There has been an ongoing discussion in I-O psychology about the appropriateness of using convenience samples in research and the advantages and disadvantages of using crowd-sourcing to collect data (e.g., Landers & Behrend, 2015; Sackett & Larson, 1990). Landers and Behrend reviewed the arguments about convenience sampling and crowd-sourcing in research but the utility of such techniques in educational settings has not been thoroughly explored. Drawing on our experience teaching undergraduate organizational research methods classes, we suggest that convenience samples and crowd-sourced data are particularly valuable and useful for those teaching organizational research methods to undergraduate (and sometimes graduate) students.

A Focus on the Research Process

Teaching organizational research methods is extremely challenging in the best of circumstances. There are many abstract concepts and complex and varied skills to be taught and most undergraduate students have little experience with, or even awareness about, conducting research. For example, when asked to define “research,” many students likely hearken back to their days in high school, going on-line to look up what other people have written about some topic, and writing a report summarizing their findings. Informal polls in our undergraduate organizational research methods classes have revealed that most students think research is just that, reporting what others have found. Few considered the possibility that research was supposed to generate new knowledge and even fewer still had any idea how to go about doing so.

Given this lack of awareness and the challenges of teaching research methods to students with no background in the area, the focus of organizational research methods courses has to be on the basics of the research process. Although issues about generalizability and external validity are important and should certainly be covered in a research methods class, the main objectives of such courses are necessarily going to focus more on the fundamentals: literature reviews, hypotheses, research designs, and research in an organizational context. One of the primary techniques used to teach the basics of research is providing realistic, hands-on experiences. A common way to provide such experiences is to require students to design and execute their own independent research project. The main goal of such a project is not to obtain publishable and generalizable results, which are not likely, but rather to teach students the research process by having them actually do research.

Providing Clarity to Abstract Concepts

Most students’ first exposure to the research process is in an undergraduate
research methods course where they are faced with learning a large number of abstract concepts in a short period of time. Many of these concepts are second nature to seasoned researchers but new to students: topics such as sampling, reliability, validity, scales and indices, quasi-experimentation, and grounded theory among many others. Students often struggle with these concepts, and professors may struggle to find ways to explain them in a clear and effective manner. Providing students the opportunity to design a study and execute it can bring clarity to what were previously only abstract concepts. We have seen many “ah-ha” moments from students concerning such abstract concepts when they are defining their constructs of interest, developing measures, identifying samples, and analyzing data for their projects. These insights and realizations would not have occurred if not for having actually carried out the research. The type of sample or source of the data is not terribly germane.

Application of Statistical Knowledge

As Landers and Behrend (2015) noted, statistical concerns can arise when using convenience samples. However, in undergraduate research, the aim is not for the student to uncover the “truth” about the relationship between variables (though it is nice when they do) but rather to learn how to collect, manage, and analyze data. Though all of our students who take organizational research methods have taken a prerequisite statistics course, they often have forgotten most of what they learned because they never had the opportunity to apply their statistics knowledge. Collecting actual data from convenience samples provides students the opportunity to apply this knowledge, including how to deal with missing data, interpret significance and effect sizes, and the challenges of working with real data. Given this benefit, consideration of whether the results are generalizable or not is at best a secondary concern.

Exposure to the Messiness of Data Collection

Undergraduate organizational research methods textbooks (and even many graduate textbooks) often do not provide realistic previews of the challenges of data collection, skipping over many of the logistical difficulties inherent in conducting research. By designing a study and collecting data, students encounter and begin to understand the many difficulties of organizational research. They experience first hand the challenges of identifying the appropriate population, developing a sampling frame, and recruiting participants. After data collection, students have a dataset that they must clean and prepare for analysis, another step that is also often given short shrift in textbooks. When working with actual data, students learn how scores are developed, how recoding works, and how important data preparation and management skills are. To accomplish all this, students need data and whether they are convenient, crowdsourced, or otherwise does not really matter.

Realistic School/Job Preview

Providing undergraduates the opportunity to develop a study, collect data, and write
The results can provide a realistic preview of graduate school, research-intensive jobs, and organizations in general. We have seen cases where students did not know much about research but, given the opportunity to do it themselves, discovered they loved it and changed their educational and professional goals as a result. We have also seen cases where students thought they wanted to go to graduate school until they actually conducted research themselves, which helped them realize they did not enjoy or were not cut out for a research-oriented graduate program. When students have access to data, they gain the opportunity to experience first hand what research is like and to use that information to make a more informed career decision. Once again, the availability of data supersedes many of the worries about using convenience samples and crowdsourcing.

Potential Concerns

As previously mentioned, there are numerous benefits to using convenience samples that allow students to actually carry out a research project. Below, we review several of the concerns associated with such samples as discussed in Landers and Behrend (2015) and respond to them in terms of teaching organizational research methods. Each concern is followed by illustrative examples from actual student research projects.

Concern #1: Convenience samples do not represent the population of interest

Response: If the goal of the research is not generalizability but rather educating students about the research process, why does it matter if the data are nonrepresentative? Of course, this is stated with the caveat that student researchers are aware of and note in their reports that (a) the results are not generalizable because the sample is not representative and/or (b) the results can only be generalized to a population that is represented by the convenience sample obtained.

Example: A student is interested in investigating whether current organizational theories can be used to understand social movements like Occupy Wall Street and the Tea Party. The student collects data from a convenience sample of students who participated in OWS protests and interviews local Tea Party members found online. The student concludes that current theories do not fully explain these social movements. In the process, the student learns about the challenges of studying new organizational forms.

Concern #2: Convenience samples may not include variance on the variable of interest.

Response: If one of the objectives is to have the students conduct their own research, the emphasis needs to be on finding a sample that has some variance in it (so they at least find something) rather than finding the ideal sample with every appropriate variable and data distributions.

Example: A student wants to study whether individuals or groups of friends are more successful when starting high tech companies. An initial review of recent startups suggests that almost all were started by groups of friends so the sample is extended until there are an equal num-
ber founded by individuals. The student is still able to explore an area of interest to them even though an ideal, generalizable sample might have shown little variance in the main variable of interest.

**Concern #3: Convenience samples like college students, online panels, and crowdsourcing have numerous representativeness limitations.**

**Response:** As with concern #2, the learning objective is to help students learn the research process by designing a study, collecting data, running analyses, and reporting results. College students, online panels, and crowdsourcing all provide data that would otherwise be unavailable to student researchers. Access matters.

**Example:** One undergraduate wanted to study the effect of recruiting materials on prospective job applicants. By using Mechanical Turk, the student was able to gain access to hundreds of individuals in organizations in a matter of days rather than weeks or months. It is unlikely that an undergraduate would otherwise have access to thousands of willing organizational participants. Without a convenience sample, it would not have been possible to collect such data.

**Conclusion**

Convenience samples and crowd-sourced data provide access and availability of data, assist in demonstrating the challenges of data collection, and help students to learn and apply their analytical, statistical, and logistical research skills. By no means do we intend to minimize the importance of good and appropriate sampling and the criticality of external validity in organizational research. Nor are we arguing that these topics should not be included in a research methods class, although the complexities and intricacies are best saved for a graduate seminar when the students already have the basic grounding necessary. Professors should also emphasize the importance of good sampling and external validity. That said, those teaching organizational research methods should take advantage of all available resources to help students learn about the research process, its rewards, and its challenges. Convenience samples and crowd-sourced data can be a valuable and highly useful tool for doing so.

**Note**

1 All actual weekly topics in the lead author’s undergraduate organizational research methods class.

**References**
