### The SAS System

### The LOGISTIC Procedure

### **Model Information**

Data Set WORK.ANALYSIS1

**Response Variable** ecig\_3level

**Number of Response Levels** 3

**Model** cumulative logit

**Optimization Technique** Fisher's scoring

**Number of Observations Read** 199

**Number of Observations Used** 182

## **Response Profile**

Ordered	ecig_3level	Total
Value		Frequency
1	Current	45
2	Former	77
3	Never	60

Probabilities modeled are cumulated over the lower Ordered Values.

Note: 17 observations were deleted due to missing values for the response or explanatory variables.

### **Class Level Information**

Class	Value	Design	Varial	oles
ecig_health_hazard	Minor	1	0	0
	Moderate	0	1	0
	Not at all	0	0	0
	Serious	0	0	1
cig_3level	Current	1	0	
	Former	0	1	
	Never	0	0	

## **Model Convergence Status**

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

# Score Test for the Proportional Odds Assumption

**Chi-Square DF Pr > ChiSq**14.2237 9 0.1146

### **Model Fit Statistics**

# Criterion Intercept Only Intercept and Covariates AIC 395.391 387.887 SC 401.799 423.132 -2 Log L 391.391 365.887

## **Testing Global Null Hypothesis: BETA=0**

Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	25.5039	9	0.0025
Score	23.6418	9	0.0049
Wald	23.4345	9	0.0053

# **Type 3 Analysis of Effects**

Effect	DF	Wald Chi-Square	Pr > ChiSq
age	1	10.3966	0.0013
whitenonhisp	1	10.4430	0.0012
collegegrad	1	0.0712	0.7896
pregnant	1	4.5147	0.0336
cig_3level	2	0.9520	0.6213
ecig_health_hazard	3	3.1408	0.3704

# **Analysis of Maximum Likelihood Estimates**

Parameter		DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	Current	1	0.2058	1.1359	0.0328	0.8562
Intercept	Former	1	2.2360	1.1511	3.7731	0.0521
age		1	-0.0831	0.0258	10.3966	0.0013
whitenonhisp		1	1.1840	0.3664	10.4430	0.0012
collegegrad		1	-0.1077	0.4036	0.0712	0.7896
pregnant		1	-0.7187	0.3382	4.5147	0.0336
cig_3level	Current	1	0.5693	0.7706	0.5459	0.4600
cig_3level	Former	1	0.2456	0.8450	0.0845	0.7713
ecig_health_hazard	Minor	1	-0.1092	0.3989	0.0749	0.7843
ecig_health_hazard	Moderate	1	0.2150	0.4197	0.2625	0.6084
ecig_health_hazard	Serious	1	-0.7145	0.5677	1.5841	0.2082

### **Odds Ratio Estimates**

Effect	Point Estimate	95% V Confidence	
age	0.920	0.875	0.968
whitenonhisp	3.267	1.593	6.700
collegegrad	0.898	0.407	1.981
pregnant	0.487	0.251	0.946
cig_3level Current vs Never	1.767	0.390	8.002
cig_3level Former vs Never	1.278	0.244	6.697
ecig_health_hazard Minor vs Not at all	0.897	0.410	1.959
ecig_health_hazard Moderate vs Not at all	1.240	0.545	2.823
ecig_health_hazard Serious vs Not at all	0.489	0.161	1.489

# Association of Predicted Probabilities and Observed Responses

Percent Concordant 67.3 Somers' D 0.350 Percent Discordant 32.3 Gamma 0.352

# Association of Predicted Probabilities and Observed Responses

<b>Percent Tied</b>	0.4	Tau-a	0.229
Pairs	10785	c	0.675