

Handbook of Methods in Cultural Anthropology

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Handbook of Methods in Cultural Anthropology

Second Edition

EDITED BY

H. RUSSELL BERNARD AND CLARENCE C. GRAVLEE

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Social Survey Methods

WILLIAM W. DRESSLER AND KATHRYN S. OTHS

SOCIAL SURVEYS ARE WIDELY EMPLOYED IN THE SOCIAL AND PUBLIC HEALTH SCIENCES, being the research method of choice in much of sociology, political science, epidemiology, health education, communications, and public opinion polling, to name a few disciplines. Anthropology is associated primarily with long-term ethnographic research utilizing participant observation and key-informant interviewing as the methods of choice. Nevertheless, there are very good reasons for using social survey methods in anthropological fieldwork, and we want to underscore that phrase as the theme for this chapter. If the reader wants to study social survey methods per se, there is an enormous number of articles and texts from which to learn (e.g., Dillman 2007; Fink 1995, 2006; Nardi 2006; Salant and Dillman 1994). Our focus is somewhat different. We want to address the following question: How can social survey methods help enrich the results of anthropological fieldwork?

No doubt, there are many answers to this question, but at least three aims of anthropological research can clearly be enhanced by incorporating social survey methods.

First, ever since Sapir's (1938) reflections on a key informant's insistence that what the ethnographer heard from other informants was wrong, some anthropologists have argued that culture theory and related research methods must be able to account for and investigate systematic diversity within a society (Pelto and Pelto 1975). Intracultural diversity can be studied in a variety of ways, with one obvious way being to enumerate variability in beliefs and practices within a population using social survey research methods. The data from such efforts enable the ethnographer to specify the confidence with which descriptive statements about those beliefs and practices can be offered.

Second, there is a tradition within anthropology of generating hypotheses to explain beliefs and practices and to construct causal models. Inferential statistics provide a logic for evaluating the confidence with which one can assert that two (or more) phenomena are associated and hence may be causally linked in a system. Applying statistics requires collection of systematic quantitative data, and survey methods are one useful way of generating those data.

Third, survey research provides a sounder basis for generalizing about a population. Put differently, if a study's focus is a precise segment of intracultural diversity, survey research enables the ethnographer to locate that segment in the range of diversity.

Anthropologists were long ago at the forefront of calling for a qualitative-quantitative mix in ethnographic research (Pelto and Pelto 1975). Since then, there has been

considerable movement within all of the fields earlier cited in the direction of what is now called mixed methods research (Tashakkori and Teddlie 2003), in recognition that the goals of social science research are complex and cannot be achieved by relying solely on one way of knowing. Although there has been progress, this mix, however conceived, has not been as systematic as it might, or should, be. Our aim here is to help anthropologists think about adding social survey methods to the mix in ethnographic fieldwork in a more systematic way.

We are not proposing something totally new. As Bennett and Thaiss (1973) noted in their review of social survey methods, Malinowski (1922), in *Argonauts of the Western Pacific*, urged ethnographers to systematically survey their study communities—to document population size, age and sex distribution, household structure, and other basic sociodemographic variables. Systematic surveys of these and other types were a staple of British social anthropology, especially in Africa in the 1930s (Richards 1935). Fast-forward to the 1960s, with the gradual availability of high-speed computing and standard statistical analysis packages, and anthropologists began to add social survey methods to their fieldwork to test complex hypotheses (Edgerton 1971; Graves 1967). With the more recent advent of portable computing, the sophistication of the application of survey methods has only grown.

SOCIAL SURVEY METHODS: AN OVERVIEW

In the following sections, we first present a basic overview of the steps involved in doing social survey research. Second, we present some special issues involved in applying social survey methods in anthropological fieldwork and suggested resolutions to the problems involved.

Formulating Hypotheses

In some studies, the ultimate goal may be to carry out a survey that describes the distribution of several variables within a population. More likely, however, the ethnographer wants to test a hypothesis, which is a testable prediction about the relationship between two variables. More often, a set of hypotheses, rather than a single hypothesis, will be proposed describing part of a causal system. Hypotheses are statements that take the form “If A, then B; If not A then not B” at their core. For example, a statement like “As levels of social support increase, expressed depressive symptoms will decrease” is such a hypothesis. Another formula, perhaps more user friendly than the “If A then B” statement, is to name two variables (such as one defining at least two groups as values [e.g., variable = gender; groups: 1=female, 2=male] and the other the primary notion of interest [e.g., the age at which a child begins to help with household tasks]) and state the expected relationship between them (e.g., girls tend to assume duties younger than do boys).

The elements of a good hypothesis to include when building it are: (1) the population (e.g., Honduran mestizo peasants); (2) a one-sentence maximum length; (3) use of the plural form (e.g., “girls,” not “a girl”); (4) a completed comparison (e.g., make sure to add “than boys”); and (5) list the variables in the order they occur (e.g., girls → duties → age) (see Pyrczak and Bruce 2011). A directional hypothesis is preferable to one only predicting a difference. These building blocks result in a hypothesis: “Among

rural Honduran mestizo peasants, girls tend to assume household duties at a younger age than do boys.”

From a theoretical and logical point of view, our hypotheses are made up of independent (or predictor) and dependent (or outcome) variables. We speak in terms of theory and logic because, as we will see, actually distinguishing independent and dependent variables empirically can be difficult. We nevertheless conceptualize the relationships among variables in terms of causal antecedence (independent variables) and causal consequence (dependent variables).

