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Maximizing Credibility and Accountability in Qualitative Data Collection and Data Analysis: A Social Work Research Case Example

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A case example demonstrates the use of qualitative methods of data collection and data analysis that balance structure and flexibility, and maximize credibility and accountability. Data collection methods use sensitizing concepts from past research and theory and allow for the discovery of respondent-defined meanings. This approach comparatively analyzes cases, structures and documents data analysis steps, and utilizes external reviewers of case materials. The development and use of methods that maximize credibility and accountability will increase their acceptance among social workers and will benefit the profession by adding empirically-grounded depth and insight to its knowledge base.

Over the past ten years, social work journals have reflected a growing interest in the use of qualitative methods for social work research. Articles in these journals have primarily focused on a debate about the philosophical and epistemological foundations of research—most often pitting qualitative methods against quantitative methods. As Piele (1988), Berlin (1990), and Goldstein (1991) have described, this debate has often taken the form of arguing for the “best” or “right” way to do social work research. While many authors have taken “sides” based on epistemological grounds, others have criticized the dichotomization of research methods and have called for a resolution of the debate. Most often, the recommended resolution involves the acceptance of a pluralistic view of science (Berlin, 1990; Brekke, 1986; Reid, 1994) or a synthesis of research methods which encompasses both quantitative and qualitative views into a new paradigm for research (Piele, 1988.) Although some social work researchers will undoubtedly remain committed to a single methodology—either quantitative or qualitative—others will and do accept a more
pluralistic view of science and scientific methods. However, the mainstream acceptance of qualitative research methods among social workers—on equal grounds with quantitative methods—is hampered by a lack of understanding about what qualitative research is, when it is most appropriately used in social work research, and how to evaluate the credibility of its findings.

Although recent social work research textbooks have begun to expand beyond the obligatory chapter on ethnography to include discussions of sampling, data collection and data analysis issues in qualitative research (see, for example, Rubin and Babbie, 1993), the social work researcher still must turn to other disciplines for more in-depth and sophisticated discussions of qualitative research methods. Even with these resources, students, teachers, and practitioners of qualitative social work research have available few illustrations of the actual execution of qualitative research studies within the field of social work. Particularly lacking are illustrations of qualitative data collection and data analysis techniques. Goldstein (1991) argues that the methods of qualitative research become more understandable when their applications can be demonstrated. A better understanding will in turn lead to the responsible use of such methods, ultimately increasing their credibility among social work researchers.

This article provides a case example of conducting a qualitative research study in social work, focusing in particular on the application of qualitative methods of data collection and data analysis. It describes an approach to data collection and data analysis that strikes a balance between structure and flexibility, and that maximizes both credibility (Lincoln and Guba, 1985) and accountability. Specifically, it describes data collection methods which, by means of repeated semi-structured interviewing and the use of sensitizing concepts, guide the analysis without overly restricting the gathering of data. It describes an approach to inductive data analysis that comparatively analyzes cases, structures analysis so as not to overwhelm the analyst, documents data analysis steps through a field journal, data matrices, data reduction forms and memos to external reviewers in order to leave a paper trail, and utilizes external reviewers of case materials to maximize intersubjectivity (Rubin and Babbie, 1993.) This case example aims to begin to fill the gap between abstract
methods of data collection and data analysis and their responsible application.

Qualitative Features of the Study

One difficulty in the general acceptance of qualitative research methods has been a lack of agreement among both proponents and opponents about what exactly qualitative research is and is not. The terms "qualitative" and "quantitative" can be used to refer to various aspects of a research study—including the research design, the research setting, the method of gathering data, the type of data gathered, and the approach to data analysis. In addition, those who practice qualitative research base their work on a variety of philosophical and theoretical foundations—including ethnography, ethnomethodology, phenomenology, and grounded theory—all of which have related but distinctive implications for the practice of research. Thus it is important to identify the particular features of a research study that warrant the "qualitative" label. Or, as Lofland and Lofland (1984) say, to look beyond the "terminological jungle" to the activities in which the researcher actually engages.

