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Q Methodology: An Introduction

Q methodology is a research approach that is neither fully qualitative nor fully quantitative and is thus a bridge between the two approaches.¹ It is little known nor understood in nursing and deserves to have a much higher profile. It has been used extensively by psychologists and social scientists, and lends itself to many uses in nursing research. In this editorial we will give you a brief overview of its use and application.

The goal of Q methodology is to uncover different patterns of thoughts, perceptions, opinions, attitudes and beliefs^{2,3} using a systematic and rigorous quantitative procedure³. Thus it is a way of understanding subjective phenomena in a quantitative way. Subjectivity refers to ideas that are based on personal opinions, life experiences and feelings. In nursing it is vital to understand how people's ideas are shaped by these influences, for example someone's choice of food when ill or preference for particular treatments. Participant responses are also analyzed in Q methodology and these can provide rich qualitative data to enhance the findings.

Q methodology allows us to identify, understand, and categorize individual perceptions and opinions, and then cluster groups of these categorizations.³ This research approach also emphasizes the qualitative *how* and *why* people think the way they do, but not *how many* people think a certain way.² Studies using Q methodology typically employ small sample sizes, and results of these studies are less influenced by low response rates compared with the results of survey studies². Moreover, Q methodology allows us to identify "groups of participants having similar and alternate viewpoints and in turn to ascertain similarities and differences between groups"⁴, because the idea behind Q methodology is that only a limited number of distinct opinions exist about any topic.⁵ Instead of generalizing the phenomenon being studied back to a population, Q methodology seeks to capture and interpret the various points of view held by populations.¹

The Q methodology Process

There are five distinct steps as outlined in Figure 1. Many of the terms in Q methodology are referred to in different ways and these are detailed in the figure. We will discuss each step using our current research as an example.

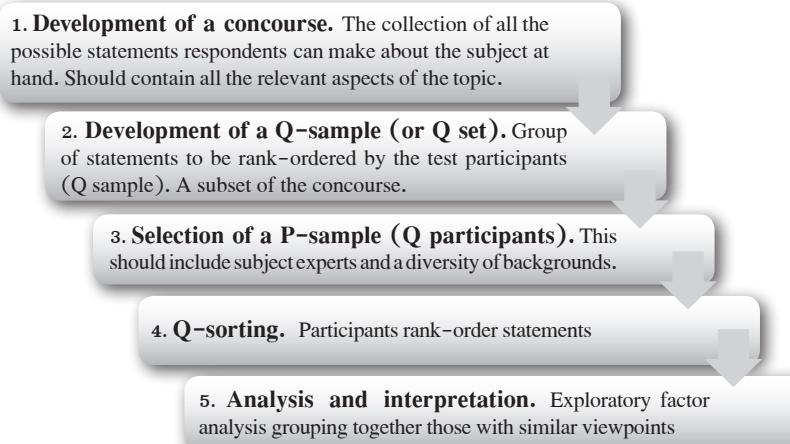


Figure 1: Steps in Q methodology

1. *Concourse*: For our study of nurses' health beliefs, we developed a concourse of beliefs about health by talking to nurses from varied specialities, working in different contexts, and by searching both the professional literature and the media for health beliefs.

2. *Q set*: This is tailored to meet the research requirements and answer the research question.⁶ In our study we wanted to investigate clinically relevant beliefs that included those from childbirth to older age, aiming for a good coverage of health beliefs. We finalised the Q set using focus groups and trialling the items to arrive at a set of 50 statements.

3. The *P samples* also were selected from nurses from a diverse range of clinical and academic backgrounds. The P sample has to be less than the number of items in the Q set.

4. *Q sorting*: After consent and explanation, including that we are interested in opinions and beliefs rather than testing for right and wrong answers, participants are asked to sort the Q cards into three piles: most agree, most disagree, and those items they are not sure of. Then participants are asked to rank the statements into a normal distribution according to whether they "most agree" or "most disagree" with the statement (Figure 2). The items at the ends of the data matrix are most critical, and we always asked participants questions about why they had placed the items in these positions. After sorting the data matrix is recorded. The items at the ends of the data matrix are most critical (that is, -5 means strongly disagree with the statement, and +5 means strongly agree). After participants have laid down 50 cards into the matrix, we always ask questions about why they had placed the items in these positions (that is, qualitative interviewing which is recorded). After sorting the data, the matrix is recorded by photograph and this provides evidence for later quantitative analysis.