Traditionally, in the philosophy of science, the logic of investigation is divided into a “context of discovery” and a “context of verification” (Rudner 1966). The former refers to the development of hypotheses and the latter to their testing. Hypotheses are derived from existing theory in part, but hypothesis formulation is also a dynamic and creative act and thus resists being systematized. Anthropology presents a somewhat specialized case, given that we carry out our research in such diverse social and cultural contexts. Hypotheses in anthropological fieldwork must be specified in terms of the particular society or community in which research is to be conducted.

Because of this, Dressler (1995) argued that a useful step in hypothesis formulation is “the ethnographic critique of theory.” By this, he meant the careful scrutiny of theories and hypotheses in light of realities observed in the local communities in which the hypotheses are to be evaluated. For example, the hypothesis given above linking social support and depressive symptoms could be derived from any number of mid-range anthropological, sociological, or psychological theories. For anthropologists, the term “social support” immediately becomes problematic. How is social support conceptualized in a particular community? Through what mechanisms are help and support provided (e.g., along lines of kinship, friendship, work relationships, or some combination of all these)? And similar, even thornier, questions could be raised about the formulation and expression of depressive symptoms. Clearly the issues in fieldwork involve more than just the proper specification of a hypothesis, but it starts there. Janes (1990) presents a particularly cogent example of reformulating a social support hypothesis in terms of a Samoan migrant community in northern California.

Our major point here is that the integration of social survey methods in anthropological fieldwork is a fundamentally ethnographic enterprise from the start. Of course, writing a proposal to fund your research will not get far if you claim that you can only state your hypotheses after you get to the field! Fortunately, the ethnographic record is large, and the potential to develop working hypotheses through the careful contextualized scrutiny of theory exists for nearly every anthropological question and every part of the globe. Thus, at the outset, the questions to be addressed through the integration of social survey methods into anthropological fieldwork must be carefully framed ethnographically, and be open to amendment through further on-the-ground ethnography.

Research Design

Johnson and Hruschka discuss research design in detail in Chapter 3 of this volume. Here, we will outline briefly the various ways in which designs used in social survey research can be applied in fieldwork. We presume at the outset that the ethnographic

focus of the research has already been determined. Typically this will be a community, but other kinds of foci are common, such as a geographic entity (e.g., an ecological zone), an organization (e.g., a corporation), an institution (e.g., a hospital), a social role (e.g., nursing), the entire globe (e.g., cross-cultural surveys), and others. Research design involves defining what unit of analysis within that ethnographic focus will be employed in the research. A unit of analysis is the entity on which observations are made.

In social survey research, the unit involved is conventionally the individual human being, but need not be. There are often good reasons why the household might be the relevant unit of analysis in a particular research design. For example, studies of treatment choice in medical anthropology have taken the household as the unit of analysis, because treatment for one member may be a (joint) decision prioritized according to the health needs of other household members (Oths 1994, 1999). Similarly, the logical unit of analysis might be an organization (Jaskyte and Dressler 2004) or a whole social group or community (Young and Lyson 2006). And, taking whole societies as the unit of analysis, cross-cultural surveys have been a mainstay in anthropological research for decades (Brewis et al. 2011; Ember and Ember 2001; see Ember and Ember, this volume).

Survey research design involves how you systematically organize the process of data collection. Different kinds of data can be collected from individuals, such as biological measurements (e.g., blood pressure) and specimens (e.g., cheek cell samples on a swab). Whatever the kinds of data collected, it will almost always involve talking to or interviewing individuals (discussed below). The classic case of survey research is a cross-sectional design, for which a representative sample of individuals from a community is sought. It is cross-sectional because it takes a slice out of the community at one point in time, with all data collected at the same time.

Obviously, this research design can limit the kinds of inferences you can make. For example, while some variables are designated as independent and some as dependent, since both are collected at the same time you cannot truly infer that one came before the other. Nevertheless, certain kinds of causal inferences are sometimes reasonable, even in cross-sectional studies. For instance, it is acceptable logic to posit, although the two are being measured simultaneously, that caste membership precedes infant feeding practices (Panter-Brick 1991), not the reverse. A cross-sectional design is almost always the least costly in terms of time and effort because once you have completed it, you are done. It also has the advantage of providing the most comprehensive snapshot of the community at that point in time.

Another way of organizing data collection is to collect some data at one point, then collect the same or other data at a later point or points in time. This is referred to as a “longitudinal,” “prospective,” or, sometimes, a “panel” study, depending on the discipline. The major feature of longitudinal research is that it can help reduce temporal ambiguity in causal inference. In principle, a cause can be clearly shown to precede an effect, though in practice it is often not that easy, depending on the variables being studied. If the outcome of interest is some “hard” endpoint—like birth or death—in studies in medical anthropology, or getting married or not in research on family formation, there is little ambiguity. But if the outcome is something that changes over time—like depressive symptoms or fertilizer use—reducing temporal ambiguity can depend on the number of different points in time that data can be collected.

