```
 USE ALL.
COMPUTE filter_$=(Scale = 'C').
VARIABLE LABELS filter_$ "Scale = 'C' (FILTER)".
VALUE LABELS filter_$ 0 'Not Selected' 1 'Selected'.
FORMATS filter_$ (f1.0).
FILTER BY filter_$.
EXECUTE.
DATASET DECLARE D0.8875075396189416
PROXIMITIES   Pct_Black Pct_SNAP Pct_Poverty Pct_Unemp Pct_Two_Plus
  /MATRIX OUT(D0.8875075396189416)
  /VIEW=CASE
  /MEASURE=SEUCLID
  /PRINT NONE
  /STANDARDIZE=VARIABLE Z.
```

Proximities

Notes

Output Created		04-APR-2020 13:33:36
Comments		
Input	Data	C:\Users\bullokl\Downloads\5303_EX_A.sav
	Active Dataset	DataSet1
	Filter	Scale = 'C' (FILTER)
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	77
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on cases with no missing values for any variable used.

Notes

Syntax		PROXIMITIES Pct_Black Pct_SNAP Pct_Poverty Pct_Unemp Pct_Two_Plus /MATRIX OUT(D0.8875075396189416) /VIEW=CASE /MEASURE=SEUCLID /PRINT NONE /STANDARDIZE=VARIABLE Z.
Resources	Processor Time	00:00:00.03
	Elapsed Time	00:00:00.02
	Workspace Bytes	27184
Files Saved	Matrix File	Dataset D0.8875075396189416

Case Processing Summary[a]

Cases					
Valid		Missing		Total	
N	Percent	N	Percent	N	Percent
77	100.0%	0	0.0%	77	100.0%

a. Squared Euclidean Distance used

```
CLUSTER
  /MATRIX IN(D0.8875075396189416)
  /METHOD WARD
  /PRINT SCHEDULE
  /PLOT DENDROGRAM.
```

Cluster

Notes

Output Created		04-APR-2020 13:33:36
Comments		
Input	Data	C:\Users\bullokl\Downloads\5303_EX_A.sav
	Active Dataset	DataSet1
	Filter	Scale = 'C' (FILTER)
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	77
	Matrix Input	Dataset D0.8875075396189416
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on cases with no missing values for any variable used.
Syntax		/MATRIX IN(D0.8875075396189416) /METHOD WARD /PRINT SCHEDULE /PLOT DENDROGRAM.
Resources	Processor Time	00:00:00.16
	Elapsed Time	00:00:00.31

