

PROPORTION SMOKING

The SURVEYMEANS Procedure

Data Summary	
Number of Strata	30
Number of Clusters	312
Number of Observations	9047
Sum of Weights	9009.72001

Class Level Information			
Class Variable	Label	Levels	Values
cigst1	(D) Cigarette Smoking Status - Never/Ex-reg/Ex-occ/Current	4	Never smoked cigarettes at all Used to smoke cigarettes occasionally Used to smoke cigarettes regularly Current cigarette smoker

Statistics						
Variable	Label	N	Mean	Std Error of Mean	Lower 95% CL for Mean	Upper 95% CL for Mean
cigst1=Never smoked cigarettes at all	(D) Cigarette Smoking Status - Never/Ex-reg/Ex-occ/Current	3711	0.438686	0.006687	0.425523	0.451849
cigst1=Used to smoke cigarettes occasionally		269	0.030858	0.002495	0.025947	0.035770
cigst1=Used to smoke cigarettes regularly		1895	0.197729	0.004922	0.188041	0.207416
cigst1=Current cigarette smoker		3136	0.332727	0.006300	0.320327	0.345128

Proportion smoking by number of adults

The SURVEYMEANS Procedure

Data Summary	
Number of Strata	30
Number of Clusters	312
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Sum of Weights	9009.72001

Class Level Information		
Class Variable	Levels	Values
smoker	2	0 1

Statistics					
Variable	N	Mean	Std Error of Mean	Lower 95% CL for Mean	Upper 95% CL for Mean
smoker=0	5875	0.667273	0.006300	0.654872	0.679673
smoker=1	3136	0.332727	0.006300	0.320327	0.345128

Domain Analysis: nofad						
nofad	Variable	N	Mean	Std Error of Mean	Lower 95% CL for Mean	Upper 95% CL for Mean
1	smoker=0	1720	0.557566	0.010439	0.537018	0.578114
	smoker=1	1313	0.442434	0.010439	0.421886	0.462982
2	smoker=0	3175	0.680862	0.007453	0.666191	0.695533
	smoker=1	1430	0.319138	0.007453	0.304467	0.333809

3	smoker=0 smoker=1	703 278	0.713563 0.286437	0.015265 0.015265	0.683515 0.256389	0.743611 0.316485
4	smoker=0 smoker=1	233 93	0.710644 0.289356	0.028185 0.028185	0.655165 0.233876	0.766124 0.344835
5	smoker=0 smoker=1	35 21	0.657975 0.342025	0.069188 0.069188	0.521802 0.205853	0.794147 0.478198
6	smoker=0 smoker=1	6 0	1.000000 .	0 .	1.000000 .	1.000000 .
7	smoker=0 smoker=1	1 0	1.000000 .	0 .	1.000000 .	1.000000 .
8	smoker=0 smoker=1	1 1	0.448229 0.551771	0.349763 0.349763	0 0	1.000000 1.000000
9	smoker=0 smoker=1	1 0	1.000000 .	0 .	1.000000 .	1.000000 .

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Class Variable	Levels	Values
smoker	2	0 1

Statistics

Variable	N	Mean	Std Error of Mean	Lower 95% CL for Mean	Upper 95% CL for Mean
smoker=0	5875	0.667273	0.006300	0.654872	0.679673
smoker=1	3136	0.332727	0.006300	0.320327	0.345128

Domain Analysis: sex						
sex	Variable	N	Mean	Std Error of Mean	Lower 95% CL for Mean	Upper 95% CL for Mean
male	smoker=0	2555	0.658233	0.008770	0.640970	0.675496
	smoker=1	1373	0.341767	0.008770	0.324504	0.359030
female	smoker=0	3320	0.676025	0.008090	0.660100	0.691950
	smoker=1	1763	0.323975	0.008090	0.308050	0.339900

Proportion smoking by sex

The SURVEYREG Procedure

Regression Analysis for Dependent Variable smoker

Data Summary	
Number of Observations	9011
Sum of Weights	8965.2
Weighted Mean of smoker	0.33273
Weighted Sum of smoker	2983.0