Most applications of survey research in anthropology will be cross-sectional designs, given its lower cost both in terms of money and human resources, although there are examples of longitudinal designs in the literature. For example, Dressler and colleagues (Dressler et al. 2007) were able to extend what had been designed as a cross-sectional study to a two-year follow-up of over 75% of the originally sampled respondents. Wutich (2009) used multiple interviews across the course of a year in a Bolivian city to gain a more nuanced understanding of how water use varied seasonally, and especially how social resources that help maintain household access to water varied through time.

Oths et al. (2001) conducted a longitudinal study of birth outcomes benefiting from the fact that pregnancy lasts nine months. Respondents were interviewed in their first and third trimester of pregnancy to investigate how psychosocial and physical stressors encountered during pregnancy were associated with birth weight. This innovative application of a longitudinal research design did not require the lengthy time periods usually associated with such research.

Panel studies are longitudinal studies in which there are successive waves of data collection, following the same respondents through time with multiple data collection points. This approach has been used in medical anthropology to study treatment choice (Oths 1994; Young and Garro 1994). To determine how households respond to illness episodes, these investigators visited a random sample of households in their respective study communities every two weeks to determine who had been sick in the past two weeks and what they did about it. While Young and Garro (1994) pooled their data across six months of data collection, Oths (1994) was able to show that patterns of help-seeking changed between the beginning and the end of the data-collection period in response to an economic crisis.

Godoy and colleagues (2009) conducted what is, as far as we know, the first large-scale panel study conducted in anthropology. Godoy and his colleagues are working with the Tsimane', a society in lowland Bolivia with diverse economic practices ranging from classic swidden agriculture to logging and wage labor. Godoy et al. collected data five times from a sample of 888 men and women distributed across 13 villages; the latter were systematically chosen to represent varying degrees of proximity to roads and market towns. With this extensive set of data, these investigators have examined hypotheses derived from ecological, economic, and medical anthropology theory. Clearly, this is a massive undertaking that depends on the coordination of a team of investigators, and it represents a milestone in anthropological research (see Gravlee et al. [2009] for more on longitudinal research in anthropology).

In addition to cross-sectional and longitudinal research designs, a specialized design we like to include is the case-control design. While it derives from epidemiology, this design can be very useful in anthropological inference. As its name implies, it involves a comparison of a group of cases and a group of controls. What distinguishes it from merely a two-group comparison is that the groups are defined *on the basis of the outcome variable*. For example, the epidemiologist who is interested in the factors that contribute to heart attacks identifies a group of people who have suffered heart attacks and compares them on a variety of parameters to people who have not suffered heart attacks. In medical anthropology, this research design has been applied to the study of cultural syndromes such as *rlung* and *susto* (Janes 1999; Rubel et al. 1991). This would

be a useful research design for investigating any relatively rare event (see Cohen's [1971] study of divorce in Muslim societies of sub-Saharan Africa).

The case-control design, though unconventional in social science research, does provide one solution to the dilemma faced by anthropologists in the field: scarce resources (human, temporal, and economic).

Sample Selection

Some anthropologists contemplating the incorporation of social survey methods into their work may throw up their hands in despair, thinking that no matter how useful it would be to carry out survey research they will never have enough time, money, or people to do it. As we all know, traditional anthropological fieldwork is hard. Moving into a community, developing rapport, managing fieldwork relationships, improving language facility, refining ideas in light of on-the-ground realities, identifying key informants, conducting open-ended interviews, keeping good field notes, trying not to get sick, and finding some respite from all of the above takes time and energy. How are we supposed to fit a social survey into that agenda?

Very carefully. The application of social survey methods must be focused and judicious simply because there is no alternative with respect to testing hypotheses or documenting the range of intracultural diversity. Part of the problem clearly has to do with samples, especially sample size. Adequate sample size is a logistical barrier for the fieldworker—whether working alone or as a member of a small team—that must be confronted. Anthropologists may read studies from other fields that have samples of 1,000 or more respondents and immediately lose heart. This trepidation may be compounded when you bravely seek advice from a statistician who authoritatively asserts that you cannot hope to learn anything of value without a sample that size.

We beg to differ. Our position is that sample size is a bit of a red herring when it comes to survey methods in fieldwork. The key here again is the mixed methods, qualitative–quantitative strategy. First, the ethnographer applying social survey methods is not expecting those results to stand alone in the way that a sociological or epidemiologic survey would. The strength of the anthropologist's survey stems precisely from the way it is carefully embedded in traditional fieldwork and articulates with data collected via participant observation and key-informant interviewing (an excellent example is Snodgrass et al. 2008). Second, the ethnographer can be strategic in focus regarding sampling efforts. For the test of a hypothesis or to document a certain pattern of intracultural diversity, the sample may be drawn from a particular stratum (e.g., age group or neighborhood) within a community that is both ethnographically and theoretically salient. Third, there are modern statistical techniques that enable us to explore the implications of employing a sample that is, by conventional statistical standards, small. For at least these three reasons, sample size should not be seen as a barrier to the use of social survey methods in anthropology.

There is a fourth point worth noting. In large studies, survey researchers often have to employ many interviewers who are paid per interview. While there are a number of strategies for checking the accuracy of those interviews, the ethnographer may carry out a small-scale survey him- or herself, perhaps with the aid of a few assistants. The smaller sample size also allows the ethnographer the luxury of longer and more relaxed

interviews. What may be lost in statistical power may be gained in data quality control. We are not suggesting that issues of statistical power or the need for samples of a particular size to achieve a certain minimum error be ignored, only that there can be advantages to smaller samples (Benfer 1968).

