# Q Methodology

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Methodology    Subjectivity    Perspectives    Q sort    Individuality

*Q Methodology is a unique approach to research tailored for discerning and quantifying subjective perspectives. Developed by Stephenson (1935) in response to perceived reductionism in the psychological and social sciences, it prioritizes the individual's unique perspective rather than generalized characteristics seen across large populations. Q methodology merges both quantitative and qualitative measures in data collection, with the Q sort, a forced-sort process, standing out prominently. Analyzing Q data requires a blend of statistical methods and qualitative exploration, enabling a nuanced understanding of the subject's viewpoint. Brown (1993) emphasizes this interplay, positioning the mathematical component as auxiliary. Finding its application spread across diverse fields like health sciences, psychology, journalism, education, and environmental policy, Q methodology features two main design paradigms: single-participant design and multiple-participant design. While single-participant design delves deeply into individual self-perspectives, multiple-participant design explores shared viewpoints among different groups. Q methodology's unique lexicon features terms such as Concourse, Q set, and P set, which underscores its comprehensive approach to studying subjectivity.*

Q Methodology is a data collection procedure featured in research designs of systematic inquiry intended to determine human subjectivity around a particular subject, theme, topic or question. Q methodology (also known as Q Sort) was developed specifically to identify and quantify subjective perspectives. A Q Sort is a quasi-naturalistic structure developed from secondary sources as a way to order a series of sub-themes and questions, often around a theoretical framework that can be deductive or inductive and promotes theory testing. The Q method involves a specific data collection process and an analysis process that features multiple iterations of participant input. The main purpose of both processes in Q methodology is to reveal subjective structures, attitudes, and perspectives from the perspective of the person or persons being observed, also known as operant subjectivity (Brown, 1980, 1996). Stephenson (1935,1953), a pioneer in Q methodology, observed an excess of reductionism within psychological and social science research, and was interested in the traits that make an individual unique rather than the accumulation of traits that characterize large populations. Q methodology is based on beliefs about holism and multiple constructed realities, focusing on the study of subjectivity (including perceptions and experiences) as it is manifested in attitudes and behaviors.

The unique Q method of data collection combines quantitative and qualitative measures. The Q analysis process combines the techniques of statistical analysis while simultaneously allowing for flexibility in the analysis of data reflective of qualitative techniques. Data is collected through a forced-sort process (the Q sort). The Q method takes the sorting information in quantitative and qualitative form for analysis. Brown (1993) highlights the qualitative aspects of the methodology by comparing the quantitative aspects in Q methodology: "the fact that the resulting data are also amenable to numerical treatment opens the door to the possibility of clarity in understanding through the detection of connections which unaided perception might pass over.  In Q, the role of mathematics is quite subdued and serves primarily to prepare the data to reveal their structure" (p. 107).  Even within the statistical processes, Q methodology supports the use of judgmental and theoretical exploration of the data to develop a more accurate and robust picture of the whole, thereby providing a scientific approach for studying subjectivity while retaining the depth, diversity, and individuality of a more humanistic approach (Brown, 1980; Ellingsen et al., 2010). Thus, Q Methodology is appropriate for study conditions that seek to rank participant perspectives about qualitative statements.

Q methodology is often used in research studies that seek to reveal subjectivity. This is particularly true in the social sciences, including health sciences (Akhtar-Danesh et al., 2008; Churruca et al., 2021; Stenner et. al., 2003; Cross, 2005), psychology research (Miners, et al., 2023; Shemmings, 2006), mass communication and journalism (Giannoulis et al., 2010; Popovich et at., 2003), education studies (Ernest, 2011; Ramlo et al., 2008; Yang 2023), and environmental policy (Addams & Proops, 2000; Karalliyadda, et al., 2023; Webler et al., 2009).  Even in the variety of applications, there are two basic design types of Q methodological work, namely single-participant designs and multiple participant designs.

While Q methodology studies tend to focus on the exploratory analysis of operant subjectivities at a single point in time, there is a body of work with Q methodology that explores experimental and quasi-experimental repeated measure designs from which structure is drawn. Other studies using quasi-experimental designs have been conducted with Q as the central method of analysis, including Davies and Hodges (2012) in a longitudinal study of shifting environmental perspectives; Gaebler-Uhring (2003) in a study exploring uses of Q methodology in health care to assess affective learning outcomes; and Popovich, Masse, and Pitts (2003) in a study assessing an intervention in higher education. Watts and Stenner (2012) point out that although Q methodology is not a test of difference, the perspectives of two different groups can be compared after the initial analyses of each group have been completed independently using theoretical and statistical comparisons of each group and individual members between times.

Finally, Q methodology utilizes some unique terminology specific to its techniques.  The terms most often associated with the development of instruments used in Q methodology are defined in Table 1.

**Table  1**

*Key terminology in Q methodology.  From Brown (1993), McKeown and Thomas (1988), and Watts and Stenner (2012).*

| Term | Definition |
| --- | --- |
| Concourse | the flow of communicability surrounding any topic in the ordinary conversation, commentary, and discourse of everyday life |
| Q set | a set of stimulus items (usually statements) derived from the concourse and provided for ranking according to a personal and subjective response to the condition of instruction |
| *Source:* Naturalistic | stimulus items developed from oral or written communication such as interviews conducted specifically for the development of the Q set |
| *Source:* Quasi-naturalistic | stimulus items developed from secondary sources external to the study including interviews from people who will not conduct the Q sort, and literature related to the topic |

| Term | Definition |
| --- | --- |
| *Source:* Ready made | stimulus items created from sources other than communications regarding the concourse, usually drawn from conventional rating scales or otherwise standardized sets of data |
| *Structure:* Unstructured | considers the subject of the concourse as a single whole and attempts to create a representative sample in relation to the whole without necessarily covering all areas of the concourse |
| *Structure:* Structured | breaks down the subject of the concourse into a series of component sub-themes or issues, often around a theoretical framework that can be deductive or inductive, promoting theory testing |
| P set | participant group |
| Condition of instruction | instruction that sets the context for how participants are to consider each statement when sorting the Q set on the response grid |
| Q sort | the process where participants take part in a Q methodology study; involves the participant modeling his or her point of view by rank ordering the statements along a continuum, defined by a condition of instruction |

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