Ward Linkage

Agglomeration Schedule

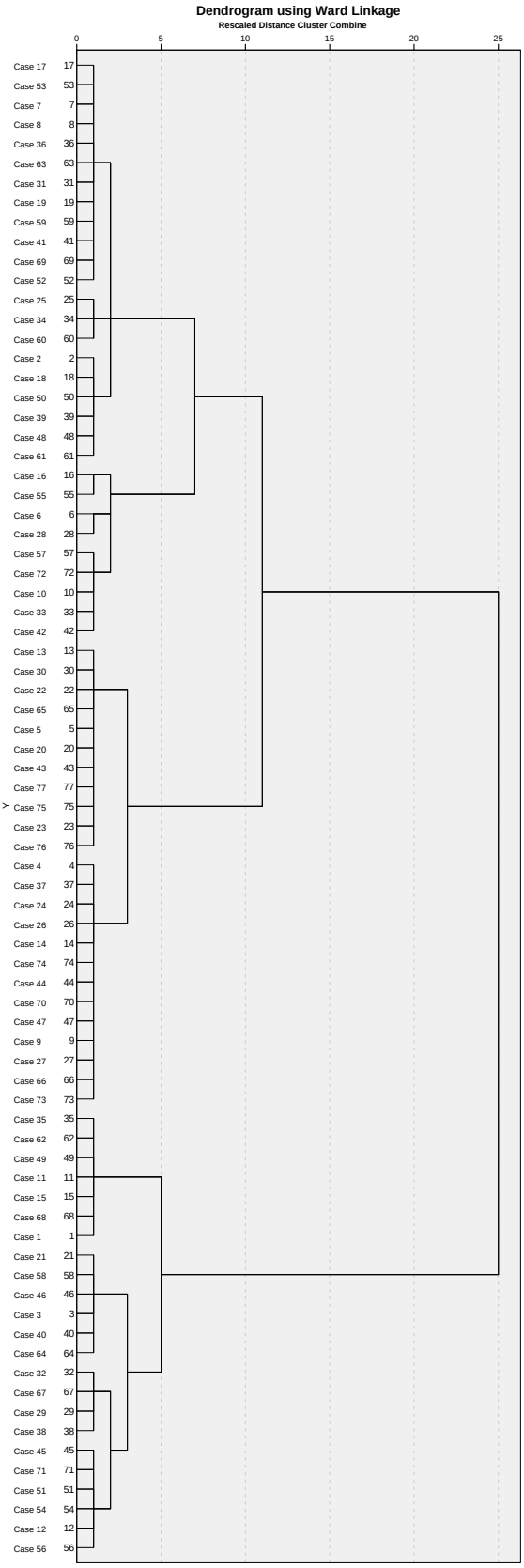
Stage	Cluster Combined		Coefficients	Stage Cluster First Appears		Next Stage
	Cluster 1	Cluster 2		Cluster 1	Cluster 2	
1	17	53	.036	0	0	7
2	41	69	.102	0	0	18
3	39	48	.177	0	0	50
4	57	72	.259	0	0	46
5	45	71	.351	0	0	55
6	22	65	.455	0	0	58
7	7	17	.573	0	1	27
8	43	77	.698	0	0	11
9	19	59	.874	0	0	42
10	9	27	1.071	0	0	52
11	43	75	1.272	8	0	14
12	36	63	1.490	0	0	25
13	24	26	1.712	0	0	31
14	23	43	1.935	0	11	29
15	3	40	2.159	0	0	39
16	5	20	2.424	0	0	53
17	14	74	2.694	0	0	31
18	41	52	3.003	2	0	42
19	11	15	3.340	0	0	40
20	32	67	3.687	0	0	47
21	66	73	4.037	0	0	52
22	21	58	4.402	0	0	28
23	6	28	4.793	0	0	66
24	44	70	5.194	0	0	38
25	31	36	5.626	0	12	56
26	35	62	6.089	0	0	48
27	7	8	6.553	7	0	56
28	21	46	7.046	22	0	54
29	23	76	7.558	14	0	53
30	2	18	8.088	0	0	36
31	14	24	8.654	17	13	51
32	25	34	9.224	0	0	49
33	29	38	9.806	0	0	47

Agglomeration Schedule

Stage	Cluster Combined		Coefficients	Stage Cluster First Appears		Next Stage
	Cluster 1	Cluster 2		Cluster 1	Cluster 2	
34	10	33	10.448	0	0	45
35	4	37	11.108	0	0	65
36	2	50	11.769	30	0	62
37	13	30	12.459	0	0	61
38	44	47	13.319	24	0	51
39	3	64	14.196	15	0	54
40	11	68	15.122	19	0	57
41	51	54	16.056	0	0	44
42	19	41	17.019	9	18	60
43	16	55	18.024	0	0	69
44	12	51	19.087	0	41	55
45	10	42	20.157	34	0	46
46	10	57	21.349	45	4	66
47	29	32	22.611	33	20	68
48	35	49	23.904	26	0	64
49	25	60	25.226	32	0	67
50	39	61	26.573	3	0	62
51	14	44	27.995	31	38	63
52	9	66	29.425	10	21	63
53	5	23	30.876	16	29	58
54	3	21	32.495	39	28	72
55	12	45	34.169	44	5	59
56	7	31	35.934	27	25	60
57	1	11	38.055	0	40	64
58	5	22	40.244	53	6	61
59	12	56	42.493	55	0	68
60	7	19	45.278	56	42	67
61	5	13	48.213	58	37	71
62	2	39	51.417	36	50	70
63	9	14	54.847	52	51	65
64	1	35	58.919	57	48	73
65	4	9	63.937	35	63	71
66	6	10	69.530	23	46	69

Agglomeration Schedule

Stage	Cluster Combined		Coefficients	Stage Cluster First Appears		Next Stage
	Cluster 1	Cluster 2		Cluster 1	Cluster 2	
67	7	25	75.350	60	49	70
68	12	29	81.821	59	47	72
69	6	16	91.054	66	43	74
70	2	7	100.910	62	67	74
71	4	5	111.967	65	61	75
72	3	12	124.150	54	68	73
73	1	3	151.238	64	72	76
74	2	6	186.981	70	69	75
75	2	4	242.799	74	71	76
76	1	2	380.000	73	75	0


