The LOGISTIC Procedure

Model Information	
Data Set	WORK.REGRESSION
Response Variable	herd
Number of Response Levels	2
Model	binary logit
Optimization Technique	Fisher's scoring

Number of Observations Read	877
Number of Observations Used	876

Response Profile		
Ordered Value	**herd**	**Total Frequency**
1	No	182
2	Yes	694

Probability modeled is herd='No'.

Note: 1 observation was deleted due to missing values for the response or explanatory variables.

Model Convergence Status
Convergence criterion (GCONV=1E-8) satisfied.

Model Fit Statistics		
Criterion	**Intercept Only**	**Intercept and Covariates**
AIC	897.232	698.683
SC	902.007	760.763
-2 Log L	895.232	672.683

Testing Global Null Hypothesis: BETA=0			
Test	**Chi-Square**	**DF**	**Pr > ChiSq**
Likelihood Ratio	222.5491	12	<.0001
Score	184.5102	12	<.0001
Wald	127.3206	12	<.0001

The LOGISTIC Procedure

Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	22.9641	39.1714	0.3437	0.5577
tot_pop	1	-8.25E-6	4.86E-6	2.8830	0.0895
male_pct	1	-0.0103	0.0198	0.2696	0.6036
median_age	1	-0.00206	0.0144	0.0204	0.8865
hispanic_latino_pct	1	-0.2708	0.3921	0.4768	0.4899
white_pct	1	-0.2208	0.3921	0.3171	0.5734
black_pct	1	-0.2404	0.3980	0.3647	0.5459
aian_pct	1	-0.2128	0.3921	0.2944	0.5874
asian_pct	1	-0.3319	0.3950	0.7060	0.4008
nhopi_pct	1	-0.5645	0.4360	1.6768	0.1954
other_pct	1	-0.1105	0.1972	0.3139	0.5753
no_insurance_pct	1	0.0264	0.0130	4.0992	0.0429
bachelor_degree_pct	1	0.000041	0.00657	0.0000	0.9950

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
tot_pop	1.000	1.000	1.000
male_pct	0.990	0.952	1.029
median_age	0.998	0.970	1.027
hispanic_latino_pct	0.763	0.354	1.645
white_pct	0.802	0.372	1.729
black_pct	0.786	0.360	1.716
aian_pct	0.808	0.375	1.743
asian_pct	0.718	0.331	1.556
nhopi_pct	0.569	0.242	1.336
other_pct	0.895	0.608	1.318
no_insurance_pct	1.027	1.001	1.053
bachelor_degree_pct	1.000	0.987	1.013

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	83.3	Somers' D	0.667
Percent Discordant	16.5	Gamma	0.669
Percent Tied	0.2	Tau-a	0.220
Pairs	126308	c	0.834

The LOGISTIC Procedure

Partition for the Hosmer and Lemeshow Test					
		herd = No		herd = Yes	
Group	Total	Observed	Expected	Observed	Expected
1	88	0	0.42	88	87.58
2	88	0	1.73	88	86.27
3	88	2	2.86	86	85.14
4	88	7	5.15	81	82.85
5	88	11	9.06	77	78.94
6	88	18	14.99	70	73.01
7	88	22	23.10	66	64.90
8	88	26	32.47	62	55.53
9	88	42	41.25	46	46.75
10	84	54	50.97	30	33.03

Hosmer and Lemeshow Goodness-of-Fit Test		
Chi-Square	DF	Pr > ChiSq
6.9542	8	0.5416

The LOGISTIC Procedure

Model Information	
Data Set	WORK.REGRESSION
Response Variable	herd
Number of Response Levels	2
Model	binary logit
Optimization Technique	Fisher's scoring

Number of Observations Read	862
Number of Observations Used	861

Response Profile		
Ordered Value	**herd**	**Total Frequency**
1	No	279
2	Yes	582

Probability modeled is herd='No'.

Note: 1 observation was deleted due to missing values for the response or explanatory variables.

Model Convergence Status
Convergence criterion (GCONV=1E-8) satisfied.

