

Tutorial #7B: Latent Class Growth Model Using an Active Covariate

If you already have the Final 3-class model open, skip to step 2 below.

Step 1: To open the previously saved model 'Final 3-class model', from the File menu:

- Select Open

To display the LatentGOLD saved definition files:

- From the 'Files of Type' drop down box, select 'LatentGOLD files'.

From the displayed list:

- Select 'Final 3-class model.lgf'

Your screen should look like this:

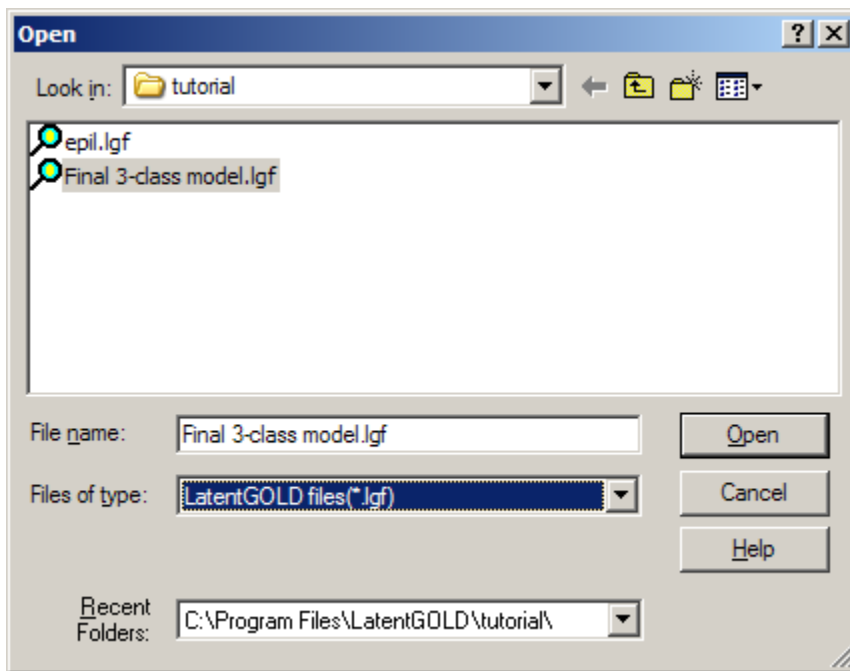


Figure 1: Opening the previously saved Final 3-class model.lgf

- Click 'Open'

From the Model menu, a check appears next to Regression, indicating that the saved model is a Regression model.

- Select Estimate to re-estimate this Regression model

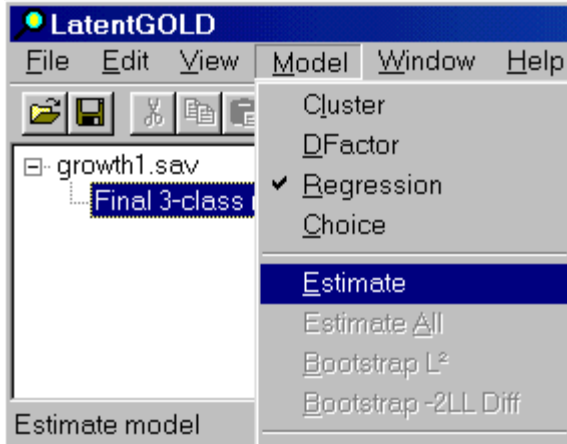


Figure 2. Selecting Estimate from the Model Menu

- Click Parameters to confirm that the model is the same as developed at the end of Tutorial 7A.

The screenshot shows the LatentGOLD software window with the Parameters Output table displayed. The left pane shows a project tree with 'growth1.sav', 'Final 3-class model - L² = 1', 'Parameters' (selected), 'Profile', 'ProbMeans', 'Standard Classification', and 'Model2'. The Parameters Output table is as follows:

Model for Dependent						
	Class1	Class2	Class3	Overall		
R ²	0.7541	0.5995	0.7892	0.8408		
Y	Class1	Class2	Class3	Wald	p-value	
Intercept						
	0.0399	-0.7211	0.7484	471.7407	6.3e-102	
Predictors	Class1	Class2	Class3	Wald	p-value	
TIME						
1	0.0000	0.1061	0.1427	37.1965	1.6e-6	
2	0.0000	0.2903	-0.0490			
3	0.0000	-0.2651	0.2181			
4	0.0000	-0.1313	-0.3117			
LBASE						

