Sampling in Qualitative Research. Purposeful and Theoretical Sampling; Merging or Clear Boundaries?

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Sampling in qualitative research. Purposeful and theoretical sampling; merging or clear boundaries?

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Sampling in qualitative research. Purposeful and theoretical sampling; merging or clear boundaries?
Sampling is a very complex issue in qualitative research as there are many variations of qualitative sampling described in the literature and much confusion and overlapping of types of sampling, particularly in the case of purposeful and theoretical sampling. The terms purposeful and theoretical are viewed synonomously and used interchangeably in the literature. Many of the most frequent misinterpretations relate to the disparate meanings and usage of the terminology. It is important that the terminology is examined so that underlying assumptions be made more explicit. Lack of shared meanings and terminology in the nursing discourse creates confusion for the neophyte researcher and increases the production of studies with weak methodologies. This paper analyses critically purposeful and theoretical sampling and offers clarification on the use of theoretical sampling for nursing research. The aim is not to make prescriptive statements on sampling; rather, to enhance understanding of the differences between purposeful and theoretical sampling for nursing research.

Keywords: sampling, qualitative, grounded theory

INTRODUCTION

Sampling procedures in qualitative research are not so rigidly prescribed as in quantitative studies. This flexibility in sampling, however, may be confusing for some researchers and mistakes may be made. Morse (1991) suggests that the lack of clear guidelines on principles for selection of a sample has resulted in much confusion in qualitative research. Morse provides the example of a researcher who used random sampling in a qualitative study and points out that a small randomly selected sample 'violates both the quantitative principle that requires an adequate sample size in order to ensure representativeness and the qualitative principle of appropriateness that requires purposeful sampling and a ''good'' informant (i.e. one who is articulate, reflective, and willing to share with the interviewer)' (p. 127).

In qualitative research sample selection has a profound effect on the ultimate quality of the research. Researchers have been criticized for not describing their sampling strategies in sufficient detail, which makes interpretation of findings difficult and affects replication of the study (Kitson *et al*. 1982). Other authors have noted that when researchers combine qualitative methods to develop a more suitable method, their assumptions and procedures are inadequately described (Knafl & Howard 1984, Baker *et al*. 1992, Stern 1994). Concern has been voiced by some researchers regarding 'method slurring' in qualitative research. Several researchers have criticized qualitative

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reports for the 'mixing' of methods and 'muddling' of theoretical perspectives (Baker *et al.* 1992, Becker 1993, Stern 1994).

The need for clearly defined theoretical and philosophical underpinning in qualitative research methods may reflect a common concern with establishing rigor in qualitative studies (Lowenberg 1993, Sandelowski 1993, 1995). What is important about 'method slurring' is that sampling is one of the issues that is misinterpreted. Indeed, in a review of grounded theory research, Becker (1993) found that many of the studies 'had borrowed pieces of grounded theory method but had not clearly adhered to the critical components' (p. 254). Theoretical sampling in particular was one of the critical components to which the studies did not adhere.

The impetus for this paper arose from the author's experience of being confronted with a plethora of literature on sampling which often used the terms 'purposeful', 'selective' and 'theoretical' sampling interchangeably. Although the terms 'selective', 'purposeful' and 'theoretical' seem to be viewed synonomously and used interchangeably in the literature, the terms are defined differently in the dictionary. Using Chambers Dictionary (1983), *select* is defined as 'to pick out a number by preference' and *selective* as 'having or exercising power of selection: able to discriminate: choosing or involving only certain things or people' (p. 1175). *Purpose* is defined as an 'idea or aim kept before the mind as the end of effort: power of seeking the end desired: a definite intention' and *purposeful* as 'directed towards a purpose' (p. 1048). *Theoretical* is defined as 'pertaining, according to, or given to theory: not practical: speculative' (p. 1341).

The aim of this paper is to recognize the complexity of sampling in qualitative research, and to analyse theoretical and purposeful sampling critically. This article, therefore, is a critical discussion and analysis of purposeful and theoretical sampling and it will explore the possible similarities or differences between purposeful and theoretical sampling. It is difficult to discuss theoretical sampling without referring to the grounded theory method, as theoretical sampling is a central tenet of the method. The published works by Glaser and Strauss will be examined for their description of theoretical sampling. This paper will begin with an explication of purposeful, selective and theoretical sampling in order to establish clearly the differences between these types of sampling. The writings of Morse, Sandelowski and Patton will be explored for their description of qualitative sampling and interpretation of theoretical sampling in particular. The variations and confusions in the descriptions of sampling will be highlighted and considered critically in relation to the previous definitions of purposeful and theoretical sampling. The aim is to enhance understanding of theoretical and purposeful sampling and to provide clarification on the use of theoretical sampling in nursing research.