Several related features of this research, when taken together, make it a qualitative study. These include the research setting, the sample size and selection characteristics, techniques for obtaining the sample, data collection methods, and the data analysis techniques. The choice of these methodological features were related to the goals of the study and the identified type of knowledge required about the phenomenon under study.

The goal of this study was to better understand the concept of social support as it relates to parenting and child neglect. Although parents who neglect their children have long been thought to be socially isolated, a thorough review of the literature revealed conceptual and methodological weaknesses in past research which called this assumption into question (see Beeman, 1993, for an in-depth review of this literature; see also Seagull, 1987.) For example, the concepts of social relationship, social interaction, and social support were used interchangeably, the existence of potential support resources was taken to represent the receipt of social support, negative aspects of social relationships
were overlooked, and a variety of definitions and measures of social support were used. Also, although research on social support had concluded that it is the individual's perception of being supported that is important, it was not clear from past research which aspects of relationships and interactions are related to the individual's perception of being supported. In addition, few studies utilized comparison groups of nonneglecting parents of similar sociodemographic backgrounds in order to begin to identify the characteristics of social networks which might be targets of intervention for neglecting and high-risk parents. Thus there was a clear need for research that: 1) differentiated between social relationships, social interaction and social support; 2) identified the characteristics and dimensions of social relationships and social interactions which the individual him/herself perceived as "supportive"; and 3) compared and contrasted these characteristics for parents who have neglected their children and parents who have not.

There were several methodological implications of the research goal. First, the concept of the social network and social network analysis were utilized to operationalize the distinction between social relationships, social interaction, and social support and to explore the importance of characteristics of social relationships as described in the social network literature (see Beeman, 1993, for a review of this literature). Second, a type of comparative analysis was used to compare social network characteristics of a group of mothers who had neglected their children to those of a group of socio-demographically similar mothers who were identified by key community contacts as successfully raising their children in a high-risk environment—in this case, low-income, single, African-American mothers living in the same inner-city neighborhood. Finally, qualitative data collection and data analysis methods were used which allowed for the discovery of important aspects of social relationships and social interaction from the respondent's perspective. These data collection and data analysis methods are the focus of the remainder of the paper.

Data Collection: Balancing Structure and Flexibility

In order to allow for the discovery of important aspects of social relationships and social interaction from the respondents'
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perspective, data collection methods for this study needed to be flexible enough to allow for the identification of important features in the respondent's own words, yet structured enough to guide data gathering and data analysis. Thus the main method of data collection chosen for this study was repeated, semi-structured interviewing. An interview guide consisting of open-ended questions was developed with input from other researchers experienced in interviewing mothers living in high-risk environments and extensive piloting and pre-testing with representatives of both groups of mothers. This interview guide was guided by past theory and research, and thus made use of sensitizing concepts. Sensitizing concepts are those that the analyst brings to the data—they give the analyst a "general sense of reference" and "provide directions along which to look." (Blumer, 1969: 148; see also Denzin, 1978; and Patton, 1990). In this study, many of these sensitizing concepts came from past research on social networks. For example, one characteristic of social network relationships which had been identified in past research is the direction or reciprocity of the relationship between two network members (e.g. Mitchell, 1969). Do the network members both give and receive tangible and/or intangible assistance? A bi-directional or reciprocal relationship is one in which both network members are giving and receiving; a uni-directional or nonreciprocal relationship is one in which one network member is on the receiving end and the other on the giving end. In theory, this concept seems simple enough to measure. However, as was discovered during fieldwork, the concept is much more complex than it seems.