The ideal of sample selection in survey research is obtaining a set of respondents whose data can faithfully represent the characteristics of the larger population from which that sample is drawn. A well-selected (and sufficiently large) sample can reproduce population characteristics very well; therefore, it is unnecessary to assess whole populations. The key to representativeness is the unbiased selection of respondents, and the simplest way to achieve this is through random sampling. Many of us have had classroom exercises involving the selection of a “simple random sample” of something (like names from a telephone directory, or items from a top 100 list from the Internet). It requires that we have a complete enumeration of the population; that each member of the population be assigned a number; that we have access to a random numbers table or generator; and that the sample size be determined (ideally by using a standard formula based on confidence level chosen). We then select as respondents those whose number in the list corresponds to that of the number chosen in sequence from our random numbers table. In the technicalities of identifying a starting point in the table, accurately deciding on the number of digits to be used, and then deciding on a direction to move in the table, we sometimes forget the whole point: This way of selecting respondents ensures that no pattern creeps into our decisions (i.e., the likelihood of selecting one respondent is no different from selecting any other respondent).

A systematic random sample is an alternative to a simple random sample and is especially useful when no complete enumeration of a population is available. For this, a starting point (e.g., a house on a road) is randomly selected, and then from there every n th house (e.g., every third house) is selected. While this may appear to diverge from the ideal sample, systematic random samples have been shown to perform quite well in practice, provided there is no inherent, undetected pattern in, say, house location.

The selection of a random sample of respondents usually follows a number of other decisions that, fundamentally, are sampling decisions. When you decide to study one town rather than another, or one neighborhood rather than another, or one organization rather than another, you are making a sampling decision. In pure survey research, a logically similar kind of process is often systematized under terms like “multi-stage cluster sampling” or “stratified sampling.” For example, imagine a survey researcher wanting to sample respondents from the entire city of Chicago. While certain kinds of enumerations of the population exist, for a variety of reasons the researcher either will not be able to access them (e.g., for reasons of research ethics) or they will be too crude (e.g., a telephone book that only contains landlines). But one can access quality maps that show every block in the city. These blocks can be thought of as clusters of potential respondents. Next, blocks can be randomly sampled, and within each block a systematic random sample of occupied dwellings collected. Thus, the sample is collected at multiple stages, starting with the fact that respondents cluster in blocks.

As noted above, anthropologists make similar kinds of decisions, but based on ethnographic criteria that can be built into the sampling design. For example, anthropologists working in an urban area in Latin America may not have the economic and human

resources to sample the entire population of a city to document beliefs and practices across the full range of socioeconomic differences. But they could identify a transitional neighborhood that contains a substantial mix of working- and middle-class persons. By sampling within this neighborhood (a kind of cluster), they could document the variation in the variables of interest within an ethnographically salient group.

Another type of sampling is referred to as “stratified random sampling.” Like cluster sampling, it first identifies relevant groups within the population; but unlike cluster sampling, these groups are usually identified on the basis of variables of interest. For example, an ethnographer may be interested in differences within an immigrant Hispanic community by nationality (i.e., comparing immigrants from Mexico, Guatemala, and Ecuador). One or more of these groups may have a smaller representation within the population, but the researcher wants to be able to compare them. In this situation, he or she may define national origin as sampling strata and sample equally within them. This may lead to an over- or underrepresentation of a group, but this strategy is necessary to ensure enough respondents in each group so that variables measured have stable statistical properties. If the researcher then wants to return to data that reflect the characteristics of the general population, the data can be weighted to do so, but sufficient data will have been obtained within strata to make comparisons meaningful.

The ethnographer can exploit the advantages of stratified sampling in unique ways. For example, for his dissertation research Dressler (1982) examined the effects of socioeconomic and cultural change on blood pressure in a developing society. As a doctoral student working alone, he was unable to conduct a large-scale epidemiologic survey, so he used a stratified sampling strategy to focus his efforts. In many (but not all) societies, blood pressure rises with age. Within the 40–49-year-old age group, variation between individuals in blood pressure, and thus the potential for detecting correlates of the differences, is greatest. Therefore, he chose to sample exclusively from that age strata to test hypotheses about the socioeconomic and cultural correlates of blood pressure. By exploiting this empirical characteristic of blood pressure, Dressler was able to reduce the sample size he needed, thus making the collection of survey data practical.

In any survey there will be refusals. “Response rate” refers to the number of respondents who participate in the research divided by the total number of potential respondents. Of course, many of these potential respondents have never been contacted. Typically in survey research, some criterion is set, such as failure to contact on three different days at three different times of day, that determines whether a potential respondent will be pursued or not. This can make that actual refusal rate, or the cooperation rate (the proportion of persons actually contacted who participate), somewhat more revealing (see AAPOR [2011] for a thorough discussion of these calculations for nonresponse). Nonresponse is not a problem with respect to the representativeness of a sample, so long as there is no systematic bias in the noncontacts or refusals. This can be difficult to detect, but the in-depth knowledge of a community that an ethnographer has can help in evaluating these potential sources of bias.

Thus far, we have discussed only probability samples, but non-probability samples can be useful as well. Public opinion polling in the United States often employs quota samples. These are samples constructed to mirror the characteristics of the population at large (e.g., numbers of men, educational levels, ethnic groups, and so on that cor-

respond to their proportions in the general population). While unforeseen selection biases may creep into this process, it is a reasonable alternative to probability sampling.

