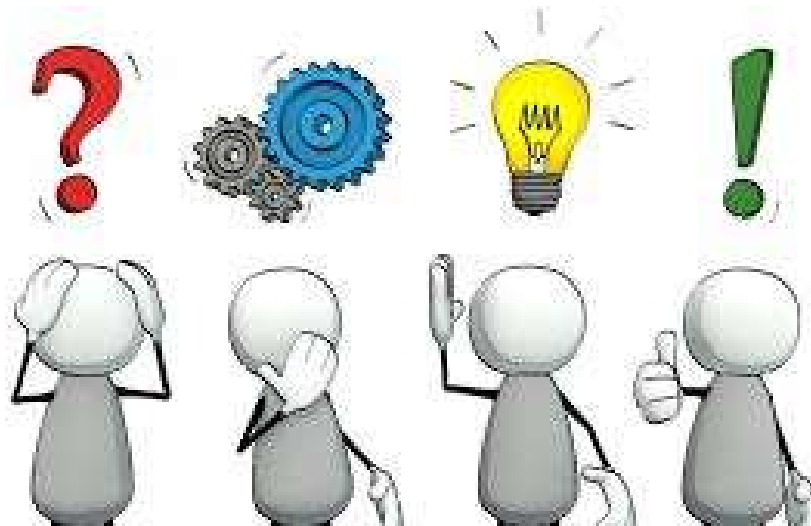I want to know about your prior experience of Q. Before we start if you can complete this brief questionnaire, it would be greatly appreciated.

- https://northumbria.onlinesurveys.ac.uk/introduction-to-q

Workshop: Introduction to Q methodology

Dr Kate Sykes

Northumbria University

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@DrKateSykes

By the end of this workshop, you will…

- Have an understanding of what Q methodology is and when it can be used
- Have an understanding of the steps of designing and completing a Q methodology study
- Have applied some of this knowledge through exercises
- Be aware of pitfalls and lessons learnt from Q methodology research

Time	Content (Activity)
1.00-1.10	**An introduction to Q**
1.10-1.30	**Identifying the concourse** (Activity 1 – develop a topic and identify a concourse)
1.30-2.00	**Developing a Q-set** (Activity 2 – clustering of concourse) (Activity 3 – statement development)
2.00-2.15	**Specifying the P set** (Activity 4 – Define your P-set)
2.15-2.40	**Designing the Q grid, completing the Q sort and an overview of the analysis**
2.45-3.00	**Reflections and lessons learnt and close**

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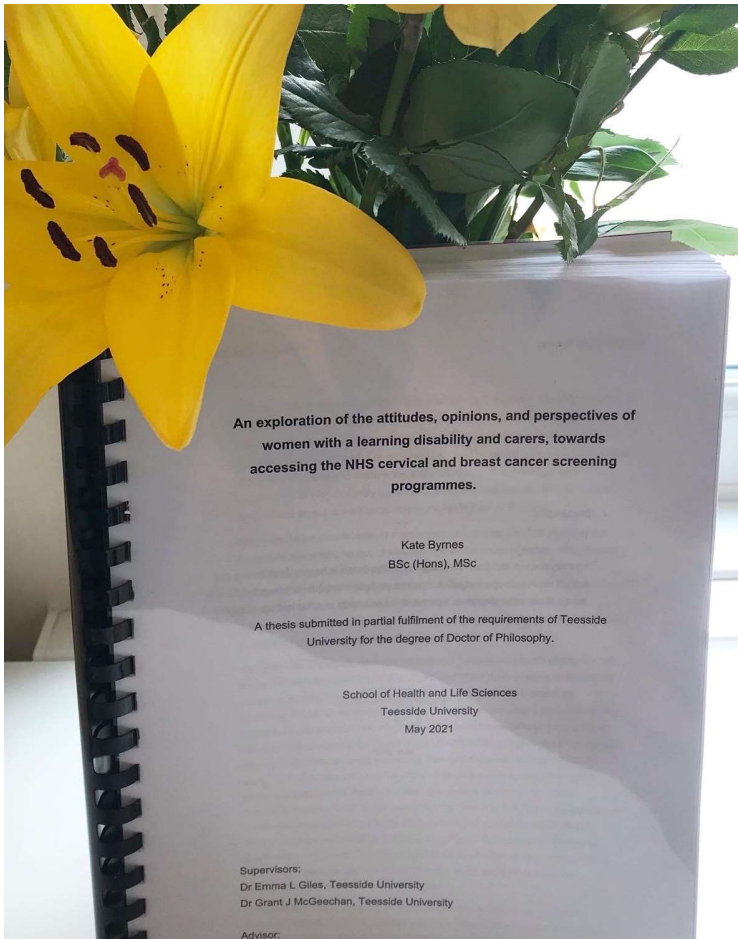
My background with Q methodology

- Attended a three day training course at Glasgow Caledonian University on Q methodology with Dr Rachel Baker and her team.

- Used Q methodology as part of my PhD which I completed in 2021

- Supervised a master student (also a GP in the region) at Southampton University who used Q methodology as part of a service evaluation of an allergy clinic.

Link to my open access Q study paper

What is Q methodology?

- Q methodology is a method of systematically studying subjectivity (McKeown & Thomas, 2013).

- A person's subjectivity is comprised of their viewpoint, opinion, beliefs and attitudes (Brown, 1993).

- Q methodology allows the researcher to identify, understand, and categorize individual perceptions and opinions, and then cluster groups of these categorizations (McKeown & Thomas, 2013).

- Mixed method = Neither fully qualitative nor fully quantitative and is thus a bridge between the two approaches (Ward, 2010) = 'quali-quantology'

A brief history
(Millar, Mason & Kidd, 2022)

- Q methodology was originally developed in the 1930s by William Stephenson

- Stephenson was a Physicist and psychologist

- Stephenson worked with Charles Spearman (Spearman correlation)

- Stephenson saw the need to explore the subjective opinion, combining it with the rigour of statistical factor analysis.

- Expands upon R methodology (Regular factor analysis where correlations between tests are analysed eg). Q is different because in Q the participants are the variables and the study is looking for variation in views.
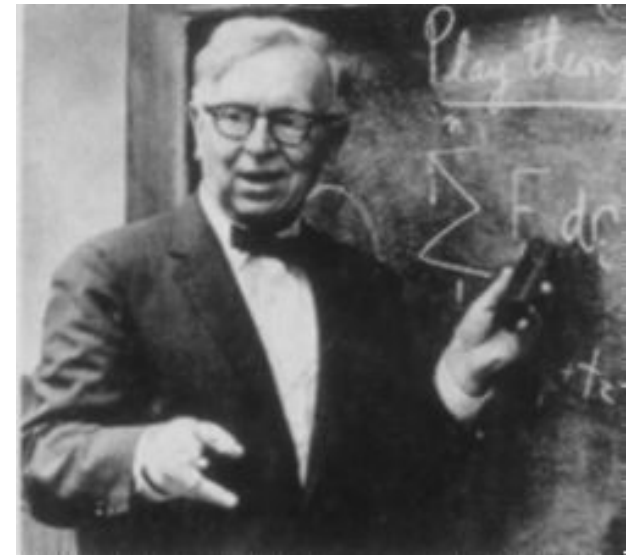
Subjectivity

A person's subjectivity can/should be able to be communicated to others.

Subjective communications occur when a person states 'it seems to me…', 'in my opinion…', or 'I agree (or disagree) with…',

No right or wrong answer.

Subjectivity is specific to the one person completing the Q-sort, as opposed to other people's opinions, this is known as self-reference.

Self-reference is preserved through the completion of the Q-sort, less likely to be compromised by the researcher.