During the series of interviews, each respondent was asked both about ways she and each network member "helped each other out" and about the types of assistance (both tangible and intangible) that were typically exchanged. In addition, each respondent was asked whether she felt that she and each network member "exchanged on an equal or unequal basis." Thus using reciprocity as a sensitizing concept, these questions were used to explore whether the respondent and each of her network members did about the same amount for each other. However, a different, "indigenous" (Patton, 1990) meaning of this concept emerged during data collection and thus led to the identification of a new inductively-driven characteristic of network relationships. This
characteristic represented the extent to which a respondent judged exchange between her network members and herself to be "fair" or "just." In this study, the extent to which there was equal exchange seemed less important than a sense of mutual, fair exchange—of "sharing" and "trading back and forth." This inductively-driven meaning of reciprocity was represented in such statements by nonneglecting mothers as: "If she need it, I got it, come and get it, and the same for me;" "She gives me money now 'cause I need it, I'll give it to her later when she needs it;" "I give her money, she gives me (emotional) support, it evens out."

The interview guide contained a list of topics and question areas addressed by the interviewer over the course of three to four interviews with each respondent. While all topics were covered during these interviews, the order in which they were tapped was not rigid and was determined by the natural course of conversation with the respondent. Repeated interviews contributed to the building of rapport between the interviewer and respondent. In this study, all interviews were conducted by the same researcher. While the use of one researcher for all data collection and data analysis can increase the risk of systematic biases in interpretation, the use of external reviewers of case materials throughout the process reduced that risk in this study.

Respondents were given the option of being interviewed at a local settlement house or in their own home. Most respondents chose to be interviewed at their home, a setting which was most comfortable for the respondent, and most convenient for those who were caring for one or more young children. With the permission of respondents, all interviews were tape-recorded to permit more complete and accurate transcription of interview materials and to allow the interviewer greater freedom to become involved in the interview process.

Tape-recording also allowed the researcher to review the tapes between interviews. Immediately following each interview, tapes were reviewed, noting inconsistencies or incomplete information to be clarified during the next interview. Also at this time, following a semi-structured observation guide, the researcher recorded observations of the home and community, and when possible, interaction with children and interactions with network members. As in most qualitative research, data collection and
data analysis ran concurrently (Lofland and Lofland, 1984; Miles and Huberman, 1984), thus preliminary data reduction was conducted between interviews. For example, during the first interview, respondents were consistently asked to list all individuals who were “involved” in the lives of the mother and her family. “Involved” was a sensitizing concept used to help determine the boundaries of the mothers’ social networks. During and after this interview, a preliminary list of network members was constructed on which the remaining interviews focused. This list was open to modification by the respondent at any point during the interviews. Based on this list of network members, two matrices were constructed which allowed for the recording of characteristics of network relationships and interactions to be used during and between the remaining interviews. These matrices also served as data reduction forms (Miles and Huberman, 1984) which aided the process of data analysis.

Finally, during the interview process, the researcher recorded emerging insights, data themes and patterns in a field journal (Lofland and Lofland, 1984; Miles and Huberman, 1984). This journal served as an ongoing record of preliminary case comparisons and contrasts, and served as a beginning guide to data analysis. These emerging insights and themes, along with portions of the transcripts which represented those themes, were discussed at regular meetings with the external case reviewers. The following example illustrates the importance of the field journal in the identification of data patterns and as the basis for discussion with the external case reviewers.

During an interview with Jackie, a non-neglecting mother, it became clear that although she regularly exchanged material and other types of assistance with her network members, she did not see herself as depending on them for assistance, and in fact believed it was important that she be able to count on herself. After the interview, this was noted in the field journal as follows:

For Jackie, self-reliance and self-sufficiency is important. Today she talked about the importance of being able to count on herself so that if she needed something and someone couldn’t help, she wasn’t “stuck.” This reminds me of Barbara, Brenda, and Ruth (other non-neglecting mothers) who made similar statements about counting on themselves.”
A later entry in the field journal noted additional respondents who made statements about relying on themselves. This entry was followed by a question to be raised at the next meeting with the case reviewers: how does this self-reliance reconcile with "the give and take," the mutual exchange, described by the same respondents?