SELECTIVE AND PURPOSEFUL SAMPLING

Schatzman & Strauss (1973) state that selective sampling is a practical necessity that is 'shaped by the time the researcher has available to him, by his framework, by his starting and developing interests, and by any restrictions placed upon his observations by his hosts' (p. 39). Schatzman & Strauss (1973) suggest that after several observation visits to the sites, the researcher will know who to sample for the purpose of the study. They proceed to discuss sampling of time, locations, events and people. In their discussion of sampling people, they state that the researcher selects people according to the aims of the research. Categories such as age, gender, status, role or function in organization, stated philosophy or ideology may serve as starting points. This description of selective sampling sounds similar to Patton's description of purposeful sampling. According to Patton (1990), the 'logic and power of purposeful sampling lies in selecting information-rich cases for study in depth. Information-rich cases are those from which one can learn a great deal about issues of central importance to the purpose of the research, thus the term purposeful sampling' (p. 169). Selective sampling, therefore, may be seen to mean purposeful sampling.

Schatzman & Strauss (1973), however, point out that as the study progresses, new categories may be discovered which would lead the researcher to more sampling in that particular dimension. Some may argue that this sampling in a 'particular dimension' because of an emergent category sounds very similar to what happens in theoretical sampling. However, in later writings on grounded theory, Glaser (1978) states emphatically that 'theoretical sampling is not what Leonard Schatzman has aptly termed ''selective sampling'' which is a frequently used sampling method in qualitative analysis' (p. 37). Glaser (1978) makes the distinction that selective sampling refers to 'the calculated decision to sample a specific locale according to a preconceived but reasonable initial set of dimensions (such as time, space, identity or power) which are worked out in advance for a study. The analyst who uses theoretical sampling cannot know in advance precisely what to sample for and where it will lead him' (p. 37). This description of theoretical sampling, it may be argued, does not really distinguish exactly what is different about theoretical sampling. The next section will review writings on theoretical sampling to provide clarification on this type of sampling.

THEORETICAL SAMPLING

Theoretical sampling seems to have originated with the discovery of grounded theory, which was first developed by the sociologists Glaser & Strauss in 1967, as a rigorous method of analysing qualitative data in order to produce a theory. It must be noted at this point that Glaser &

Strauss' description of grounded theory has been criticized for using quantitative terminology, and for using sociological language that is incomprehensible to other disciplines (Stern 1985, Keddy *et al.* 1996). In defence of Glaser & Strauss' seminal work, it may be suggested that because grounded theory was so revolutionary for its time, the method had to be couched in a language that could be easily understood and acceptable to quantitative methodologists. At the time Glaser & Strauss were writing about the discovery of grounded theory, the verification of theory through quantitative research was the prevailing paradigm.

Indeed, the authors acknowledge in the opening chapter of their book (Glaser & Strauss 1967) that 'the path to systematization was guided (as this book has been) by the pressure that quantitative verifications had put on all sociologists to clarify and codify all research operations, no matter what the type of data or the content of the research report' (p. 16). It seems that the authors had to use quantitative terminology in order to make themselves clear and make their new method more acceptable to quantitative sociologists. Thus it needs to be borne in mind that some of the confusion over theoretical sampling may be due to difficulty with interpretation of vague or imprecise terminology.

Grounded theory has been described as 'the discovery of theory from data systematically obtained from social research' (Glaser & Strauss 1967 p. 2). It is 'a highly systematic research approach for the collection and analysis of qualitative data for the purpose of generating explanatory theory that furthers the understanding of social and psychological phenomena' (Chenitz & Swanson 1986 p. 3). The central focus of grounded theory is the development of theory through constant comparative analysis of data gained from theoretical sampling. Glaser (1978) defines theoretical sampling as 'the process of data collection for generating theory whereby the analyst jointly collects, codes, and analyses his data and decides which data to collect next and where to find them, in order to develop his theory as it emerges. This process of data collection is controlled by the emerging theory, whether substantative or formal' (p. 36). Thus the specific focus of grounded theory on theory generation adds an important dimension to data collection.

