Observation: A Complex Research Method

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Abstract

As an ethnographic research method, observation has a long history. The value of observation is that it permits researchers to study people in their native environment in order to understand "things" from their perspective. Observation requires the researcher to spend considerable time in the field with the possibility of adopting various roles in order to gain a more comprehensive understanding of the people being studied. A variety of techniques are used to collect data. Gaining access to the group and leaving the field are two important factors that need consideration. Other areas of concern involve ethical problems, as well as validity and reliability issues. Until recently, few library and information science (LIS) studies have included this method; however, observation is gaining favor as LIS researchers seek to understand better the role of information in people's everyday lives.

Introduction

As an ethnographic research method, observation seems to have no specific beginning. While some researchers found indications of its use in ancient times, others have pointed to the late nineteenth and early twentieth centuries, when anthropologists starting "collecting data firsthand" (Atkinson & Hammersley, 1994, p. 249). Describing it as the "bedrock source of human knowledge" about the "social and natural world," Adler and Adler (1994) stated that Aristotle used observational techniques in his botanical studies on the island of Lesbos and that Auguste Comte, the father of sociology, listed observation as one of the "four core research methods" (p. 377).

In the current research environment, its status seems to have changed, leading Adler and Adler to question whether observation is a research method "in its own right" or "a stepchild to its more widely recognized offshoot: participant observation" (1994, p. 378). Further confusing the picture is the variety of labels (for example, observation, participant observation, or ethnography) that seem to be used interchangeably by researchers to describe what was once called simply "observation." Finally, in some research methods textbooks and articles, observation has been described as a research method as well as a data collection method (Powell & Connaway, 2004; Williamson, 2000; Pearsall, 1970). Williamson prefers to categorize observation as a data collection technique because it can be used in a variety of research methods.

Observation is a complex research method because it often requires the researcher to play a number of roles and to use a number of techniques, including her/his five senses, to collect data. In addition, despite the level of involvement with the study group, the researcher must always remember her/his primary role as a researcher and remain detached enough to collect and analyze data relevant to the problem under investigation. The purpose of this article is to describe in some depth the types of roles a researcher can assume during an observational study. In addition, an overview of some of the characteristics unique to observational research, as well as validity and reliability and ethical issues, are addressed. Interspersed throughout the article are some examples of LIS studies in which the observation method has been used. Two topics are not covered in this article. The first topic is structured observation, which Glazier defined as a "qualitative research method" in which "pre-determined categories are used to guide" (1985, p. 105) the recording of activities undertaken by people in their natural environments. Because the role of the observer is limited to recording events, it is outside the scope of this article. Analysis of qualitative data has been covered in detail in a number of books (see, for example, Strauss & Corbin, 1990; Spradley, 1980) and therefore will not be covered in this article.

At this point, it is also important to mention the difficulty one encounters searching for studies that have used this method in either *Library Literature* or *Library and Information Science Abstracts* (*LISA*). Some researchers do not specify what role they played. For example, in her study of janitors, Chatman (1990) does not indicate the role she adopted. This practice leads to either broad subject headings or to the complete absence of indexing terms applied to observational studies. As part of their study of research method trends in the literature on human information behavior (HIB), McKechnie, Baker, Greenwood, and Julien (2002) examined how *Library Literature* and *LISA* indexed the methods used in 247 HIB articles published from 1993 to 2000 in seven international, peer-reviewed journals. Of the 247 articles, 152 articles were found in *Library Literature* and, of these, only "39 (26%) were indexed by at least one method term" (p. 123). LISA had indexed 178

articles, but even fewer (32 or 19 percent) articles "were indexed by at least one method term" (p. 123). Furthermore, both indexes were found to use terms that are too broad to be helpful to researchers who are searching for articles in which a particular method has been used. These results reveal the challenge of retrieving studies on specific methods.

DEFINITION OF OBSERVATION

Definitions of *observation* per se are difficult to find in the literature. Gorman and Clayton define observation studies as those that "involve the systematic recording of observable phenomena or behaviour in a natural setting" (2005, p. 40). Other authors define observation within the broader context of ethnography or the narrower one of participation observation. What is consistent in the definitions, however, is the need to study and understand people within their natural environment. Spradley wrote that participation observation "leads to an ethnographic description" (1980, p. vi). He defined ethnography as the "work of describing a culture" with the central aim of understanding "another way of life from the native point of view" (p. 3). Chatman defined ethnography as a method that allows the researcher to get an insider's view through observation and participation "in social settings that reveal reality as lived by members of those settings" (1992, p. 3). Becker and Geer defined participant observation as either a covert or overt activity "in which the observer participates in the daily life of the people under study . . . observing things that happen, listening to what is said, and questioning people, over some length of time" (1970, p. 133). To observe people in their natural settings, there are a variety of roles researchers can adopt. The roles and how they have changed over time are described below. Where possible, examples of LIS studies are included.

