

## The SAS System

### The CORRESP Procedure

Contingency Table					
	current_smoker	former_smoker	never_smoked	tried_smoking	Sum
college_or_bachelor_degree	44	36	39	90	209
currently_a_primary_school_pupil	1	0	6	3	10
doctorate_degree	1	1	1	2	5
masters_degree	12	19	20	29	80
primary_school	10	15	25	30	80
secondary_school	121	104	117	275	617
Sum	189	175	208	429	1001

Chi-Square Statistic Expected Values				
	current_smoker	former_smoker	never_smoked	tried_smoking
college_or_bachelor_degree	39.462	36.538	43.429	89.571
currently_a_primary_school_pupil	1.888	1.748	2.078	4.286
doctorate_degree	0.944	0.874	1.039	2.143
masters_degree	15.105	13.986	16.623	34.286
primary_school	15.105	13.986	16.623	34.286
secondary_school	116.497	107.867	128.208	264.429

Observed Minus Expected Values				
	current_smoker	former_smoker	never_smoked	tried_smoking
college_or_bachelor_degree	4.5385	-0.5385	-4.4286	0.4286
currently_a_primary_school_pupil	-0.8881	-1.7483	3.9221	-1.2857
doctorate_degree	0.0559	0.1259	-0.0390	-0.1429
masters_degree	-3.1049	5.0140	3.3766	-5.2857
primary_school	-5.1049	1.0140	8.3766	-4.2857
secondary_school	4.5035	-3.8671	-11.2078	10.5714

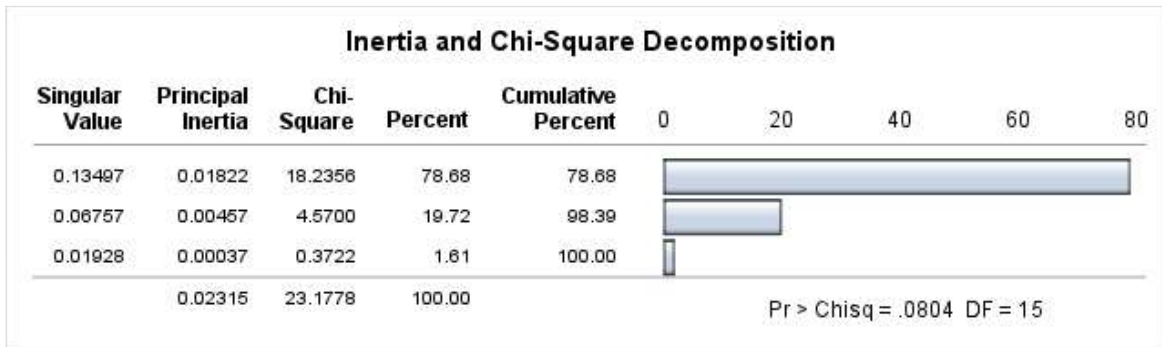
Contributions to the Total Chi-Square Statistic					
	current_smoker	former_smoker	never_smoked	tried_smoking	Sum
college_or_bachelor_degree	0.5220	0.0079	0.4516	0.0021	0.9836
currently_a_primary_school_pupil	0.4177	1.7483	7.4029	0.3857	9.9546
doctorate_degree	0.0033	0.0181	0.0015	0.0095	0.0324
masters_degree	0.6382	1.7975	0.6859	0.8149	3.9365
primary_school	1.7253	0.0735	4.2210	0.5357	6.5555
secondary_school	0.1741	0.1386	0.9798	0.4226	1.7151
Sum	3.4806	3.7840	13.7427	2.1705	23.1778

Row Profiles				
	current_smoker	former_smoker	never_smoked	tried_smoking
college_or_bachelor_degree	0.210526	0.172249	0.186603	0.430622
currently_a_primary_school_pupil	0.100000	0.000000	0.600000	0.300000
doctorate_degree	0.200000	0.200000	0.200000	0.400000
masters_degree	0.150000	0.237500	0.250000	0.362500
primary_school	0.125000	0.187500	0.312500	0.375000
secondary_school	0.196110	0.168558	0.189627	0.445705

Column Profiles				
	current_smoker	former_smoker	never_smoked	tried_smoking
college_or_bachelor_degree	0.232804	0.205714	0.187500	0.209790
currently_a_primary_school_pupil	0.005291	0.000000	0.028846	0.006993
doctorate_degree	0.005291	0.005714	0.004808	0.004662
masters_degree	0.063492	0.108571	0.096154	0.067599
primary_school	0.052910	0.085714	0.120192	0.069930
secondary_school	0.640212	0.594286	0.562500	0.641026