Examples of Q studies that have been published recently… Health

Factor influencing women with learning disabilities deciding to, and accessing, cervical and breast cancer screening: Findings from a Q methodology study of women with learning disabilities, family and paid carers

Kate Sykes ✉, Grant J. McGeechan, Hannah Crawford, Emma L. Giles

How do wound care nurses structure the subjective frame on palliative wound care? A Q-methodology approach

Ye-Na Lee & Sung Ok Chang ✉

Transitioning services for eating disorder treatment, the relative importance of factors from patient, carer and clinician perspectives: a Q-methodology study

Jackie Wales, Nicola Brewin, Iain Williamson, Jakub Štický, Rachael Lawrence, Alison Eivors

Doctors and patients' perspectives on obesity. A Q-methodology study 🔓

Qays Shahed, Karolina Baranowska, Marije C Galavazi, Yang Cao, Michiel A van Nieuwenhoven ✉   Author Notes

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Examples of Q studies that have been published recently… Education

Questions that matter: using Q methodology to identify student priorities in module level experience

Elena Zaitseva ✉ & Anna S. Law

Attitudes toward simulation-based learning in nursing students: An application of Q methodology

Eun Ja Yeun [a][1] ✉, Ho Yoon Bang [b][2] ✉, Eon Na Ryoo [c][3] ✉, Eun-Ho Ha [d] ✉

Using Q Methodology as a mixed methods approach to study beliefs about early childhood education

James M Ernest

Examples of Q studies that have been published recently… Environmental

Using Q-methodology to bridge different understandings on community forest management: lessons from the Peruvian Amazon Juan Pablo Sarmiento Barletti, Peter Cronkleton, Nicole Maria Heise Vigil

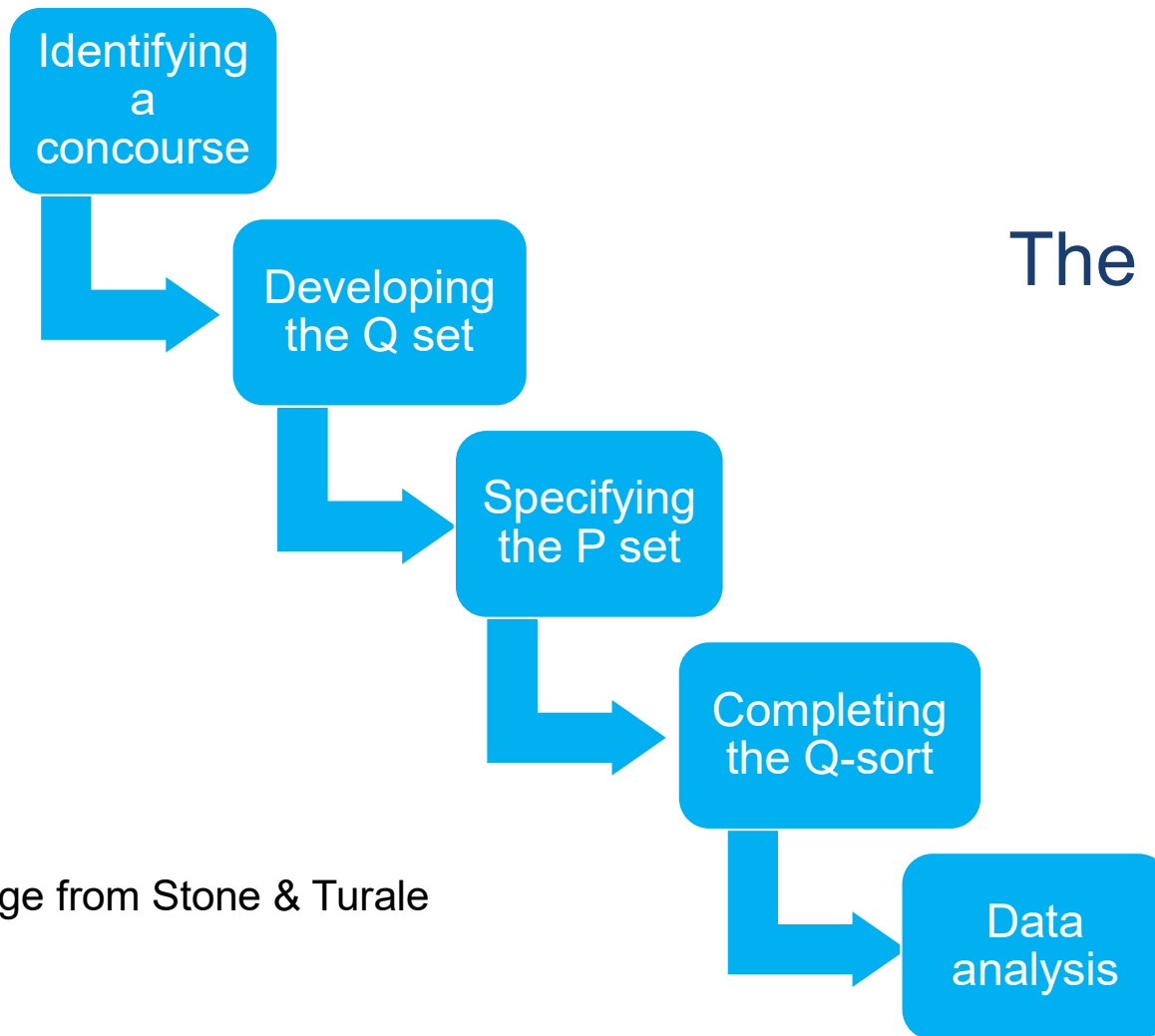Precision farming: what do Italian farmers really think? An application of the Q methodology

Yari Vecchio [a] ✉, Jorgelina Di Pasquale [b] ✉, Teresa Del Giudice [c] ✉, Gregorio Pauselli [a], Margherita Masi [a] ✉, Felice Adinolfi [a] ✉

Prioritising climate change actions post COVID-19 amongst university students; a Q methodology perspective in the United Arab Emirates

Aseel A. Takshe, Jon C. Lovett, Paul Stenner, Davide Contu and Noelia Weber

Motivations underpinning honeybee management practices: A Q methodology study with UK beekeepers

Fay Kahane ✉, Juliet Osborne, Sarah Crowley & Rosalind Shaw

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The steps in a Q study

Identifying a concourse → Developing the Q set → Specifying the P set → Completing the Q-sort → Data analysis

Based on an image from Stone & Turale (2015)

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Identifying a concourse
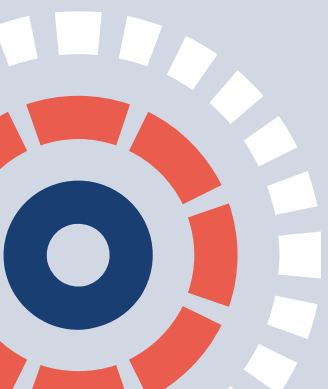
What is the concourse?

- The collection of all the potential feeling and attitudes that people can have on the subject being discussed (Van Excel, 2005).

- The concourse should (as much as possible) contain all relevant aspects of the topic.

- The concourse statements should be able to be contested, argued about and debated (Smith, Van Langenhove, Stainton Rogers, 1995)

Developing the concourse

- The concourse is developed using opinion collected through:
  - Personal interviews and focus group discussions (Gubrium, Holstein, Marvasti, & McKinney, 2012).
  - Secondary sources such as newspapers or public debates (Gubriumet al., 2012).
  - Pictures and objects (Watts & Stenner, 2005).
- Typically interviewing is considered the most efficient and practical way of creating the concourse, as the research can aim to sample people with different views so nothing is omitted (Herrington et al., 2011).
- IMPORTANT → A concourse is often far from complete (Brown, 1993)

An example

For my PhD study the concourse comprised of 128 original statements.