ROLES OF THE RESEARCHER

Roles have been defined as "the characteristic posture[s] researchers assume in their relationship" with the people whom they are studying (hereafter referred to as "insiders") (Chatman, 1984, p. 429). In his article on roles in field observations, Gold (1958) credited, and expanded on, Buford Junker's typology of four roles researchers can play in their efforts to study and develop relationships with insiders, including complete observer, observer-as-participant, participant-as-observer, and complete participant (p. 217). More recently others, such as Spradley (1980) and Adler and Adler (1994), have proposed slightly different roles or used different terms than did Gold, as will be discussed below.

While Gorman and Clayton described Gold's four roles as "a range of flexible positions in a continuum of participatory involvement" (2005, p. 106), not everyone has to start as a complete observer. The adopted role depends on the problem to be studied, on the insiders' willingness to be studied, and on the researcher's prior knowledge of or involvement in the

insiders' world. Going into a new environment may require the researcher to adopt the role of complete observer, whereas studying a group in which she/he is already a member allows the researcher to adopt the complete participant role. What is important is that the researcher assumes an appropriate, fluid role—one that allows her/him to observe intimately the everyday life of the insiders (Chatman, 1984; Carey, McKechnie, & McKenzie, 2001).

Nonparticipation

This role, described by Spradley (1980), involves no level of involvement with insiders. The researcher is not present on the scene but rather can "observe" from an entirely different environment. Transaction log analysis (TLA) is an example of this type of observation. In his article Davis described TLA as a "non-intrusive method for collecting data from a large number of individuals for the purpose of understanding online-user behavior" (2004, p. 327). Using TLA he focused on the American Chemical Society's servers to determine how chemists at Cornell University located information. Moukdad and Large analyzed over 2,000 search strategies submitted by users to WebCrawler to determine query characteristics and also to try "to understand how these users view the Web" (2001, p. 350). In her study, Thompson (2003) used a screen viewer to watch, from another room, the interaction of college students as they tested the library's new Web site. While this role has advantages and is effective for some LIS studies, it does not allow for any in-depth understanding of people's behavior in their own world.

Complete Observer

Gold's (1958) complete observer and Gorman and Clayton's (2005) unobtrusive observer play the same "passive" role as described by Spradley (1980). In this role, the researcher is present on the scene but, according to these three authors, does not participate or interact with insiders to any great extent. Her/his only role is to listen and observe. Within this role, lesser ones are adopted to allow the researcher to be invisible while, at the same time, ubiquitous in order to eavesdrop (Pearsall, 1970). One advantage of this role is that the researcher can remain completely detached from the group. Detachment, however, is also a major disadvantage because it could prevent the researcher from hearing entire conversations or grasping the full significance of an information exchange. She/he cannot ask insiders any questions to "qualify what they have said, or to answer other questions his observations of them have brought to mind" (Gold, 1958, p. 222). In addition to eavesdropping, a complete observer can collect data through videotaping, audio-taping, or photographing insiders (Adler & Adler, 1994), all of which have ethical implications. Given its limitations, Gold (1958) stated that complete observer is more often used as a subordinate role to other dominant ones. He conceded, however, that this role

may be an important starting point for future observations and interactions when the researcher assumes other roles.

Although this role may not seem ideal in one's quest to understand insiders, it has its value and is often used in conjunction with other data collection techniques. A few LIS examples are provided to illustrate its usefulness. Given and Leckie used an "unobtrusive patron-observation survey, called 'seating sweeps'" in their study of people's use of public library space (2003, p. 373). They developed a "seating sweeps checklist" (p. 375) and walked through the library three times a day at different intervals to observe how people were using various spaces. Using unobtrusive participant observation, as well as audiotapes of their verbal comments and exchanges, McKechnie (2000) observed the behavior of four-year-old girls in a public library. In addition, she collected a written diary from each girl's mother. Radford (1998) studied college students' decisions to approach reference librarians. For thirty-seven hours she unobtrusively observed students and recorded the nonverbal behaviors of both librarians and clients on a structured data collection form. She also interviewed the students. In his study of people with an autoimmune disease, Carey (2003) observed members of a support group during their meetings, listened to them, and observed their interactions. He also interviewed twenty-five members of the group.

