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Develop a Q Methodology Study

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Q methodology is a research technique, and associated set of theoretical and methodological concepts, originated and developed by William Stephenson (assistant to the famous psychologist Charles Spearman at the University of London in the 1930's), which allows the researcher to reveal the key 'subjective' (or first-person) viewpoints extant among a group of participants. In its group focus, and given its ability to reveal these viewpoints holistically and to a high level of qualitative detail, a Q methodological study can provide an excellent complement to more traditional qualitative research approaches, which typically focus on the individual person and on the delivery of thematic analyses. Q methodology is already proving very popular in a range of applied and health-related disciplines, including, studies of economic rationality and health and lifestyle choices for people with diabetes[1]; patients' and professionals' understandings of the causes of chronic pain[2] and the understanding of their illness amongst people with irritable bowel syndrome[3].

A Q methodological study involves three main stages: (1) the gathering of participant data in the form of Q sorts; (2) the inter-correlation and factor analysis of those Q sorts; and (3) the interpretation of the emergent factors. The factors, so identified and interpreted, represent the main viewpoints held-in-common within the participant group. Despite the qualitative thrust of the method and its findings, it is clear from the above that factor analysis is also an integral part of the procedure. This means Q methodology must ultimately be categorized as a mixed method.

Design Issues
(Research Questions & Q Set Design)

Q sorting requires participants to sort a provided set of items, most commonly in the form of a set of statements pertaining to the subject-matter at issue; for example patients might be asked to sort statements relating to 'the ideal GP' or 'what patients want in a GP practice' according to their likes or dislikes and along a single face-valid dimension such as 'most descriptive to most undescriptive' or 'most important to most unimportant'. The sorting process is carried out in response to a research question or condition of instruction.

It follows that effective Q research questions should be simple, coherent and tightly focused. For example, a particular Q study might explore: (a) the causes of something; (b) definitions/ understandings of that something; or (c) outcomes/policies in response to that something, but it will never try to cover all these areas at once. So, a first Q study might ask 'What are the main causes of youth offending'? A second 'How would you define youth offending'? And a third might consider 'How should we punish or deal with youth offenders?

The job of the researcher is then to create or design a set of stimulus items or 'Q set' (the sorting of) which will allow the study participants to respond effectively to the research question. This is best considered as a sampling task. If we ask about the main causes of youth offending, for example, it is likely that our Q set will be constituted of statements citing a variety of possible/ known causes. These might be found by literature searching, via focus groups or interviews with interested parties, from the media, and so on. Any method is appropriate provided it delivers a finished Q set, usually of somewhere between 40-80 items, which really will allow the study participants to respond effectively to the research question. Piloting is important to ensure an appropriate range of coverage has been achieved, but Q is nonetheless a very robust method insofar as the exact constitution of a Q set is supported by both the participants' 'effort after meaning' and the effective gathering of additional qualitative information during data collection (see overleaf).

Participants

Q methodological studies can be based on relatively few participants (N = 20/40 is normal, although effective Q studies can be conducted with even less), the idea being to reveal and understand the key viewpoints of this participant group, and to do so in considerable qualitative detail, not to ascertain how many people in a population exemplify a particular viewpoint. Single participant or 'case study' designs are also possible[4]. The most important issue, in fact, is simply to ensure that the viewpoints of your participant group really matter and tend also to rely on purposive rather than opportunity sampling.

Q Sorting

Figure 1 below illustrates a finished Q sort. It has been completed using a forced choice, quasi-normal sorting distribution designed for use with a 48 item Q set. A forced choice distribution of this general type and shape is the house standard for Q methodologists. It contains 11 ranking values ranging from +5 to -5 and dictates the number of items that can be ranked at each value (two at +5, three at +4, and so on). Distributions containing thirteen (+6 to -6) and nine (+4 to -4) ranking values are also commonly employed.

The idea is for each participant to rank all the Q set items, into the same provided distribution, in response to the research question and relative to their own personal likes and dislikes. The final configuration or overall pattern of items allowing the researcher to capture the participants' general viewpoint or position relative to the topic in question.

Q methodologists ordinarily gather a range of additional qualitative information during data collection. You might, for example, want to ask the participants what the items ranked at -6/+6 mean to them and why they are so dis/agreeable, to think

about any items they felt were missing from the Q set, and/or to write a short paragraph outlining their views 'on the subject'. This process is important because it can be a big help with factor interpretation (see below).

Factor Analysis and Interpretation

All the completed Q sorts are then inter-correlated and subjected to factor analysis[4]. Each distinct group will be c aptured as a factor and hence as one of the key viewpoints extant within the study. It varies greatly, but somewhere between 3-6 factors usually emerge from a typical Q study, which means 3-6 key viewpoints, and 3-6 alternative answers to your research question. Where the analysis process reveals three factors, for example, you will be left with three distinct factor arrays to interpret (i.e. one for each factor). Each factor interpretation should then be constructed by careful reference to the individual rankings and overall configuration of items captured in the relevant factor array. The aim, through this process of interpretation, is to provide the reader with a clear, summarised account of the viewpoint being expressed by each factor in the study[4].

Figure 1:
Forced Choice, Quasi-Normal Sorting Distribution Designed for a 48 Item Q Set

-5	-4	-3	-2	-1	0	+1	+2	+3	+4	+5
47	29	36	38	12	30	10	40	39	01	17
23	33	35	43	18	32	46	02	19	04	28
(2)	24	27	11	34	44	03	26	25	08	(2)
	(3)	20	22	09	05	31	41	45	(3)	
		(4)	15	06	37	16	42	(4)		
			(5)	48	13	21	(5)			
				(6)	07	(6)				
					14					
					(8)					

← MOST DISAGREE MOST AGREE →

Helpful Methodological References & Example Studies

1. Baker, R. M. (2006). *Economic rationality and health and lifestyle choices for people with diabetes.* Social Science and Medicine, 63(9), 2341-2353.

2. Eccleston, C., Williams, A. C. D., & Stainton Rogers, W. (1997). *Patients' and professionals' understandings of the causes of chronic pain: Blame, responsibility and identity protection.* Social Science and Medicine, 45(5), 699-709.

3. Stenner, P., Dancey, C., and Watts, S. (2000). *Patients' and professionals' understandings of the causes of chronic pain amongst people with irritable bowel syndrome: A'Q methodological study.* Social Science and Medicine, 51(3), 439-452.

4. Watts, S. & Stenner, P. (2012). *Doing Q methodological research: Theory, method, and interpretation.* London: Sage.

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