatural. Filling out a questionnaire in the Piliavin study would be weird.

Instead, you might film what people do, have unnoticed observers record their actions.

Field Experiments: Postexperimental Followup

- **Usually, subjects are not even aware an experiment is going on. Often they never find out.**
- **Opportunity for corrective feedback is greatly reduced.**
- **Researcher has to be far more careful about not doing harm to the subject.**