The next example demonstrates that the role of complete observer may be the only permitted way to conduct a study. The author (Baker) and her colleague (Case) wanted to interview street-level female sex workers to ascertain their health concerns (Baker, Case, & Policicchio, 2003). They were restricted, however, to the role of complete observer by outside forces, namely the human investigation committee of their university and the outreach agency with whom they were working. The former required the researchers to obtain signed informed consent from the participants, while the latter felt this procedure would inhibit the agency's work with the women. Thus, the researchers had to gather information about health issues by listening to the conversations between the sex workers and the volunteers who distributed supplies to them.

Observer-as-Participant

This role, as described by Gold (1958) and Pearsall (1970), includes more observation than participation. The researcher who adopts this role advances very slightly in her/his involvement with the insiders. While still mostly involved in observing, she/he may conduct short interviews. Unlike the covert activity that is typical of the complete observer, in this role the researcher's identity can become more overt as it becomes known to more of the insiders. The researcher, however, should remain "strongly research oriented" and "not cross into the friendship domain" (Adler & Adler, 1994, p. 380).

Pearsall (1970) described two advantages to this role. First, insiders may be more willing to talk to "attentive strangers" than they would be to talk to

people with whom they are more familiar. Second, there is less "temptation either for the observer to go native or for the natives to try to include him permanently in their lives" (p. 342). The downside of this role is that the brief encounters with insiders limit "opportunities for gaining knowledge of total situations" (p. 342). Gold saw this role as a source of frustration to the researcher who "cannot take time to master" the insiders' "universes of discourse" (1958, p. 221). In other words, the brief interviews can contribute to misunderstandings or misconceptions of which the researcher may not be aware until it is too late to correct or address them.

Few LIS studies were found in which this role was adopted. In their study of the health problems of female street-level prostitutes described above, Baker and Case accompanied volunteers of a street outreach program. Because they were unable to speak directly to the women, they relied on the volunteers to obtain health-related information from some of the women. The observations of the researchers and the volunteers, as well as the discussions between them, provided good information about the health concerns of women who worked the streets. Carey's (2003) study of the support group (mentioned above) included his participation as a librarian before and after the meetings. In this role, he was able to observe and participate to some degree by talking to the members about their selection of library materials.

Moderate or Peripheral Membership
In 1994 Adler and Adler wrote that the roles of complete observer and observer-as- participant were no longer as popular with qualitative researchers as they had been during the mid-twentieth century (p. 380). Instead, researchers preferred "greater involvement," which included what they called "membership roles" (p. 379). Thus, new role labels appeared in the literature. Adler and Adler's "peripheral membership" seems to equate to Spradley's (1980) moderate role.

In this role the researcher wants to "maintain a balance between being an insider and an outsider, between participation and observation" (Spradley, 1980, p. 60). To accomplish this, the researcher interacts with the insiders and engages in similar activities but, according to Adler and Adler she/he does not participate in those activities "that stand at the core of group membership and identification" (1987, p. 36). They postulated two reasons for adopting this role. First, the researcher may limit involvement in the group, fearing that it will affect her/his ability to interpret the data from a detached perspective. Second, the researcher may "intentionally restrict" the level of involvement because she/he does not want to participate in the specific activities of the insiders being studied (p. 36). In their study of drug dealers, this is the role Adler and Adler assumed.

From the description of her study of older women living in Garden Towers, Chatman's (1992) role was that of peripheral membership. As Gorman and Clayton (2005) pointed out, she sat with the women on a regular basis, played cards, and ate with them. Throughout her study, however, she maintained the balance between observation and participation by not becoming involved in their daily care, that is, she did not become a member of the staff in the home. This role is similar to the one Carey (2003) played as librarian at the support group meetings. His not having the disease precluded his complete membership in the group.

Participant-as-Observer, Active Participation, Active Membership

The role that Gold (1958) called participant-as-observer, Spradley (1980) and Adler and Adler (1987, 1994) labeled "active participation" and "active membership," respectively. It is in this role that the researcher becomes more involved with the insiders' central activities but still does not fully commit to "members' values and goals" (Adler & Adler, 1994, p. 380). During this period of observation, the researcher may develop relationships with the insiders, such that they become "friends." Pearsall saw this relationship as beneficial because, as friends, the insiders can "instruct the investigator in the intricacies of their personal and social worlds" (1970, p. 343). Gold (1958), on the other hand, viewed this relationship as more problematic. First, he felt that the insider may identify too much with the researcher to continue in the role of informant and may become, instead, "too much of an observer" (p. 221). Second, the researcher may "over identify" with the insider, loose objectivity, and "go native," thus jeopardizing her/his role as a researcher/observer (p. 221).

