

```

/* SAS program for testing homogeneity of multinomial */
/* proportions. 67 male and 67 female university */
/* sports participants were asked about their reasons */
/* for being involved in sports. HH: high social */
/* comparison/high mastery, HL: high social */
/* comparison/low mastery, etc. */

```

```
options nocenter ls=72;
```

```
data;
```

```
input sex $ reason $ y;
```

```
cards;
```

```
f hh 14
```

```
f hl 7
```

```
f lh 21
```

```
f ll 25
```

```
m hh 31
```

```
m hl 18
```

```
m lh 5
```

```
m ll 13
```

```
;
```

```
proc catmod;
```

```
weight y;
```

```
model reason=sex / nogls ml;
```

```
run;
```

The CATMOD Procedure

Data Summary

Response	reason	Response Levels	4
Weight Variable	y	Populations	2
Data Set	DATA2	Total Frequency	134
Frequency Missing	0	Observations	8

Population Profiles

Sample	sex	Sample Size
1	f	67
2	m	67

Response Profiles

Response	reason
1	hh
2	hl
3	lh
4	ll

Maximum Likelihood Analysis

Iteration	Sub Iteration	-2 Log Likelihood	Convergence Criterion	Parameter Estimates	
				1	2
0	0	371.52689	1.0000	0	0
1	0	339.10807	0.0873	0.2090	-0.3881
2	0	337.1776	0.005693	0.1421	-0.4613
3	0	337.16389	0.0000407	0.1446	-0.4737
4	0	337.16389	1.0412E-8	0.1446	-0.4738
5	0	337.16389	1.18E-15	0.1446	-0.4738

Maximum Likelihood Analysis

Iteration	Parameter Estimates			
	3	4	5	6
0	0	0	0	0
1	-0.3582	-0.8657	-0.6866	0.1194
2	-0.5427	-0.7199	-0.7910	0.3696
3	-0.5645	-0.7244	-0.7991	0.3901
4	-0.5649	-0.7244	-0.7992	0.3906
5	-0.5649	-0.7244	-0.7992	0.3906

Maximum likelihood computations converged.

Maximum Likelihood Analysis of Variance

Source	DF	Chi-Square	Pr > ChiSq
Intercept	3	8.91	0.0304
sex	3	22.52	<.0001
Likelihood Ratio	0	.	.

Analysis of Maximum Likelihood Estimates

Parameter	Function Number	Estimate	Standard Error	Chi-Square	Pr > ChiSq
Intercept	1	0.1446	0.2348	0.38	0.5380
	2	-0.4738	0.2808	2.85	0.0915
	3	-0.5649	0.3019	3.50	0.0613
sex	f 1	-0.7244	0.2348	9.52	0.0020
	f 2	-0.7992	0.2808	8.10	0.0044
	f 3	0.3906	0.3019	1.67	0.1957