These entries from the field journal along with corresponding excerpts from transcripts then became the basis for an ongoing discussion with the reviewers. One reviewer in particular encouraged me to keep exploring these seemingly contradictory characteristics during data analysis. Based on her own research on social network relationships, she encouraged me to view the self-reliance and the mutual exchange as complementary rather than contradictory—while in response to any particular situation an individual may choose either to rely on her own resources, or to go to others for help, perhaps it was the overall balance of the two that was important in distinguishing non-neglecting mothers from neglecting mothers. This theme later evolved into a major pattern of difference between neglecting and non-neglecting mothers and is further discussed later in this article (see Beeman, 1993 for an extensive discussion of the findings.)

The use of these data collection procedures and techniques resulted in rich, detailed information on social relationships and interactions which made use of existing theory and research on social networks, but also left room for the discovery of grounded, unanticipated characteristics. This approach has several advantages over a more structured, forced-choice approach to asking questions.

Past research on social support and child neglect often "pre-defined" the meaning of social ties, rather than recognizing that interpersonal relationships are both complex and dynamic (see Beeman, 1993, for review of this research). For example, it was assumed that because a tie exists, a person is supported; or a social tie was treated as a simple and fixed dichotomy: either a relationship is supportive or it is not. Yet as this research revealed, not all social relationships which supply an individual with assistance—either tangible or intangible—are necessarily seen by that person as supportive. In addition, some relationships which are perceived as supportive at one point in time, may be perceived as
stressful at another point; or supportive in some aspects, but not in others. The following example illustrates the potential of semi-structured interviewing to reveal the complex and dynamic nature of social ties from the respondent's perspective.

Caroline was found by the State child welfare agency to have neglected her youngest child. She currently lived on the second floor of her parents' home. One of the people that Caroline included in her social network was her mother, and at first, she described their relationship in this way:

I can talk to my mom about anything in the world, and . . . I don't have to sit back and let her use, she won't use it against me.

However during a later interview, as she talked about some of the different ways her mother was involved in her life, Caroline described their relationship in a different way:

I give her (her daughter) the twenty-five dollars to go get her a pair of shoes. And she comes back, naturally, with gym shoes . . . so now my mother, she's really fussing, she's mad—"You went behind my back, you did this, you did that." And I just thought, I said well, this is my daughter, if I wanna buy her a thousand and one pair of gym shoes it's my business. "Caroline, you buy her too much, you give her too much"—which I don't think I do. Sometimes she make me feel like I'm guilty . . . Me and my mom, we stay in conflict constantly about her.

While a one-shot interview may only have revealed one or the other of Caroline's characterizations of her relationship with her mother, repeated semi-structured interviewing allowed the complex nature of this relationship to emerge. In addition, rather than forcing Caroline to characterize her relationship with her mother as either supportive or not supportive with a forced-choice question, this approach provided a more valid depiction of Caroline's assessment of her relationship with her mother.

Data Analysis: Credibility and Accountability

Repeated, semi-structured interviewing results in a voluminous amount of data in the form of transcripts. The next step for the qualitative researcher is to "make sense" of the data—a task which can be difficult for the researcher who is often trained and
experienced in more traditional methods of data analysis. But with the right balance of structure and flexibility, creativity and objectivity, the process of data analysis can result in a credible and accountable interpretation of the data.

As was described earlier, the analysis of data in this study began during the data collection phase. Characteristics which were guided by past research and theory and thus anticipated in advance, were systematically recorded on data matrices during the interview process. These matrices guided and aided the analysis of this data. After the interview tapes were transcribed, data on the matrices were rechecked against the transcripts for verification. Several computerized spreadsheets were developed which described demographic and social network characteristics, and aided in the summarizing and comparison of these characteristics.