Complete Participation

Complete participation is the ultimate level of involvement as the researcher goes native and studies a group in which she/he is already a member (Spradley, 1980; Adler & Adler, 1994). Researchers act as members, not researchers, so that they do not unnaturally "alter the flow of the interaction" (Adler & Adler, 1994, p. 380). While this role is ideal for obtaining a very good understanding of the insiders, both Gold (1958) and Spradley (1980) had reservations about researchers engaging in complete participation. In this role, the identity of the complete participant is unknown to the insiders, which can be problematic for the researcher who may become so self-conscious "about revealing his true self" that she/he becomes "handicapped when attempting to perform convincingly in the pretended role" (Gold, 1958, p. 220). Furthermore, the researcher may feel that "he has so violated his observer role that it is almost impossible to report his findings" (p. 220). Spradley agreed and cautioned that "the more you know about a situation, . . . the more difficult it is to study it as an ethnographer" (1980, p. 61).

Complete Membership

In their book on membership roles, Adler and Adler (1987) state that Gold's (1958) role of complete participant is not equivalent to their role of complete membership for several reasons. First, because the researcher and the insiders "relate to each other as status equals, dedicated to sharing in a common set of experiences, feelings, and goals" (Adler & Adler, 1987, p. 67), there is no need for the researcher to assume a covert role. Second, unlike the prohibitions in complete participation about going native, researchers adopting the complete membership role are encouraged to go native because this role enhances the data-gathering process through a sharing of information between insiders and the researcher.

In their description of complete membership, Adler and Adler state that a researcher's level of commitment varies along a continuum and that progression along this continuum "is usually associated with researchers relinquishing their involvement in and commitment to their former world and adopting the *weltanschauung,* or worldview, of members" (1987, p. 67). At one end of the continuum are researchers who, although sharing the "values, beliefs, and goals of other participants" (p. 67), do not fully join the group. At the other end are people who never return from the field.

Adler and Adler (1987) divide researchers who enter into complete membership roles into two categories: opportunistic and convert. Briefly stated, opportunistic researchers are those who are already involved in or are members of a group whom they eventually decide to study. Instead of having to bring a "pretended self" (p. 69) to the research setting, they have to "create the space and character for their research role to emerge" and examine the setting from a different perspective. In this case, the membership role precedes the researcher role. The converts, on the other hand, start as researchers whose "initial interest . . . is purely data oriented" (p. 70) but then convert to become the phenomenon. Converting may take one of two routes. Researchers may "enter the field with the express intention of making a 'good faith commitment' to becoming the phenomenon" because of their "epistemological principles, their interest in the group they are studying, or their evaluation of the pragmatic requisites for studying this group" (Adler & Alder, 1987, p. 70). Other researchers may be pressured to convert by the insiders or may be influenced by their own feelings to become a member of a group.

Problems are inherent in the complete membership role. One concerns the positive/legitimate or negative/stigma connotations of a researcher's association with the study group (Adler & Adler, 1987). Not only can researchers be contaminated by the insiders' status, they may also be stigmatized by other academics for going native. Another problem involves the consequences of the complete membership role on data gathering. Adler and Adler suggested, however, that the depth of data that can be collected in this role more than compensates for the loss of scientific detachment.

Finally, the authors acknowledged the effects the complete membership role has on the "researcher's self" (1987, p. 82). Researchers who adopt this role may find that not only have they changed, but also their relationships with others have been affected by their commitment to the insider group. Thus, the role of complete membership is not one that can be entered into lightly. No studies of LIS researchers engaging in either complete participation or complete membership were found in the literature.

Characteristics Unique to Observational Research

Observation has some aspects that are unique to this research method, including training, entering and leaving the study group, length of time in the field, sampling, and data collection techniques. Each of these topics will be described briefly below.

Training

Few general LIS research texts discuss the need for special training for those who engage in ethnographic research. Spradley (1980) states that these skills could be learned only though an apprenticeship or on-the-job training in the field. So important are these skills that he wrote two handbooks "for doing ethnography" (p. vii), including *The Ethnographic Interview* (Spradley, 1979) and *Participant Observation* (1980). In her article published in an LIS health sciences journal on the use of anthropological techniques to study the information needs of physicians, Forsythe (1998), an anthropologist, also emphasized the need for formal training:

> A word of caution: perhaps because ethnographic methods are largely qualitative in nature and are intentionally unobtrusive, people without formal training in these methods often mistakenly assume that ethnography is something that anyone can do. Doing valid and reliable ethnographic research requires considerable training and practice. (p. 407)