The above-mentioned case-control research design often involves non-probability sampling. As we noted, in a case-control design, two groups are formed on the basis of the dependent variable, such as having had the cultural syndrome of *susto* (a “case”) or not (a “control”). (Keep in mind that this is not a research design peculiar to health research—the outcome variable of interest could be anything.) Forming the group of cases proceeds by case finding. In certain circumstances, such as access to clinical records, it would be possible to sample randomly from a group of cases (see Janes 1999), but in many applications the investigator must simply try to track down as many persons as possible who fit that category. Then, either through population sampling or careful matching of controls to the cases, a sample is constructed in which differences between cases and controls on any variable of interest can be examined.

In a case-control design, “matching” refers to selecting controls that correspond to cases on variables that the investigator wishes to control for. As an example, to control for age, you simply select as a control someone who matches the same age or five-year age category (such as 30–34) of your case. Control through matching then requires the use of specific statistical analyses, such as paired-comparison *t*-tests, but these are straightforward. The case-control design was developed as a means of coping with very small incidence rates in certain diseases and other difficulties in case-finding on a population level. It is a very efficient way of testing hypotheses.

The ultimate aims of sampling strategies are both to achieve a reasonable representation of the population of interest and to provide data useful for testing hypotheses. Ethnographers who include social survey methods in their research must remain flexible and inventive to maximize the return on the resources invested in this phase of the research.

DATA COLLECTION AND MEASUREMENT

Once a sample has been selected, data collection must proceed. Data can be collected in a variety of ways in survey research. We assume that anthropologists will be most comfortable with the face-to-face interviews collected with an interview schedule (see Weller, this volume, for an in-depth discussion of constructing interview schedules). The difference between an interview schedule and the more familiar kinds of informal interviewing is simply that with an interview schedule, each respondent is asked the exact same questions in the exact same manner with, if necessary, identical probes.

Another major approach is the mail-out questionnaire. While this is seldom employed in anthropological research, as far back as the early 1960s social anthropologist John Beattie mailed questionnaires to over 300 village chiefs among the Bunyoro in Africa and had a gratifyingly high response rate (Beattie 1965, 38). Telephone surveys have also been employed by anthropologists. In Chavez et al.’s (2001) study of health care utilization in relation to cervical cancer among Latinas in southern California, the first two phases of the research consisted of intensive ethnographic research and a cultural domain analysis (see below), which they followed up with extensive telephone surveys.

More recently, the Internet has become a medium for data collection. Snodgrass and associates (2011) have studied persons participating in online computer games by first intensively interviewing gamers at a local level, then carrying out a cultural domain analysis with them. These data were used to formulate a questionnaire posted on the Internet. This generated a convenience sample (i.e., whatever gamers responded) of 262. Our point here is that, while we continue to suspect that anthropologists will prefer the potential for rapport and data quality control afforded by face-to-face interviews, other kinds of data collection can be successfully integrated with ethnography.

There are a number of social contexts in which other specialized forms of sampling and data collection can be useful, such as street intercept surveys (i.e., walking up to people on the street to ask for interviews) and others (see Miller et al. 1997).

Before proceeding with data collection, it is essential that an interview schedule (or questionnaire) be pretested. Pretesting provides important feedback on how an interview schedule functions, especially in terms of the length of the interview, the ordering of the questions, and any lingering problems with meaning or translation. It is an opportunity to employ what in survey methods has been termed “cognitive interviewing” (Gerber 1999), a kind of debriefing of the pretest respondent to determine if he or she is thinking about the same thing in answering a question as you are in asking it.

Questions are formulated in the context of a researcher’s particular conceptual orientation, and unless that orientation provides a common context between researcher and respondent, the data are less likely to be useful for evaluating the hypotheses posed. To give a concrete example, in a study of psychosocial job strain and pregnancy outcomes, Oths and colleagues (2001; Dunn and Oths 2004) discovered through careful ethnographic interviewing, observation, and pretesting that women tended to interpret the phrase “since you’ve been pregnant” to mean since the day their pregnancy test came back positive. This posed all sorts of difficulties for the use of standard scales for measuring smoking, drinking, domestic violence, moving residences, and the like.

For instance, instead of asking the industry-standard “Since you’ve been pregnant, how many cigarettes do you smoke a day,” which nearly always resulted in a socially correct response of “none” (since to do otherwise would admit to being a bad mother), a more precise solution was to ask “When was the last time you . . . (smoked a cigarette, drank a beer or glass of wine, drank coffee, etc.),” then eliciting the amount. An accurate estimate of the date of conception (rather than date of pregnancy recognition) was gathered from delivery records, then compared against the “last time” data, to arrive at a better gauge of the behaviors actually engaged in during the critical first weeks of pregnancy. The effects of these variables differed in regression analyses, with the latter a better predictor of birth weight.

This ethnographic correction of published scales for certain control variables no doubt accounted for the discovery of the job strain effect on birth weight, which had been previously studied yet undetected. These results underscore the importance of getting the wording right in constructing an interview schedule. Cognitive interviewing can provide an important step in ensuring the quality of data (see Willis and Miller 2011).