Public Health England

Confidential Inquiry into premature deaths of people with learning disabilities (CIPOLD)

NHS
South Tees
Clinical Commissioning Group

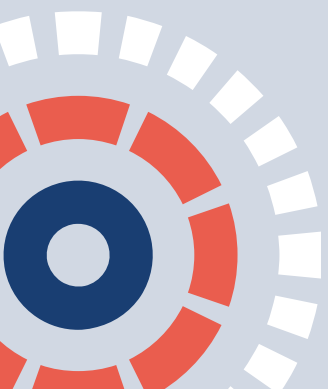| Source	Statements
Women with learning disabilities are least likely to attend breast cancer screening – except in Cornwall	5. Women with learning disability aren't receiving equal opportunity in health care 6. I have seen easy-read information on breast cancer screening 7. Barriers – letters, fear of the unknown, not understanding the importance of cancer screening,
Making Reasonable Adjustments to Cancer Screening	9. I would know the symptoms of breast cancer 10. I would know the symptoms of cervical cancer 11. I would know who to speak to if I was worried about my breasts
South Tees CCG Breast cancer screening video	28. 'in case you get stuck in the machine and you are left in the dark and in case they find any lumps' 34. 'have a teddy or something to cuddle'
Willis, Kennedy & Kilbride (2008)	40. General practitioners feeling it was inappropriate for these women. 41. Method of referral for breast screening is one barrier in the UK being registered with a general practitioner is used. In the UK many people with learning disabilities are not registered with a general practitioner
McIlfatrick, Taggart & Truesdale-Kennedy	69. Barriers related to personal - women's cognitive deficits, communication and level of understanding would pose as a barrier to them accessing breast screening services. 70. Barriers attributed to carers - the benefits and value of having someone to accompany the women with intellectual disability to their appointment and that the lack of carer support can be a potential barrier.

Activity 1

In your tables,

1. Chose a topic that someone could hold an opinion on.

2. Each person to spend a few minutes generating a list of statements/perspectives/opinions that you have/know about the topic.

3. Write one statement on each post it note. Try to get a minimum of 3 each – you can use your phone/laptop to do some 'research' too!

15 min

Developing the Q set

What is the Q-set?

- Once a concourse is developed, it is used to develop the final Q-set (Watts et al., 2012).

- A Q set is a list of statements.

- The Q-set consists of a representation of statements from the concourse, which aims to cover the full range of opinions in the concourse (Brown, 1933).

- IMPORTANT → There is no singular or correct way to generate a Q-set; as the Q-set must be tailored to the requirements of the research question being studied (Watts et al., 2012).

How do you develop the Q-set?

- To develop the Q-set, the list of concourse statement is sifted for duplicates and opposites to eliminate repetition (O'Neil, 2012). There are two methods of developing the Q-set, using either an unstructured or structured approach (Akhtar-Danesh, 2007).

Structured approach
- Assigned to conditions defined by the researcher.
- Deductive process based on an a priori hypothesis or theoretical considerations, eg could be grouped into categories of research, education, and scholarship (Akhtar-Danesh, 2007)

Unstructured approach
- Selecting items that represent the topic being study (Akhtar-Danesh, 2007).
- Q-set represents all the major ideas, viewpoints, feelings, and opinions (Akhtar-Danesh, 2007).
- Inductive approach is used in which categories or themes emerge from the statements in the concourse.

Considerations to think about

1. <u>The number of statements</u>

2. <u>Wording</u> = Avoid technical or overly complicated terminology, avoid items with two or more propositions, and avoid unnecessary negatively expressed items that could produce double negative responses. For example "do not always open letters so do not know about appointments" – so if you agree where does it go?

3. <u>Length/presentation</u>

4. <u>Use of a prefix</u> = Watts and Stenner (2012) example 'Love is …' which provides participants with consistency.

5. <u>Pilot</u>

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<u>PREFIX:</u> Women with learning disabilities...

1. know what lady bit cancer is
2. know what boob cancer is
3. need their carers and family to explain what cancer screening is
4. do not attend cancer screening because they are scared
5. are more likely to be stopped from going to screening by doctors
6. are told about cancer screening by their doctor
7. do not always open letters so do not know about their appointment
8. need to know the symptoms of cancer

1. My child and I are always treated with respect by the allergy team.
2. The allergy team are good at introducing themselves
3. Seeing the same member of the allergy team each time is important.
4. The allergy team listen to what I have to say.
5. During appointments, I felt able to ask all the questions I wanted to.
6. It is easy to understand everything the allergy team tell me.
7. I am always fully involved in decisions about my child's care.
8. I learn more from the nurses than the doctors.
9. I trust the members of the allergy team I have seen
10. It helps to see different members of the allergy team - not just the doctor
11. I have access to many different professionals within the allergy team.

1. Rajenda Pachuri	15. Traffic jam	28. Richard Branson
2. Coral reef	16. Low reservoir	29. Car in snowstorm
3. David Cameron	17. Smokestacks	30. Felling tropical forest
4. Prince Charles	18. Volcano	31. Julia Gillard
5. Solar panels	19. Church congregation	32. Fighting bushfire
6. Wind farm	20. Electric car	33. Globe from space
7. Tractor on farm	21. Coastal erosion	34. Bob Geldof at rock concert
8. Temperature graph	22. Al Gore	35. Barack Obama
9. Climate scientist	23. Ice sheet	36. Red meat for sale
10. Flooding map	24. Home insulation	37. Climate protest
11. Deckchairs	25. Polar bear	38. Glacier
12. Cracked ground	26. Coral atoll	39. Ecohouse
13. Planes at airport	27. Flood aerial view	40. Fuel pump
14. Nuclear power plant		

- List of images used in a pictorial Q-sort

Activity 2
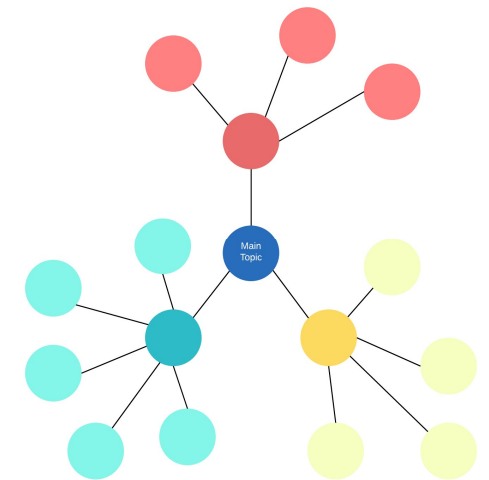
- **Put the post-it notes you have all developed into piles that are all similar**

- E.G1. if two post it notes discuss that a researcher should be approachable, they would be in the same pile.

- E.G2. if one post-it talk about an ideal holiday needing to be a hot temperature, and another says cold, then they would be in the same pile names temperature?
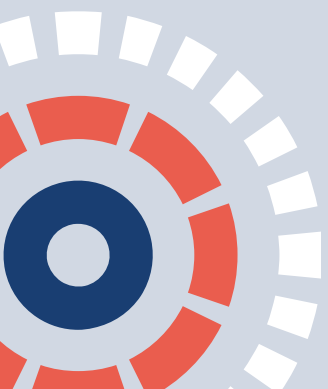
Activity 3

- You should all have piles of statements on the table.
- Now, start to generate a statement or statements based on a handful of the post it notes.
1. Think about if you want to use a prefix or not.
2. The length of the statement.

Specifying the P set

What is the P-set?

- P-set = the participant group who are completing the Q-sort.

- Those who are theoretically relevant to the problem of the study, this means that they can have an opinion on the topic being discussed.

- Recommended that an adequate sample of <u>between 40 and 60 participants.</u> This is to make sure there is rich and different views rather than random sampling to achieve representativeness.

- However – some studies have completed a Q study with much less

A method of calculating the sample size

- Webler, Danielson and Tuler (2009), highlight a ratio that can be used to determine the range of participants which should be used in a specific Q study.

