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# Q method.... what it is

- Quantitative method of analysing qualitative data.
- First introduced by William Stephenson in the 1930s.
- Stephenson had the '*desire to understand what made the individual person unique rather than what characteristics could be found across large populations of individuals*'



# R methodology vs. Q methodology

- The correlation and factor analysis of traits
  - i.e. items as variables, persons as cases
  - Aim: psychometrics – the objective measurement of traits
- The correlation and factor analysis of persons
  - i.e. persons as variables, items as cases
  - Aim: the scientific study of subjectivity

# Q-Methodology .... purpose

- To break down complex qualitative data into units which can be uniquely arranged/ ordered by subjects and analysed quantitatively.
- To analyse complexity quantitatively
- Use of a normal Gaussian distribution for refining perspective

# Why not use another method to determine viewpoint?

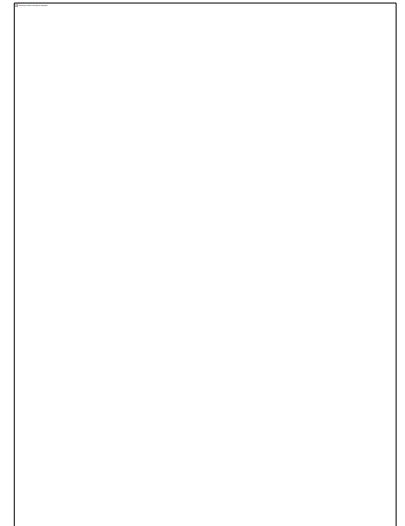
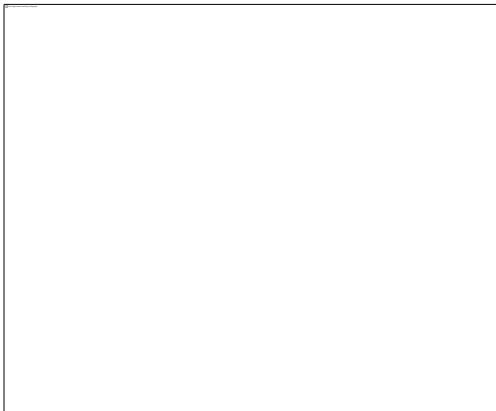
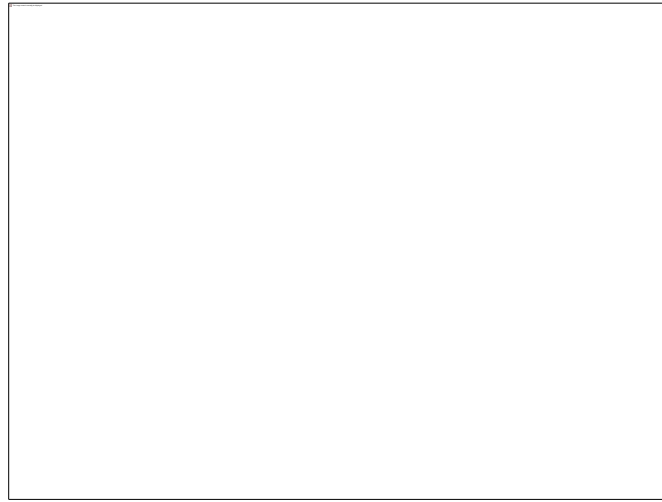
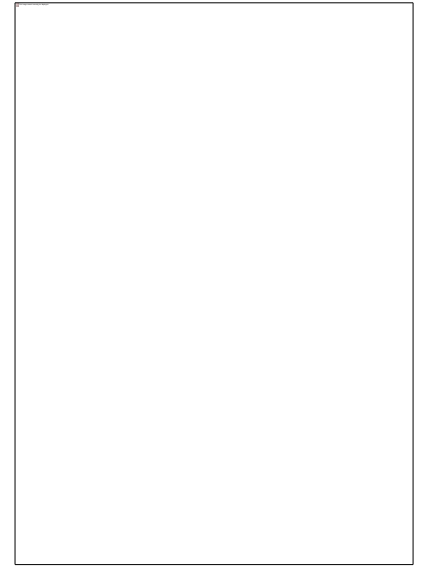
## Scales or Questionnaires

- Scales are a method of *expression* and can lead to loss of meaning unless related to a particular context
- The items of a psychometric scale help to *express* a particular preconceived meaning or set of meanings
- Questionnaires can be subject to the Hawthorne effect

## Qualitative methods

- perform a thematic analysis and isolate the key themes/issues relative to a particular subject-matter
- The search for pattern and meaning in the data is heavily reliant on the researcher

# Subjectivity



# The Q methodology

## Data collection method

- Develop the q sort pack
- Administer the q sort
- Factor analysis of the data and interpreting factors.