Design Summary	
Number of Strata	30
Number of Clusters	312

Fit Statistics	
R-square	0.000356
Root MSE	0.4712
Denominator DF	282

ANOVA for Dependent Variable smoker					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	1	0.709	0.709302	3.21	0.0732
Error	9009	1989.740	0.220861		
Corrected Total	9010	1990.449			

Tests of Model Effects			
Effect	Num DF	F Value	Pr > F
Model	1	2.51	0.1140
Intercept	1	379.92	<.0001
sex	1	2.51	0.1140

The denominator degrees of freedom for the F tests is 282.

Estimated Regression Coefficients				
Parameter	Estimate	Standard Error	t Value	Pr >  t
Intercept	0.3595591	0.01844692	19.49	<.0001
sex	-0.0177919	0.01122277	-1.59	0.1140

The denominator degrees of freedom for the t tests is 282.

### Proportion smoking By health Board with estimates for Fife versus Lothian

The SURVEYREG Procedure  
Regression Analysis for Dependent Variable smoker

Data Summary	
Number of Observations	9011
Sum of Weights	8965.2
Weighted Mean of smoker	0.33273
Weighted Sum of smoker	2983.0

Design Summary	
Number of Strata	30
Number of Clusters	312

Fit Statistics	
R-square	0.003521
Root MSE	0.4707
Denominator DF	282

Class Level Information			
Class Variable	Label	Levels	Values
hboard	Health Board	13	Argyll & Clyde Ayrshire & Arran Borders Dumfries & Gallo Fife Forth Valley Grampian Greater Glasgow Highland Islands Lanarkshire Lothian Tayside

ANOVA for Dependent Variable smoker					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	12	7.008	0.583976	2.65	0.0015
Error	8998	1983.441	0.220431		
Corrected Total	9010	1990.449			

Tests of Model Effects			
Effect	Num DF	F Value	Pr > F
Model	12	2.11	0.0162
Intercept	1	2525.60	<.0001
hboard	12	2.11	0.0162

The denominator degrees of freedom for the F tests is 282.

Estimated Regression Coefficients				
Parameter	Estimate	Standard Error	t Value	Pr >  t
Intercept	0.3552802	0.02756873	12.89	<.0001
hboard Argyll & Clyde	-0.0177026	0.03735652	-0.47	0.6360
hboard Ayrshire & Arran	-0.0112130	0.03833806	-0.29	0.7701
hboard Borders	-0.0750299	0.04124841	-1.82	0.0700
hboard Dumfries & Gallo	-0.0511307	0.03844026	-1.33	0.1845
hboard Fife	-0.0048492	0.03354359	-0.14	0.8852
hboard Forth Valley	-0.0382969	0.03912242	-0.98	0.3285

hboard Grampian	-0.0577663	0.03456751	-1.67	0.0958
hboard Greater Glasgow	0.0097462	0.03711850	0.26	0.7931
hboard Highland	-0.0013095	0.03940732	-0.03	0.9735
hboard Islands	-0.1287106	0.04077304	-3.16	0.0018
hboard Lanarkshire	-0.0144802	0.03575148	-0.41	0.6858
hboard Lothian	-0.0536622	0.03307519	-1.62	0.1058
hboard Tayside	0.0000000	0.00000000	.	.

The denominator degrees of freedom for the t tests is 282.

Matrix X'WX is singular and a generalized inverse was used to solve the normal equations. Estimates are not unique.

Analysis of Estimable Functions				
Parameter	Estimate	Standard Error	t Value	Pr >  t
fife - lothian	0.04881295	0.02560928	1.91	0.0577

The denominator degrees of freedom for the t tests is 282.

**Only summary statistics for next model shown**

Tests of Model Effects			
Effect	Num DF	F Value	Pr > F
Model	50	7.35	<.0001
Intercept	1	518.66	<.0001
nofad	1	57.72	<.0001
age	11	3.38	0.0002

sex	1	1.57	0.2118
hboard	14	2.44	0.0030
age*sex	11	2.25	0.0123
nofad*sex	1	3.59	0.0592
nofad*age	11	1.73	0.0659

The denominator degrees of freedom for the F tests is 282.