Model Fit Statistics		
Criterion	**Intercept Only**	**Intercept and Covariates**
AIC	1086.651	826.159
SC	1091.409	888.014
-2 Log L	1084.651	800.159

Testing Global Null Hypothesis: BETA=0			
Test	**Chi-Square**	**DF**	**Pr > ChiSq**
Likelihood Ratio	284.4924	12	<.0001
Score	235.5881	12	<.0001
Wald	168.6177	12	<.0001

The LOGISTIC Procedure

Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	-8.9128	31.3379	0.0809	0.7761
tot_pop	1	-1.2E-6	2.029E-6	0.3469	0.5558
male_pct	1	0.0361	0.0181	3.9706	0.0463
median_age	1	-0.00975	0.0133	0.5339	0.4650
hispanic_latino_pct	1	0.0261	0.3129	0.0070	0.9335
white_pct	1	0.0816	0.3127	0.0681	0.7942
black_pct	1	0.0607	0.3161	0.0369	0.8477
aian_pct	1	0.0692	0.3137	0.0487	0.8254
asian_pct	1	-0.0291	0.3137	0.0086	0.9260
nhopi_pct	1	-0.0689	0.3313	0.0433	0.8351
other_pct	1	0.0365	0.1600	0.0520	0.8196
no_insurance_pct	1	0.0365	0.0145	6.3455	0.0118
bachelor_degree_pct	1	0.0137	0.00645	4.5046	0.0338

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
tot_pop	1.000	1.000	1.000
male_pct	1.037	1.001	1.074
median_age	0.990	0.965	1.017
hispanic_latino_pct	1.026	0.556	1.895
white_pct	1.085	0.588	2.003
black_pct	1.063	0.572	1.974
aian_pct	1.072	0.579	1.982
asian_pct	0.971	0.525	1.796
nhopi_pct	0.933	0.488	1.787
other_pct	1.037	0.758	1.419
no_insurance_pct	1.037	1.008	1.067
bachelor_degree_pct	1.014	1.001	1.027

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	83.4	Somers' D	0.670
Percent Discordant	16.4	Gamma	0.671
Percent Tied	0.1	Tau-a	0.294
Pairs	162378	c	0.835

The LOGISTIC Procedure

Partition for the Hosmer and Lemeshow Test					
		herd = No		herd = Yes	
Group	Total	Observed	Expected	Observed	Expected
1	86	2	1.44	84	84.56
2	86	4	3.54	82	82.46
3	86	7	6.43	79	79.57
4	86	4	11.83	82	74.17
5	86	23	19.16	63	66.84
6	86	29	28.87	57	57.13
7	86	36	38.76	50	47.24
8	86	52	47.90	34	38.10
9	86	55	55.18	31	30.82
10	87	67	65.89	20	21.11

Hosmer and Lemeshow Goodness-of-Fit Test		
Chi-Square	DF	Pr > ChiSq
8.5716	8	0.3797

The LOGISTIC Procedure

Model Information	
Data Set	WORK.REGRESSION
Response Variable	herd
Number of Response Levels	2
Model	binary logit
Optimization Technique	Fisher's scoring

Number of Observations Read	857
Number of Observations Used	856

Response Profile		
Ordered Value	**herd**	**Total Frequency**
1	No	305
2	Yes	551

Probability modeled is herd='No'.

Note: 1 observation was deleted due to missing values for the response or explanatory variables.

Model Convergence Status
Convergence criterion (GCONV=1E-8) satisfied.

Model Fit Statistics		
Criterion	**Intercept Only**	**Intercept and Covariates**
AIC	1116.965	821.227
SC	1121.717	883.006
-2 Log L	1114.965	795.227

Testing Global Null Hypothesis: BETA=0			
Test	**Chi-Square**	**DF**	**Pr > ChiSq**
Likelihood Ratio	319.7382	12	<.0001
Score	271.1970	12	<.0001
Wald	189.9920	12	<.0001

The LOGISTIC Procedure

Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	23.9151	37.3249	0.4105	0.5217
tot_pop	1	-6.94E-7	1.274E-6	0.2969	0.5858
male_pct	1	-0.00013	0.0185	0.0000	0.9946
median_age	1	-0.00557	0.0141	0.1556	0.6932
hispanic_latino_pct	1	-0.2981	0.3730	0.6387	0.4242
white_pct	1	-0.2319	0.3727	0.3872	0.5338
black_pct	1	-0.2400	0.3772	0.4046	0.5247
aian_pct	1	-0.1672	0.3744	0.1995	0.6551
asian_pct	1	-0.3109	0.3737	0.6923	0.4054
nhopi_pct	1	-0.2610	0.4012	0.4232	0.5153
other_pct	1	-0.1592	0.1882	0.7153	0.3977
no_insurance_pct	1	0.0780	0.0161	23.4565	<.0001
bachelor_degree_pct	1	0.0132	0.00643	4.1989	0.0404