# Q-Methodology

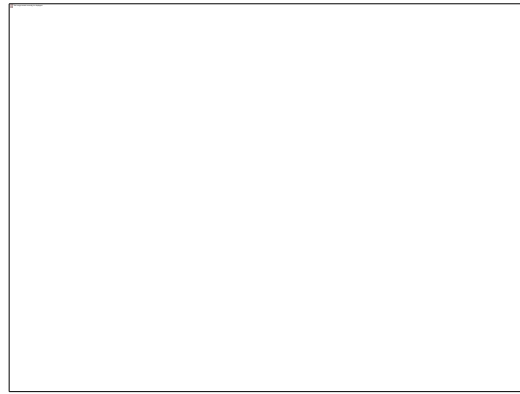
## Development of Q Concourse

1. Generate statements
  - literature review
  - Interviews with involved participants
  - Informal discussions
  - Focus groups



# The Concourse

- Subjective statements
- Statements are interpreted by the participant – removes the view point of the researcher  
(validity and reliability)
- Have a 'balance' of statements



# Q-Methodology

## Development of Q concourse

2. Reduce to a q-set of balanced items (typically between 40 & 80 items)
3. Pilot validity of statements
4. Analyse pilot and amend

# Condition of Instruction

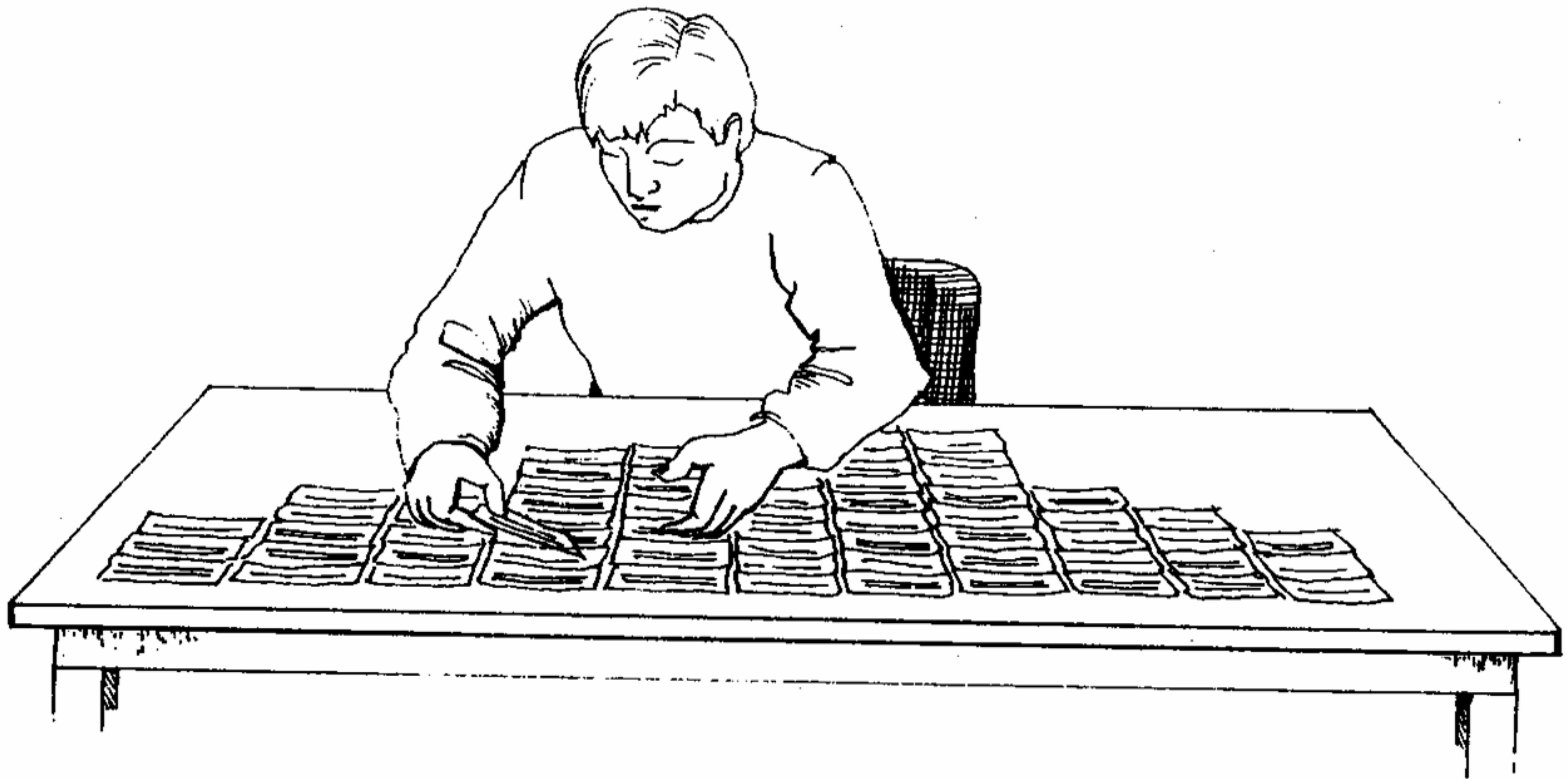
- Participants sort statements based on a condition of instruction