Dendrogram using Ward Linkage
Rescaled Distance Cluster Combine
0
5
10
15
20
25
Case 17 17
Case 53 53
Case 7 7
Case 8 8
Case 36 36
Case 63 63
Case 31 31
Case 19 19
Case 59 59
Case 41 41
Case 69 69
Case 52 52
Case 25 25
Case 34 34
Case 60 60
Case 2 2
Case 18 18
Case 50 50
Case 39 39
Case 48 48
Case 61 61
Case 16 16
Case 55 55
Case 6 6
Case 28 28
Case 57 57
Case 72 72
Case 10 10
Case 33 33
Case 42 42
Case 13 13
Case 30 30
Case 22 22
Case 65 65
Case 5 5
Case 20 20
Case 43 43
Case 77 77
Case 75 75
Case 23 23
Case 76 76
Case 4 4
Case 37 37
Case 24 24
Case 26 26
Case 14 14
Case 74 74
Case 44 44
Case 70 70
Case 47 47
Case 9 9
Case 27 27
Case 66 66
Case 73 73
Case 35 35
Case 62 62
Case 49 49
Case 11 11
Case 15 15
Case 68 68
Case 1 1
Case 21 21
Case 58 58
Case 46 46
Case 3 3
Case 40 40
Case 64 64
Case 32 32
Case 67 67
Case 29 29
Case 38 38
Case 45 45
Case 71 71
Case 51 51
Case 54 54
Case 12 12
Case 56 56
Y

```
 Dataset Close D0.8875075396189416.
DATASET DECLARE D0.8441632736349435.
PROXIMITIES   Pct_Black Pct_SNAP Pct_Poverty Pct_Unemp Pct_Two_Plus
  /MATRIX OUT(D0.8441632736349435)
  /VIEW=CASE
  /MEASURE=SEUCLID
  /PRINT NONE
  /STANDARDIZE=VARIABLE Z.
```

Proximities

Notes

Output Created		04-APR-2020 13:42:21
Comments		
Input	Data	C:\Users\bullokl\Downloads\5303_EX_A.sav
	Active Dataset	DataSet1
	Filter	Scale = 'C' (FILTER)
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	77
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on cases with no missing values for any variable used.
Syntax		PROXIMITIES Pct_Black Pct_SNAP Pct_Poverty Pct_Unemp Pct_Two_Plus /MATRIX OUT(D0.8441632736349435) /VIEW=CASE /MEASURE=SEUCLID /PRINT NONE /STANDARDIZE=VARIABLE Z.

Notes

Resources	Processor Time	00:00:00.02
	Elapsed Time	00:00:00.02
	Workspace Bytes	27184
Files Saved	Matrix File	Dataset D0. 8441632736349435

Case Processing Summary[a]

Cases					
Valid		Missing		Total	
N	Percent	N	Percent	N	Percent
77	100.0%	0	0.0%	77	100.0%

a. Squared Euclidean Distance used

```
CLUSTER
  /MATRIX IN(D0.8441632736349435)
  /METHOD WARD
  /PRINT SCHEDULE
  /PLOT DENDROGRAM
  /SAVE CLUSTER(3).
```

Cluster

Notes

Output Created		04-APR-2020 13:42:22
Comments		
Input	Data	C:\Users\bullokl\Downloads\5303_EX_A.sav
	Active Dataset	DataSet1
	Filter	Scale = 'C' (FILTER)
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	77
	Matrix Input	Dataset D0.8441632736349435
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on cases with no missing values for any variable used.
Syntax		/MATRIX IN(D0.8441632736349435) /METHOD WARD /PRINT SCHEDULE /PLOT DENDROGRAM /SAVE CLUSTER(3).
Resources	Processor Time	00:00:00.16
	Elapsed Time	00:00:00.20
Variables Created or Modified	Cluster Membership CLU3_1	Ward Method