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
tot_pop	1.000	1.000	1.000
male_pct	1.000	0.964	1.037
median_age	0.994	0.967	1.022
hispanic_latino_pct	0.742	0.357	1.542
white_pct	0.793	0.382	1.646
black_pct	0.787	0.376	1.648
aian_pct	0.846	0.406	1.762
asian_pct	0.733	0.352	1.524
nhopi_pct	0.770	0.351	1.691
other_pct	0.853	0.590	1.233
no_insurance_pct	1.081	1.048	1.116
bachelor_degree_pct	1.013	1.001	1.026

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	84.3	Somers' D	0.687
Percent Discordant	15.6	Gamma	0.688
Percent Tied	0.1	Tau-a	0.315
Pairs	168055	c	0.843

The LOGISTIC Procedure

Partition for the Hosmer and Lemeshow Test					
		herd = No		herd = Yes	
Group	Total	Observed	Expected	Observed	Expected
1	86	3	2.02	83	83.98
2	86	3	4.28	83	81.72
3	86	6	7.87	80	78.13
4	86	18	13.68	68	72.32
5	86	17	22.04	69	63.96
6	86	34	31.14	52	54.86
7	86	36	41.36	50	44.64
8	86	55	52.42	31	33.58
9	86	64	61.07	22	24.93
10	82	69	69.11	13	12.89

Hosmer and Lemeshow Goodness-of-Fit Test		
Chi-Square	DF	Pr > ChiSq
7.1150	8	0.5243

The LOGISTIC Procedure

Model Information	
Data Set	WORK.REGRESSION
Response Variable	herd
Number of Response Levels	2
Model	binary logit
Optimization Technique	Fisher's scoring

Number of Observations Read	851
Number of Observations Used	850

Response Profile		
Ordered Value	**herd**	**Total Frequency**
1	No	229
2	Yes	621

Probability modeled is herd='No'.

Note: 1 observation was deleted due to missing values for the response or explanatory variables.

Model Convergence Status
Convergence criterion (GCONV=1E-8) satisfied.

Model Fit Statistics		
Criterion	**Intercept Only**	**Intercept and Covariates**
AIC	992.544	780.788
SC	997.289	842.476
-2 Log L	990.544	754.788

Testing Global Null Hypothesis: BETA=0			
Test	**Chi-Square**	**DF**	**Pr > ChiSq**
Likelihood Ratio	235.7564	12	<.0001
Score	196.0384	12	<.0001
Wald	140.6603	12	<.0001

The LOGISTIC Procedure

Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	10.8778	29.7774	0.1334	0.7149
tot_pop	1	8.955E-7	5.71E-7	2.4597	0.1168
male_pct	1	0.00533	0.0189	0.0798	0.7775
median_age	1	-0.00336	0.0133	0.0638	0.8006
hispanic_latino_pct	1	-0.1673	0.2967	0.3181	0.5727
white_pct	1	-0.1104	0.2964	0.1388	0.7095
black_pct	1	-0.0903	0.2997	0.0908	0.7631
aian_pct	1	-0.1082	0.2966	0.1331	0.7152
asian_pct	1	-0.2124	0.2976	0.5095	0.4754
nhopi_pct	1	0.1168	0.3294	0.1257	0.7229
other_pct	1	-0.0746	0.1506	0.2452	0.6205
no_insurance_pct	1	0.0547	0.0159	11.8226	0.0006
bachelor_degree_pct	1	0.0141	0.00647	4.7746	0.0289

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
tot_pop	1.000	1.000	1.000
male_pct	1.005	0.969	1.043
median_age	0.997	0.971	1.023
hispanic_latino_pct	0.846	0.473	1.513
white_pct	0.895	0.501	1.601
black_pct	0.914	0.508	1.644
aian_pct	0.897	0.502	1.605
asian_pct	0.809	0.451	1.449
nhopi_pct	1.124	0.589	2.143
other_pct	0.928	0.691	1.247
no_insurance_pct	1.056	1.024	1.090
bachelor_degree_pct	1.014	1.001	1.027

