

**Alscal**

Alscal Procedure Options

Data Options-

Number of Rows (Observations/Matrix).	10
Number of Columns (Variables) . . . .	10
Number of Matrices . . . . .	18
Measurement Level . . . . .	Ratio
Data Matrix Shape . . . . .	Symmetric
Type . . . . .	Dissimilarity
Approach to Ties . . . . .	Leave Tied
Conditionality . . . . .	Matrix
Data Cutoff at . . . . .	.000000

Model Options-

Model . . . . .	Indscal
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>Note # 14697

>You have requested a solution with one dimension in a weighted model.  
>Subject weights are undefined in a one dimensional model. ALSCAL continues  
>the analysis with a minimum of two dimensions in the solution.

Maximum Dimensionality . . . . .	5
Minimum Dimensionality . . . . .	2
Negative Weights . . . . .	Not Permitted

Output Options-

Job Option Header . . . . .	Printed
Data Matrices . . . . .	Not Printed
Configurations and Transformations .	Plotted
Output Dataset . . . . .	Not Created
Initial Stimulus Coordinates . . . .	Computed
Initial Subject Weights . . . . .	Computed

Algorithmic Options-

Maximum Iterations . . . . .	50
Convergence Criterion . . . . .	.00100
Minimum S-stress . . . . .	.00100
Missing Data Estimated by . . . . .	Ulbounds

Iteration history for the 5 dimensional solution (in squared distances)

Young's S-stress formula 1 is used.

Iteration	S-stress	Improvement
0	.28986	
1	.28986	
2	.28010	.00976
3	.27967	.00043

Iterations stopped because  
S-stress improvement is less than .001000

Stress and squared correlation (RSQ) in distances

RSQ values are the proportion of variance of the scaled data (disparities)  
in the partition (row, matrix, or entire data) which  
is accounted for by their corresponding distances.  
Stress values are Kruskal's stress formula 1.

Matrix	Stress	RSQ	Matrix	Stress	RSQ
1	.272	.531	2	.182	.493
3	.213	.609	4	.138	.754
5	.160	.620	6	.184	.780
7	.130	.760	8	.154	.589
9	.179	.568	10	.262	.653
11	.147	.661	12	.180	.581
13	.251	.597	14	.133	.687
15	.181	.457	16	.194	.618
17	.096	.792	18	.371	.595

Averaged (rms) over matrices  
Stress = .20068      RSQ = .63034

Configuration derived in 5 dimensions

Stimulus Coordinates

Stimulus Number	Stimulus Name	Dimension				
		1	2	3	4	5
1	var1	-1.3140	-.4157	.0685	.2934	-1.5844
2	var2	-1.4977	-.5953	.2087	.0142	.0737
3	var3	-.2242	-1.3106	.8731	.4455	1.0045
4	var4	.9367	.3319	-1.9322	1.2380	.0245
5	var5	1.0591	-.8439	-1.4602	.5274	.8825
6	var6	.9114	.6002	.1087	-1.3124	-1.8285
7	var7	-.3539	1.5602	.3400	-1.3229	1.4072
8	var8	.8879	.7909	1.7578	1.7202	-.4131
9	var9	.8352	-1.3829	.2479	-1.1079	.4488
10	var10	-1.2406	1.2652	-.2122	-.4954	-.0152

Subject weights measure the importance of each dimension to each subject.  
 Squared weights sum to RSQ.

A subject with weights proportional to the average weights has a weirdness of zero, the minimum value.  
 A subject with one large weight and many low weights has a weirdness near one.  
 A subject with exactly one positive weight has a weirdness of one, the maximum value for nonnegative weights.

Subject Weights

Subject Number	Weird- ness	Dimension				
		1	2	3	4	5
1	.3663	.3570	.4525	.2060	.3854	.0899
2	.0575	.4356	.3502	.2648	.2428	.2270
3	.2548	.5336	.1805	.3112	.2975	.3263
4	.1328	.6568	.3521	.2938	.2274	.2457
5	.1504	.4043	.4371	.2997	.3535	.2264
6	.0451	.5523	.3927	.3639	.3389	.2714
7	.1038	.6141	.3545	.3556	.2435	.2668
8	.1738	.3671	.4711	.3328	.2759	.2127
9	.1577	.5134	.2497	.2830	.2869	.2826
10	.3380	.5602	.4852	.2631	.1603	.0960
11	.1922	.5461	.3043	.3536	.2089	.3183
12	.4862	.4928	.3990	.1031	.4085	.0405
13	.1507	.5958	.2660	.2864	.2100	.2119
14	.1346	.4964	.3460	.3572	.2962	.3255
15	.0852	.4067	.3307	.3027	.2424	.1773
16	.0973	.5047	.3234	.2984	.3411	.2319
17	.2787	.5341	.3666	.4120	.1853	.4097
18	.1898	.5587	.3232	.3278	.2329	.1302
Overall importance of each dimension:		.2639	.1317	.0949	.0798	.0600

Flattened Subject Weights

Subject Number	Plot Symbol	Variable			
		1	2	3	4
1	1	-1.4453	1.7094	-1.2865	1.9436
2	2	-.4108	.2980	-.1627	-.1472
3	3	.4038	-2.0332	.2897	.2911
4	4	1.4224	-.3202	-.4360	-.8167
5	5	-1.5457	.7539	-.1652	.8207
6	6	-.3834	-.1980	.3187	.2104
7	7	.6502	-.4175	.4504	-.7171
8	8	-1.8470	1.3306	.6589	-.0086
9	9	.2761	-1.1633	-.1323	.2316
10	A	1.1616	1.8360	-.3517	-1.3578
11	B	.2256	-.7545	.7761	-.9730
12	C	.7942	1.1854	-3.3706	2.4590
13	D	1.6339	-.8775	.0935	-.6959
14	E	-.7176	-.4801	.5205	-.0849
15	F	-.5844	.2253	.8720	-.0128
16	G	-.1801	-.4746	-.1203	.7204
17	H	-.5546	-.4381	1.1404	-1.4703
18	I	1.1011	-.1815	.9051	-.3922

Iteration history for the 4 dimensional solution (in squared distances)

Young's S-stress formula 1 is used.

Iteration	S-stress	Improvement
0	.32730	
1	.32730	
2	.31119	.01611
3	.31036	.00084

Iterations stopped because  
S-stress improvement is less than .001000

Stress and squared correlation (RSQ) in distances

RSQ values are the proportion of variance of the scaled data (disparities)  
in the partition (row, matrix, or entire data) which  
is accounted for by their corresponding distances.

Stress values are Kruskal's stress formula 1.

Matrix	Stress	RSQ	Matrix	Stress	RSQ
1	.287	.452	2	.194	.472
3	.206	.609	4	.147	.710
5	.191	.495	6	.195	.675
7	.151	.676	8	.179	.507
9	.205	.467	10	.259	.651
11	.186	.510	12	.176	.587
13	.228	.639	14	.186	.473
15	.195	.436	16	.221	.482
17	.158	.582	18	.368	.578

Averaged (rms) over matrices  
Stress = .21363      RSQ = .55569

Configuration derived in 4 dimensions

Stimulus Coordinates

Stimulus Number	Stimulus Name	Dimension			
		1	2	3	4
1	var1	-1.2027	-.4740	-.4474	-1.2619
2	var2	-1.3506	-.2598	-.8501	-.3264
3	var3	-.7378	1.2734	-.6031	-.1043
4	var4	1.8028	-.2242	-.8486	-.4819
5	var5	1.3229	.7653	-1.2422	.3061
6	var6	.6931	-.1881	1.7522	.7395
7	var7	-.3812	-1.3370	.7343	1.5864
8	var8	.4103	.7157	1.6801	-1.7806
9	var9	.0648	1.4579	-.1259	1.3152
10	var10	-.6216	-1.7291	-.0493	.0079

Subject weights measure the importance of each dimension to each subject.  
Squared weights sum to RSQ.