Once an interview schedule has been carefully constructed, it must be put to use. The interview is a highly specialized form of social interaction between someone who wants information and others who are believed to be the best sources of the desired

information. While those of us raised in the West take this question-and-answer format for granted, those from other societies lacking such socialization may perceive the engagement as unusual at best, or aggressive, even hostile, at worst (Briggs 1986). An interview is not an everyday conversation, and the respondent who attempts to commandeer the information flow may be viewed as difficult. The feminist critique of survey research takes issue with the extent to which it exercises control over the direction of questioning, deeming the process manipulative (Oakley 1981). We hold that to collect systematic data *and* to create an affective connection with the respondent that encourages their self-expression need not be mutually exclusive enterprises. At the end of the day, if we go to the field with any intent whatsoever to study a phenomenon, we have no choice but to be directive.

There are textbooks full of tips on how to conduct a good interview, so we will add just a few of our own. First and foremost is to understand that nothing can replace practice, practice, and then more practice. Thus, from undergraduate years on up, every opportunity to interview persons, whether formally or informally, should be grasped. One who plans to do social survey research should have (or develop) a high comfort level in talking to others about their lives and opinions.

With the main goal of an interview being to achieve an accurate representation of what is in people's head, the primary technique is to ask a question and then listen. *Truly listen*. This is nowhere near as easy as it sounds, to be still in our thoughts and not let them race ahead, to drop our opinions in Zen-like fashion, to momentarily suspend our investment in supporting the chosen hypothesis, to be uninfluenced (as much as humanly possible) by motivations or preconceived ideas. What comes out of respondents' mouths is golden, even if at the moment it appears to contradict our cherished notions. What we learn with experience is that the reality out there is infinitely more interesting and complex than our minds can imagine a priori. That is why hypotheses in anthropology need to be provisional, not clung to when the evidence leads elsewhere. A very hard lesson to learn is to lose the attachment to our ideas while gathering data.

Once the data have been collected, they must be coded and combined into measurements. Measurement refers to the principled assignment of numbers to observations. Susan Weller discusses measurement strategies in detail in this volume; here we will highlight a few issues that we believe are especially important in social survey research.

We start with the assumption that much (if not all) of the data collected by an ethnographer in survey research should be meaningful to the participants. This may seem at first glance like a trivial statement, but data and measurements must be emically valid. We introduce the criterion of emic validity to stand alongside the well-known notions of face validity, construct validity, predictive validity, and convergent/divergent validity. The validity of a measurement is the degree to which that measurement assesses what it is intended to. An emic approach in ethnography is one in which the description of any phenomenon proceeds in terms that are used by, or meaningful to, the participants themselves. The emic validity of a measurement is evaluated by the demonstration that the measurement orders respondents along some continuum in terms that are meaningful to the respondents themselves. We are not referring to the meaningfulness of terms simply as lexical equivalence in a local language, which can

be accomplished by the well-known techniques of back-translation, but rather that it is composed of the concepts and terms that culturally structure the domain to which it refers within that particular social setting.

This is quite a different notion of measurement than normally encountered in the research methods literature. Typically, when a measurement or scale is constructed, the arbiters of the relevance of particular items (questions) to the domain of interest are other social scientists (DeVellis 2003). Often panels of experts in the field are recruited to supply items that are then winnowed down by the scrutiny of other experts until you arrive at a set of items that “truly” capture the domain of interest. In ethnography, the experts are the participants in a particular social setting. While they rarely have the goal of constructing scales that can be used in social surveys, they do know the terms and concepts by which they communicate with their peers about a particular cultural domain. Therefore, in developing questions for surveys and measurements of important variables, it is of the utmost importance that we demonstrate emic validity in our social survey work.

The development of scales and measurements has been an area of obvious convergence in the collection of qualitative and quantitative data. Usually, the ethnographer devotes a considerable amount of time to participant observation and key-informant interviewing to learn about how a particular domain (e.g., family life, religion) is culturally constructed in a particular community. After the ethnographer has gained a certain cultural competence in the domain, with respect to understanding the specific terms used to talk about it and how terms are linked in prototypical processes, he or she is ready to develop a set of questions for use in a survey to measure more systematically some aspect of the domain. In this case, the demonstration of emic validity depends on the skill of the ethnographer in tracing the links between ethnographic data and the questions developed (see Janes’s [1990] study of Samoan migrants to California for a superb example).

Cultural domain analysis (Borgatti 1999) refers to a linked set of specialized interviews and analyses to understand the semantic structure of a cultural domain. These interviewing techniques include free listing, pile sorts, and rating and ranking tasks, culminating in a test for cultural consensus in the domain (Romney et al. 1986). Dressler et al. (2005) have demonstrated step-by-step how cultural domain analysis can be used to construct items for survey research, from first generating the terms that people use to talking about a domain to systematically measuring some dimension of that domain.

On the technical side, we have incorporated an architecture for Likert scale questioning that results in a more precise answer by breaking the question into two steps to indicate individuals’ intensity of agreement-disagreement. In conventional survey interviewing, respondents are often presented with the entire Likert-response format and encouraged to choose their own response out of the four or more alternatives. We have encountered anthropologists who assert that Likert-response scales cannot be used in the field because it is such an alien task for many people not socialized to standardized testing formats to respond with “3” when asked to evaluate a statement about something. Phrased in that way, it probably is.