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	82.2	Somers' D	0.646
Percent Discordant	17.6	Gamma	0.647
Percent Tied	0.2	Tau-a	0.254
Pairs	142209	c	0.823

The LOGISTIC Procedure

Partition for the Hosmer and Lemeshow Test					
		herd = No		herd = Yes	
Group	Total	Observed	Expected	Observed	Expected
1	85	1	1.06	84	83.94
2	85	2	2.48	83	82.52
3	85	6	5.14	79	79.86
4	85	8	9.52	77	75.48
5	85	14	15.20	71	69.80
6	85	21	22.09	64	62.91
7	85	31	29.75	54	55.25
8	85	43	38.80	42	46.20
9	85	43	46.63	42	38.37
10	85	60	58.34	25	26.66

Hosmer and Lemeshow Goodness-of-Fit Test		
Chi-Square	DF	Pr > ChiSq
2.4074	8	0.9659

The LOGISTIC Procedure

Model Information	
Data Set	WORK.REGRESSION
Response Variable	herd
Number of Response Levels	2
Model	binary logit
Optimization Technique	Fisher's scoring

Number of Observations Read	855
Number of Observations Used	854

Response Profile		
Ordered Value	**herd**	**Total Frequency**
1	No	200
2	Yes	654

Probability modeled is herd='No'.

Note: 1 observation was deleted due to missing values for the response or explanatory variables.

Model Convergence Status
Convergence criterion (GCONV=1E-8) satisfied.

Model Fit Statistics		
Criterion	**Intercept Only**	**Intercept and Covariates**
AIC	931.651	743.396
SC	936.401	805.145
-2 Log L	929.651	717.396

Testing Global Null Hypothesis: BETA=0			
Test	**Chi-Square**	**DF**	**Pr > ChiSq**
Likelihood Ratio	212.2552	12	<.0001
Score	180.5545	12	<.0001
Wald	130.8620	12	<.0001

The LOGISTIC Procedure

Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	5.4787	32.9412	0.0277	0.8679
tot_pop	1	-5.64E-6	3.728E-6	2.2916	0.1301
male_pct	1	0.0203	0.0184	1.2189	0.2696
median_age	1	0.000643	0.0129	0.0025	0.9604
hispanic_latino_pct	1	-0.1106	0.3288	0.1131	0.7366
white_pct	1	-0.0626	0.3285	0.0363	0.8489
black_pct	1	-0.0609	0.3328	0.0335	0.8547
aian_pct	1	-0.0887	0.3289	0.0727	0.7875
asian_pct	1	-0.1607	0.3299	0.2373	0.6262
nhopi_pct	1	-0.1552	0.3480	0.1990	0.6556
other_pct	1	-0.0364	0.1662	0.0479	0.8267
no_insurance_pct	1	0.0452	0.0179	6.3652	0.0116
bachelor_degree_pct	1	0.00310	0.00668	0.2158	0.6423

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
tot_pop	1.000	1.000	1.000
male_pct	1.020	0.984	1.058
median_age	1.001	0.976	1.026
hispanic_latino_pct	0.895	0.470	1.705
white_pct	0.939	0.493	1.788
black_pct	0.941	0.490	1.806
aian_pct	0.915	0.480	1.744
asian_pct	0.852	0.446	1.626
nhopi_pct	0.856	0.433	1.693
other_pct	0.964	0.696	1.336
no_insurance_pct	1.046	1.010	1.084
bachelor_degree_pct	1.003	0.990	1.016

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	81.9	Somers' D	0.639
Percent Discordant	17.9	Gamma	0.640
Percent Tied	0.2	Tau-a	0.230
Pairs	130800	c	0.820

The LOGISTIC Procedure

Partition for the Hosmer and Lemeshow Test					
		herd = No		herd = Yes	
Group	Total	Observed	Expected	Observed	Expected
1	85	2	0.84	83	84.16
2	85	1	2.57	84	82.43
3	85	3	4.23	82	80.77
4	85	6	7.01	79	77.99
5	85	11	11.35	74	73.65
6	85	20	17.88	65	67.12
7	85	26	25.10	59	59.90
8	85	36	33.71	49	51.29
9	85	45	41.46	40	43.54
10	89	50	55.85	39	33.15

Hosmer and Lemeshow Goodness-of-Fit Test		
Chi-Square	DF	Pr > ChiSq
6.0006	8	0.6472