- Ratio is = Q-Statements: Q Participants

- This ratio is because there should not be more Q-set statements than participants (but some publications do not use this ratio)

- The often used ratio is 3:1

- Highest ratio is 2:1

- REMEMBER = Recruitment and data collection is often difficult

Example 1:

Kates PhD

28 Q statements. Using the ratio I could have between 9 (28/3) to 14 (28/2).

Aim: 20 women with a learning disability and 20 carers, to also enable the accepted number of 40.

Achieved: 21 (13 women with learning disabilities, eight carers).

Example 2:

Pauls MSc

25 Q statements. Using the ratio I could have between 8 (25/3) to 12.5 (25/2).

Aim: 40 parent of children who have used allergy clinic.

Achieved: 40 parent of children who have used allergy clinic.

Example 3:

Shahe et al. (2022)

48 Q statements. Using the ratio I could have between 16 (25/3) to 24 (25/2).

Aim: Unknown.

Achieved: 48 (24 patients with obesity and 24 GPs)
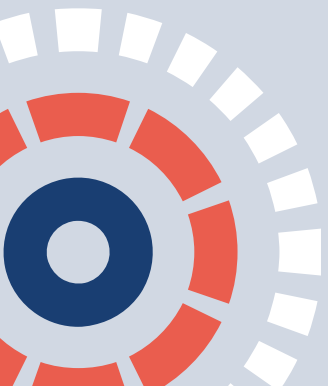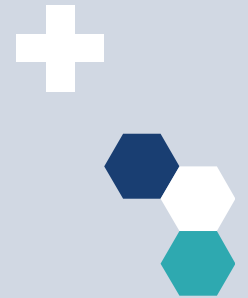
Activity 4

- Thinking about your topic… who would have an opinion on your topic? (Don't say everyone!)

1. Make a list of possible participants you could involve in your Q-sort

Designing the Q grid and then completing the Q sort

Forced vs unforced structure

Forced	Unforced
• The forced structure within Q allows for comparisons to be made between completed Q sorts.	• The unforced structure means P-set are not restricted to a predetermined format.
• A forced-choice structure, P-set are requested to adhere to the distribution provided.	• Each member of the P-set will create the distribution that they feel represents their subjectivity.
• A forced distribution is practical but not necessary and, in most cases, does not have any effect on factors emerging from the data.	• All members of the P-set may place as many or as few cards under each category as they desire, mainly due to them having control over the distribution range.
• P-set are required to make discriminations that they may not otherwise be inclined to make	• Potential to lower P-se frustration as they are not restrained
• P-set can sort "out of the grid" and place one or two cards outside of the predefined grid.	• Will people just sort the cards under agree or disagree?

Forced vs unforced structure

Most disagreed					Neutral				Most agreed	
-5	-4	-3	-2	-1	0	+1	+2	+3	+4	+5

Kurtosis (mainly for forced)

- Kurtosis is the degree of flatness or steepness of the Q gird.

- The preferred numbering of the distribution is a near normal, symmetrical distribution numbered from a positive value at one end, through 0, to the equivalent negative value at the other end (+5 to -5 with 0 in the middle).

- Preferred numbering allows the mean ranking to fall at 0 during the analysis process. This is significant because it provides a centre from and around which positive and negative meanings extend.

- The numbering is related to the number of statements in the Q-set and decisions of range and slope of the distribution.

Kurtosis

-6	-5	-4	-3	-2	-1	0	+1	+2	+3	+4	+5	+6

(1)   (1)

(2)   (2)   (2)   (2)

(3)   (3)

(4)   (4)

(5)   (5)

(6)

Example 1
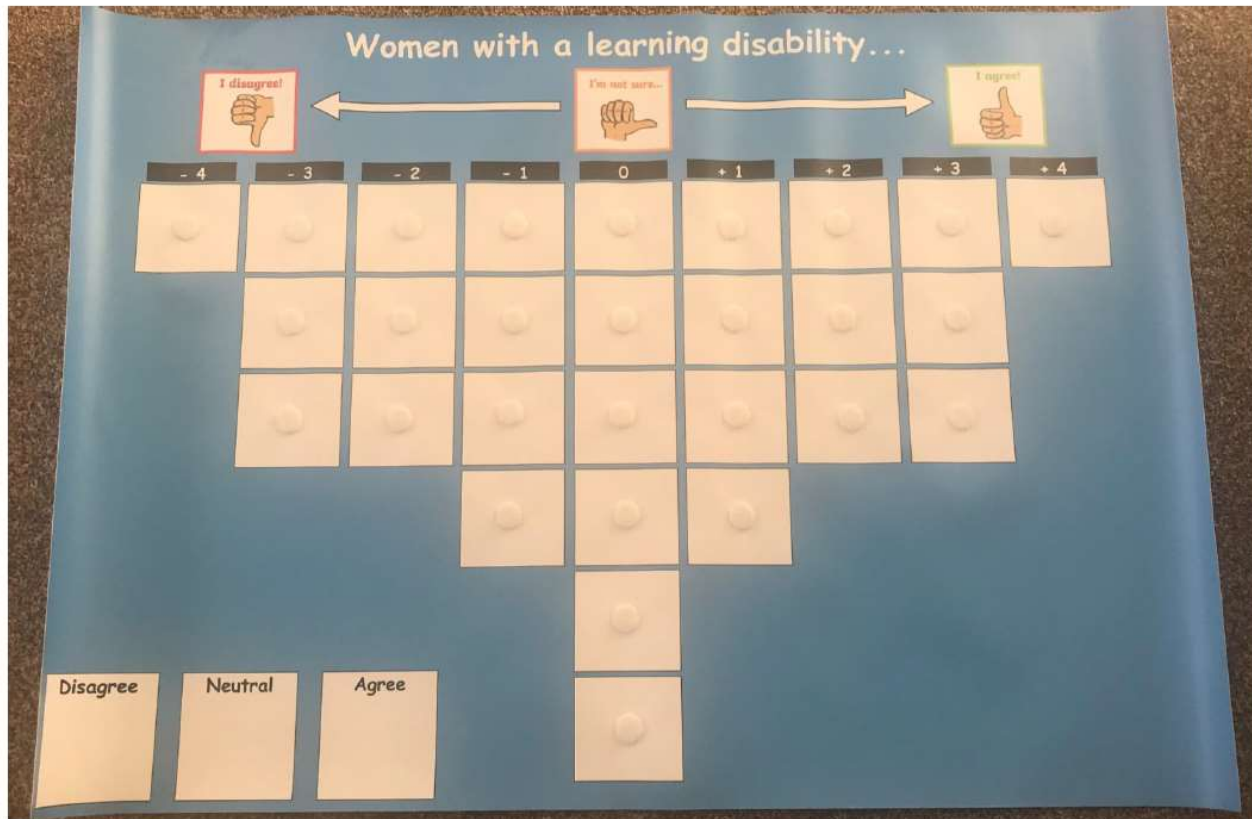
A way to complete the sort

1. Sort the pack of cards into three piles = agree, disagree, neutral/unsure

2. Person to pick one pile of card and start to map them onto the grid in line with their perspectives <u>OR</u> find the card they strongly agree with then do and find the card they strongly disagree with. → give the person a choice?

3. The process is ongoing until all cards are put onto the grid.

4. They can move cards around (that is the point!)

Strongly Disagree

Strongly Agree

-4	-3	-2	-1	0	1	2	3	4

Recording the card placements

Disagree

Neutral

Agree

Researcher to count how many statements in each pile and place
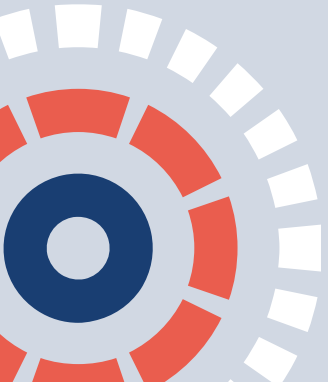
Audio record the sort/ run a post Q-sort interview

- The post Q-sort interview aims to discover the reasons why the participants placed the card where they did on the sorting grid.