There are other ways of asking, however. To a survey item such as, “It is difficult to rely on the support of other people,” the respondent can be asked, “Would you agree or

disagree with this statement?” If the respondent answers “Agree,” it can then be asked, “Do you agree a little or a lot?” (The same format is employed for a disagree answer.) What results is a four-point scale equivalent to strongly agree—agree—disagree—strongly disagree. But note that people are not being asked to respond in terms of the Likert scale. They are simply asked to agree or disagree with an assertion, then the Likert scale is reconstructed from their pattern of agreement or disagreement (Weller and Romney 1988, 42–43). Such a response format helps increase the internal consistency reliability and precision of a scale (see below) because it introduces finer gradations into the measurement than does a simple yes/no or agree/disagree. Thus far, we have encountered no one for whom this is a confusing task.

Many orthodox texts on social survey methods will send the investigator to the literature to find existing questions and scales, validated and “normed,” to incorporate into their surveys. This is not inappropriate, especially considering that a theoretical construct may require a very specialized set of questions. In a situation like this, the process of back-translation usually looms large (see Bernard 2011). But this does not necessarily absolve us of the responsibility of exploring the emic validity of the measurement.

Gannotti and Handwerker (2002) provide an example of doing just this by working in reverse from the process we have described above. They were interested in the measurement of disability in Puerto Rico, and, to maximize the comparability of their data to other studies in the area, they selected a widely used measure of disability. They were saved the step of translation and back-translation because a Spanish-language version of the scale existed. At the same time, they wanted to confirm that the categories used to identify disability in the existing scale were meaningful to their respondents. So, before using the scale, they had a set of respondents rate the items as more or less useful in describing disability, as the respondents understood that term. When these ratings were analyzed using cultural consensus analysis, the investigators found overall consensus, although there were some items that could be identified as less salient for the specific community being studied. In the end, they concluded that the scale had sufficient emic validity to justify its use in their study (see Ice and Yogo [2005], Kennedy [2005], and Schrauf and Navarro [2005] for additional examples of how to develop and adapt scales).

While intensive evaluation of emic validity for each and every measure employed in a mixed methods study would be impractical, we do suggest that investigators invest as much time as it takes to construct, then pretest, survey instruments before actually implementing them.

DATA ANALYSIS

Weller (this volume) discusses reliability analyses for evaluating measurements, and Handwerker and Borgatti (this volume) discuss numerical analyses in anthropology. We will build on these chapters to highlight some points of specific relevance to the application of social survey methods in anthropology.

As argued above, ethnographers should develop measurements in the field that have high emic validity. An important next step is to evaluate the psychometric characteristics of those measurements using conventional analyses of reliability and validity. As noted, validity refers to the degree to which a scale actually measures

what it is intended to measure, and reliability refers to the repeatability or reproducibility of the values for the scale. Reliability can be assessed in a variety of ways, the most obvious being that if you give the scale to a set of respondents, and then repeat that within a short enough time span (e.g., two weeks) such that little is likely to have changed substantially, you should get back about the same result. That is, the measurements should be highly correlated.

Although theoretically possible, this is not often done, given all fieldworkers' other tasks. It is more likely that reliability is evaluated using the notion of internal consistency. In conventional scaling theory, it is assumed that we are trying to measure a construct to which we have imperfect empirical access. If we could ask one question (e.g., how persons in a community access social support) that would give us a perfect picture of how they do, we would. But there is no perfectly valid and reliable single question to ask. So, we have to zero in on that construct by asking a number of different questions, all of which pertain to the domain but each of which is imperfect (i.e., can only partially illuminate a pattern or schema we are trying to understand in people's lived realities).

Getting the questions as good as possible is, of course, the whole issue. In theory, if the questions pertain to the domain, respondents should show a measure of consistency in the way they answer the questions. This then can be used to evaluate the reliability of a scale. Cronbach's alpha is a coefficient of internal consistency (regularity internal to the scale) to assess this that, like a correlation coefficient, varies between 0.0 and 1.0: The closer to 1, the greater the reliability. Our experience has shown that when a researcher takes pains to achieve high emic validity, the reliability of the measure will follow.

Assessing the validity of a scale is harder, not just for the ethnographer but for anyone. The best way to assess validity is to have a "gold standard" measurement (such as the measurement of blood pressure with a catheter inserted into a vein) against which you can compare your field measurement (the measurement of blood pressure with a sphygmomanometer). In the social sciences, gold standards are hard to come by; they are even more difficult for the ethnographer in the field to achieve. Evaluation of validity can at least be approximated, however, by inspecting the pattern of associations between the scale of interest and variables that, in theory, should be correlated with that scale. For example, we developed a series of scales of cultural consonance in our Brazilian work. These assess how well individuals are able to approximate, in their own lives, the cultural prototypes for beliefs and behaviors.

It seemed reasonable to anticipate that persons with the most economic resources would best be able to achieve these cultural ideals. And, indeed, we found that, overall, cultural consonance was associated with higher socioeconomic status. Similarly, we reasoned that low cultural consonance would be experienced as distressing, and all of the scales of cultural consonance were at least moderately correlated with scales assessing psychological distress. Although we could not evaluate the scales against some gold standard, the pattern of associations lends confidence to our sense that the scales of cultural consonance do measure what they are intended to measure (see Dressler et al. 2005).

