

STAT455-HW03 Problem 3.15(c) Profile Likelihood

The LOGISTIC Procedure

Model Information	
Data Set	WORK.CANCER
Response Variable	response
Number of Response Levels	2
Weight Variable	count
Model	binary logit
Optimization Technique	Fisher's scoring

Number of Observations Read	4
Number of Observations Used	3
Sum of Weights Read	30
Sum of Weights Used	30

Response Profile			
Ordered Value	response	Total Frequency	Total Weight
1	normal	1	7.000000
2	abnormal	2	23.000000
	noromal	.	.

Probability modeled is response='normal'.

Note: 1 observation having nonpositive frequency or weight was excluded since it does not contribute to the analysis.

Note: 1 response level was deleted due to missing or invalid values for its explanatory, frequency, or weight variables.

Class Level Information		
Class	Value	Design Variables
trtm	control	0
	pred	1

Model Convergence Status
Quasi-complete separation of data points detected.

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	34.596	24.728
SC	33.695	22.926
-2 Log L	32.596	20.728

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	11.8679	1	0.0006
Score	9.1304	1	0.0025
Wald	0.0403	1	0.8409

Type 3 Analysis of Effects

Effect	Type 3	Analysis of Variance	Wald	Effects
	DF	Chi-Square	Chi-Square	Pr > ChiSq
Effect	DF	Wald	Chi-Square	Pr > ChiSq
trtmnt	1		0.0403	0.8409

Analysis of Maximum Likelihood Estimates						
Parameter		DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	normal	1	-10.6202	52.2535	0.0413	0.8389
trtmnt	pred	1	10.4867	52.2560	0.0403	0.8409

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	50.0	Somers' D	0.500
Percent Discordant	0.0	Gamma	1.000
Percent Tied	50.0	Tau-a	0.333
Pairs	2	c	0.750

Odds Ratio Estimates and Profile-Likelihood Confidence Intervals				
Effect	Unit	Estimate	95% Confidence Limits	
trtmnt pred vs control	1.0000	>999.999	5.117	.