Sampling in the initial stages of a study

Glaser (1978) acknowledges that in the initial stages of a study, researchers will 'go to the groups which they believe will maximize the possibilities of obtaining data and leads for more data on their question. They will also begin by talking to the most knowledgeable people to get a line on relevancies and leads to track down more data and where and how to locate oneself for a rich supply of data' (p. 45). Thus theoretical sampling does involve the purposeful selection of a sample in the initial stages. The researcher must have some idea of where to sample, not necessarily what to sample for, and where it will lead. As Glaser (1992) points out, 'groups are chosen as they are needed rather than before the research begins' (p. 102). It may be argued that knowing where to start the initial sampling is common to most qualitative studies. Indeed, Chenitz & Swanson (1986) state that in theoretical sampling the sample is 'not selected from the population based on certain variables prior to the study, rather the initial sample is determined to examine the phenomena where it is found to exist. Then, data collection is guided by a sampling strategy called theoretical sampling' (p. 9). This implies that the researcher starts the study with a sample where the phenomenon occurs and then the next stage of data collection is when theoretical sampling begins.

Sampling according to the dictates of the emerging theory

Theoretical sampling is the process of data collection whereby the researcher simultaneously collects, codes and analyses the data in order to decide what data to collect next. Deciding where to sample next according to the emerging codes and categories is theoretical sampling. Glaser provides a translation of the ongoing process of theoretical sampling according to the dictates of the data analysis in his publications on grounded theory (1967, 1978, 1992). In his recent publication, Glaser (1992) offers a more succinct delineation of the process of theoretical sampling. He states that 'the general procedure of theoretical sampling is to elicit codes from the raw data from the start of data collection through constant comparative analysis as the data pour in. Then one uses the codes to direct further data collection, from which the codes are further developed theoretically with properties and theoretically coded connections with other categories until, each category is saturated. Theoretical sampling on any category ceases when it is saturated, elaborated and integrated into the emerging theory' (p. 102).

Chenitz & Swanson (1986) provide further elaboration of Glaser's description and demonstrate how theoretical sampling is controlled by the emerging theory. They state that 'theoretical sampling is based on the need to collect more data to examine categories and their relationships and to assure that representativeness in the category exists. Simultaneous data collection and analysis are critical elements. The full range and variation in a category is sought to guide the emerging theory. Each category needs to be tested against incoming data as a full range in a category is sought. Sampling proceeds to produce this range. Sampling to test, elaborate, and refine a category is done for verification or to test the validity of a category. Further sampling is done to develop the categories and their relationships and interrelationships' (p. 9). This

elaboration of theoretical sampling indicates that this type of sampling is selected according to the developing categories in the emerging theory, rather than a concern for variables such as age, class or characteristics of the sample.

Similarly, Becker (1993) sees theoretical sampling as an 'ongoing process of data collection that is determined by the emerging theory and therefore cannot be predetermined... it is a critical element in the concurrent triad associated with grounded theory: joint collection, coding and analysis' (p. 256). Becker (1993) continues the explanation of theoretical sampling as 'essential to the inductive–deductive process characteristic of grounded theory. The inductive process involves the emerging theory from the data, whereas the deductive process involves the purposeful selection of samples to check out the emerging theory' (p. 256).

According to Becker (1993), it is of vital importance that the researcher doing grounded theory is able to differentiate between selective sampling and theoretical sampling as the sampling is pivotal to the grounded theory method. It appears from the above explanations that theoretical sampling is a complex form of sampling that is controlled by the needs of the emerging theory not a list of variables. It may be seen, therefore, that theoretical sampling is always purposeful selection of samples to inform the emerging theory in the study.