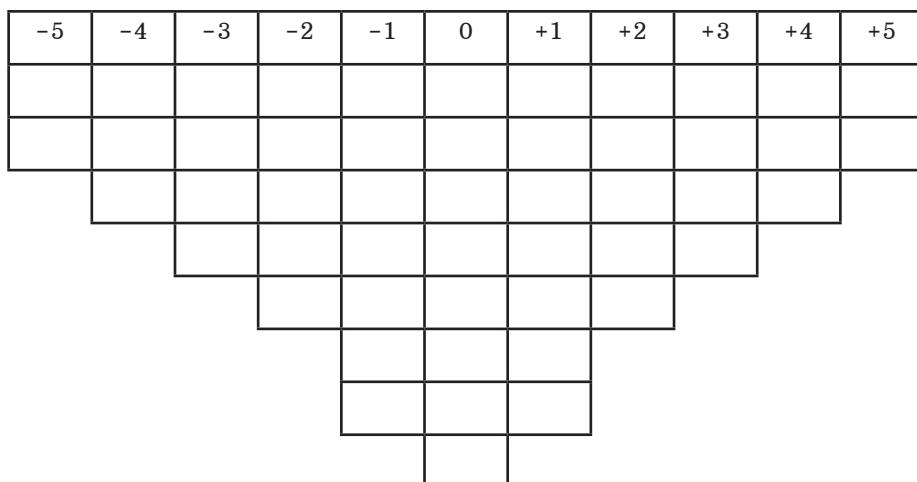


Figure 2: Q-sort Grid

5. *Analysis and interpretation*. Exploratory factor analysis is then conducted on the rank-ordered scores using the PQ Method 2.35 (2014) developed by Schmolck and downloadable free from <http://schmolck.userweb.mwn.de/qmethod/downpqwin.htm>

Factor analysis is not performed by variable, trait, or statement, but instead by person: people correlate to others with similar opinions based on their Q-sorts² resulting in the identification of factors that represent clusters of participants with similar views, feelings or experiences in relation to the study theme.⁷ Demographic information and participant comments should also be used to interpret the factors.⁶

Resources and further information

Such a quick overview as this misses much important detail but Q-researchers seem to be a generous bunch of people and there are many free resources available, including YouTube videos, as well as some excellent articles and books. The best of these are outlined below in Table 1. Similarly the software used for analysing data is available free along with help guides and a raft of helpful resources.

Table 1: Further resources for Q Methodology

Akhtar-Danesh, N., Baumann, A., & Cordingley, L. Q-Methodology in nursing research: A promising method for the study of subjectivity. <i>Western Journal of Nursing Research</i> , 2008;30(6),759-773.doi:10.1177/0193945907312979	These authors have applied Q methodology in nursing research.
Coogan, J., & Herrington, N. (2011). Q Methodology: an overview. <i>Research in Secondary Teacher Education</i> , 2011; 1(2), 24-28.	
McKeown, B., & Thomas, D. B. Q Methodology. 2013; Thousand Oaks, California: Sage.	A short primer on Q methodology.
Leeds Metropolitan Quick-Q Animation Retrieved from: https://www.youtube.com/watch?v=0AejeH6jw2c (cited May 12, 2015).	A simple and beautifully presented YouTube video
Baker, R. Rachel Baker introduces Q Methodology. 2013; Scotland: Glasgow Caledonian University. Retrieved from: https://www.youtube.com/watch?v=ZbZ2Kq-Fzxo (cited May 14, 2015).	Overview on You Tube
Watts, S., & Stenner, P. Doing Q methodological research: Theory, method and interpretation. 2012; London: Sage.	A comprehensive overview of the topic with excellent chapter summaries.
van Exel, N. J. A., & de Graaf, G. Q methodology: A sneak preview. 2005: Retreived from http://qmethod.org/articles/vanExel.pdf (cited May 14, 2015)	A comprehensive overview.
The Q Method Page http://schmolck.userweb.mwn.de/qmethod/ (cited May 14, 2015)	A website dedicated to Q methodology with many downloadable resources, including software.
Q method http://qmethod.org/tutoriallinks.php	Links to many articles and tutorials on Q methodology.

Disadvantages of Q methodology

We have spoken at length of the advantages of Q methodology but there are also disadvantages, the chief of which is that it is under-used in the nursing community and it can be difficult to publish your work. As the methodology gets more widely understood it is likely that this situation will change. Another criticism that has been levelled at Q methodology is that it is time consuming to administer; however, in our view this disadvantage

is offset by the satisfaction participants derive from the process and that there is no need to recruit large samples. We have found that participants' enjoyment of the process has led to their talking to others, and snowball sampling has been successful.

We hope that this overview has inspired you to find out more about Q methodology and even to consider it for your next research project.

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