

Successive Interval Scaling

Successive Interval Scaling was developed as an approximation of Thurstone's Paired Comparisons method for estimation of scale values and dispersion of scale values for items designed to measure attitudes. Typically, five to nine categories are used by judges to indicate the degree to which an item expresses an attitude (if a subject agrees with the item) between very negative to very positive. Once scale values are estimated, the items responded to by subjects are scored by obtaining the median scale value of those items to which the subject agrees.

To obtain Successive interval scale values, select that option under the Measurement group in the Analyses menu on the main form. The specifications form below will appear. Select those items (variables) you wish to scale. The data analyzed consists of rows representing judges and columns representing the scale value chosen for an item by a judge.

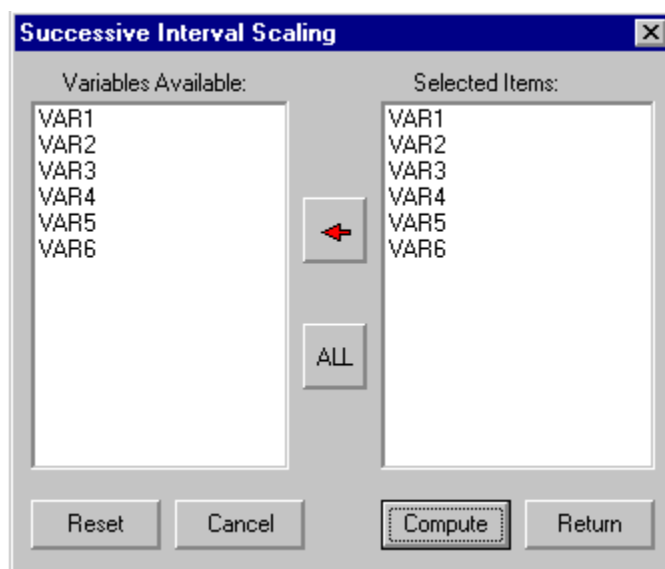


Figure 1 Successive Scaling Dialog

When you click the OK button on the box above, the results will appear on the printout form. An example of results are presented below.

SUCCESSIVE INTERVAL SCALING RESULTS

	0- 1	1- 2	2- 3	3- 4	4- 5	5- 6	6- 7
VAR1							
Frequency	0	0	0	0	4	4	4
Proportion	0.000	0.000	0.000	0.000	0.333	0.333	0.333
Cum. Prop.	0.000	0.000	0.000	0.000	0.333	0.667	1.000
Normal z	-	-	-	-	-0.431	0.431	-
VAR2							
Frequency	0	0	1	3	4	4	0
Proportion	0.000	0.000	0.083	0.250	0.333	0.333	0.000
Cum. Prop.	0.000	0.000	0.083	0.333	0.667	1.000	1.000
Normal z	-	-	-1.383	-0.431	0.431	-	-
VAR3							

Frequency	0	0	4	3	4	1	0
Proportion	0.000	0.000	0.333	0.250	0.333	0.083	0.000
Cum. Prop.	0.000	0.000	0.333	0.583	0.917	1.000	1.000
Normal z	-	-	-0.431	0.210	1.383	-	-

VAR4

Frequency	0	3	4	5	0	0	0
Proportion	0.000	0.250	0.333	0.417	0.000	0.000	0.000
Cum. Prop.	0.000	0.250	0.583	1.000	1.000	1.000	1.000
Normal z	-	-0.674	0.210	-	-	-	-

VAR5

Frequency	5	4	3	0	0	0	0
Proportion	0.417	0.333	0.250	0.000	0.000	0.000	0.000
Cum. Prop.	0.417	0.750	1.000	1.000	1.000	1.000	1.000
Normal z	-0.210	0.674	-	-	-	-	-

VAR6

Frequency	1	2	2	2	2	2	1
Proportion	0.083	0.167	0.167	0.167	0.167	0.167	0.083
Cum. Prop.	0.083	0.250	0.417	0.583	0.750	0.917	1.000
Normal z	-1.383	-0.674	-0.210	0.210	0.674	1.383	-

INTERVAL WIDTHS

	2- 1	3- 2	4- 3	5- 4	6- 5
VAR1	-	-	-	-	0.861
VAR2	-	-	0.952	0.861	-
VAR3	-	-	0.641	1.173	-
VAR4	-	0.885	-	-	-
VAR5	0.885	-	-	-	-
VAR6	0.709	0.464	0.421	0.464	0.709

Mean Width	0.80	0.67	0.67	0.83	0.78
No. Items	2	2	3	3	2
Std. Dev.s	0.02	0.09	0.07	0.13	0.01
Cum. Means	0.80	1.47	2.14	2.98	3.76

ESTIMATES OF SCALE VALUES AND THEIR DISPERSIONS

Item	No. Ratings	Scale Value	Discriminal	Dispersion
VAR1	12	3.368	1.224	
VAR2	12	2.559	0.822	
VAR3	12	1.919	0.811	
VAR4	12	1.303	1.192	
VAR5	12	0.199	1.192	
VAR6	12	1.807	0.759	

Z scores Estimated from Scale values

	0- 1	1- 2	2- 3	3- 4	4- 5	5- 6	6- 7
VAR1	-3.368	-2.571	-1.897	-1.225	-0.392	0.392	
VAR2	-2.559	-1.762	-1.088	-0.416	0.416	1.201	
VAR3	-1.919	-1.122	-0.448	0.224	1.057	1.841	
VAR4	-1.303	-0.506	0.169	0.840	1.673	2.458	
VAR5	-0.199	0.598	1.272	1.943	2.776	3.000	
VAR6	-1.807	-1.010	-0.336	0.336	1.168	1.953	

Cumulative Theoretical Proportions

	0- 1	1- 2	2- 3	3- 4	4- 5	5- 6	6- 7
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VAR1	0.000	0.005	0.029	0.110	0.347	0.653	1.000
VAR2	0.005	0.039	0.138	0.339	0.661	0.885	1.000
VAR3	0.028	0.131	0.327	0.589	0.855	0.967	1.000
VAR4	0.096	0.306	0.567	0.800	0.953	0.993	1.000
VAR5	0.421	0.725	0.898	0.974	0.997	0.999	1.000
VAR6	0.035	0.156	0.369	0.631	0.879	0.975	1.000

Average Discrepancy Between Theoretical and Observed Cumulative
Proportions = 0.050

Maximum discrepancy = 0.200 found in item VAR4