Flexibility of theoretical sampling

Theoretical sampling allows for flexibility during the research process (Glaser 1978, Strauss & Corbin 1990). As Glaser (1978) states, 'when the strategies of theoretical sampling are employed, the researcher can make shifts of plan and emphasis early in the research process so that the data gathered reflects what is occurring in the field rather than speculation about what cannot or should have been observed' (p. 38). As discussed earlier, theoretical sampling involves sampling to test, elaborate and refine a category and further sampling is done to develop the categories and their relationships and interrelationships. This could involve changing the interview questions as the study progresses. As Strauss & Corbin (1990) state, 'some questions or foci with which you entered the interview or observational site will quickly get dropped, or seem less salient, or at least get supplemented' (p. 183). Glaser (1978) points out: 'while in the field, the researcher continually asks questions as to fit, relevance and workability about the emerging categories and relationships between them' (p. 39).

The emerging categories could lead the researcher to samples in different locations. 'Conceptual elaboration during theoretical sampling is the systematic deduction from the emerging theory of the theoretical possibilities and probabilities for elaborating the theory as to explanations and interpretations. These become hypotheses which guide the researcher back to locations and comparative groups in the field to discover more ideas and connections from the data' (Glaser 1978 p. 40). Glaser provides the example of how a researcher may compare the treatment of patients according to their social value looking at the treatment of poor blacks in an emergency room, of a young mother in an intensive care unit, of a derelict alcoholic from skid row, of a politician in a private room, in order to generate hypotheses about the calculation of social value as a source of dimension of hospital, medical and patient care.

From the above discussion, it seems that theoretical sampling according to the developing categories and emerging theory means that different questions may be asked of a sample in a particular setting. Thus the aim is to achieve depth in the developing categories. Then the emerging categories may indicate that the researcher proceeds to another location to sample there that would increase breadth in the category. The moving to another location and different sample sounds very complex and, indeed, Glaser suggests that this is not necessarily helpful for the novice and may be problematic. Glaser highlights many problems with moving outside the substantative area especially for its undermining effects on relevance.

EXAMINATION OF THE VARIATIONS IN QUALITATIVE SAMPLING

The next section will explore the various descriptions of qualitative sampling offered by some authors. Some of the variations will be discussed in light of previous definitions of purposeful and theoretical sampling. It helps to clarify and demonstrate the confusions to provide these variations in a table (Table 1). The examples will then be analysed in more depth. It is not intended to be a review of all the writings on qualitative sampling, rather an opportunity to clarify theoretical and purposeful sampling.

Strauss & Corbin (1990) concur with Glaser's definition of theoretical sampling. They state that theoretical sampling means 'sampling on the basis of concepts that have proven theoretical relevance to the evolving theory' (p. 177). Strauss & Corbin (1990) elaborate on the process of theoretical sampling by describing open sampling, relational and variational sampling and discriminate sampling. Briefly open sampling is 'sampling those persons, places, situations that will provide the greatest opportunity to gather the most relevant data about the phenomenon under investigation' (p. 181). Relational and variational sampling involves 'moving from situation to situation, gathering data on theoretically relevant categories. Another way is to purposefully choose persons, sites, or documents that maximize opportunities to elicit data regarding variations along dimensions of categories, and that demonstrate what happens when changes occurs' (p. 186). Finally, with indiscriminate sampling the

Table 1 Various examples of qualitative sampling

Strauss & Corbin (1990)	Theoretical sampling — three stages ● open sampling ● relational and variational sampling ● discriminate sampling
Patton (1990)	All sampling is purposeful — 15 strategies ● extreme or deviant case sampling ● intensity sampling ● maximum variation sampling ● homogeneous samples ● typical case sampling ● stratified purposeful sampling ● critical case sampling ● snowball or chain sampling ● criterion sampling ● theory-based or operational construct sampling ● confirming and disconfirming cases ● opportunistic sampling ● purposeful random sampling; ● sampling politically important cases ● convenience sampling
Morse (1991)	Four types: ● purposeful sample ● nominated sample ● volunteer sample ● total population sample
Sandelowski *et al.* (1992)	● selective sampling ● theoretical sampling
Sandelowski (1995)	All sampling is purposeful — three kinds ● maximum variation ● phenomenal variation ● theoretical variation

researcher chooses 'the sites, persons, and documents that will maximize opportunities for verifying the story line, relationships between categories, and for filling in poorly developed categories' (p. 187).

