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## NEWS, NOTES & COMMENT

### *On the Ratio of Q Sorts to Statements*

Q methodology has occasionally been criticized for paying insufficient attention to the issue of the relationship between the number of Q sorts and the number of statements in the Q sample. To take an extreme example: A Q sort of the size  $N=3$  statements can only be ranked in  $3! = 6$  different ways, and so a sample of  $n=7$  persons would guarantee that at least two of them would correlate 1.00, even if their views differed, due to the limited possibilities inherent in the number of statements in the Q sample. This naturally bears on the issue of sample size (respondents in R, statements in Q). To obviate this situation, various  $N$ -to- $n$  ratios have been recommended: Gorsuch recommends 5:1, Nunnally 10:1, Cattell from 3:1 to 6:1, and Kline 2:1. (Following Gorsuch, for example, a sample of 30 persons would require a Q sample of 150 statements.) But these are only rules of thumb which until recently have not been put to test.

An important article in this regard is by Willem A. Arrindell and Jan van der Ende who randomly sampled respondents from two data sets ( $n=1104$  and  $n=960$ ) in ratios ranging from 1.3:1 to 19.8:1, and then submitted all subsamples to both a principal components analysis (unities in the diagonal of the  $r$  matrix) and principal factor analysis (communalities), the intent

being to compare the solutions obtained under different sampling conditions and with different methods. Although theirs is an R method study, Arrindell and Van der Ende's conclusions easily apply to Q method, and they find no basis for the large samples and high ratios which lore has claimed are necessary for reliable results: With respect to the two specific scales which they employed, for example, the authors found that recognizable factor solutions emerged with ratios of 1.3:1 ( $n=100$ ) and 3.9:1 ( $n=78$ ). (They also report negligible differences between the principal components and principal factors solutions.) What they do suggest, however, is that sample size should be related to the number of factors extracted, and in Q this makes good sense, too: Obviously, the more factors (types of persons), the more statements that are required to distinguish the factors. They recommend a 20:1 ratio of sample (statements) to factors: According to this criterion, if three factors emerge, the Q sample should be 60 strong, but even this is likely too stringent for Q methodological studies.

In R, it is frequently known in advance how many factors to expect: Cattell's 16 P.F., for example, should produce 16 factors. But Q has a more primitive test of factor veracity upon which to rely--namely, the post-sorting interview: The ultimate test of a factor in Q is not the number of statements, but whether the Q sorts (hence the factors which they produce) are *schematic*, i.e., whether each Q sort makes sense and is homologous with what the person wants to say. The key, as Stephenson has pointed out, is in the diversity of the concourse and in the Q sample which models it. If no statements reflecting factor C's viewpoint are in the Q sample, factor C will not appear no matter what size the person:factor ratio, but this merely indicates that the researcher was insufficiently attentive to the comprehensiveness of the Q sample. A small Q sample with C's views included will therefore be more useful than a large Q sample with those views excluded.

Arrindell and Van der Ende's important paper is entitled "An Empirical Test of the Utility of the Observations-to-Variables Ratio in Factor and Compon-

ents Analysis," *Applied Psychological Measurement*, 1985, 9, 165-178.

*Morality and Ego Processes...  
From the External Standpoint*

Q technique is employed in a major new work by Norma Haan, Eliane Aerts, and Bruce A.B. Cooper, *On Moral Grounds: The Search for Practical Morality* (New York: New York University Press, 1985), but the use to which it is put, as a measure of ego coping and defense strategies, is as an objective measure imposed by raters rather than as a subjective measure provided by the subjects who are rated. The Q sample, reported in Appendix B (pp. 413-417), contains 60 statements structured around 10 defense-coping functions (discrimination, sensitivity, selective awareness, etc.); its use is described on pp. 132 ff. Graduate students in clinical psychology and psychiatric social work use the Q sort to measure "the students' situational strategies, that is the processes they *actually* used [emphasis added] in the group sessions" (p. 132). It's as if the persons studied didn't have a story of their own to tell which might be of interest, i.e., a story concerning which situational strategies they used as understood from their own points of view.

In *The Study of Behavior*, Stephenson took issue with the "cliché" of behaviorism that the unreliability of introspectionism justified discarding the inner frame of reference of the person studied--as if only external "probing points" were scientifically viable. Thus, Haan et al.s' clinical raters "study the behavior of *others* exclusively, other persons, rats, dogs, pigeons, beetles, worms, and hens, but never *themselves*" (p. 92), thereby fulfilling James Ward's premonition of psychology's development into a "science without a subject." From a concrete, operational point of view, what Haan et al.s' data represent are not the ego processes of their subjects, but attributions of these processes by their raters, however accurate or inaccurate these attributions may be: It is the subjectivities of the raters-rating-ratees that the data inform on. Whether the ratees themselves would agree (which, through the application of Q, is a

wholly researchable question) is quite another matter, and regarding the one as objective and the other not is arbitrary and a presumption on Nature.