The second part of the analysis took an inductive approach to understanding the data (Lincoln and Guba, 1985; Bogdan and Biklen, 1992). This approach to data analysis, delineated by Uehara (1987), was based on Glaser’s (1969) constant comparative analysis. Data analysis consisted of five stages:

1) preparing the raw field material for content analysis
2) developing a general scheme for categorizing the data
3) analyzing a subset of cases and further revising and developing categories and subcategories
4) comparing the cases in the subset and preliminarily identifying dimensions of similarities and differences
5) adding the remaining cases into analysis and refining and revising dimensions.

By following these five stages and utilizing coding procedures recommended by Strauss and Corbin (1990), data analysis emphasized the “emergence” of important patterns or themes in the data and the systematic comparison and verification of these themes. The following section describes these five stages and provides an example of their use.

1. Preparing the Raw Field Material for Content Analysis

Interview tapes for all 19 research respondents (70 partial or full 60 minute tapes) were transcribed verbatim, resulting in
approximately 150 to 200 pages of transcripts per respondent. These transcripts, along with observation notes, completed matrices and a record of emerging insights from the field journal formed the data base for the analysis. As described in Step 5 below, the material was later further prepared for analysis using a computer software program which aids in the analysis of text-based data.

2. Developing a General Scheme for Categorizing the Field Data

The next step was to develop a preliminary scheme for coding or categorizing the transcripts. At this step, Strauss and Corbin's (1990) notion of "open coding" was utilized. In open coding, the analyst begins identifying themes or categories in the data and placing a preliminary label on them. These themes are identified through a process in which the analyst alternates between asking questions about the data (e.g. who is this like? different from? what does this represent?) and returning to the data to verify and compare. A data reduction form was developed, on which data (direct quotes from transcripts, summaries of portions of transcripts) could be recorded according to themes. The choice of themes to be included on this form was based on data collection themes from the interview guide, and the identification of emerging insights and themes recorded in the field journal during data collection. The "self-reliance" theme among non-neglecting mothers described earlier in this article is one example of an open coding theme. Another open coding theme was labelled "easiness/difficulty of exchange process." Excerpts of interview transcripts which were listed under this theme included the following statements from neglecting mothers: "stopped borrowing from Marie because its a hassle to get carfare to get to her house"; "I have to sit and beg for maybe four hours and then maybe she'll give me a few dollars"; "I have to go out of my way to find somebody to take me grocery shopping." This data reduction form, which represented the preliminary scheme for coding data, was revised and refined during the next stage.

3. Analyzing a Subset of Cases

Next, four cases were chosen—two from the sample of neglecting mothers, and two from the sample of nonneglecting
mothers—on which to focus the initial comparative analysis. While there is no best way to choose the initial subset of cases, cases were chosen which didn't seem atypical of other cases in their group in any obvious way, and for which a large amount of data were available in order to maximize the possibility of discovering important differences. These transcripts were read and reread and data from them were recorded on the data reduction form described above. This data reduction form was continually revised during this process. As more information related to these themes or categories was identified and summarized, they were refined and subcategories developed.

4. Comparing the Subset and Preliminarily Identifying Dimensions of Similarity and Difference

During this process of summarizing the four cases, key areas of differences between neglecting and nonneglecting mothers began to emerge. Some of these differences and a summary of the differences for the four cases were described in a memo to two external advisers and reviewers (Glaser and Strauss, 1967; Strauss and Corbin, 1990). This memo served as a record of the process of analysis, and provided a means by which external reviewers could review case material and provide feedback on the credibility of the interpretation. Memos, the data reduction forms, data matrices, and the field journal provided a chronology of the identification and evolution of data collection themes and served as documentation of the process of data collection and data analysis.