A subject with weights proportional to the average weights has a weirdness of zero, the minimum value.  
A subject with one large weight and many low weights has a weirdness near one.  
A subject with exactly one positive weight has a weirdness of one, the maximum value for nonnegative weights.

Subject Number	Weirdness	Subject Weights			
		Dimension			
		1	2	3	4
1	.2054	.2858	.4212	.3647	.2449
2	.0691	.4094	.3321	.3259	.2960
3	.2917	.5726	.1923	.3215	.3756
4	.1043	.5417	.4640	.3674	.2574
5	.0798	.3911	.3933	.3193	.2915
6	.0478	.5002	.4085	.4071	.3042
7	.0962	.5407	.4123	.3876	.2524
8	.0689	.4081	.4023	.3300	.2640
9	.1875	.4725	.2821	.2426	.3250
10	.1716	.4400	.4746	.4231	.2304
11	.0813	.4656	.3082	.3436	.2830
12	.3031	.3822	.4662	.2099	.4242
13	.2874	.6039	.3935	.3173	.1385
14	.0316	.4102	.3614	.3226	.2650
15	.0805	.3935	.3111	.3447	.2569
16	.0597	.4526	.3379	.2879	.2827
17	.0688	.5038	.3428	.3651	.2774
18	.0536	.4964	.3958	.3223	.2661
Overall importance of each dimension:		.2170	.1434	.1138	.0815

Flattened Subject Weights

Subject Number	Plot Symbol	Variable		
		1	2	3
1	1	-2.2254	1.4793	1.5072
2	2	-.3798	-.3220	.2703
3	3	1.6470	-2.9653	-.3552
4	4	.3286	.6447	-.1774
5	5	-.8228	.5826	-.0620
6	6	-.1913	-.1198	.6698
7	7	.4876	.0378	.4094
8	8	-.5940	.6891	.1377
9	9	.8859	-1.0353	-1.5428
10	A	-.8160	1.0722	1.2720
11	B	.3346	-.8769	.4752
12	C	-1.3215	1.3504	-2.9085
13	D	2.1764	.3203	-.4062
14	E	-.3462	.2040	.2149
15	F	-.3581	-.4496	1.0802
16	G	.3355	-.2120	-.6274
17	H	.4639	-.6379	.4700
18	I	.3958	.2383	-.4271

Iteration history for the 3 dimensional solution (in squared distances)

Young's S-stress formula 1 is used.

Iteration	S-stress	Improvement
0	.38002	
1	.38002	
2	.36220	.01782
3	.36088	.00132
4	.36050	.00039

Iterations stopped because  
S-stress improvement is less than .001000

Stress and squared correlation (RSQ) in distances

RSQ values are the proportion of variance of the scaled data (disparities) in the partition (row, matrix, or entire data) which is accounted for by their corresponding distances. Stress values are Kruskal's stress formula 1.

Matrix	Stress	RSQ	Matrix	Stress	RSQ
1	.323	.320	2	.216	.464
3	.217	.571	4	.153	.731
5	.236	.391	6	.216	.585
7	.173	.654	8	.214	.456
9	.234	.419	10	.269	.558
11	.219	.453	12	.226	.454
13	.252	.543	14	.222	.433
15	.225	.413	16	.246	.429
17	.183	.599	18	.352	.540

Averaged (rms) over matrices

Stress = .23655      RSQ = .50073

Configuration derived in 3 dimensions

Stimulus Coordinates

Stimulus Number	Stimulus Name	Dimension		
		1	2	3
1	var1	1.0480	-.1705	1.2748
2	var2	1.2008	-.7187	.5288
3	var3	.0461	-1.2339	.8559
4	var4	-1.3042	.0856	-1.2987
5	var5	-1.0699	-1.0402	-1.0438
6	var6	-.6237	1.6028	-.1145
7	var7	1.0335	1.0525	-1.1885
8	var8	-1.0079	1.0003	1.7038
9	var9	-.6386	-1.2885	-.3508
10	var10	1.3158	.7106	-.3670

Subject weights measure the importance of each dimension to each subject.  
 Squared weights sum to RSQ.

A subject with weights proportional to the average weights has a weirdness of zero, the minimum value.  
 A subject with one large weight and many low weights has a weirdness near one.  
 A subject with exactly one positive weight has a weirdness of one, the maximum value for nonnegative weights.

Subject Number	Weirdness	Subject Weights		
		Dimension		
		1	2	3
1	.2913	.3677	.3978	.1632
2	.0907	.4331	.4067	.3330
3	.1833	.4929	.3620	.4434
4	.0775	.6463	.4370	.3504
5	.0872	.4032	.3800	.2901
6	.0340	.5320	.4088	.3671
7	.0767	.6031	.4303	.3244
8	.1483	.3976	.4111	.3593
9	.1180	.4488	.3140	.3447
10	.0955	.5123	.4510	.3040
11	.0845	.4592	.3484	.3476
12	.0511	.4994	.3467	.2900
13	.3118	.6363	.3164	.1958
14	.0151	.4615	.3548	.3068
15	.0554	.4276	.3728	.3021
16	.0515	.4812	.3280	.2993
17	.0860	.5125	.4187	.4012
18	.1193	.5757	.3396	.3052
Overall importance of each dimension:		.2501	.1455	.1052

Flattened Subject Weights

Subject Number	Plot Symbol	Variable	
		1	2
1	1	-.3892	2.9392
2	2	-.9641	.7275
3	3	-.7415	-1.1134
4	4	.7926	-.4089
5	5	-.8283	.9261
6	6	-.1571	-.1986
7	7	.6501	-.0814
8	8	-1.5885	.8703
9	9	-.1886	-.9872
10	A	-.2109	.9751
11	B	-.3563	-.4966
12	C	.5500	-.3992
13	D	3.0190	-1.2050
14	E	-.0664	-.1082
15	F	-.5648	.4947
16	G	.4330	-.6516
17	H	-.6333	-.1529
18	I	1.2444	-1.1299

Iteration history for the 2 dimensional solution (in squared distances)

Young's S-stress formula 1 is used.

Iteration	S-stress	Improvement
0	.49012	
1	.49012	
2	.44321	.04691
3	.44042	.00279
4	.44033	.00010

Iterations stopped because  
S-stress improvement is less than .001000

Stress and squared correlation (RSQ) in distances

RSQ values are the proportion of variance of the scaled data (disparities) in the partition (row, matrix, or entire data) which is accounted for by their corresponding distances. Stress values are Kruskal's stress formula 1.