### *Forthcoming and Recent*

Gregory Casey (Political Science, U Missouri), "Crisis of Legitimacy in a State Supreme Court: A (Q-Sort) Attitude Study," Law and Society Association, Chicago, May 29-June 1. This study arose from the public judicial quarrel which ensued consequent upon a Missouri Supreme Court justice's allegedly having bypassed the nonpartisan spirit of the Missouri Plan by successfully gaining Court seats for three associates, resulting in a 4-3 majority of questionable legitimacy. The scandal produced a concourse of journalistic commentary from which a 48-statement Q sample was drawn for administration to 42 respondents from the legal and political communities, the academic community, the state bureaucracy, and the general public. The *cynical stand-patters*, the first of two factors, expressed no surprise at the situation, which merely confirmed their suspicions that politics is dirty business. Nor were they motivated to want to do anything about it. The *disaffected*, by way of contrast, were alarmed and disgusted, and expressed a desire for political reform.

William Ascher (Institute of Policy Sciences, Duke U) and Steven R. Brown, "Technologies of Amelioration: An Assessment of Methods for the Mediation of International Conflicts," Second Workshop and Conference of the International Federation of Automatic Control Working Group on Supplemental Ways for Improving International Stability, Cleveland, June 3-5. In this paper, the conceptual boundaries of international mediation are defined, and the variety of available techniques is summarized. Philosophical premises are discussed, and the issue of appropriate technology is raised. Q methodology is then introduced as a method for exploring the structure of parties' perspectives, and an example of its potential applicability is provided in a simulation of the border conflicts involving Somalia, Kenya, and Ethiopia.

Timothy D. Stephen (Language, Literature and Communication, Rensselaer Polytechnic Institute, Troy NY

12181), "Q-Methodology in Communication Science: An Introduction," *Communication Quarterly*, 1985, 33, 193-208. *Abstract*: Q-methodology, traditionally a tool for phenomenological analysis, single-subject or small sample research, and typological analysis, has potential for research in human communication. Unfortunately, Q-techniques have often been neglected or misunderstood by mainstream social scientists. This article presents basic information regarding the construction of Q-sorts, discusses methods for analyzing Q-sort data in a variety of research contexts, and identifies resources which may be consulted by those wishing to learn more about the method. (For additional recent articles by Stephen, see *Q Bibliographical Update*).

### *Play and Electronic News*

In their chapter on "Rival Theories of Electronic Newsreading," David M. Dozier and Ronald E. Rice conclude that the emerging videotext/teletex news services are rooted in a limited theory of utilitarian (work-oriented) newsreading, and call for modifications that will incorporate the desires of more mature, ludenic (playful) newsreaders. The new menu-driven technologies are well suited for information retrieval and for the person who is seeking something specific, but ludenic newsreading is self-satisfying, disinterested, and voluntary rather than driven by utilitarian purpose. The authors therefore conclude that

*The indexing of information must become part of the subjective play of the newsreading interlude. True ludenic newsreading cannot be transformed into a task-oriented drudgery of data-base manipulation and intricate information-recovery protocols, as now required by many videotex systems. To do so is to take newsreading out of the realm of play and into the world of work and task accomplishment.... Such systems will attract only nonpleasure readers; mature and pleasure readers will find little communication pleasure. (pp. 120-121)*

James E. Ettema, in his paper, "Videotex for News

and Business Data: Comparison of User Response to Two Information Retrieval Applications," reaches a somewhat different conclusion, but he misses Dozier and Rice's point (and Stephenson's) by initially equating play with "browsing," i.e., scanning for interesting stories rather than seeking information in a goal-directed fashion. Ettema discovers browsing to be correlated with utilitarian information-seeking behavior, a form of surveillance, hence work-motivated, from which he concludes that "browsing is a characteristic not only of communication play but also information-seeking" (p. 48). Ludenic newsreading, of course, is not aimless, as the term browsing might imply, but instead is highly structured and typically ritualized.

Dozier and Rice's paper is in R.E. Rice (Ed.), *The New Media: Communication, Research, and Technology* (pp. 103-127), Beverly Hills CA, Sage Publications, 1984. Ettema's paper is published in *Telecommunications Policy*, 1985, 9, 41-48.

## Q BIBLIOGRAPHIC UPDATE (CONTINUED)

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