- Brown (1980) identified that the post Q-sort interview is "*an important step often overlooked in Q studies*" (pg. 200).

- Can help with the interpretation/naming of factors.

Data analysis

WARNING !!

An overview of the analysis

- Quantitative analyses (factor analysis) of the Q-sorts, and qualitatively interprets the outputs to makes sense of the derived factors.

- To analyse the Q-sorts multiple software packages can be used, the three most frequently used = PQMethod, PCQ, and KenQ.

1. Transform the data

- Transform Q sorts into numerical data.
- Card placed under +5 gets "5 points", if under 0 they get a score of 0, a card placed under +3 would get a score of +3.
- The scoring is done automatically by the software.
- Scoring takes place for each of the Q-sorts.
- Each individual Q-sort is then intercorrelated with the Q-sorts of other people.
- The scoring is how the factors are developed.
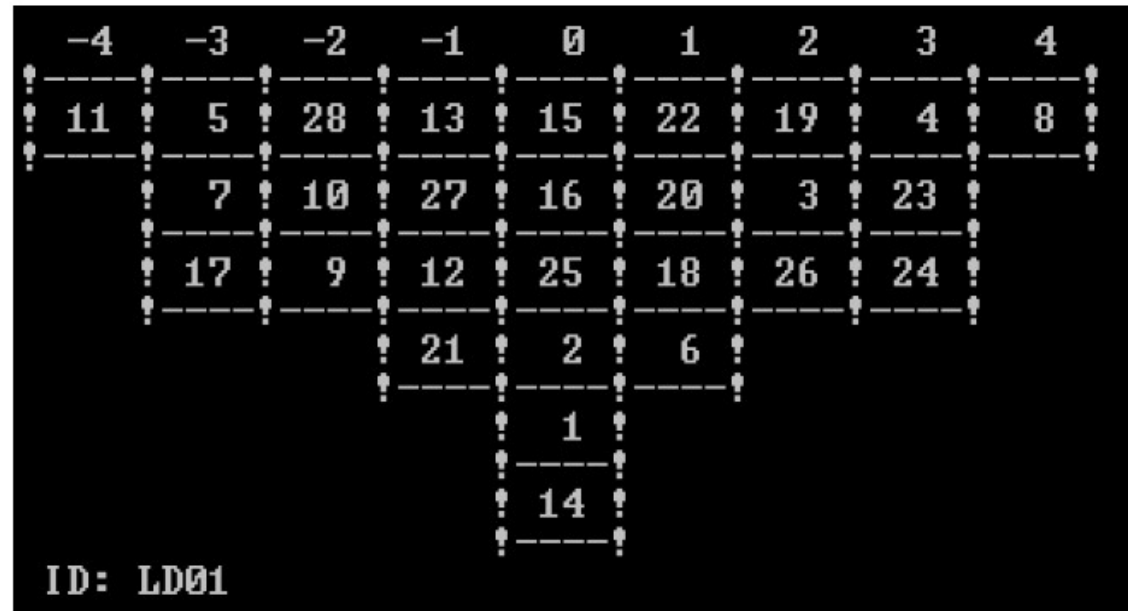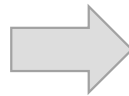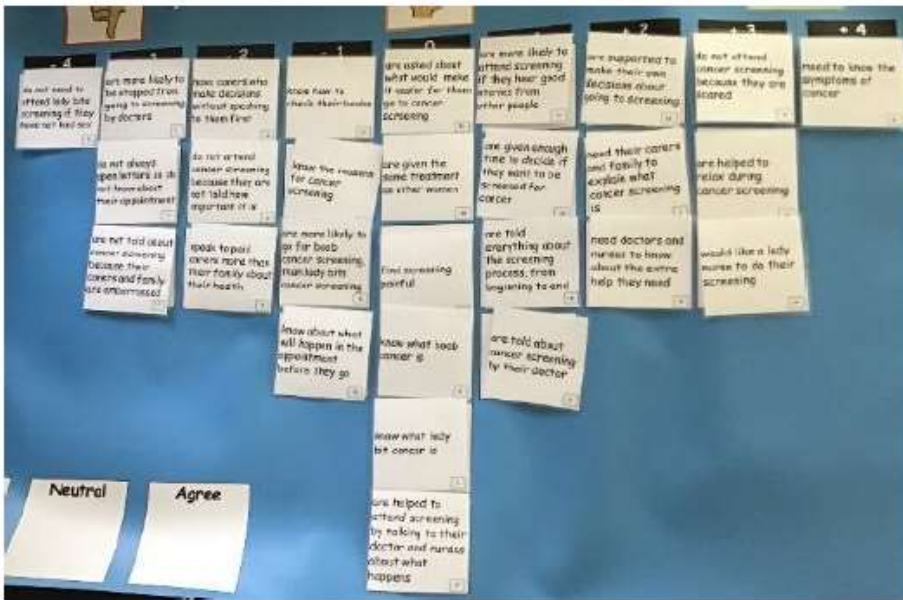
2. Factor analysis - extraction

- Factor analysis is a method that aims to identify patterns of "association between a series of measured variables" (p. 21)

- Factor analysis is completed to identify factors that represent clusters of shared viewpoints between the participants.

- There are two methods to analyse the factor matrix: Centroid Analysis (CA) or Principal Component Analysis (PCA). CA is flexible. PCA is the most commonly used. PCA aims to maximise variance which provides the best mathematical solution or best-fit.

2. Factor analysis - rotation

- Factor rotation examines the data from different angles.

- Factor rotation can be conducted statistically or theoretically.

- Rotating the factors is akin to changing the viewpoint from where results are observed. This is done to obtain a clearer and more interpretable structure of the results.

- Four drivers for deciding on the factors (Webler et al., 2009).

Simplicity → Clarity → Distinctiveness → Stability

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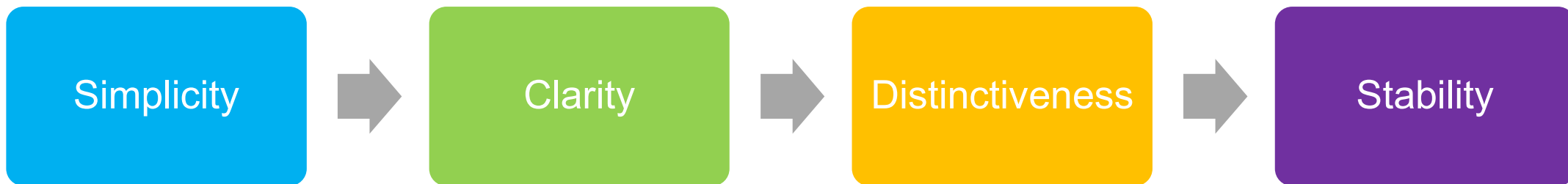
2. Factor analysis – key points

- Eigenvalues (EVs) are indicative of a factors strength and explanatory power.

- Only keep factors of 1 or above.

- Kaiser-Guttman criterion - retain all factors for which the corresponding eigenvalue is greater than one – Useful to cite and justify a decision.

- However this can lead to many factors which doesn't actually tell us anything significant.

- "Magic number 7" = starting with seven factors in the analysis as the default number for extraction (Although Ramlo suggest 8 then 7)

- Start with 7, look at the scores and make decisions to reduce.

