

Collecting Data in the Field

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March 2014 Student Notebook Announcements

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- The APSSC *Undergraduate Update*, a biannual online publication intended for undergraduate student affiliates, is in need of students interested in writing articles about the following topics: creating and presenting research posters at conferences, the “dos and don’ts” of writing graduate school application essays, living on a graduate student stipend, and other topics relevant to students. Visit www.psychologicalscience.org/r/undergraduate_update or contact Jessica Schubert at apssc.undergrad@psychologicalscience.org.
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- The *Student Notebook* is seeking advanced graduate students to contribute articles on the following topics: (1) developing a programmatic line of research and (2) establishing a research lab. For more information or to submit an article, contact the Student Notebook editor, Allison L. Skinner, at apssc.sneditor@psychologicalscience.org.

While psychology was once a bastion of laboratory research, many areas within psychology are moving to embrace data collection in the real world. For example, industrial/organizational (I/O) psychologists work with marketing firms to gather real-time information about consumers’ attitudes toward their products. Educational psychologists evaluate the efficacy of new programs in the classroom.

In other disciplines, field research has long been a staple; the icon of the archaeologist or the paleontologist invariably appears in a dusty field or muddy pit, extracting bones or bits of old pottery. While lab research does have the advantage of experimenter control, field research provides the realism necessary for applying abstract psychological concepts to everyday life.

Collecting data in a lab is a useful skill to develop as a graduate student. In many disciplines within psychology, scientists utilize lab research to precisely manipulate variables and environments and to assist with replicability. However, scientists in more applied areas of psychology find it necessary to conduct research that has real-life application. For example, an I/O psychologist working with an organization to determine how employees handle promotion evaluations might be able to analyze the effects of the evaluations while fulfilling the needs of the client. Using an investigation of the psychological and physiological effects of promotion evaluations on employees, data collection procedures that can be applied include naturalistic observation, surveys, and biological and physiological measurements.

Prior to Data Collection. Depending on the type of data collection, it might be necessary to make a decision regarding whether to be a strict observer or a participant-observer. A strict observer would be completely removed from the situation, collecting physiological samples or survey measures, or making notes of behaviors and interactions. A participant-observer would make notes, and possibly take samples, but would also be included in participant activities.

It is important to outline the methodology for all aspects of data collection for the Institutional Review Board (IRB). Depending on the type and source of data, the IRB may have concerns regarding either the participants or the researchers. For example, if saliva samples are being collected, researchers must be properly shielded from potential disease transmission, and participants must be treated humanely and judiciously. Researchers must also take steps to ensure confidentiality, such as giving each participant a code name. Laying out the methodology also allows all researchers in the collection team to understand the objectives and means of collection beforehand, so that any questions or modifications can be addressed prior to collection. Many times, field data collection can be chaotic, so working through contingency methods with the team prior to collection is helpful. Also, assigning one team member to handle logistics will facilitate collection so that there is a central contact for obtaining new supplies and managing potential problems. Having a central operative to deal with logistics can reduce the workload of researchers collecting data and allow them to concentrate on their specific tasks.

As a failsafe, create a checklist of all materials and equipment that are necessary for data collection. If behavioral observations will be made, design a document for field notes so that observations are standardized across observers. If timing the presentation of materials is important, include spaces for time stamps. If biological samples are to be taken (e.g., saliva), plan how samples will be retrieved.

During participant recruitment, ensure that all potential participants are fully informed as to what will be required of them for data collection. If possible, establish tiers of participation, so that participants have the freedom to choose to fulfill some collections, but not others. For example, if total participation includes behavioral observations, survey measures, and biological samples, allow participants to choose which measures to contribute to.

Naturalistic Observation. Observation can be used to provide an outside perspective on how participants are acting and what emotions they may be expressing. In the example of the effects of employees' promotion evaluations, observing employees before and after interviews can bring context to the other measures collected. For example, noting that an employee displayed anxious behaviors prior to the interview would bring more meaning to physiological indicators of arousal (i.e., faster heart rate, increase in cortisol). Your research team may alternatively make observations at regularly timed intervals, such as once an hour or once a day. Observations made only before and after interviews will focus on the stress of the interview, while more regular intervals will highlight any changes over time. Researchers who are strict observers should make an effort to look as unobtrusive as possible. You might, for example, make short observations, leave the area to make hand-written notes or verbal notes into a voice recorder, then inconspicuously re-enter the area. If applicable, be sure to consult with a member of the organization for accurate descriptions of organizational procedures.

Survey Measures. For easy and straightforward administration, survey measures can be given online (e.g., via SurveyMonkey.com or a data collection application) or collated into individual participant packets. You should design the survey to be brief, which is particularly important for participants who

would also be working at their jobs throughout data collection. All measures should be clearly worded and numbered, and they should generally be as short as possible without sacrificing the research objective.

Biological Samples and/or Physiological Measurements. When collecting biological samples, make sure all researchers are observing appropriate safety protocol (e.g., gloves where necessary). It may be helpful to time stamp biological sample collection to assist in data analysis if samples will be analyzed to show changes over time. Each sample should also be labeled with the contributor's unique participant code name. For ease, it may be better to have the biological sample supplies (e.g., sponges, vials) grouped with other measures, such as surveys, to minimize the chance of losing data.

After Data Collection. If possible, send a "thank you" note to the site of collection or host organization after data collection. Maintaining a good rapport with the host organization can help facilitate future data collection there, or possibly create new contacts for other sources of data collection.

Collecting data in the field can be very different from collecting it in the lab. And although field research does have lower internal validity, the external validity provided by field data can be more helpful for answering certain research questions. Field research can increase the generalizability of the data due to its connection with real-life situations and can help to assess whether social programs, such as public health campaigns or literacy programs, are effective. Field research can also be helpful for confirming conclusions made from data obtained in lab experiments, which would also increase generalizability.

Another benefit to performing field research is the potential for application. To take our earlier example, if the research team is observing the effects of promotion evaluation in an organization, the team might make practical suggestions for improving the process of promotion interviews. Moreover, while field research can certainly stand on its own, including a field study among other lab studies in a research report can bolster research conclusions.

As psychology continues to expand, field research can help to apply findings to solve real-world problems, to test the external validity of lab research findings, and to investigate complex behaviors or social programs fit for study in the lab. æ

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