E.g. sort the following statements as they relate to your views on.....



# Q sorting

Online or face to face



# Q-Methodology

## Data Analysis

- Packages - to run analysis use
  - [PQMethod](#)
  - QUANAL
  - [PCQ](#)

# Data Analysis

- Factor analysis and interpretation
- To determine patterns in the data
- R methodology groups items – factor represents similar items
- Q methodology groups people - factor represents people with similar views



# Factor matrix

## Unrotated Factor Matrix

	Factors							
	1	2	3	4	5	6	7	8
SORTS								
1 OHCD 1	0.4472	0.2790	-0.4873	-0.1604	-0.3018	0.4197	0.2363	0.2002
2 OHCD 2	0.6644	-0.2343	-0.0953	-0.2503	0.3342	-0.1844	-0.0189	0.2198
3 OHCD 3	0.0912	0.8133	0.0102	-0.1995	0.3523	0.2679	-0.0010	-0.1148
4 OHCD 4	0.6467	-0.4533	-0.0966	0.1028	0.1832	0.1073	0.2328	-0.3537
5 OHCD 5	0.5193	0.1220	0.6161	-0.1551	0.3523	-0.0371	0.1115	-0.0975
6 OHCD 6	0.7157	0.3455	-0.1084	-0.1511	-0.2910	-0.2340	-0.1864	-0.0797
7 OHCD 7	0.6150	-0.3509	0.4136	0.0644	-0.1200	0.1951	0.1498	-0.1101
8 OHCD 8	0.0819	0.8551	0.1616	0.2473	-0.0343	0.2906	-0.0331	-0.0150
9 OHCD 9	0.5913	0.2578	-0.4358	-0.0751	0.2666	0.0118	-0.3877	0.2027
10 OHCD 10	0.7594	-0.2005	0.3055	-0.1351	-0.1391	0.1979	0.1832	0.0278
11 OHCD 11	0.4401	-0.3594	-0.4739	-0.1760	0.1288	-0.1849	0.4441	0.1631
12 OHCD 12	0.2652	-0.5605	0.0279	0.6359	-0.1126	0.1341	-0.0722	0.2011
13 OHCD 13	0.5398	0.2353	0.6414	-0.1852	-0.1542	-0.2473	-0.1477	0.0777
14 OHCD 14	-0.1370	0.7007	0.2140	0.2850	0.2445	-0.1980	0.3553	0.2673
15 OHCD 15	0.2166	0.7482	-0.0606	-0.0858	-0.3844	-0.2127	0.1723	-0.0398
16 OHCD 16	0.4324	0.4743	-0.1393	0.5781	0.0338	-0.3281	0.1073	-0.0897
17 OHCD 17	0.6995	0.2057	-0.4838	0.0748	-0.1010	-0.1224	-0.0820	-0.3266
18 OHCD 18	0.3063	0.8375	0.0694	0.0365	-0.0371	0.1994	-0.0305	0.1048
19 OHCD 19	0.7003	-0.4230	0.2497	0.0375	-0.2928	-0.0234	-0.1041	0.2003
20 OHCD 20	0.7963	-0.1391	-0.0522	0.2414	0.3239	0.1351	-0.2000	0.0156
Eigenvalues	5.6770	4.8116	2.1373	1.2338	1.1392	0.8905	0.8152	0.6089
% expl.Var.	28	24	11	6	6	4	4	3