	Factors							
SORTS	1	2	3	4	5	6	7	8
1 LD01	0.8359	0.1403	-0.2075	-0.1719	0.0034	0.1571	-0.2447	-0.0418
2 LD02	-0.0311	0.1526	0.7864	0.1955	0.2681	0.2276	-0.0670	-0.0643
3 LD03	0.4323	-0.5726	-0.0431	0.3681	0.2909	0.0487	0.2047	0.0239
4 LD04	0.7333	-0.0265	-0.1312	-0.0115	0.3628	0.3046	-0.1918	-0.1508
5 LS05	0.5375	-0.1890	-0.0357	-0.0486	-0.3628	0.4592	0.2777	-0.3992
6 LD06	0.4665	-0.0578	0.4742	0.3022	-0.1576	0.3956	0.0780	0.4026
7 LD07	0.5795	0.0233	-0.3842	-0.2651	-0.2278	-0.0403	0.2443	0.1067
8 LD08	0.6775	-0.2280	0.4238	-0.2682	-0.2462	-0.1146	-0.0578	0.2170
9 LD09	0.7240	-0.3081	-0.1237	-0.1416	0.1331	-0.0375	0.3996	0.2760
10 LD10	0.6673	-0.0818	0.3925	-0.0439	0.0059	-0.2670	0.1833	-0.3083
11 LD11	0.1733	-0.2218	-0.2365	0.5195	-0.5622	-0.0709	-0.3948	-0.0702
12 LD12	0.7534	-0.1836	0.1724	-0.1425	-0.2739	-0.0612	-0.2535	0.0546
13 LD13	0.3228	-0.4266	0.1044	0.2531	0.5683	-0.3500	-0.1226	-0.0266
14 FC01	0.3221	0.4246	-0.4077	-0.1891	0.3526	0.2889	-0.3129	0.2418
15 FC02	0.4673	0.6510	-0.0946	0.0449	0.2469	-0.0293	0.1554	-0.1043
16 FC03	0.2209	0.8077	0.0376	-0.3034	-0.1117	-0.2696	0.0993	0.0079
17 PC01	0.7453	0.3746	0.1418	-0.0513	0.0771	-0.2151	-0.1305	0.0073
18 PC02	0.3095	0.7705	0.3802	0.1617	-0.1396	-0.0411	-0.0927	-0.0888
19 PC03	0.7375	-0.3060	-0.2960	0.1847	0.0614	-0.1133	-0.0770	-0.2116
20 PC04	0.3699	0.3040	-0.2390	0.6781	-0.1679	-0.2268	0.1218	0.2250
21 PC05	-0.0105	0.7375	-0.1827	0.4732	0.0589	0.1555	0.2140	-0.0616
Eigenvalues	6.1001	3.5502	2.0192	1.6921	1.5475	1.0510	0.9418	0.7655
% expl.Var.	29	17	10	8	7	5	4	4

Scree Plot

	1	2	3	4	5	6	7	8
Eigenvalue	6.1001	3.5502	2.0192	1.6921	1.5475	1.051	0.9418	0.7655

Factor number
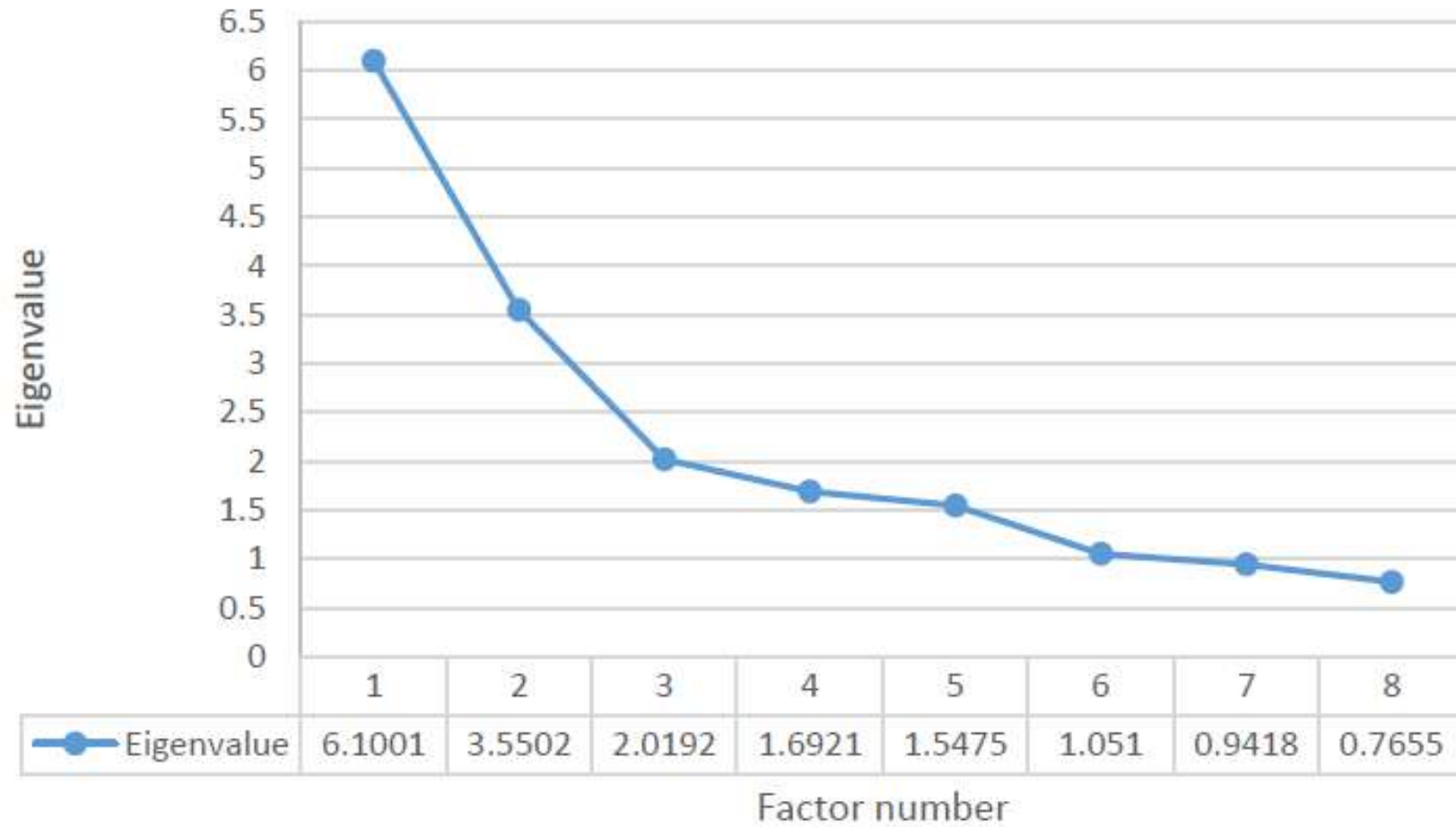
P- set ID	Factor 1	Factor 2	h^2	h^2 (%)
LD01	0.7569X	0.3815	0.72	72
LD02	-0.0749	0.1366	0.02	2
LD03	0.5824X	-0.4189	0.51	51
LD04	0.7083X	0.1918	0.54	54
LD05	0.5694X	-0.0214	0.32	32
LD06	0.4627X	0.0829	0.22	22
LD07	0.5466X	0.1938	0.34	34
LD08	0.7146X	-0.0172	0.51	51
LD09	0.7828X	-0.0799	0.62	62
LD10	0.6616X	0.1194	0.45	45
LD11	0.2312	-0.1606	0.08	8
LD12	0.7740X	0.0476	0.60	60
LD13	0.4346X	-0.3119	0.29	29
FC01	0.1819	0.5009X	0.28	28
FC02	0.2537	0.7602X	0.64	64
FC03	0.0281	0.8369X	0.70	70
PC01	0.6011X	0.5784	0.70	70
PC02	0.0675	0.8276X	0.69	69
PC03	0.7951X	-0.0740	0.64	64
PC04	0.2633	0.3998X	0.23	23
PC05	-0.2284	0.7013X	0.54	54

- Factor loadings for each participants
- H2 = Communality score
- E.g. (loading on factor 1)2 + (loading on factor 2)2.
  Q-sort 1 = (0.7569)2 + (0.3815)2
  = (0.7569 * 0.7569) + (0.3815 * 0.3815)
  = 0.57289761 + 0.14554225
  = 0.71843986
  = 0.72
- The communality for Q-sort one is telling us that 72.0% of the variance in the Q-sort has been accounted for by the study factor.
- This means that 72.0% of the variance is common variance.
- A high communality indicates that the sort is typical and could represent a high proportion of the P-set.