This description of the process of theoretical sampling is very similar to previous descriptions discussed earlier (e.g. Chenitz & Swanson 1986, Glaser 1992, Becker 1993). The explication of theoretical sampling into these steps or types of sampling could help the novice researcher. This may have been Strauss & Corbin's intention, as they state that many researchers find theoretical sampling confusing and need guidance on how one proceeds with this type of sampling. On the other hand, it could confuse the issue of theoretical sampling by using different terminology. Recently Glaser (1992), in his criticisms of Strauss's writings, stated that 'he fractures the concept (theoretical sampling) and dilutes its meaning by defining open sampling, relational and variational sampling and discriminate sampling, all of which occur anyway, I believe, and offer no methodological help' (p. 102).

In Strauss's description of theoretical sampling there are 'so many rules, strictures, dictums and models to follow one can only get lost in trying to figure it out' (Glaser 1992 p. 104). Glaser suggests that the elaborate conceptualization of theoretical sampling is unnecessary and that Strauss' pursuit is conventional sampling not theoretical sampling. Indeed, Robrecht (1995) concurs with Glaser's criticism of Strauss' elaboration of theoretical sampling. Instead of clarifying theoretical sampling, 'the newly enlarged methodological procedures have tended to encourage the production of grounded theory with poorly integrated theoretical explanations resulting from violations of the original premises of the grounded theory method, in which theory comes directly from data' (p. 171). It seems from this that having prescribed steps in theoretical sampling is antithetical to the ethos of theoretical sampling and may encourage researchers to look *for* data rather that look *at* data.

All sampling is purposeful in qualitative research

In Patton's view (1990), all types of sampling in qualitative research may be encompassed under the broad term of 'purposeful sampling'. He states that 'qualitative inquiry typically focuses in depth on relatively small samples, even single cases, selected purposefully' (p. 169). Patton (1990) describes 15 different strategies for purposefully selecting information-rich cases which may be listed as: extreme or deviant case sampling; intensity sampling; maximum variation sampling; homogeneous samples; typical case sampling; stratified purposeful sampling; critical case sampling; snowball or chain sampling; criterion sampling; theory-based or operational construct sampling; confirming and disconfirming cases; opportunistic sampling; purposeful random sampling; sampling politically important cases and finally convenience sampling; what this illustrates is the complexity of sampling in qualitative research. The underlying principle that is common to all these strategies is selecting information-rich cases, that is, cases that are selected purposefully to fit the study.

Interestingly, Patton (1990) does not specifically list or define 'theoretical sampling'. Some similarities may be seen in his description of 'confirming and disconfirming cases', but theoretical sampling is not stated specifically. Confirming or disconfirming sampling is described by Patton (1990) as 'in the early part of qualitative fieldwork the evaluator is exploring, gathering data and beginning to allow patterns to emerge. Over time the exploratory process gives way to confirmatory fieldwork. This involves testing ideas, confirming the importance and meanings of possible patterns and checking out the viability of emergent findings with new data and additional cases. This stage of fieldwork requires considerable rigor and integrity on the part of the evaluator in looking for and sampling confirming as well as disconfirming cases' (p. 178). This description seems to contain some facets of theoretical

sampling in that sampling occurs simultaneously with data analysis. The issue of confirming or disconfirming cases does not equate with other descriptions of theoretical sampling.

Purposeful (or theoretical) sampling

Morse (1991) suggests that four types of sampling are used in qualitative research: the purposeful sample, the nominated sample, the volunteer sample and the sample that consists of the total population. She states that 'when obtaining a purposeful (or theoretical) sample, the researcher selects a participant according to the needs of the study' (p. 129). It would seem from this statement that Morse sees both purposeful and theoretical sampling as being synonymous with each other. She proceeds to describe this type of sampling as the researcher initially choosing to 'interview informants with a broad general knowledge of the topic or those who have undergone the experience and whose experience is considered typical. Then as the study progresses, the description is expanded with more specific information, and participants with that particular knowledge are deliberately sought. Finally, informants with atypical experiences are sought so that the entire range of experiences and the breadth of the concept or phenomena may be understood' (p. 129). This description of 'purposeful (or theoretical) sampling' seems to indicate that the sampling is directed by a desire to include a range of variations of the phenomenon in the study. This description seems very similar to a type of sampling called 'phenomenal variation' described by Sandelowski (1995).