Matrix	Stress	RSQ	Matrix	Stress	RSQ
1	.358	.274	2	.297	.353
3	.302	.378	4	.237	.588
5	.308	.308	6	.282	.450
7	.247	.547	8	.302	.332
9	.320	.271	10	.280	.535
11	.299	.341	12	.301	.343
13	.292	.455	14	.302	.328
15	.290	.371	16	.311	.327
17	.281	.433	18	.369	.443

Averaged (rms) over matrices

Stress = .30043      RSQ = .39323

Configuration derived in 2 dimensions

Stimulus Coordinates

Stimulus Number	Stimulus Name	Dimension	
		1	2
1	var1	.6077	1.2221
2	var2	.3500	1.3026
3	var3	-.6334	.9672
4	var4	-1.1739	-.9959
5	var5	-1.4989	-.1782
6	var6	.5022	-1.3253
7	var7	1.4608	-.1061
8	var8	.3210	-1.6578
9	var9	-1.1906	.2490
10	var10	1.2552	.5224

Subject weights measure the importance of each dimension to each subject.  
 Squared weights sum to RSQ.

A subject with weights proportional to the average weights has a weirdness of zero, the minimum value.  
 A subject with one large weight and many low weights has a weirdness near one.  
 A subject with exactly one positive weight has a weirdness of one, the maximum value for nonnegative weights.

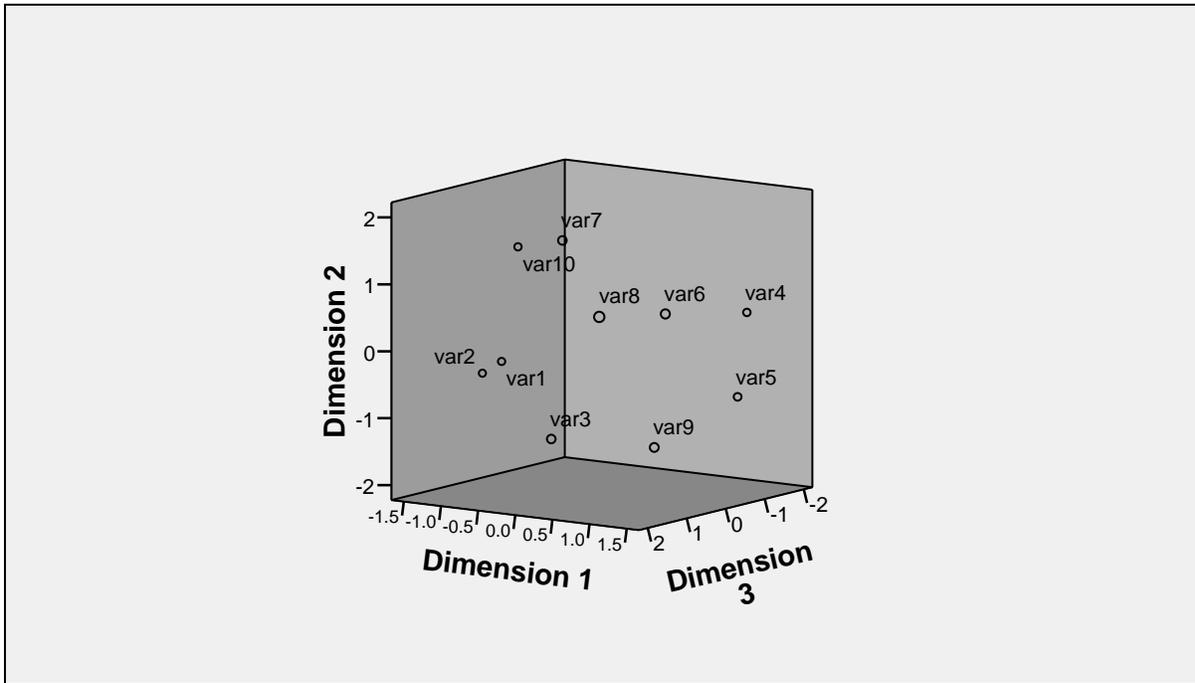
Subject Number	Weirdness	Subject Weights	
		1	Dimension 2
1	.0163	.3864	.3534
2	.0033	.4322	.4077
3	.1527	.3946	.4717
4	.0322	.5724	.5106
5	.0138	.4089	.3755
6	.0052	.4876	.4612
7	.0168	.5458	.4988
8	.0801	.4438	.3671
9	.0899	.3537	.3824
10	.0249	.5235	.5108
11	.0902	.3966	.4290
12	.0678	.4476	.3776
13	.0141	.4968	.4560
14	.0325	.4273	.3810
15	.0263	.4356	.4260
16	.0037	.4183	.3902
17	.0204	.4724	.4578
18	.1187	.5253	.4086
Overall importance of each dimension:		.2094	.1838

### Flattened Subject Weights

Subject	Plot	Variable
Number	Symbol	1
1	1	.2790
2	2	-.0367
3	3	-2.4540
4	4	.5337
5	5	.2388
6	6	-.0662
7	7	.2871
8	8	1.3016
9	9	-1.4304
10	A	-.3835
11	B	-1.4357
12	C	1.1033
13	D	.2437
14	E	.5377
15	F	-.4048
16	G	.0767
17	H	-.3112
18	I	1.9209