No.	Statement	No.	Factor Arrays 1	2
1	Women with a learning disability know what lady bit cance	1	0	-4
2	Women with a learning disability know what boob cancer is	2	2	-1
3	Women with a learning disability need their carers and fa	3	0	3
4	Women with a learning disability do not attend cancer scr	4	1	2
5	Women with a learning disability are more likely to be st	5	-3	-1
6	Women with a learning disability are told about cancer sc	6	-1	0
7	Women with a learning disability do not always open lette	7	-2	2
8	Women with a learning disability need to know the symptom	8	4	3
9	Women with a learning disability speak to paid carers mor	9	0	0
10	Women with a learning disability do not attend cancer sc	10	-3	2
11	Women with a learning disability do not need to attend g	11	-4	-3
12	Women with a learning disability are more likely to go f	12	-1	1
13	Women with a learning disability know how to check their	13	0	-3
14	Women with a learning disability are helped to attend sc	14	0	-1
15	Women with a learning disability are asked about what wo	15	-2	-2
16	Women with a learning disability are treat the same give	16	2	-3
17	Women with a learning disability are not told about canc	17	-2	0
18	Women with a learning disability are told everything abo	18	-1	-2
19	Women with a learning disability are supported to make t	19	3	0
20	Women with a learning disability are given enough time t	20	1	0
21	Women with a learning disability know about what will ha	21	-1	-1
22	Women with a learning disability are more likely to atte	22	0	4
23	Women with a learning disability are helped to relax dur	23	3	0
24	Women with a learning disability would like a lady nurse	24	3	1
25	Women with a learning disability find screening painful	25	1	1
26	Women with a learning disability need doctors and nurses	26	2	3
27	Women with a learning disability know the reasons for ca	27	1	-2
28	Women with a learning disability have carers who make de	28	-3	1

Variance = 4.214 St. Dev. = 2.053

- Factor Q-sort placement for each statement used to develop the factor arrays

Array for factor 1

Strongly disagree							Strongly agree	
-4	-3	-2	-1	0	+1	+2	+3	+4
11	5	7	6	1	4	2	19	8
	10	15	12	3	20	16	23	
	28	17	18	9	25	26	24	
			21	13	27			
				14				
				22				

Array for factor 2

Strongly disagree							Strongly agree	
-4	-3	-2	-1	0	+1	+2	+3	+4
1	11	15	2	6	12	4	3	22
	13	18	5	9	24	7	8	
	16	27	14	17	25	10	26	
			21	19	28			
				20				
				23				

No.	Statement	No.	1 Q-SV	Z-SCR	2 Q-SV	Z-SCR
4*	Women with a learning disability do not attend cancer scr	4	1	0.65	2	1.01
5	Women with a learning disability are more likely to be st	5	-3	-1.49	-1	-0.88
8*	Women with a learning disability need to know the symptom	8	4	1.29	3	1.22
9*	Women with a learning disability speak to paid carers mor	9	0	-0.13	0	-0.10
11*	Women with a learning disability do not need to attend g	11	-4	-1.91	-3	-1.44
15*	Women with a learning disability are asked about what wo	15	-2	-0.84	-2	-0.99
21*	Women with a learning disability know about what will ha	21	-1	-0.18	-1	-0.56
24*	Women with a learning disability would like a lady nurse	24	3	1.14	1	0.71
25*	Women with a learning disability find screening painful	25	1	0.77	1	0.71

- Consensus Statements -- Those That Do Not Distinguish Between ANY Pair of Factors.
- All Listed Statements are Non-Significant at P>.01, and Those Flagged With an * are also
- Non-Significant at P>.05.

3. Interpreting the factors

- Lots of papers will simply state "Researchers interpreted the factor array"

- Look at the demographics of the participants → in my analysis most women with a learning disability loaded onto factor 1, and carers onto factor 2. Screening uptake varied across all.

- Some use the post-Q-sort-interview only to explore the main perspectives.

- I recorded the entire Q-sort and post-Q-sort-interview

- A transcript was generated from each audio file

- Framework analysis was employed = using the polar ends of the factor array was populated with quotes from each person transcripts where they discuss that specific statements. A narrative could then be generated.

Example 1

- https://onlinelibrary.wiley.com/doi/full/10.1111/ecc.13702

It was perceived that WwLD are not stopped from going to screening by doctors (5: −3); 'It is up to us' (woman with learning disabilities 12). With WwLD being perceived to be 'supported to make their own decisions about going to screening' (19: +3) and do not 'have carers who make decisions without speaking to them first' (28: −3) as 'it's up to them if they want to go or not' (woman with learning disabilities 4), 'I make my own decisions. I have my mind. Parent and staff haven't got my mind' (woman with learning disabilities 12).

Example 2

- https://www.tandfonline.com/doi/full/10.1080/0142159X.2020.1854705

Role of study groups – Students in profile 1 value working together with their peers in study groups (9 −5). For optimal learning, they feel it is the responsibility of all members to do their assignments well and to participate in the learning process (23 0, 33 +3). Members of the study group should not let other activities in their lives interfere with their responsibility to the learning of the group (42 −1). Study groups should ensure that all members feel safe to say what they think, as that provides an extra opportunity to learn from multiple perspectives (28 +5, 48 +4). Students in this profile prioritize learning over the social aspect of study groups (5 −2). Study group meetings can be tailored to students' wants and needs, making them preferable over large-group lectures (39 −4). As students in this profile value in-depth discussions (29 +2), they do not mind when group meetings run late (3 +1).

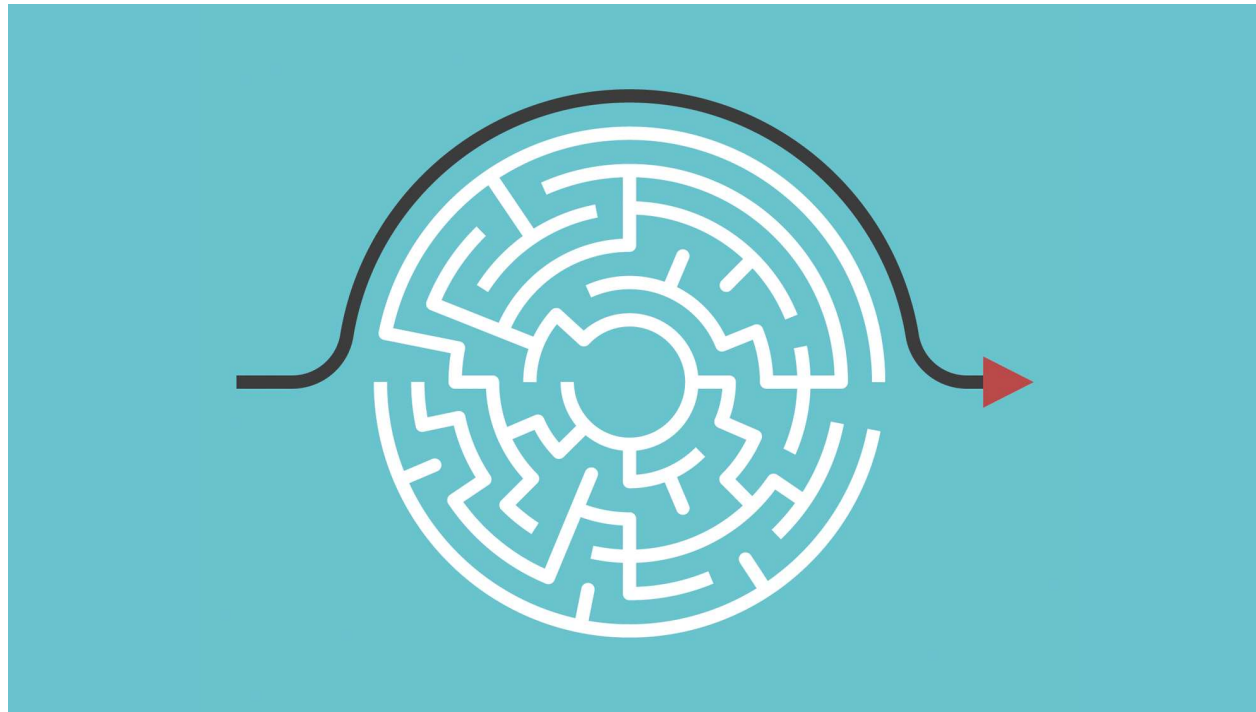# Reflections and lessons learnt
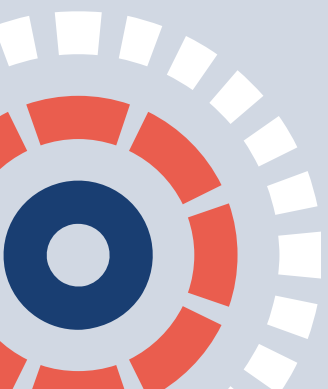
Spend time planning