Once the ethnographer has a set of survey data in hand, the whole range of bivariate and multivariate inferential statistics is available to better understand those data. Like

Handwerker (2001), we strongly recommend that data be analyzed using multivariate models, and traditional ordinary least squares multiple regression analysis is one of our favorites. As we tell our students, “If you can say it, you can test it,” meaning that any complex hypothesis regarding sociocultural processes can be evaluated through proper specification of a linear model. Or, if you think that there are curvilinear associations (i.e., two variables covary in the same direction to a point, then begin to covary in the opposite direction) moderated by various factors, you can test that, too (see Dressler and Bindon [2000] for an example). A detailed discussion of how to specify linear models is beyond the scope of this discussion and can be found elsewhere (Cohen and Cohen [1975] provides lucid discussions of the specification of complex models).

As we have argued, small samples can be desirable in anthropological inference, embedded as they are in a larger data context of ethnography (Benfer 1968). Furthermore, there are some innovations in data analysis to aid in the evaluation of the inferential implications of small samples. We are all familiar with the case of examining the mean of a variable, only to then view a histogram and spot a peculiar respondent with an exceptionally high value on that variable that skews the distribution to the right. Conventionally, this case would be called an “outlier.” The very term implies something at least peculiar, if not downright in error, about that case’s value. If, *after double-checking for coding errors*, it is the true value for that respondent, what is one to do? Should it be excluded simply because it is extreme? Or would it be better to evaluate the impact that having that respondent in our data has on the analysis of those data?

These questions have led some to prefer the idea of “influential case”—literally a respondent who has a particularly strong effect on the outcome of an analysis—to the idea of outlier. There is an entire system for influential case analysis in both ordinary least squares regression analysis and logistic regression analysis (Bollen and Jackman 1985, 1990). It is possible to identify cases that have an extra influence on the results, whether as a result of their values on the dependent variable or on one or more independent variables. We agree with Bollen and Jackman (1985) that the goal of these analyses is not necessarily to eliminate cases from the analysis but rather to understand better what is going on in a dataset. This should be particularly appealing to ethnographers since the respondent who turns out to be an influential case may be known from the data collection process (see Dressler [1991] for an influential case analysis in ethnographic research).

Integrating Qualitative and Quantitative Methods

Depicted graphically (see Figure 15.1), the research process appears to begin with a statement of the problem, move to theory to provide an overarching framework (literature review), shift to qualitative discovery (participant observation and ethnographic interviewing), and finally arrive at measurement, that is, quantification (survey interview construction and delivery). However, the arrows in Figure 15.1 remind us that the association between qualitative and quantitative methods is neither a linear nor a static process but rather an iterative one, with each step feeding the others. The potential exists for a seamless movement back and forth across data collection and interpretation. For instance, ethnographic insights might send one back to the literature. Or in the pretesting stage, it may become necessary to once again gather qualitative data to settle unforeseen

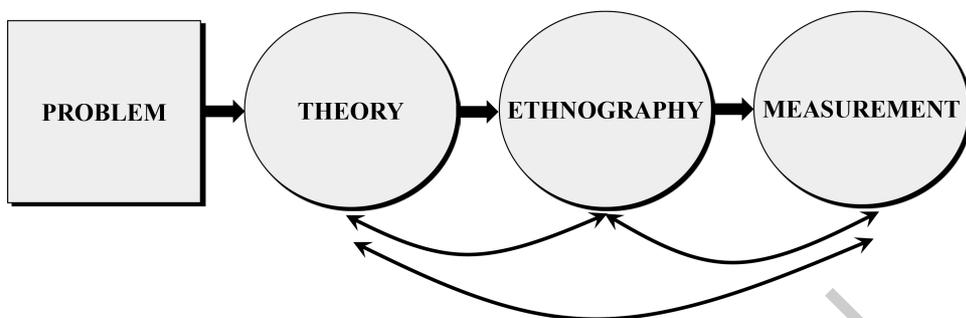


Figure 15.1. Qualitative-quantitative research process.

ambiguity in emic meaning. This should be the take-home point of our chapter: In survey research it is best to be open to reality and take what the field situation gives us, well-provisioned with a toolkit from which to select the best instrument for the situation. Our agility in this sense is not unlike that of a football quarterback who changes the play at the line of scrimmage when he reads the formation the defense lines up in.

DISCUSSION AND CONCLUSION

Social survey methods provide social scientists with the means to assess the distribution of variables in samples representative of the communities they study. These methods enable investigators to describe that variability and to employ it in the evaluation of hypotheses using the tools of inferential statistics.

To fully realize the potential of survey methods in anthropology requires that the ethnographer think in a numerate way. We have often observed anthropologists take the time and effort to construct an impeccable, ground-truthed interview instrument and use it in a survey that is time consuming and generates excellent data. Yet, lacking the ability to imagine the uses to which those data can be put, they leave the full potential of the dataset unrealized.

Social surveys are valuable adjuncts to the methods traditionally employed in anthropological fieldwork and they have been used by ethnographers for quite some time. The keys to successful application of social survey methods in anthropology, as we see it, are the careful integration of surveys with other ways of collecting data in the field and the adaptation of the survey method to address the kinds of questions that anthropologists ask. The issues embedded in applying surveys in fieldwork take effort to address and can ultimately be resolved to the benefit of both the investigator and the results obtained.

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