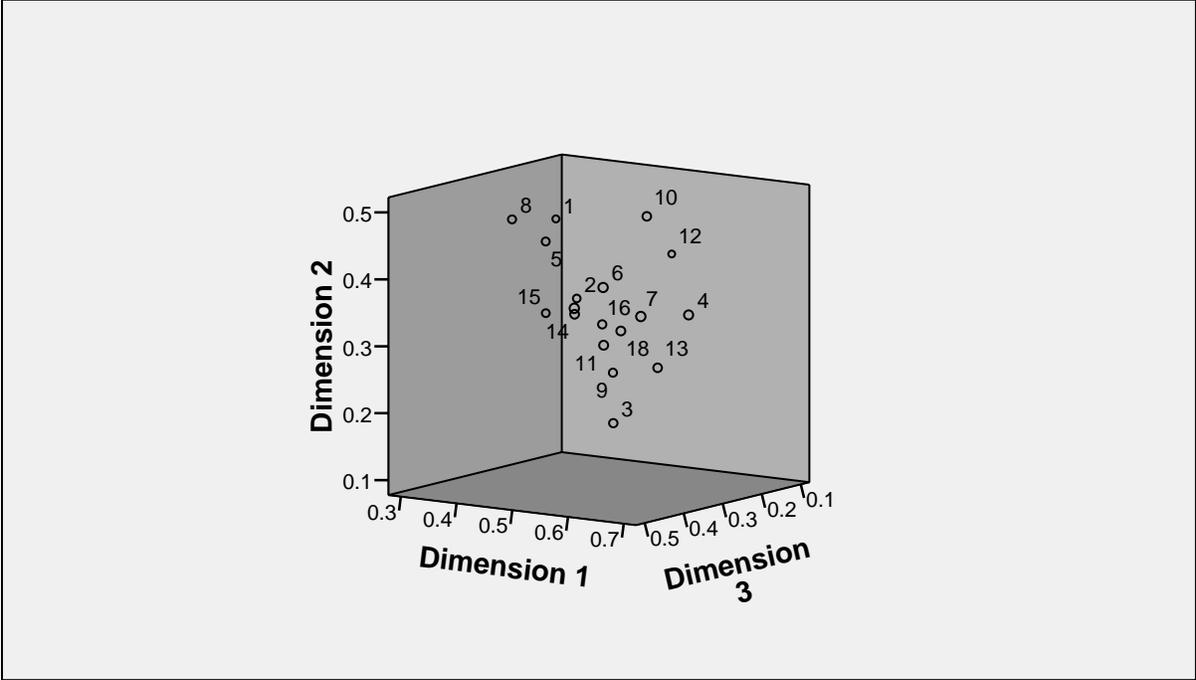
## Derived Stimulus Configuration

Individual differences (weighted) Euclidean distance model



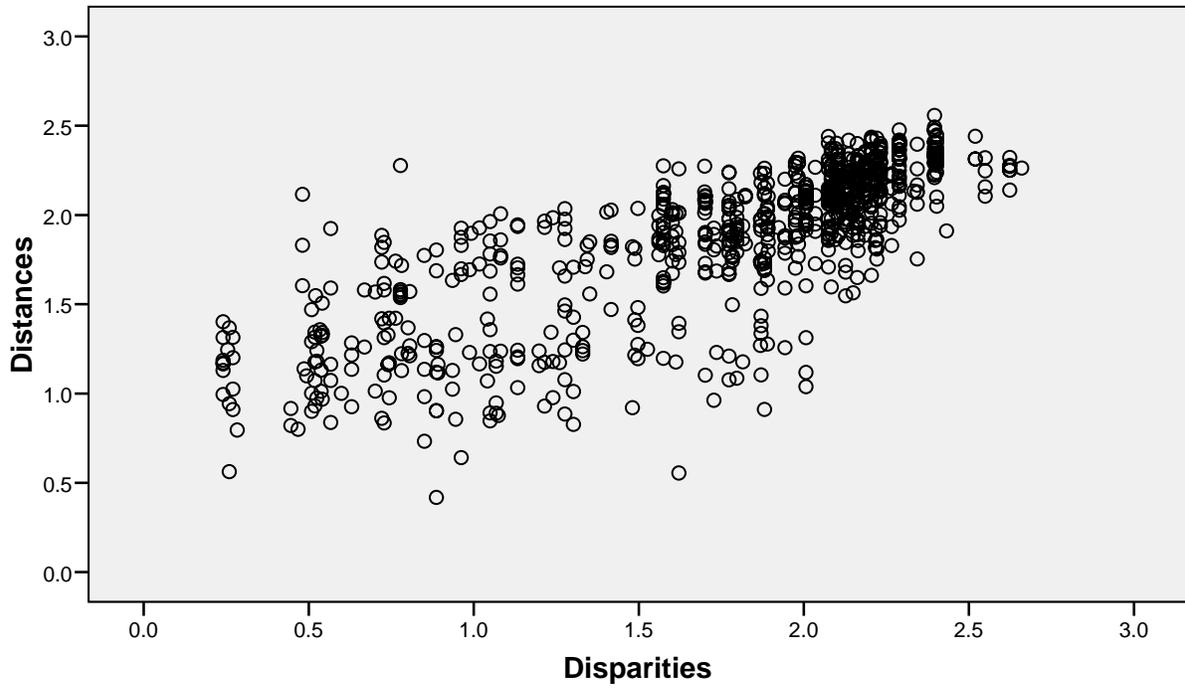
# Derived Subject Weights

## Individual differences (weighted) Euclidean distance model



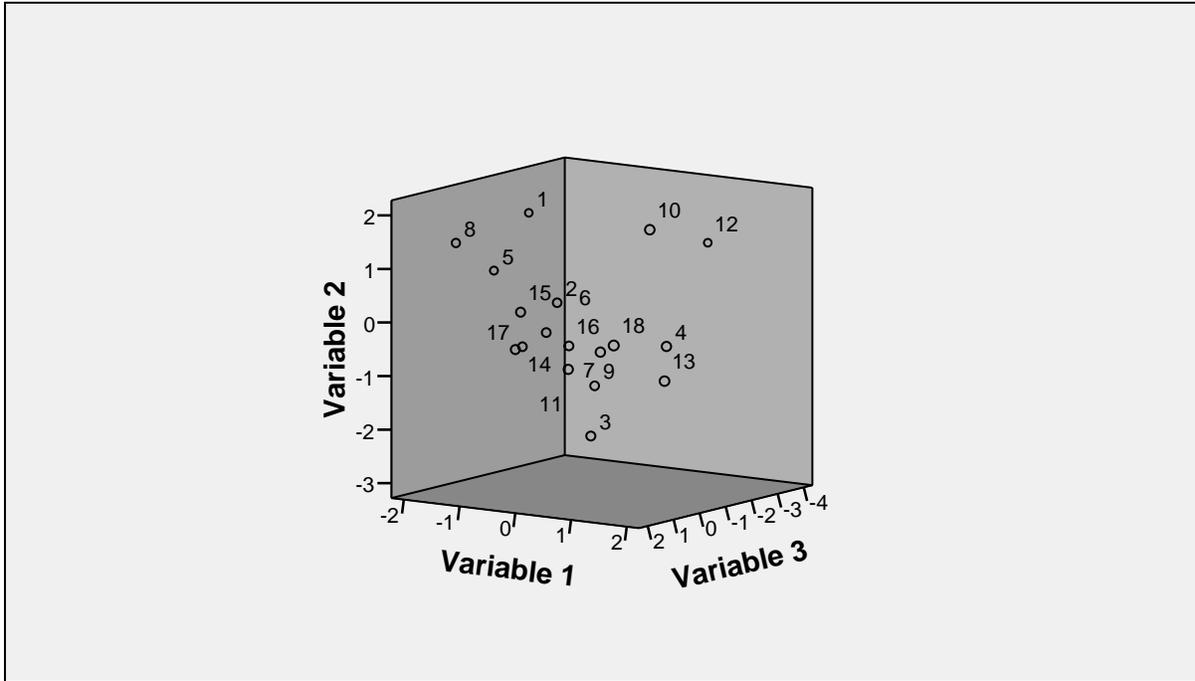
# Scatterplot of Linear Fit

Individual differences (weighted) Euclidean distance model