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Row Coordinates		
	Dim1	Dim2
college_or_bachelor_degree	-0.0607	-0.0126
currently_a_primary_school_pupil	0.9055	-0.4159
doctorate_degree	-0.0148	0.0618
masters_degree	0.1387	0.1720
primary_school	0.2803	0.0514
secondary_school	-0.0483	-0.0185

Summary Statistics for the Row Points			
	Quality	Mass	Inertia
college_or_bachelor_degree	0.8168	0.2088	0.0424
currently_a_primary_school_pupil	0.9974	0.0100	0.4295
doctorate_degree	0.6228	0.0050	0.0014
masters_degree	0.9922	0.0799	0.1698
primary_school	0.9910	0.0799	0.2828
secondary_school	0.9626	0.6164	0.0740

Partial Contributions to Inertia for the Row Points		
	Dim1	Dim2
college_or_bachelor_degree	0.0422	0.0072
currently_a_primary_school_pupil	0.4496	0.3786
doctorate_degree	0.0001	0.0042
masters_degree	0.0844	0.5178
primary_school	0.3447	0.0462
secondary_school	0.0790	0.0460

#### Indices of the Coordinates That Contribute Most to Inertia for the Row Points

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	Dim1	Dim2	Best
college_or_bachelor_degree	0	0	1
currently_a_primary_school_pupil	1	1	1
doctorate_degree	0	0	2
masters_degree	2	2	2
primary_school	1	0	1
secondary_school	0	0	1

Squared Cosines for the Row Points		
	Dim1	Dim2
college_or_bachelor_degree	0.7833	0.0335
currently_a_primary_school_pupil	0.8236	0.1738
doctorate_degree	0.0337	0.5891
masters_degree	0.3911	0.6011
primary_school	0.9588	0.0322
secondary_school	0.8399	0.1227

Column Coordinates		
	Dim1	Dim2
current_smoker	-0.1239	-0.0441
former_smoker	-0.0163	0.1461
never_smoked	0.2557	-0.0256
tried_smoking	-0.0627	-0.0277

Summary Statistics for the Column Points			
	Quality	Mass	Inertia
current_smoker	0.9389	0.1888	0.1502
former_smoker	0.9995	0.1748	0.1633
never_smoked	0.9996	0.2078	0.5929
tried_smoking	0.9303	0.4286	0.0936

Partial Contributions to Inertia for the Column Points		
	Dim1	Dim2
current_smoker	0.1590	0.0806
former_smoker	0.0026	0.8174
never_smoked	0.7458	0.0299
tried_smoking	0.0926	0.0722