# Defining sorts

Factor Matrix with an X Indicating a Defining Sort

Loadings

QSORT	1	2	3	4	5
1 OHCD 1	-0.0276	0.0280	0.2417	-0.0561	0.7543X
2 OHCD 2	0.3733	-0.1698	0.7069X	-0.0776	0.0760
3 OHCD 3	-0.0315	0.6934X	0.1601	-0.5562	0.1301
4 OHCD 4	0.3354	-0.2405	0.6211X	0.3467	0.0310
5 OHCD 5	0.7429X	0.3040	0.2711	-0.1944	-0.2384
6 OHCD 6	0.4073	0.1944	0.2410	-0.0384	0.6984X
7 OHCD 7	0.7294X	-0.1499	0.1733	0.3262	0.0030
8 OHCD 8	0.0360	0.8508X	-0.1831	-0.0936	0.2430
9 OHCD 9	0.0024	0.2209	0.6794X	-0.0964	0.4038
10 OHCD 10	0.7683X	-0.1240	0.2770	0.1351	0.2172
11 OHCD 11	-0.0158	-0.3951	0.6137X	0.0589	0.2419
12 OHCD 12	0.1344	-0.1883	0.1431	0.8435X	-0.1294
13 OHCD 13	0.8425X	0.2599	-0.0750	-0.1281	0.1295
14 OHCD 14	-0.0956	0.8006X	-0.1330	-0.1211	-0.1184
15 OHCD 15	0.0874	0.4937	-0.2086	-0.2127	0.6522X
16 OHCD 16	-0.0003	0.6682X	0.2506	0.4017	0.3101
17 OHCD 17	0.0645	0.1472	0.5286	0.1725	0.6682X
18 OHCD 18	0.1541	0.7473X	-0.0001	-0.2194	0.4152
19 OHCD 19	0.7015X	-0.2919	0.1937	0.3995	0.2109
20 OHCD 20	0.3808	0.1416	0.7313X	0.3379	0.0730
% expl.Var.	18	19	15	10	14

# Factor Array

**Table 3: Factor array**

No:	Statement	Factor 1	Factor 2
1	E-Learning is flexible and allows me to learn at any time	-1	3
2	I can study at a place that is convenient for me either	0	3
3	E-Learning helps the way I learn	-2	2
4	E-Learning allows for greater interaction with tutors	-3	0
5	Facilitates better communication within the group	1	1
6	E-Learning allows me to learn more in depth	-1	2
7	If there is more familiarity with the technology the outcome is better	1	0
8	Allows better access to resources	-3	0
9	Enabled me to improve my computer skills	-3	2
10	Working in a group allowed me to learn from others	2	3
11	I have more control over my learning	0	2
12	Allowed more cohesion in the group	2	1
13	Allowed me to build friendships	3	1
14	I realised that I could not remain passive because I had	0	1
15	E-Learning allows better understanding of the material	-1	0
16	E-Learning allows me to work independently	0	1
17	I found the technology confusing	-2	-2
18	Access to computers is difficult and this affects my learning	-2	-3
19	I am demotivated because I do not have sufficient computer skills	-2	-3
20	E-Learning increases my workload	1	-1
21	E-Learning is time consuming	2	-1
22	E-Learning does not allow sufficient face to face contact	2	0
23	I do not like my contributions to be exposed for public	-1	-2
24	E-Learning does not allow for in depth discussion	1	-2
25	This type of learning does not allow for instant feedback	3	-1
26	I find self directed learning difficult	0	-1
27	This type of learning does not allow for instant feedback	0	-1
28	E-Learning does not allow interaction with other student	-1	-3
29	I prefer traditional lectures rather than E-Learning	3	0
30	E-Learning does not compliment the way I learn	1	-2

# Q-Methodology

## Data Interpretation

- Will have factors (approx. 5)
- For each factor need to look at most agree and least agree statements.
- Look at neutral statements
- Describe each factor
- Look at where all statements are placed in the various factors

## Reference List

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