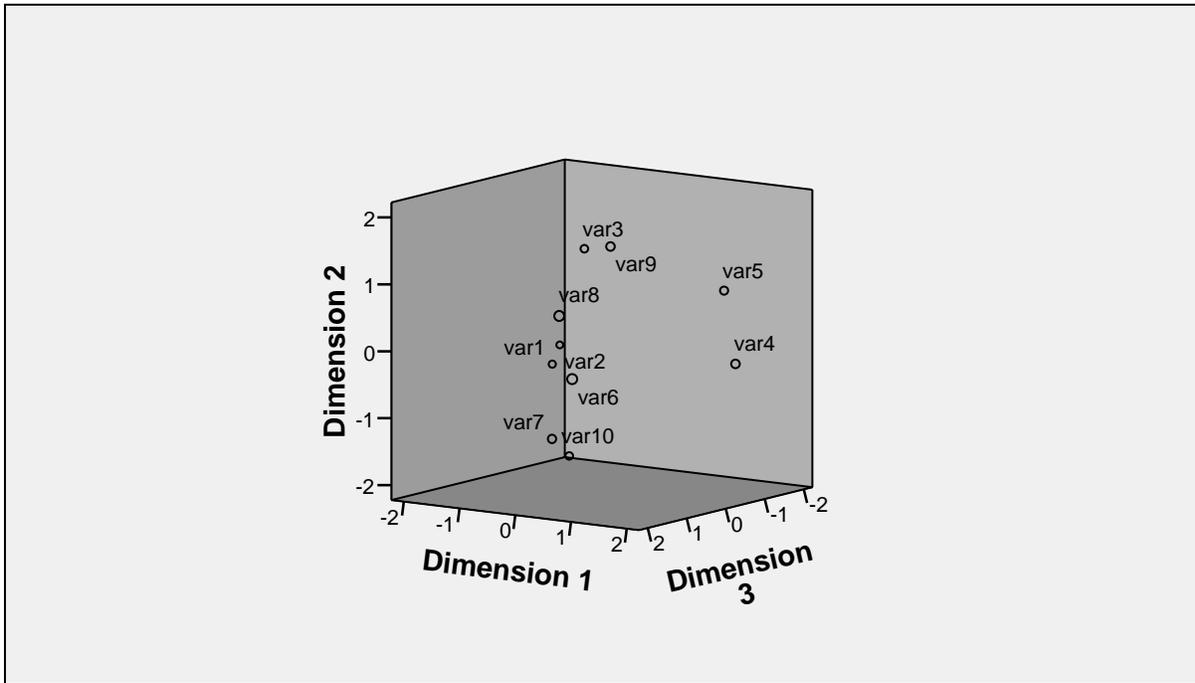
## Flattened Subject Weights

Individual differences (weighted) Euclidean distance model



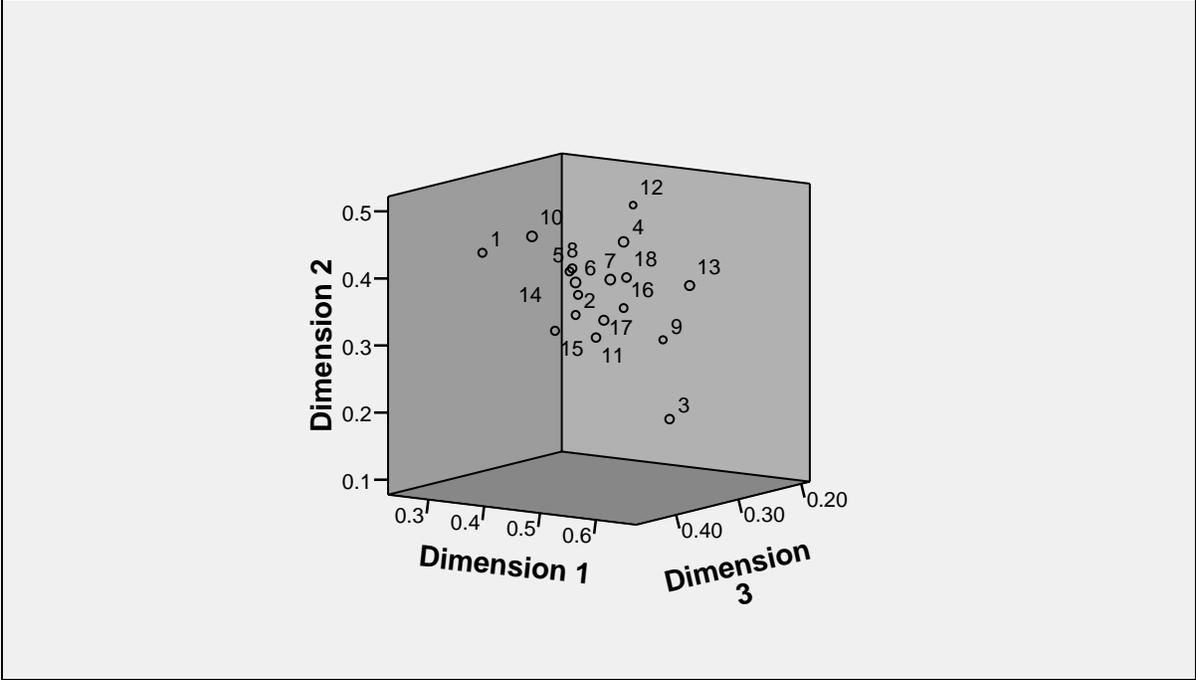
## Derived Stimulus Configuration

### Individual differences (weighted) Euclidean distance model



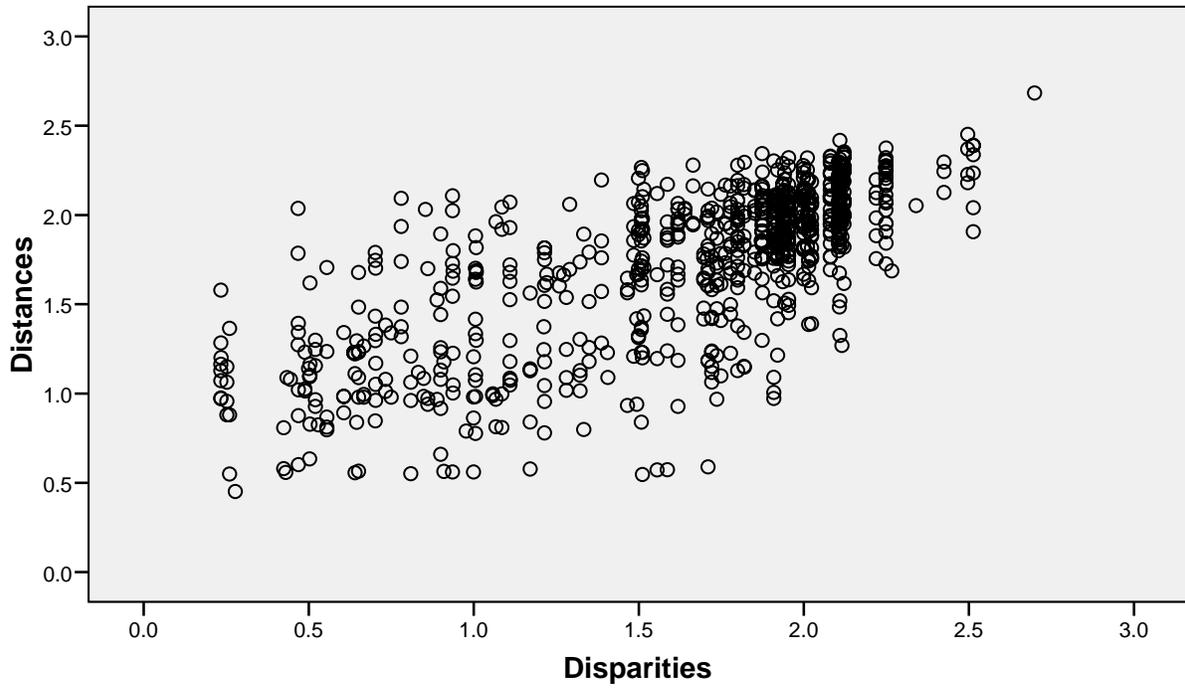
# Derived Subject Weights

## Individual differences (weighted) Euclidean distance model



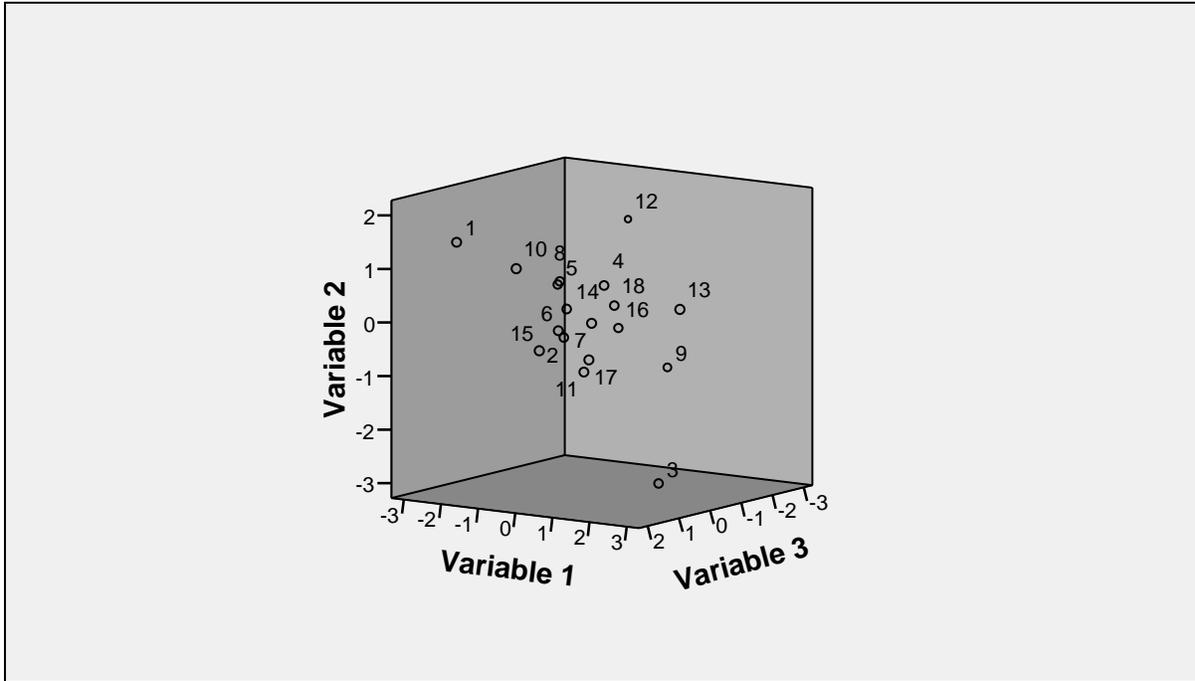