Ward Linkage

Agglomeration Schedule

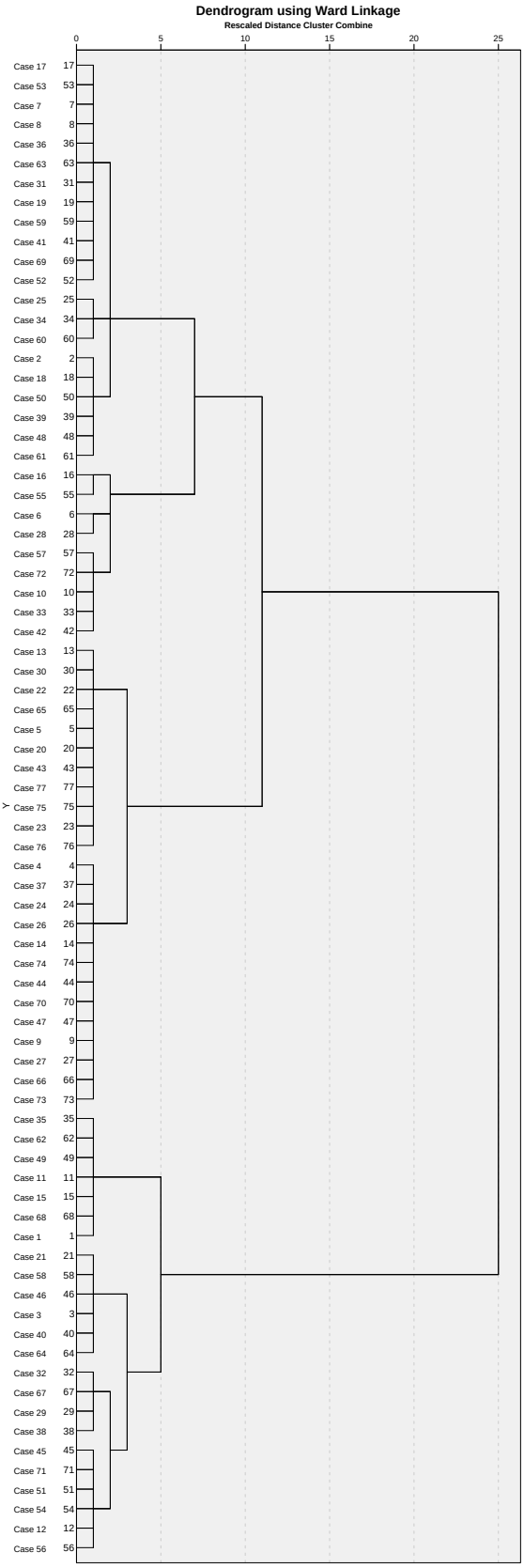
Stage	Cluster Combined		Coefficients	Stage Cluster First Appears		Next Stage
	Cluster 1	Cluster 2		Cluster 1	Cluster 2	
1	17	53	.036	0	0	7
2	41	69	.102	0	0	18
3	39	48	.177	0	0	50
4	57	72	.259	0	0	46
5	45	71	.351	0	0	55
6	22	65	.455	0	0	58
7	7	17	.573	0	1	27
8	43	77	.698	0	0	11
9	19	59	.874	0	0	42
10	9	27	1.071	0	0	52
11	43	75	1.272	8	0	14
12	36	63	1.490	0	0	25
13	24	26	1.712	0	0	31
14	23	43	1.935	0	11	29
15	3	40	2.159	0	0	39
16	5	20	2.424	0	0	53
17	14	74	2.694	0	0	31
18	41	52	3.003	2	0	42
19	11	15	3.340	0	0	40
20	32	67	3.687	0	0	47
21	66	73	4.037	0	0	52
22	21	58	4.402	0	0	28
23	6	28	4.793	0	0	66
24	44	70	5.194	0	0	38
25	31	36	5.626	0	12	56
26	35	62	6.089	0	0	48
27	7	8	6.553	7	0	56
28	21	46	7.046	22	0	54
29	23	76	7.558	14	0	53
30	2	18	8.088	0	0	36
31	14	24	8.654	17	13	51
32	25	34	9.224	0	0	49
33	29	38	9.806	0	0	47

Agglomeration Schedule

Stage	Cluster Combined		Coefficients	Stage Cluster First Appears		Next Stage
	Cluster 1	Cluster 2		Cluster 1	Cluster 2	
34	10	33	10.448	0	0	45
35	4	37	11.108	0	0	65
36	2	50	11.769	30	0	62
37	13	30	12.459	0	0	61
38	44	47	13.319	24	0	51
39	3	64	14.196	15	0	54
40	11	68	15.122	19	0	57
41	51	54	16.056	0	0	44
42	19	41	17.019	9	18	60
43	16	55	18.024	0	0	69
44	12	51	19.087	0	41	55
45	10	42	20.157	34	0	46
46	10	57	21.349	45	4	66
47	29	32	22.611	33	20	68
48	35	49	23.904	26	0	64
49	25	60	25.226	32	0	67
50	39	61	26.573	3	0	62
51	14	44	27.995	31	38	63
52	9	66	29.425	10	21	63
53	5	23	30.876	16	29	58
54	3	21	32.495	39	28	72
55	12	45	34.169	44	5	59
56	7	31	35.934	27	25	60
57	1	11	38.055	0	40	64
58	5	22	40.244	53	6	61
59	12	56	42.493	55	0	68
60	7	19	45.278	56	42	67
61	5	13	48.213	58	37	71
62	2	39	51.417	36	50	70
63	9	14	54.847	52	51	65
64	1	35	58.919	57	48	73
65	4	9	63.937	35	63	71
66	6	10	69.530	23	46	69