In their article Sandstrom and Sandstrom focus on "five misleading stances or assumptions that pervade LIS writing on qualitative research design" in the hope of clarifying "how the neglect of key issues in ethnography diminishes the value of research findings for theory building and practice" (1995, pp. 163–164). Two points in their article are relevant to the issue of training for those who wish to conduct an observational study. First, the authors attacked the naive belief that qualitative research would be better if the researchers "forgo methodological training" (p. 179). Similar to Spradley (1980) and Forsythe (1998), they state that the "proper application of qualitative methods and techniques can be achieved only by trained observers" (p. 179). Sandstrom and Sandstrom also took issue with the idea that "naturalistic inquiry . . . may begin with little or no awareness of existing literature" so that the researcher can "observe with no preconceived ideas or biases" (1995, p. 179). This view, according to the

authors, is a "flagrant violation of common sense" (p. 179). To emphasize their point, they referred to Glaser and Strauss's 1967 influential book, *The Discovery of Grounded Theory: Strategies for Qualitative Research,* wherein these authors devote one chapter to the importance of critically reading the literature. Sandstrom and Sandstrom (1995) thus suggest that researchers get a "thorough grounding in the literature" (p. 180) before they start a project because "[n]eglecting to read others' work condemns the researcher to rediscover what is already known and to repeat mistakes that could have been avoided" (p. 180).

Gaining Access and Leaving the Field

If the researcher is already a member of the group she/he is interested in studying, then gaining access is not a problem. The issues for these researchers are whether, when, and to whom to disclose oneself as a researcher (see discussion above on complete participation and complete membership; see also Labaree, 2002). Despite well-planned research and/or particular interest in a group, gaining entry is not an easy process. Time, effort, patience, and diplomacy are essential for success. In addition, maintaining that access is an ongoing process rather than a static one. A few examples from LIS studies demonstrate the difficulties researchers can encounter.

Chatman (1992) recounted her problems gaining entry in three different studies. In her research on single mothers in the Comprehensive Employment Training Act programs, she had to go through months of negotiation with city officials and site supervisors, one of whom terminated her study early for no apparent reason. When she studied janitors, Chatman had problems with the supervisors and the janitors, some of whom were "suspicious of some lady going around snooping and asking questions for some survey!" (1990, p. 5). Although gaining access to women in Garden Towers was easier, Chatman lost time starting the research project when the resident manager quit, requiring her to wait until another one was hired. She also discussed accessibility to the residents after she had gained access. The residents of Garden Towers closed their doors when they did not want to be disturbed. Although she did not violate this informal policy, Chatman noted the time lost to interviews (even prearranged ones) if a woman had closed her door.

This author (Baker, 2004) also had trouble gaining access to female vice police officers who work undercover as sex workers. It took approximately one year of negotiation with the head of the vice unit to gain access to the officers. One reason for this was that the head of the vice department changed during the negotiation period, which required starting the negotiations over with the new person. Once permission to interview the officers was obtained, there were no further problems obtaining permission to accompany and observe the officers during one of their night shifts as undercover street-level sex workers.

Observation also requires researchers to consider how to "leave the field," although, according to Labaree (2002), little attention has been paid in the literature to the process of disengagement. When the study questions have been addressed or when data saturation becomes evident, most researchers know it is time to leave. How they leave––abruptly or gradually––is the major issue they have to address. External factors, such as termination of funding, personal health, or withdrawal of permission to continue the study, may precipitate abrupt termination of the study (Jorgensen, 1989). Gradual departure may be more the norm when the researcher has adopted the complete participant or membership role. As Jorgensen pointed out, researchers may have to return periodically to get questions answered or to complete unfinished business.

Further complicating one's departure is the emotional attachment that may have formed between the researcher and the insiders and the end of relationships that have become "close and intimate . . . over lengthy periods" (Jorgensen, 1989, p. 118). In this case, Jorgensen suggested that the researcher withdraw "over a period of time so that everyone is able to prepare for the end of participant observational study" (p. 119). He also stated, however, that he has maintained contact with some of the friends he made during one of his studies. According to Adler and Adler (1987), the degree of disengagement from the study group depends on the role the researcher played. For those involved in a complete membership role, they are more likely to maintain ties with the study group than would researchers who engage in either the active or peripheral membership.

Finally, the ethical obligations to the study participants depend on the level of involvement and must be considered during the detachment period. As Labaree (2002) noted,

> Practices of strategic deceit, the tactical use of withholding information, and making conscious decisions about limiting who will read about the study's findings can follow the insider participant observer in the community long after an outsider has moved on to other research projects. These are risks that should be negotiated and carefully calculated by the insider participant observer before the study begins. (p. 115)

Length of Time in the Field

One of the unique factors of observation is the length of time in the field. Naturally, the amount of time depends on the research problem and the role assumed by the researcher. As a nonparticipant, length of time is similar to many quantitative studies. For example, in their respective transaction log analysis studies, Moukdad and Large (2001) collected data during two thirty-minute sessions in one day, while Davis (2004) collected data over a three-month period. In the other roles researchers might have to spend years in the field. Chatman, for example, spent two years studying the women in Garden Towers and two years in her study of janitors.