5. Adding the Remaining Cases into the Analysis

In order to add the remaining cases into the analysis, the data were further prepared for analysis through the use of the computer software package, The Ethnograph (Siedel, Kjolseth, and Seymour, 1988). This software is designed to aid in the analysis of text-based data by sorting data according to codewords identified and labelled by the researcher. After the researcher labels portions of the transcript according to themes or codewords, The Ethnograph generates a document which contains portions of transcripts from all files or transcripts which have been labelled with that codeword. In this study, these documents were then reviewed
by the researcher to further identify patterns of similarities and differences between the two groups under study. This stage of the analysis identified 5 major data themes related to network relationships which differentiated neglecting and nonneglecting respondents (see Beeman, 1993).

An example from this study's analysis illustrates this approach to data analysis. One general content area which was first identified as a potentially important dimension during the data collection phase broadly had to do with the respondent's ideas and expectations about seeking and receiving help. Many nonneglecting mothers mentioned the notion of believing that "grown people should take care of their own things". This dimension was originally labelled "Ideas about receiving/seeking help" on the data summary form. Several questions regarding this dimension were noted in a memo and discussed with the outside reviewers.

During coding using The Ethnograph, all statements made by respondents relating to this concept were labelled "IDEAHELP." After data from all respondents were grouped under this theme, the data were further analyzed: additional dimensions and subcategories of this concept were identified and the patterns prevalent for each group explored and verified. Figure 1 describes the evolution of this data analysis theme.

In the category, "expectations of others," nonneglecting mothers felt that they should not and did not rely on or depend on others to get by, while neglecting mothers often approached relationships in terms of what others could do for them. The following statements, the first from a nonneglecting mother, the second from a neglecting mother, represent the pattern of differences which emerged.

That's how its supposed to be. When you get independent and try to do things on your own, you don't rely on other people all the time, and when you need that help, then they'll come through, of course.

You never have to pay them back . . . you just make sure that you take perfect care of the things that people give you so that you can always get something . . . its as simple as that.
Figure 1

Evolution of a Sample Data Collection Theme: Ideas/Beliefs about Seeking and Receiving Help from Others

STEP 1: Idea originated in ongoing field journal during data collection. Noted pattern of "desire to be self-sufficient" among nonneglecting mothers; pattern of "depends on others" among neglecting mothers.

STEP 2: General category listed on summary form in stage 2 of data analysis as "Ideas about seeking/receiving help."

STEP 3: At end of stage 3 data analysis, category further refined to include several dimensions: 1) general philosophy/beliefs about help-seeking; 2) respondent's view of role of network members in her ability to "make it"; 3) extent to which respondent depends on self vs. others.

STEP 4: During phase 4 and 5 of analysis, category split into two categories: 1) expectations of others; 2) perspective on when to go for help. General patterns within each group identified and compared.

Implications for the Practice of Qualitative Research

This article presented an illustration of qualitative methods of data collection and data analysis that systematically explore and analyze while still leaving room for the discovery of grounded research findings. It described a process of research which left "footprints"—thus maximizing accountability—at the same time that it enabled the researcher to discover and identify meaning from the respondent's perspective—thus maximizing credibility.

Repeated, semi-structured interviewing utilized past research and theory to identify sensitizing concepts which guided data collection but allowed and encouraged the identification of meaning
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from the respondent’s perspective. Multiple interviews encouraged the development of rapport and ensured adequate coverage of all interview topics. Data analysis techniques provided the structure to guide the analyst and help protect the analyst from being overwhelmed by the data. These techniques encouraged the researcher to ask questions about the data, compare cases, and ground interpretations in the data itself. The process of data analysis utilized methods of documentation and external reviewers of case materials to maximize intersubjectivity and accountability.

The acceptance of qualitative research on equal grounds with quantitative research depends upon the documentation, illustration, and use of data collection and data analysis methods that maximize both the credibility of its findings and its external accountability. With that acceptance will come realization of the full potential of qualitative research to add empirically-grounded depth and insight to the knowledge base of the social work profession.

Note

This article focuses specifically on data collection and data analysis because these are the areas most lacking in the literature. A complete description of the qualitative nature of the research setting, the sample size and selection characteristics, and techniques for obtaining the sample can be found in the author’s dissertation, 1993.

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