Agglomeration Schedule

Stage	Cluster Combined		Coefficients	Stage Cluster First Appears		Next Stage
	Cluster 1	Cluster 2		Cluster 1	Cluster 2	
67	7	25	75.350	60	49	70
68	12	29	81.821	59	47	72
69	6	16	91.054	66	43	74
70	2	7	100.910	62	67	74
71	4	5	111.967	65	61	75
72	3	12	124.150	54	68	73
73	1	3	151.238	64	72	76
74	2	6	186.981	70	69	75
75	2	4	242.799	74	71	76
76	1	2	380.000	73	75	0


Dendrogram using Ward Linkage
Rescaled Distance Cluster Combine
0
5
10
15
20
25
Case 17 17
Case 53 53
Case 7 7
Case 8 8
Case 36 36
Case 63 63
Case 31 31
Case 19 19
Case 59 59
Case 41 41
Case 69 69
Case 52 52
Case 25 25
Case 34 34
Case 60 60
Case 2 2
Case 18 18
Case 50 50
Case 39 39
Case 48 48
Case 61 61
Case 16 16
Case 55 55
Case 6 6
Case 28 28
Case 57 57
Case 72 72
Case 10 10
Case 33 33
Case 42 42
Case 13 13
Case 30 30
Case 22 22
Case 65 65
Case 5 5
Case 20 20
Case 43 43
Case 77 77
Case 75 75
Case 23 23
Case 76 76
Case 4 4
Case 37 37
Case 24 24
Case 26 26
Case 14 14
Case 74 74
Case 44 44
Case 70 70
Case 47 47
Case 9 9
Case 27 27
Case 66 66
Case 73 73
Case 35 35
Case 62 62
Case 49 49
Case 11 11
Case 15 15
Case 68 68
Case 1 1
Case 21 21
Case 58 58
Case 46 46
Case 3 3
Case 40 40
Case 64 64
Case 32 32
Case 67 67
Case 29 29
Case 38 38
Case 45 45
Case 71 71
Case 51 51
Case 54 54
Case 12 12
Case 56 56
Y

```
 Dataset Close D0.8441632736349435.
DATASET ACTIVATE DataSet1.

SAVE OUTFILE='C:\Users\bullokl\Downloads\5303_EX_A.sav'
  /COMPRESSED.

SAVE OUTFILE='C:\Users\bullokl\Downloads\Part_B_Data.sav'
  /COMPRESSED.
DESCRIPTIVES VARIABLES=Pct_Black Pct_Two_Plus Pct_Unemp Pct_SNAP Pct_Poverty
  /SAVE
  /STATISTICS=MEAN STDDEV MIN MAX.
```

Descriptives

Notes

Output Created		04-APR-2020 13:49:29
Comments		
Input	Data	C:\Users\bullokl\Downloads\Part_B_Data.sav
	Active Dataset	DataSet1
	Filter	Scale = 'C' (FILTER)
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	77
Missing Value Handling	Definition of Missing	User defined missing values are treated as missing.
	Cases Used	All non-missing data are used.
Syntax		DESCRIPTIVES VARIABLES=Pct_Black Pct_Two_Plus Pct_Unemp Pct_SNAP Pct_Poverty /SAVE /STATISTICS=MEAN STDDEV MIN MAX.
Resources	Processor Time	00:00:00.02
	Elapsed Time	00:00:00.02

Notes

Variables Created or Modified	ZPct_Black	Zscore: Percent Black
	ZPct_Two_Plus	Zscore: Percent Two or more races
	ZPct_Unemp	Zscore: Percent of workforce unemployed
	ZPct_SNAP	Zscore: Percent receiving SNAP assistance
	ZPct_Poverty	Zscore: Percent living in poverty

```
[DataSet1] C:\Users\bullokl\Downloads\Part_B_Data.sav
```