Sandelowski (1995) concurs with Patton's view that all types of sampling in qualitative research may be encompassed under the broad term of purposeful sampling. Sandelowski views all sampling in qualitative research as purposeful and suggests three different kinds of purposeful sampling: maximum variation, phenomenal variation and theoretical variation. Sandelowski suggests that maximum variation is one of the most frequently employed kinds of purposeful sampling and 'researchers wanting maximum variation in their sample must decide what kind(s) of variation they want to maximize and when to maximize each kind' (p. 181). Examples of variations may be race, class, gender or other person-related characteristics. Phenomenal variation is variation of the target phenomenon under study and the decision to seek phenomenal variation is 'often made a priori in order to have representative coverage of variables likely to be important in understanding how diverse factors configure as a whole' (p. 182).

It may be seen from this description of phenomenal variation sampling that this is the type of sampling that Morse (1991) referred to earlier as purposeful sampling. Both descriptions may be seen as a kind of purposeful sampling. However, it may be argued that Morse's use of the phrase 'or theoretical' in connection with purposeful sampling is ambiguous. Sandelowski (1995) describes theoretical variation as 'variation on a theoretical construct that is associated with theoretical sampling, or the sampling on analytic grounds characteristics of grounded theory studies. A theoretical sampling strategy is employed to fully elaborate and validate theoretically derived variations discerned in the data' (p. 182). Thus theoretical sampling may be seen as a variation of purposeful sampling but all purposeful sampling is not necessarily theoretical sampling.

Selective and theoretical sampling

Sandelowski *et al.* (1992), however, suggest that within any one qualitative research project, there exists selective and theoretical sampling. They state that selective sampling 'refers to a decision made prior to beginning a study to sample subjects according to a preconceived, but reasonable initial set of criteria. Theoretical sampling refers to a sampling decision made on analytic grounds developed in the course of a study' (p. 302). Sandelowski *et al.* (1992) suggest that selective sampling typically precedes theoretical sampling because neither ethics committees nor funding agencies are likely to approve a research project without a clear specification of the kinds of subjects desired for the study. According to Sandelowski *et al.* (1992) the researcher projects a sampling frame at the beginning of the study (selective sampling) which permits the researcher to develop the conceptual lines that will ultimately drive theoretical sampling.

Glaser (1978), however, would argue that the researcher does not 'project a sampling frame' in the initial stages of theoretical sampling. Instead the researcher selects a sample where the phenomena of interest exist. He stated that the 'initial decisions for theoretical collection of data are based only on a general sociological perspective and on a general subject or problem area... not on a preconceived theoretical framework' (p. 45). Becker (1993) suggests that selecting a sample prior to the study is not theoretical sampling, as theoretical sampling is determined by the emerging theory and therefore cannot be predetermined.

Sandelowski *et al.* (1992) provide the following example to illustrate the difference between selective and theoretical sampling. In their study of couples experiencing parenthood fertility problems, they initially selected couples based on conventional medical and social criteria. However, after some analytical work with initial data, they found that there was a different way to group couples that was based on the couple's own explanations of fertility. As a result of this finding, they adopted a theoretical sampling strategy that involved eliciting more information from couples already in the study, and seeking other couples to be included in the study to obtain the information they needed to 'fill out' or 'saturate' the new

categories they had derived from the data. This example bears similarities to Glaser's description of theoretical sampling, as the sample is chosen according to the developing categories.

It seems clear from the above discussion that theoretical sampling does involve the purposeful selection of a sample in the initial stages of the study. Then the ongoing sampling is termed theoretical sampling because it is controlled or dictated by the developing categories and emerging theory. To say that within every qualitative study there exists purposeful and theoretical sampling is ambiguous. The statement could be qualified to state that theoretical sampling is always purposeful and it could be said that some qualitative studies may contain purposeful and theoretical sampling. However, other studies may contain only purposeful sampling since purposeful sampling is not always theoretical. It may be acceptable to view theoretical sampling as a variant within purposeful sampling.

DISCUSSION

It seems from the above discussion that all sampling in qualitative research is purposeful sampling. Thus the sample is always intentionally selected according to the needs of the study. However, there are many variations of sampling contained within purposeful sampling as evidenced by Patton's list of 15 kinds of sampling. It may be understood that purposeful and theoretical sampling may be combined in the one study as all variations of sampling may be seen as purposeful sampling. Thus theoretical sampling is just one kind of purposeful sampling. It is clear from the descriptions of theoretical sampling that it is a complex form of sampling that is dictated by the data and the emerging theory. It is mainly used in grounded theory studies as it is closely linked to constant comparative analysis and theoretical saturation.