**Now try smaller model as no interactions very important and show estimates**

Proportion smoking final model

The SURVEYREG Procedure

Regression Analysis for Dependent Variable smoker

Data Summary	
Number of Observations	9011
Sum of Weights	8965.2
Weighted Mean of smoker	0.33273
Weighted Sum of smoker	2983.0

Design Summary	
Number of Strata	30
Number of Clusters	312

Fit Statistics	
R-square	0.02932

Root MSE	0.4649
Denominator DF	282

Class Level Information			
Class Variable	Label	Levels	Values
age	Age of respondent in this quaire. The f	12	16-19 20-24 25-29 30-34 35-39 40-44 45-49 50-54 55-59 60-64 65-69 70-74
sex	Sex of respondent from household grid. O	2	female male
hboard	Health Board	13	Argyll & Clyde Ayrshire & Arran Borders Dumfries & Gallo Fife Forth Valley Grampian Greater Glasgow Highland Islands Lanarkshire Lothian Tayside

ANOVA for Dependent Variable smoker					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	25	58.356	2.334241	10.86	<.0001
Error	8985	1932.093	0.215035		
Corrected Total	9010	1990.449			

Tests of Model Effects			
Effect	Num DF	F Value	Pr > F
Model	25	9.66	<.0001
Intercept	1	598.78	<.0001

nofad	1	57.18	<.0001
age	11	16.09	<.0001
sex	1	4.97	0.0266
hboard	12	2.02	0.0224

The denominator degrees of freedom for the F tests is 282.

Estimated Regression Coefficients				
Parameter	Estimate	Standard Error	t Value	Pr >  t
Intercept	0.3436169	0.03260867	10.54	<.0001
nofad	-0.0646319	0.00854696	-7.56	<.0001
age 16-19	0.1677007	0.03215800	5.21	<.0001
age 20-24	0.2947956	0.03059422	9.64	<.0001
age 25-29	0.1883785	0.02444524	7.71	<.0001
age 30-34	0.2028625	0.02316742	8.76	<.0001
age 35-39	0.1587912	0.02171027	7.31	<.0001
age 40-44	0.1917139	0.02515712	7.62	<.0001
age 45-49	0.1878629	0.02587141	7.26	<.0001
age 50-54	0.1813417	0.02551403	7.11	<.0001
age 55-59	0.1719023	0.02636340	6.52	<.0001
age 60-64	0.1066663	0.02424566	4.40	<.0001
age 65-69	0.0530526	0.02280914	2.33	0.0207
age 70-74	0.0000000	0.00000000	.	.

sex female	-0.0245311	0.01100371	-2.23	0.0266
sex male	0.0000000	0.00000000	.	.
hboard Argyll & Clyde	-0.0201937	0.03575700	-0.56	0.5727
hboard Ayrshire & Arran	-0.0108332	0.03767507	-0.29	0.7739
hboard Borders	-0.0699819	0.03976373	-1.76	0.0795
hboard Dumfries & Gallo	-0.0461888	0.03735699	-1.24	0.2173
hboard Fife	-0.0086699	0.03344211	-0.26	0.7956
hboard Forth Valley	-0.0415115	0.03861112	-1.08	0.2832
hboard Grampian	-0.0566544	0.03471845	-1.63	0.1038
hboard Greater Glasgow	0.0070684	0.03610822	0.20	0.8449
hboard Highland	0.0027904	0.03817048	0.07	0.9418
hboard Islands	-0.1197127	0.04161082	-2.88	0.0043
hboard Lanarkshire	-0.0058080	0.03501387	-0.17	0.8684
hboard Lothian	-0.0615874	0.03237224	-1.90	0.0581
hboard Tayside	0.0000000	0.00000000	.	.

The denominator degrees of freedom for the t tests is 282.

Matrix  $X'WX$  is singular and a generalized inverse was used to solve the normal equations. Estimates are not unique.