What is important is that the researcher have "prolonged, personal contact with events in a natural setting" (Chatman, 1984, p. 426) and play as many roles as necessary to "gain at least a comfortable degree of rapport, even intimacy, with the people, situation, and settings of research" (Jorgensen, 1989, p. 21).

Sampling

The crux of observational studies is the "who, what, where, and when" questions. Polit and Hungler (1987) divided the units of observation into two categories: molar and molecular. Molar involves observing large units of activity "as a whole," whereas the molecular approach "uses small and highly specific behaviors as the unit of observation" (p. 268). These two categories are not mutually exclusive. For example, the researcher may use the molar approach at the beginning of the study and change to the molecular one as her/his familiarity with, and understanding of, the insiders and their environment grows. Adler and Adler (1994) used the analogy of a funnel to describe this process wherein the stages of observation get progressively narrower and direct the researcher's "attention deeper into the elements of the setting that have emerged as theoretically and/or empirically essential" (p. 381).

To get rich and in-depth information, it is important for the researcher to know the best times to observe and meet with individual insiders, as well as whom she/he should interview. Extended time in the field and active participation in the group's functions increases the researcher's ability to judge these things. For example, Chatman stated that she attended many social functions at Garden Towers, including "card games and parties" (1991, p. 284). In addition, the sampling categories, such as those listed by Westbrook (as cited in Powell & Connaway, 2004; see also, Labaree, 2002), may be of some help to researchers. They include maximum variety sampling in order to make the sample as heterogeneous as possible. The researcher can also seek out insiders who "exemplify characteristics of interest" (called extreme case sampling), as well as those who have considerable experience in the group (called intensity sampling) because these people can help the researcher better understand the environment (Powell & Connaway, 2004, p. 190). Finally, the researcher may want to use snowball sampling as a way to link with others in a group. Snowball sampling is a good method to use because insiders who have been referred by a friend may be more willing to talk with the researcher. Biernacki and Waldorf (1981) identified some of the problems associated with snowball sampling that have received little attention in the literature. They dispelled the myth that snowballing is self-propelling and that once started it maintains its own momentum. Rather, the researcher "must actively and deliberately develop and control the sample's initiation, progress, and termination" (p. 143). The problems they identified include the following:

- Finding respondents and starting referral chains
- Verifying the eligibility of potential respondents
- Engaging respondents as research assistants
- Controlling the types of chains and number of cases in any chain
- Pacing and monitoring referral chains and data quality (p. 144)

Biernacki and Waldorf explained that the major problem with snowball sampling is that it is network dependent. There are two issues to consider. The first is whether the social networks formed because of the phenomenon being study and, if so, "what types of networks" have developed. Second, if the phenomenon under investigation is a "private matter," then "the problem becomes the extent to which the method will reveal the possible variations that might be extant in the population" (pp. 160–161). Thus, there is the need for the researcher to maintain "control over the referral chains" (p. 155). Other problems include "ferreting out respondents who fit the research criteria" (p. 145) and dealing with what they called "false starts," that is, the people to whom the researcher is referred turn out not to have the exact criteria for inclusion in the study (p. 149). Finally, the researcher may also need to verify participants' stories through outside sources. Although these problems can be overcome, this sampling technique requires some additional preparation and increased vigilance by the researcher to ensure that the participants meet the criteria of the study and are representative of the entire group.

Data Collection Techniques

The most common type of data collection, according to Polit and Hungler (1987), are logs and field notes. While the former are used to record daily conversations or events, field notes are "much broader, more analytic, and more interpretive" (p. 271). The researcher may choose to write, or dictate into a tape recorder, her/his field notes, which can be categorized as observational, method, theory, and personal (Chatman, 1992; Polit & Hungler, 1987). Observational notes detail what the researcher actually saw, while method notes include strategies that were "employed or that might be employed" in future observations (Chatman, 1992, p. 15). Polit and Hungler described personal notes as the researcher's "own feelings during the research process" and theoretical notes as "interpretative attempts to attach meaning to observations" (1987, pp. 272–273). Spradley (1980) called notes taken during an event the condensed version, while the expanded version is what a researcher writes after each field session. Since the key to a successful observational study is the quality of the data collected in logs and field notes (Polit & Hungler, 1987), the researcher should, according to Spradley, adhere to three principles. First, "identify the language used for each fieldnote entry" (Spradley, 1980, p. 66); in other words, identify the speaker and use "parentheses, quotation marks, or brackets" in order to have a record that "reflects the same differences

in languages usages as the actual field situation" (p. 66). The second principle is to make a verbatim record of what a person says and be able to distinguish "native terms" and "observer terms" (p. 67). Third, Spradley discussed the importance of using "concrete language" when describing observations (p. 68). Researchers should not generalize, condense, or abbreviate the details but rather "expand, fill out, enlarge, and give as much specific detail as possible" (p. 68).