The other issue is that some writers seem to see all purposeful sampling as being always theoretical. This is quite misleading, as it is clear from the descriptions of theoretical sampling that it is a variation within purposeful sampling. This seems to be the distinction between purposeful and theoretical sampling. This author would challenge the statement that all qualitative research studies contain both purposeful and theoretical sampling. A researcher, for example, may decide to purposefully select a sample of ten parents who's child has experienced a life-threatening episode requiring hospitalization in a critical care unit. The sample is not varied according to the emerging theory, rather it is selected for the information rich data that it can yield on the phenomenon of parents having a critically ill child in hospital. This type of sampling may be referred to purposeful sampling.

If however, the researcher decided at the outset of the study to purposefully select a parent who has had the experience of a critically ill child, then these data are then analysed and the next parent is selected according to the needs of the developing categories and emerging theory. The full range and variation in a category rather than a variable is sought to guide the emerging theory. Thus the data control the further sampling and this means that data analysis and sampling are done concurrently. It is variation according to the emerging categories, rather than phenomenal variation or any other kind of variations described earlier.

It may be concluded from the above discussion that theoretical and purposeful sampling are different types of sampling. Purposeful sampling is not always theoretical sampling. Theoretical sampling is purposeful selection of a sample according to the developing categories and emerging theory. Initial decisions are based on a general subject or problem area, not on a preconceived theoretical framework. The process is controlled by the emerging theory. Criteria are those of *theoretical purpose and relevance* — not of structural circumstances (Glaser 1967 p. 48). Groups are selected which help to generate as many properties of the categories as possible, that help relate categories to each other and to their properties. Joint collection, coding and analysis of data is essential and the criterion for judging when to stop sampling the different groups pertinent to a category is the category's *theoretical saturation*. Theoretical sampling may therefore be seen as a *variation* within purposeful sampling.

Researchers have a problem with the esoteric terminology used to describe grounded theory. It may be suggested that Glaser & Strauss (1967) never intended a rigid adherence to their terminology, as they stated 'because this is only a beginning, we shall often state positions, counterpositions and examples, rather than offering clear-cut procedures and definitions' (p. 1). Indeed, more recently Glaser (1992) stated that 'in short, theoretical sampling in grounded theory is the process by which data collection is continually guided' (p. 102). Therefore, a more accurate term for theoretical sampling could be 'analysis driven purposeful sampling' or 'analysis governed purposeful sampling'.

CONCLUSION

From some of the descriptions of theoretical sampling it seems that other kinds of sampling are being described rather than theoretical sampling. It is important that the difference between purposeful and theoretical sampling is clearly understood because new researchers often experience difficulty in interpreting the language of research, and in deciding which methods to use in their own studies. There is much confusion and overlapping of variations of sampling and it is important that the same language should be used for the sake of consistency.

Distinctions between sampling strategies may be helpful

for the neophyte researcher, but conforming to those arbitrary distinctions may not be helpful for the purpose of the qualitative study. This does not preclude discussion and justification regarding the usefulness of the sampling strategy for the study but slavish adherence to a single sampling strategy should be avoided if it does not serve the purpose of the study. Some may argue that there is no perfect 'way' of sampling, as it is a process that continues to evolve with the methodology. The researcher should find out what information is most needed and most useful in a given situation, and then employ the most suitable methods.

In qualitative research the design needs to remain sufficiently open and flexible to permit exploration of whatever the phenomenon under study offers for inquiry (Lincoln & Guba 1985). Encouraging creativity was an intention of the original authors of grounded theory and it seems that theoretical sampling in particular allows for considerable flexibility as the sampling is not predetermined; rather, it is ongoing throughout the study. According to Glaser (1978) 'the discovery of grounded theory implicitly assumes that the analyst will be creative' (p. 20). Others may argue that theoretical is very prescriptive as the sampling is controlled by the emerging theory. This author argues for researchers to be adaptable and creative in designing sampling strategies that are aimed at being responsive to real-world conditions and that meet the information needs of the study. The ultimate aim is to address the problems of the discipline, i.e. nursing, to inform the knowledge of the health professionals in order to provide high quality nursing care based on research.

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