Follow the steps
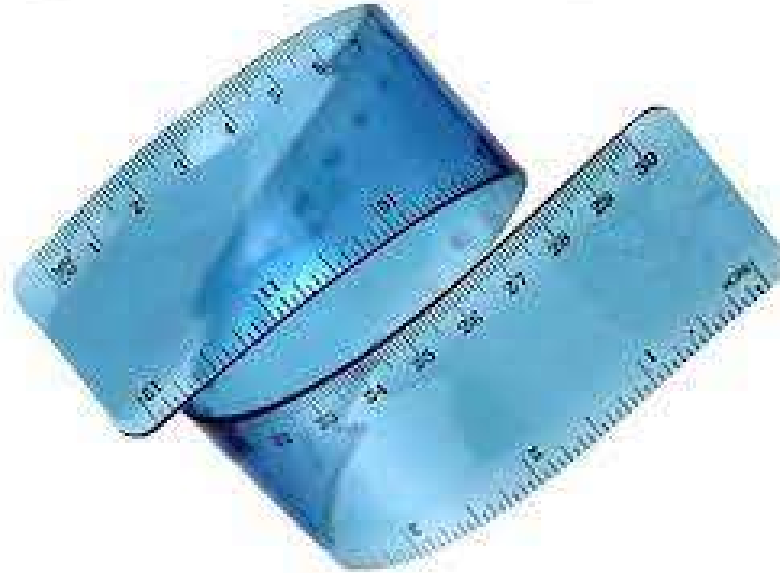
Not many people are familiar with the method

Avoid double negative statements

Put information into lay terms for participants = "sort a pile of cards"

Employ flexibility/choice for your participants

Find the books/journals that <u>YOU</u> can understand and engage with
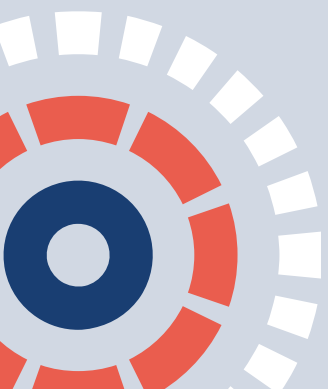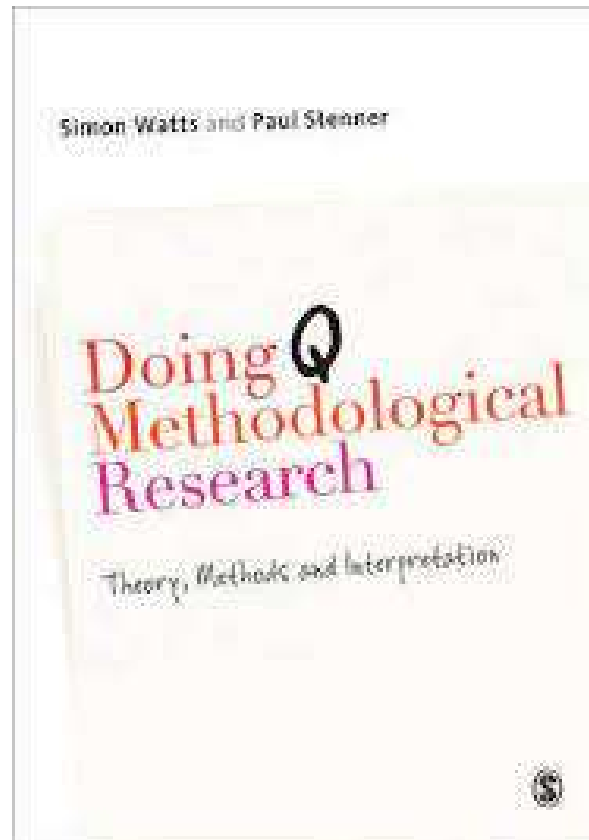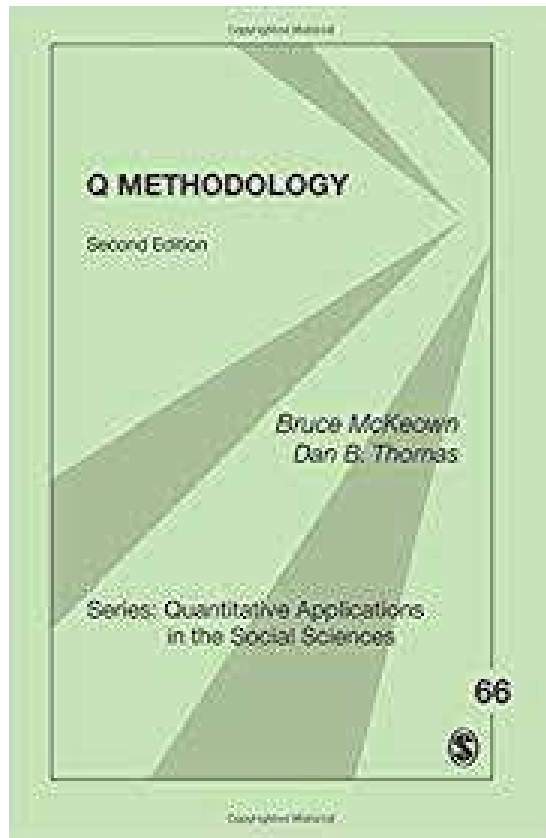
Would I use the method again… YES!

Key reading and references

Key resources

Q METHODOLOGY
Second Edition
Bruce McKeown
Dan B. Thomas
Series: Quantitative Applications in the Social Sciences
66

Simon Watts and Paul Stenner
Doing Q Methodological Research
Theory, Methods and Interpretation

The Q methodology website:
https://qmethod.org/

@Qmethod on Twitter

@sue-zq9058 = Youtube Channel for Dr Sue Ramlo eminent Q methodology

A scoping review of Q-methodology in healthcare research

Kate Churruca ✉, Kristiana Ludlow, Wendy Wu, Kate Gibbons, Hoa Mi Nguyen, Louise A. Ellis & Jeffrey Braithwaite

BMC Medical Research Methodology **21**, Article number: 125 (2021) | Cite this article

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NIHR | Applied Research Collaboration
North East and North Cumbria

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Van Exel, J., & De Graaf, G. (2005). Q methodology: A sneak preview. Obtained from https://www.betterevaluation.org/sites/default/files/vanExel.pdf

Post-workshop feedback

- https://northumbria.onlinesurveys.ac.uk/introduction-to-q-post-session