In observation, the researcher uses all of her/his senses to gather information about the phenomena under study (Adler & Adler, 1994). A variety of material should also be used to enhance sensual observations. Audio-recorders can be used to tape interviews. Video-recorders or cameras can be used to record the activities of the insiders because, according to Collier and Collier (1986), cameras are an "instrumental extension of our senses" (p. 7) that may help researchers to "see more and with greater accuracy" (p. 5). In her multimethod study of hobby cooks that included "secondary research, interviews . . . and the unobtrusive analysis of sites," Hartel took 125 photographs to "capture the titles of books or file tabs with subject headings" (2003, p. 235). Other material such as minutes of meetings, memoranda, letters, magazines, or newspaper articles can also expand one's understanding of the study group. Spradley (1980) also mentioned making maps to record observations. Given and Leckie "mapped and photographed the visual space on all floors" of both libraries they studied "to document the location of furniture and equipment" in order to create the "seating sweeps checklist" (2003, p. 375).

Ethical Issues in Observation

One of the major factors associated with observational studies is ethics. While observation is generally seen as the least intrusive data collection method, it can also be an abuse of an individual's privacy (Adler & Adler, 1994; Jorgensen, 1989; Chatman, 1992). Jorgensen argued, however, that unlike scientific research, "participant observation does *not* have human subjects" (p. 28; emphasis in original) because the people with whom the researcher interacts are not subject to any experiment. While acknowledging that researchers are responsible for their actions, he stated "the researcher is not necessarily obligated to inform people of research intentions, or even protect them from possible harmful consequences" (p. 28). In today's research environment, the institution review boards (IRBs) of most institutions would not agree with his views. As Adler and Adler (1994) pointed out, universities that receive government funding have IRBs that guide research on human participants. Their policies have "outlawed disguised research" (Adler & Adler, 1994, p. 389), which may explain why the complete observer and observer-as-participant roles, as well as covert roles in complete participation, are not being used, or are frowned upon, by researchers. In addition, without sufficient justification by the researcher,

IRBs may withhold permission to photograph, videotape, or audio-tape individuals without their informed consent.

In observational research, the complexity of fieldwork in which the researcher is engaged "make[s] it difficult, if not impossible, to adopt a single set of standards," according to Spradley (1980, p. 20). He suggested researchers follow the guidelines of the American Anthropological Association, which include (1) study participants come first; (2) their rights, interests, and sensitivities should be safeguarded by the researcher; (3) participants have the right to know the aims of the researcher; (4) the privacy of the participants must be protected; (5) the participant should not be exploited or harmed in any way; and (6) reports should be made available not only to sponsors but also to the participants and the general public (Spradley, 1980, pp. 21–25).

Chatman (1992), in her book on retired women living in Garden Towers, discussed two different types of ethical dilemmas an observer can encounter. One is "*guilty knowledge,* in which the investigator is privy to confidential information, and [the other is] *dirty hands,* or a situation in which the researcher is able to correct or reveal some wrongdoing but chooses not to do so" (p. 18). Guilty knowledge, for Chatman, resulted from a confidential discussion she had with a woman who wanted to commit suicide. Chatman stated that she withheld the information from the staff and later questioned her decision: "My decision to remain silent ultimately must be attributable to my sense that her death was not harming others. She wanted the right to die and she asked that I not tell anyone. This is a haunting part of my field experience and I still wonder if I did the right thing" (p. 20). To demonstrate dirty hands, Chatman revealed why she chose not to tell the authorities about the mistreatment of a resident. First, she did not want "to risk being seen by other residents as a person who ran to the authorities, particularly since being invited to their apartment was a trusting social act" (p. 18). Her second reason related to the norms of scholarship:

> telling the authorities about that single incident did not outweigh the benefits of being silent. In other words, the first reason is related to the norms of scientific inquiry. Using this guideline, the participant observer realizes that he or she is between two different cultures: the world of persons under study and the scientific community. In order for the investigator to meet the requirements of the scientific community, a degree of objectivity in reporting data is required. (p. 18)

