

A SELECT REVIEW OF NURSING RESEARCH

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ABSTRACT: Fourteen of fifteen Q studies published in Nursing Research (1952-1988) were noted to contain serious methodological problems with data analysis. This finding supports the contention that Q methodology has been either misused or misunderstood by certain authors who have published studies in the nursing literature. It is suggested that nurse researchers use appropriate sources to avoid the problems which were encountered in the sample of studies reviewed.

Introduction

Careful critique of research is needed in order to assess for contributions toward the development of nursing knowledge. Since Q methodology represents more than a research technique, the emphasis of this review concerned both the qualitative and quantitative aspects of each study as well as their appropriateness to Q methodology according to accepted standards.

Q has been described as a methodology appropriate for nursing research because the philosophical underpinnings are con-

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gruent with the nursing discipline's focus upon the individual (Dennis, 1986). With the domain of Q being human subjectivity, this methodology has been used to study various phenomena within the context of nursing.

To assess for evidence of growth in the nursing discipline's sophistication and understanding of Q's abstract principles, *Operant Subjectivity* has presented brief summaries of nursing research and nursing research texts (News, Notes, & Comment, 1988, 1988/1989). Incongruencies among nurse authors have been noted; this has brought about the assertion that there should be a professionwide growth in the awareness of Q's principles (News, Notes, & Comment, 1988). In order to assess selected studies for adherence to appropriate standards, a critical appraisal was undertaken. For the past six decades, Stephenson has been a prolific writer about appropriate standards and principles for Q. Thus, the investigators considered it acceptable to hold all studies accountable to the standards which he has set forth.

Study Design and Findings

The following questions were posed for the critique of the selected studies so that specifics may be assessed in regards to Q methodology:

1. What were the qualitative foci of the studies? Were these considered to be appropriate?
2. Were the appropriate number of items used for the Q instruments?
3. Which studies used appropriate statistics (i.e., Q-type factor analysis) for Q data analysis?

A nonprobabilistic sample was derived from the two investigators' review of *Nursing Research* from its first issue in 1952 through 1988. This journal was selected because of its prominence as the first nursing research journal. To be included in the sample, the published report had to be a complete study and include a Q instrument in data collection and/or analysis. Literature which only reflected instrument development were excluded. The sample consists of 15 studies.

The two investigators worked independently in ascertaining the specific questions for each study in the sample. Interrater reliability was revealed in their total agreement.

In response to the first study question, the qualitative foci of each published study could be categorized according to Dennis' (1986) list to reflect consistency with accepted standards for Q as has been advised in *Operant Subjectivity* (News, Notes, & Comment, 1988, 1988/1989). Five studies focused upon client and providers (Butler, 1961; Cornell, 1974; Dennis, 1987; Fuhrer, Ware & Scott, 1968; Gorham, 1958), four studies investigated roles (Gorham, 1962; MacAndrew & Elliott, 1959; Redman, 1968; Stone & Green, 1975), while three studies were focused upon intraindividual concerns (DeWolfe & Gernal, 1963; Dunlap & Hadley, 1965; Friefhofer & Felton, 1976). Miller (1965, 1966) investigated life experiences, and Hanson and Beech (1963) described health beliefs.

Of the researchers reporting the number of Q items used, all but one utilized an accepted number of items. Gorham (1962) used an inappropriately large number (i.e., 320 items). Further critique for the appropriate use of statistical treatment and analysis of Q data revealed that only Dennis (1987) appropriately analyzed and interpreted the Q data with Q-type factor analysis. For the other 14 studies which were reviewed, there were frequent methodological problems. Q data were often analyzed by using parametric or nonparametric statistics which sought significant differences between or among group means or other measures of central tendency; several researchers only listed the Q items in some type of order, thus revealing no synthesis of the findings for the reader; and some analyses were attempted by using R factor principles.

Conclusions

This critique of selected studies in nursing revealed some specific violations of the standards for Q research. There was one problem noted in the use of too many Q items and consistent problems with statistical treatment for the Q data. The prevalent violations give evidence to support the assertion made in *Operant Subjectivity* (News, Notes & Comment, 1988/1989) that nursing has failed to reveal any progressive understanding of Q. Dennis

(1987) was the only author who adhered to all standards and was also the most recently published. This could reflect an easier access, in this decade, to computer programs which perform Q-factor analysis, efforts at collaboration which take the nurse researcher out of isolation, and/or an increased sophistication in nursing research.

It is essential to research design that standards be followed carefully. From this review, it is recommended that appropriate sources be used when framing nursing research so that the findings may contribute to the structure of nursing knowledge.

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