# Scatterplot of Linear Fit

## Individual differences (weighted) Euclidean distance model



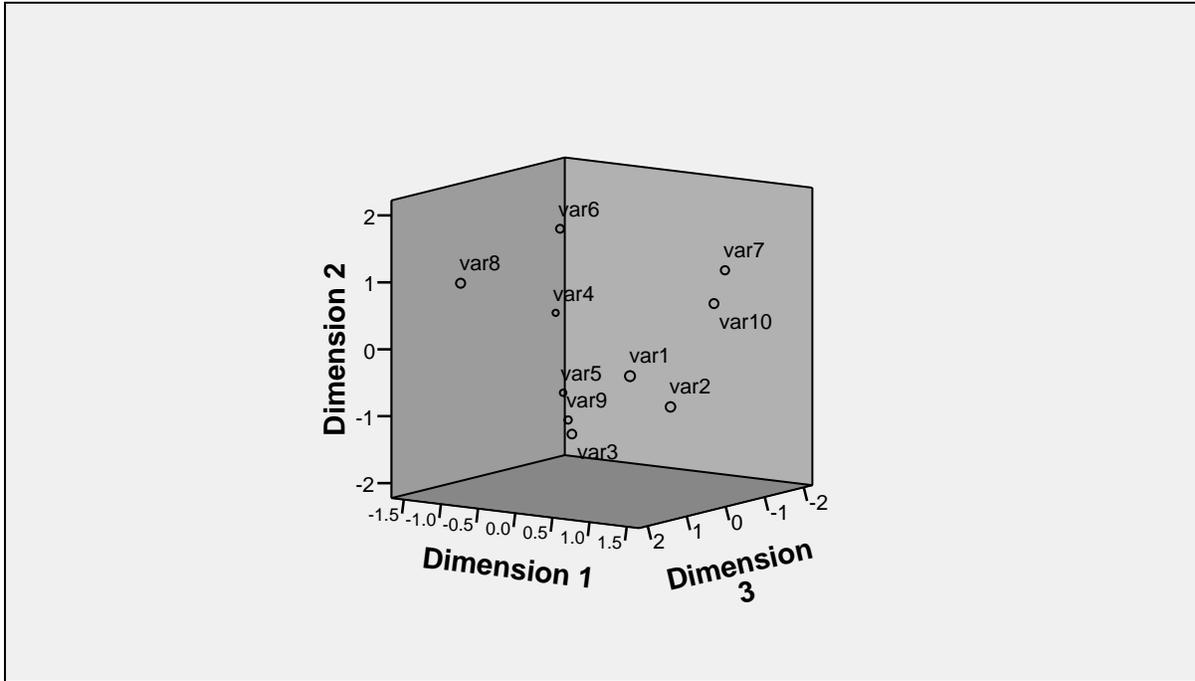
## Flattened Subject Weights

Individual differences (weighted) Euclidean distance model



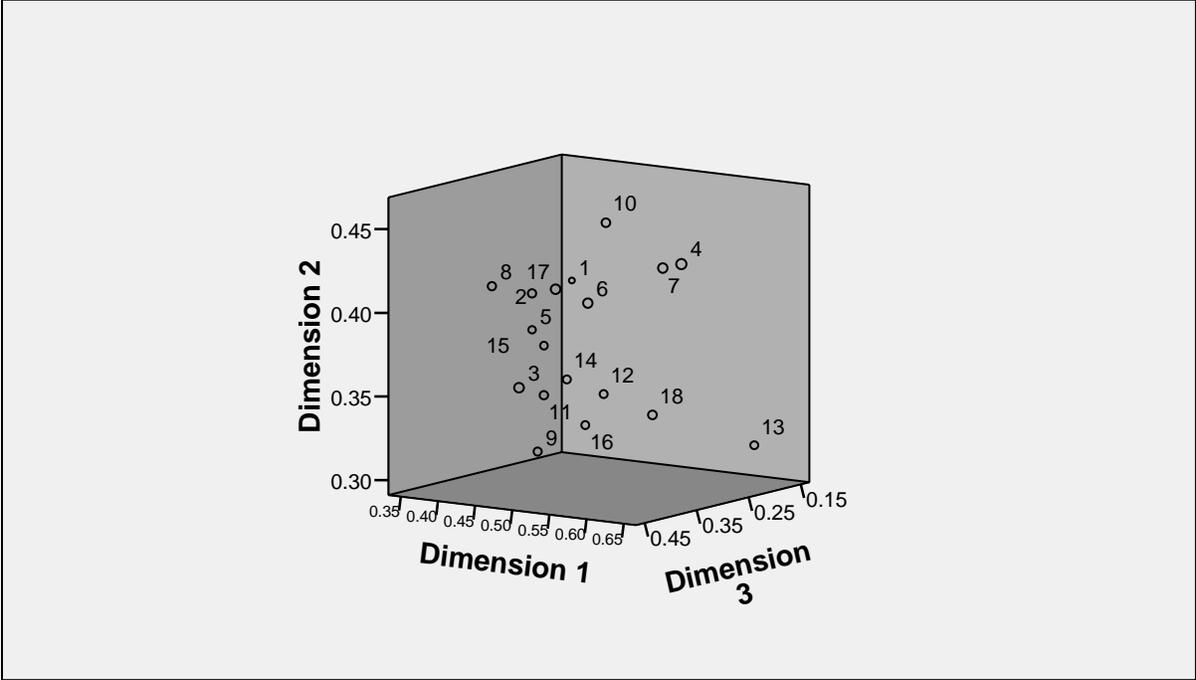
## Derived Stimulus Configuration

Individual differences (weighted) Euclidean distance model



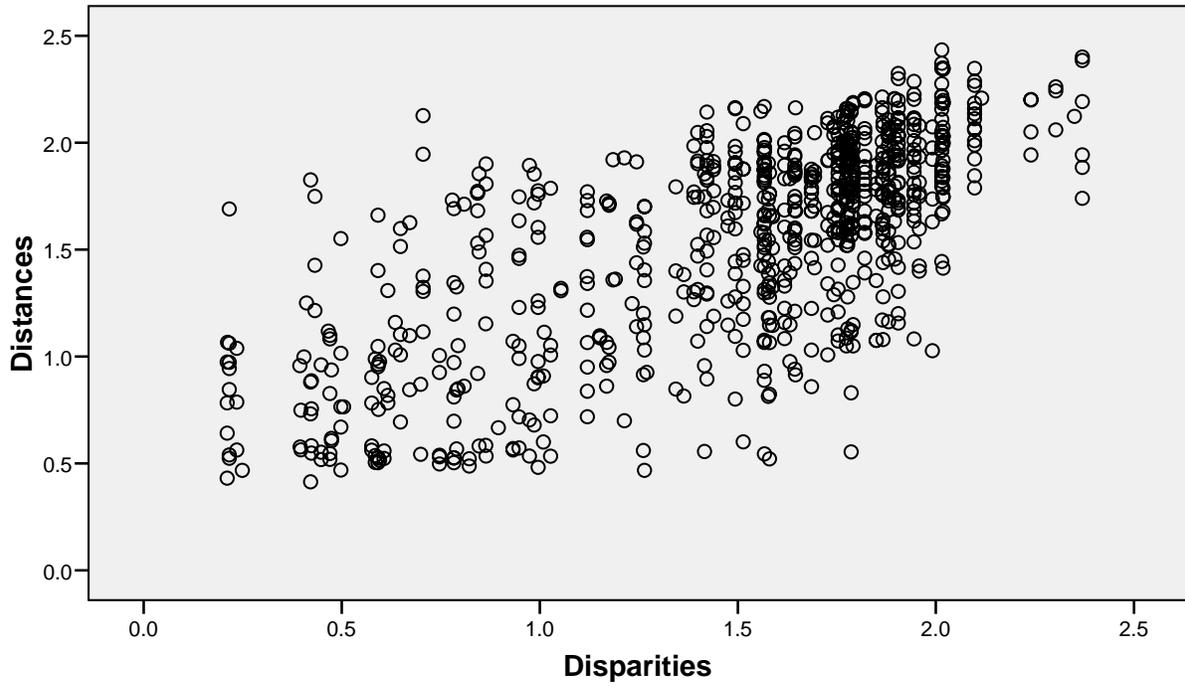