Indices of the Coordinates That Contribute Most to Inertia for the Column Points			

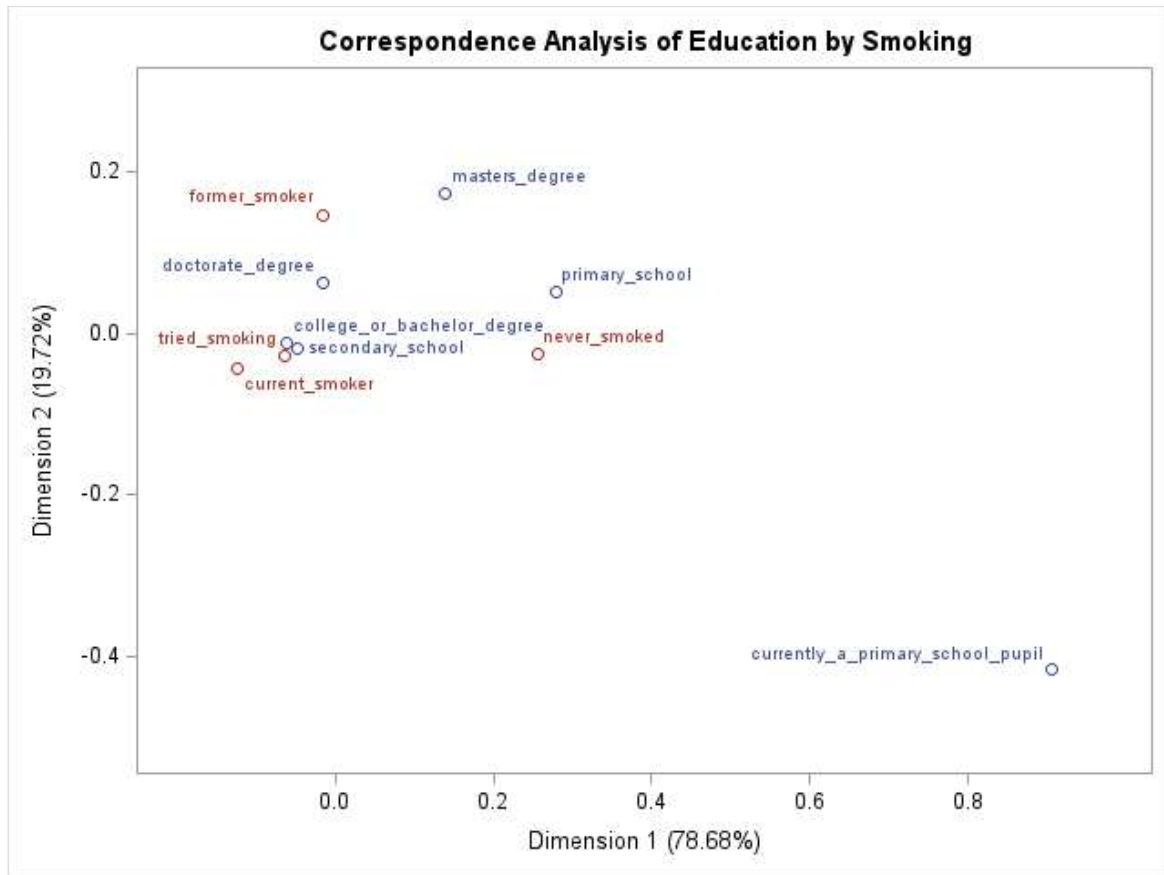
	Dim1	Dim2	Best
current_smoker	1	0	1
former_smoker	0	2	2
never_smoked	1	0	1
tried_smoking	0	0	1

**Squared Cosines for the Column Points**

	Dim1	Dim2
current_smoker	0.8331	0.1058
former_smoker	0.0123	0.9872
never_smoked	0.9896	0.0099
tried_smoking	0.7783	0.1520

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### The FREQ Procedure

Table of Education by Smoking						
Education	Smoking	Frequency	Std Residual	Percent	Row Percent	Column Percent
currently_a_primary_school_pupil	never_smoked	6	3.0723	0.60	60.00	2.88
	tried_smoking	3	-0.8257	0.30	30.00	0.70
	former_smoker	0	-1.4629	0.00	0.00	0.00
	current_smoker	1	-0.7212	0.10	10.00	0.53
	Total	10		1.00	100.00	
primary_school	never_smoked	25	2.4065	2.50	31.25	12.02
	tried_smoking	30	-1.0094	3.00	37.50	6.99
	former_smoker	15	0.3112	1.50	18.75	8.57
	current_smoker	10	-1.5204	1.00	12.50	5.29
	Total	80		7.99	100.00	
secondary_school	never_smoked	117	-1.7955	11.69	18.96	56.25
	tried_smoking	275	1.3885	27.47	44.57	64.10
	former_smoker	104	-0.6618	10.39	16.86	59.43
	current_smoker	121	0.7480	12.09	19.61	64.02
	Total	617		61.64	100.00	
college_or_bachelor_degree	never_smoked	39	-0.8488	3.90	18.66	18.75
	tried_smoking	90	0.0673	8.99	43.06	20.98
	former_smoker	36	-0.1102	3.60	17.22	20.57
	current_smoker	44	0.9018	4.40	21.05	23.28
	Total	209		20.88	100.00	
masters_degree	never_smoked	20	0.9700	2.00	25.00	9.62
	tried_smoking	29	-1.2450	2.90	36.25	6.76
	former_smoker	19	1.5387	1.90	23.75	10.86
	current_smoker	12	-0.9247	1.20	15.00	6.35
	Total	80		7.99	100.00	
doctorate_degree	never_smoked	1	-0.0431	0.10	20.00	0.48
	tried_smoking	2	-0.1294	0.20	40.00	0.47
	former_smoker	1	0.1486	0.10	20.00	0.57
	current_smoker	1	0.0641	0.10	20.00	0.53
	Total	5		0.50	100.00	
Total	never_smoked	208		20.78		100.00
	tried_smoking	429		42.86		100.00

	<b>former_smoker</b>	175		17.48		100.00
	<b>current_smoker</b>	189		18.88		100.00
	<b>Total</b>	1001		100.00		
<b>Frequency Missing = 9</b>						