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Percent Black	77	.05	16.85	3.4942	3.56248
Percent Two or more races	77	1.63	21.89	8.0127	4.00588
Percent of workforce unemployed	77	2.0	11.9	6.681	2.3546
Percent receiving SNAP assistance	77	3.9	25.0	14.291	5.0734
Percent living in poverty	77	6.9	27.7	17.612	4.6772
Valid N (listwise)	77				

```
QUICK CLUSTER ZPct_Black ZPct_Two_Plus ZPct_Unemp ZPct_SNAP ZPct_Poverty
  /MISSING=LISTWISE
  /CRITERIA=CLUSTER(3) MXITER(10) CONVERGE(0)
  /METHOD=KMEANS(NOUPDATE)
  /PRINT INITIAL.


QUICK CLUSTER ZPct_Black ZPct_Two_Plus ZPct_Unemp ZPct_SNAP ZPct_Poverty
  /MISSING=LISTWISE
  /CRITERIA=CLUSTER(3) MXITER(10) CONVERGE(0)
  /METHOD=KMEANS(NOUPDATE)
  /SAVE CLUSTER
  /PRINT INITIAL ANOVA.
```

Quick Cluster

Notes

Output Created		04-APR-2020 13:52:29
Comments		
Input	Data	C:\Users\bullokl\Downloads\Part_B_Data.sav
	Active Dataset	DataSet1
	Filter	Scale = 'C' (FILTER)
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	77
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on cases with no missing values for any clustering variable used.
Syntax		QUICK CLUSTER ZPct_Black ZPct_Two_Plus ZPct_Unemp ZPct_SNAP ZPct_Poverty /MISSING=LISTWISE /CRITERIA=CLUSTER(3) MXITER(10) CONVERGE(0) /METHOD=KMEANS(NOUPDATE) /SAVE CLUSTER /PRINT INITIAL ANOVA.
Resources	Processor Time	00:00:00.08
	Elapsed Time	00:00:00.05
	Workspace Required	1144 bytes
Variables Created or Modified	QCL_1	Cluster Number of Case

Initial Cluster Centers

	Cluster		
	1	2	3
Zscore: Percent Black	3.74903	-.86012	-.66924
Zscore: Percent Two or more races	.17406	3.46423	-1.47601
Zscore: Percent of workforce unemployed	1.15496	.68779	-1.60558
Zscore: Percent receiving SNAP assistance	.37630	.33688	-2.00871
Zscore: Percent living in poverty	.08302	.63892	-1.79846

Iteration History[a]

	Change in Cluster Centers		
Iteration	1	2	3
1	2.377	2.505	2.161
2	.158	.127	.092
3	.000	.094	.066
4	.000	.000	.000

a. Convergence achieved due to no or small change in cluster centers. The maximum absolute coordinate change for any center is .000. The current iteration is 4. The minimum distance between initial centers is 5.709.

Final Cluster Centers

	Cluster		
	1	2	3
Zscore: Percent Black	1.58032	-.45276	-.33475
Zscore: Percent Two or more races	.09385	.83000	-.59886
Zscore: Percent of workforce unemployed	.65664	.77273	-.78832
Zscore: Percent receiving SNAP assistance	.93740	.51664	-.72911
Zscore: Percent living in poverty	.82421	.62694	-.75775

ANOVA

	Cluster		Error			
	Mean Square	df	Mean Square	df	F	Sig.
Zscore: Percent Black	23.366	2	.396	74	59.078	.000
Zscore: Percent Two or more races	15.312	2	.613	74	24.971	.000
Zscore: Percent of workforce unemployed	22.195	2	.427	74	51.957	.000
Zscore: Percent receiving SNAP assistance	19.761	2	.493	74	40.089	.000
Zscore: Percent living in poverty	20.631	2	.469	74	43.947	.000

The F tests should be used only for descriptive purposes because the clusters have been chosen to maximize the differences among cases in different clusters. The observed significance levels are not corrected for this and thus cannot be interpreted as tests of the hypothesis that the cluster means are equal.

Number of Cases in each Cluster

Cluster	1	15.000
	2	25.000
	3	37.000
Valid		77.000
Missing		.000

```
DATASET ACTIVATE DataSet1.

SAVE OUTFILE='C:\Users\bullokl\Downloads\Part_B_Data.sav'
  /COMPRESSED.
```