# Derived Subject Weights

## Individual differences (weighted) Euclidean distance model



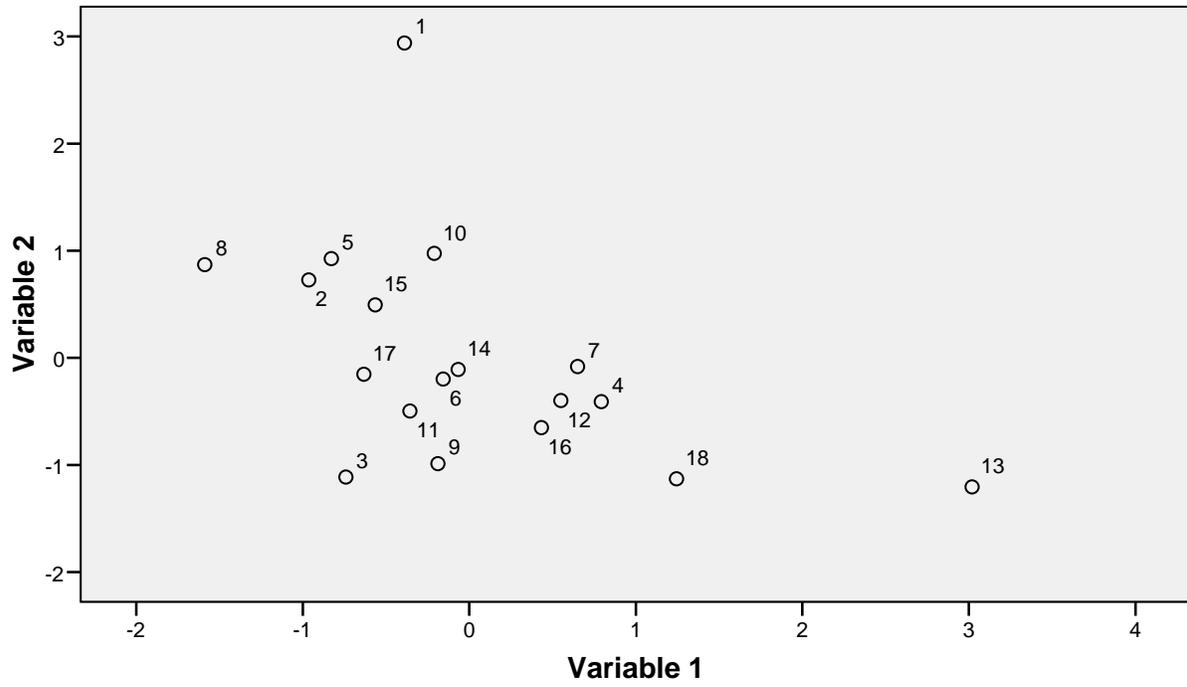
# Scatterplot of Linear Fit

## Individual differences (weighted) Euclidean distance model



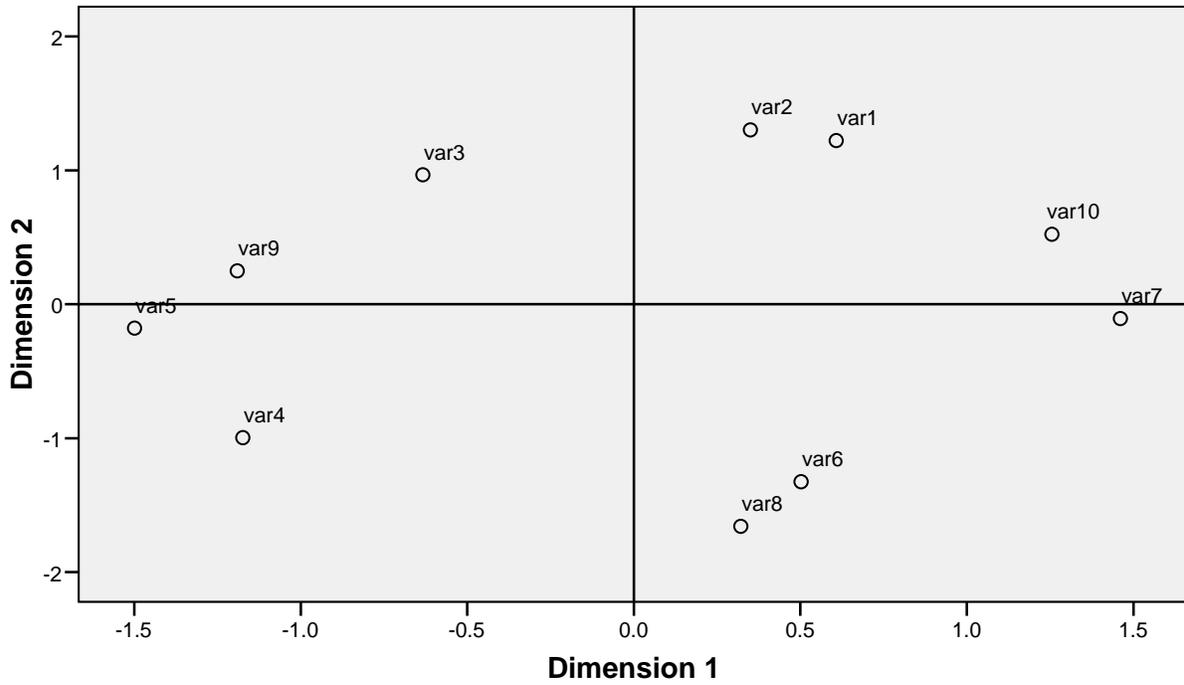
## Flattened Subject Weights

Individual differences (weighted) Euclidean distance model



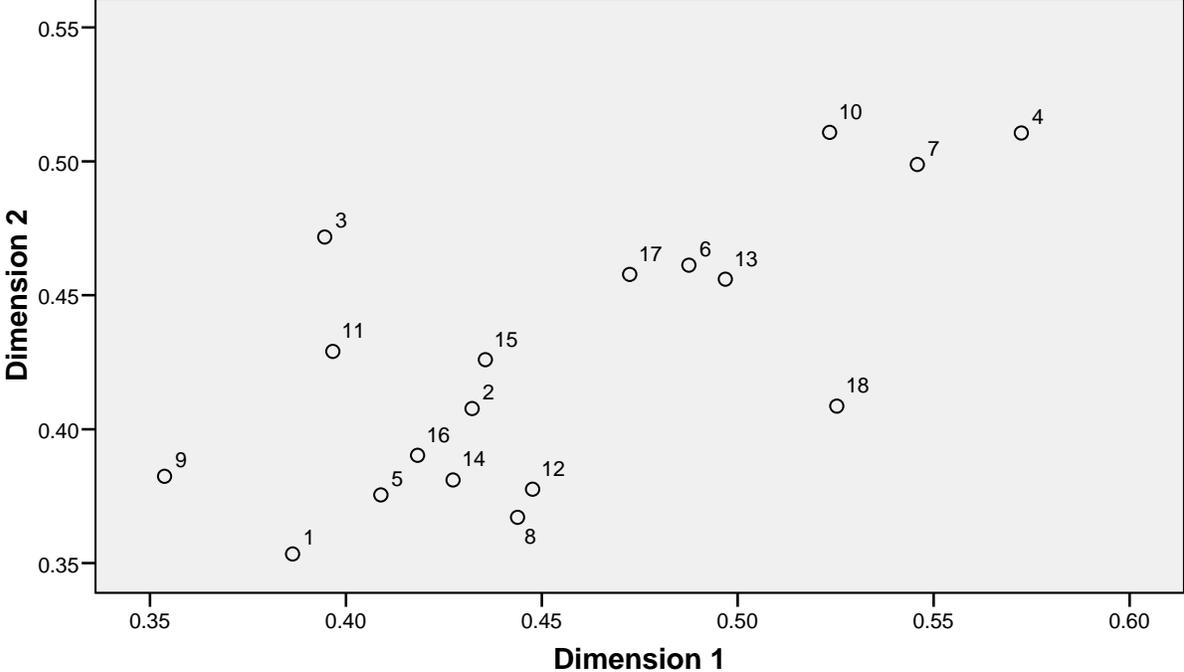