VALIDITY AND RELIABILITY

As is the case with all research, researchers must address the issues of validity and reliability. In his comprehensive article on validity in qualitative research, Johnson (1997) defines validity as research that is "plausible, credible, trustworthy, and, therefore, defensible" and posits a number of strategies researchers can use to promote validity (p. 282). One threat to

validity is researcher bias that may result from selective observation, selective recording of information, or the subjective interpretation of situations. To address bias, researchers can use multiple observers, actively engage in critical self-reflection (reflexivity), or look for negative cases "that disconfirm [the researcher's] expectations and explanations" (Johnson, 1997 p. 284; Adler & Adler, 1994). In addition, Chatman used "additional methods of inquiry" (1992, p. 13), which, in her study, included an interview guide.

Johnson categorized validity as descriptive, interpretive, and theoretical and suggested strategies to promote each type. Descriptive validity "refers to the factual accuracy of the account as reported by the researchers" (1997, p. 284). He suggested "investigator triangulation" or the use of more than one investigator to collect and analyze the data (p. 283). Interpretive validity involves "accuracy in reporting the facts" or "accurately portraying the *meaning* attached by participants to what is being studied" (p. 285; emphasis in original). Strategies to improve interpretive validity include participant feedback and the use of "low inference descriptors" (that is, direct quotations) (p. 283; see also, Adler & Adler, 1994). Theoretical validity refers to "the degree that a theoretical explanation developed from a research study fits the data and, therefore, is credible and defensible" (p. 286). To promote theoretical validity, Johnson suggested that the researcher spend more time in the field. In addition, she/he can also use what Johnson called "pattern matching" (p. 283), a process that involves "predicting a series of results that form a 'pattern' and then determining the degree to which the actual results fit the predicted pattern" (p. 283). Theory triangulation would allow the researcher to examine and explain the phenomenon from different perspectives. Investigator triangulation and peer review could also help improve theoretical validity.

For Chatman (1992), validity in observational studies concerns whether the researcher is given a true picture of the phenomenon under investigation. She mentioned three types of validity: face, criterion, and construct. Face validity involves whether the observations make sense and fit into an "expected or plausible frame of reference" (p. 12). Criterion validity refers to the accuracy of findings and can be addressed by using more than one data collection technique. Chatman not only took notes but also used an interview guide (see also Adler & Adler, 1994). Finally, similar to theoretical validity is what Chatman called construct validity, which "refers to the analysis stage of field work" when the researcher determines how well the phenomenon studied fits with the conceptual framework guiding the study (p. 14).

Qualitative research is often criticized for lacking reliability. While many qualitative researchers may not be interested in generalizing their results, they must address the reality of their findings. To do so, Adler and Adler suggested that researchers should conduct their observations "systematically and repeatedly over varying conditions," that is, varying the time and the place in order to "ensure the widest range of observational consistency" (1994, p. 381).

Johnson (1997) discussed generalizability (external validity) from two perspectives. In qualitative studies, participants and the setting are not randomly selected. Furthermore, many qualitative researchers are more interested in studying "what is unique about a certain group of people, or a certain event" (p. 289). These two factors make it difficult to generalize from the sample to the population. He noted, however, that some researchers "argue that rough generalizations can be made from qualitative research" (p. 290). To do so, the group studied must be similar to the group about which one wants to generalize. Johnson (1997) suggested supplying the following information to help readers know when they can generalize:

• The number and kinds of people in the study
• How they were selected to be in the study
• Contextual information
• The nature of the researcher's relationship with the participants
• Information about any informants who provided information
• The methods of data collection used
• The data analysis techniques used (p. 290)

All this information will allow the reader not only to "make an informed decision about to whom the results may be generalized" but also to decide whether she/he would want to duplicate the study with other insiders (p. 290).

CONCLUSION

The literature on observation reveals how complex, challenging, and creative this research method is. Observational research differs from other methods in that it requires the researcher to have more specialized training on how to observe, what and how to record the data, how to enter the field and leave it, and how to remain detached and involved at the same time. The fact that the researcher may have to assume one or more roles is unique to observational studies. There are, however, some similarities to other research methods such as the need to plan the overall project, review the literature, and determine who will be studied and when and where (in what locations) the observations will take place. Finally, the use of one's senses, as well as other data collection techniques, make observation a more holistic type of research that allows the researcher to gain a better understanding of insiders from their own perspective. While LIS researchers are designing studies using the observation method, few have assumed the complete participant or complete membership roles. These roles might be interesting and challenging ones to assume in our efforts to understand an insider's view of the role of information in her/his everyday life.

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