## Derived Stimulus Configuration

Individual differences (weighted) Euclidean distance model



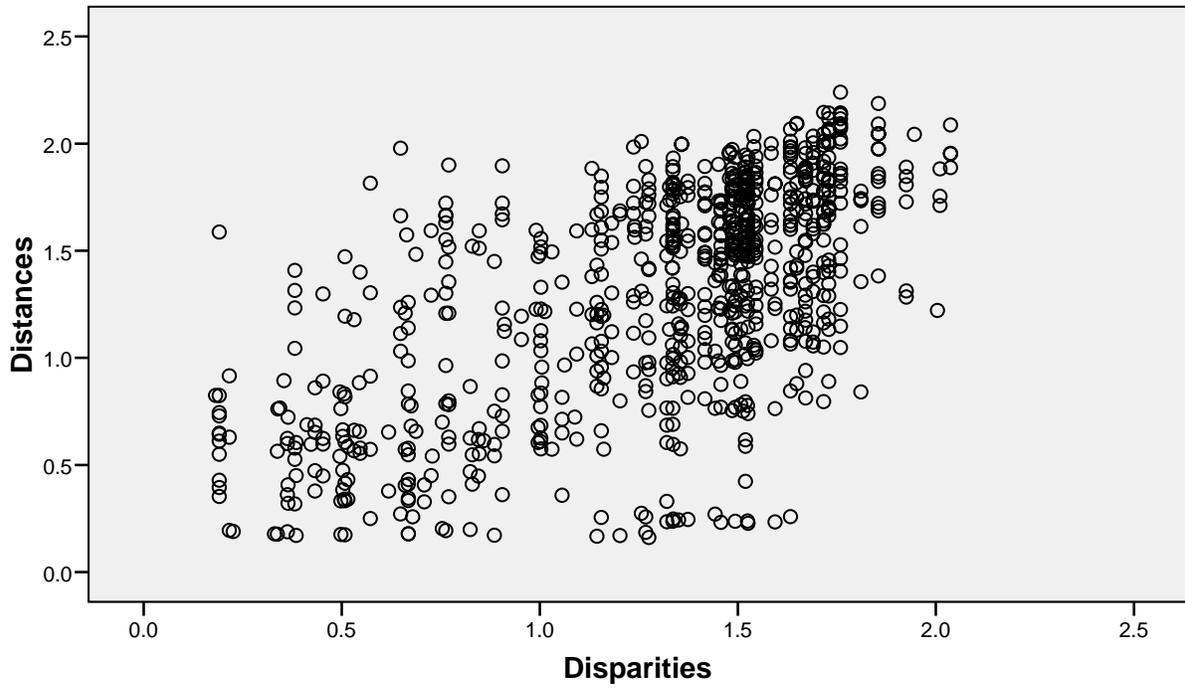
# Derived Subject Weights

## Individual differences (weighted) Euclidean distance model



# Scatterplot of Linear Fit

## Individual differences (weighted) Euclidean distance model



# Flattened Subject Weights

Individual differences (weighted) Euclidean distance model