Figure 3. Parameters Output

To Estimate a New model,

- Double Click on Model2 to open the Variables Tab
- Right-click on TRT to retrieve the covariate scale type menu
- Select Active to change TRT to become an Active Covariate

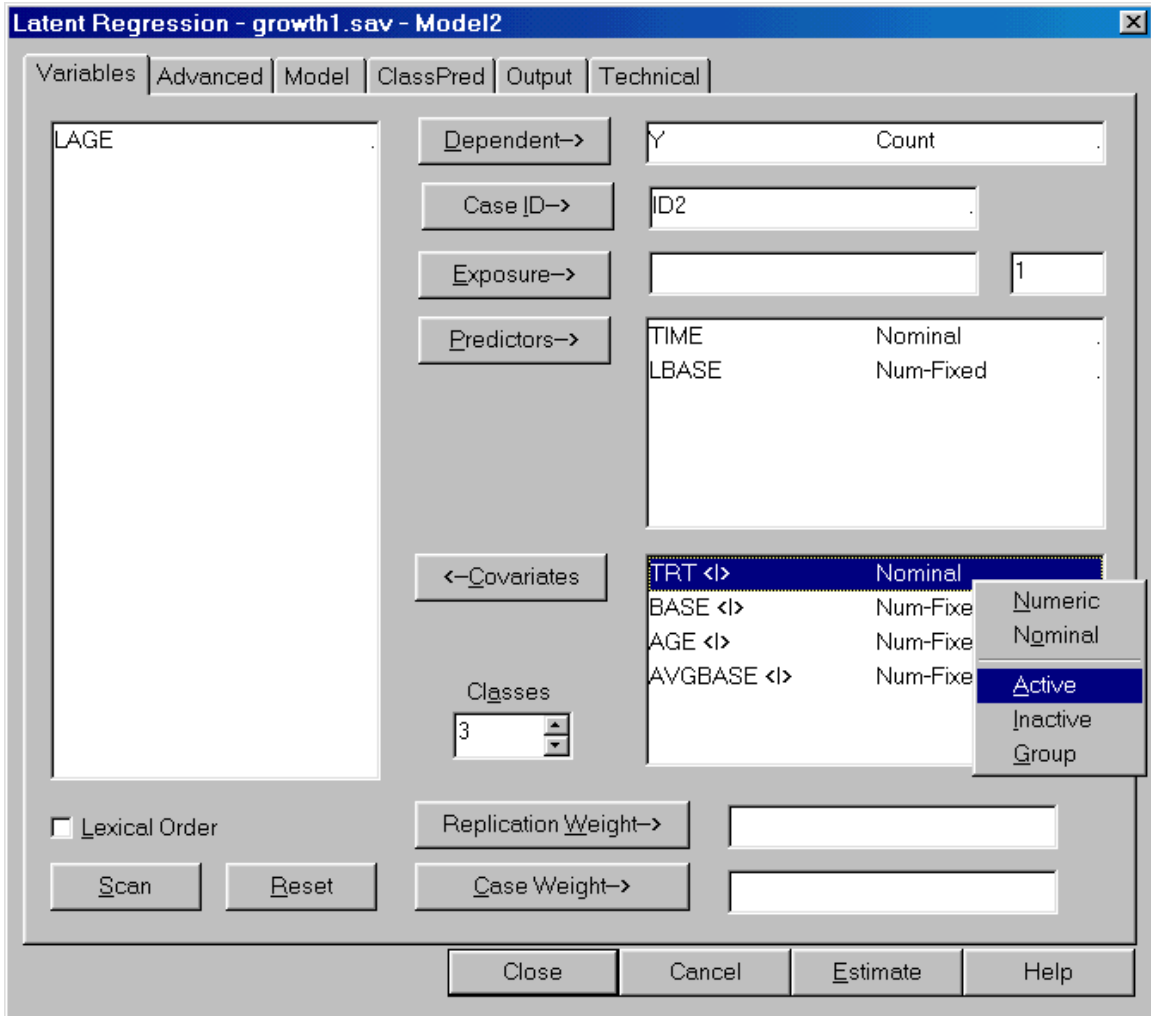


Figure 4. Changing TRT to Active

- Click Estimate

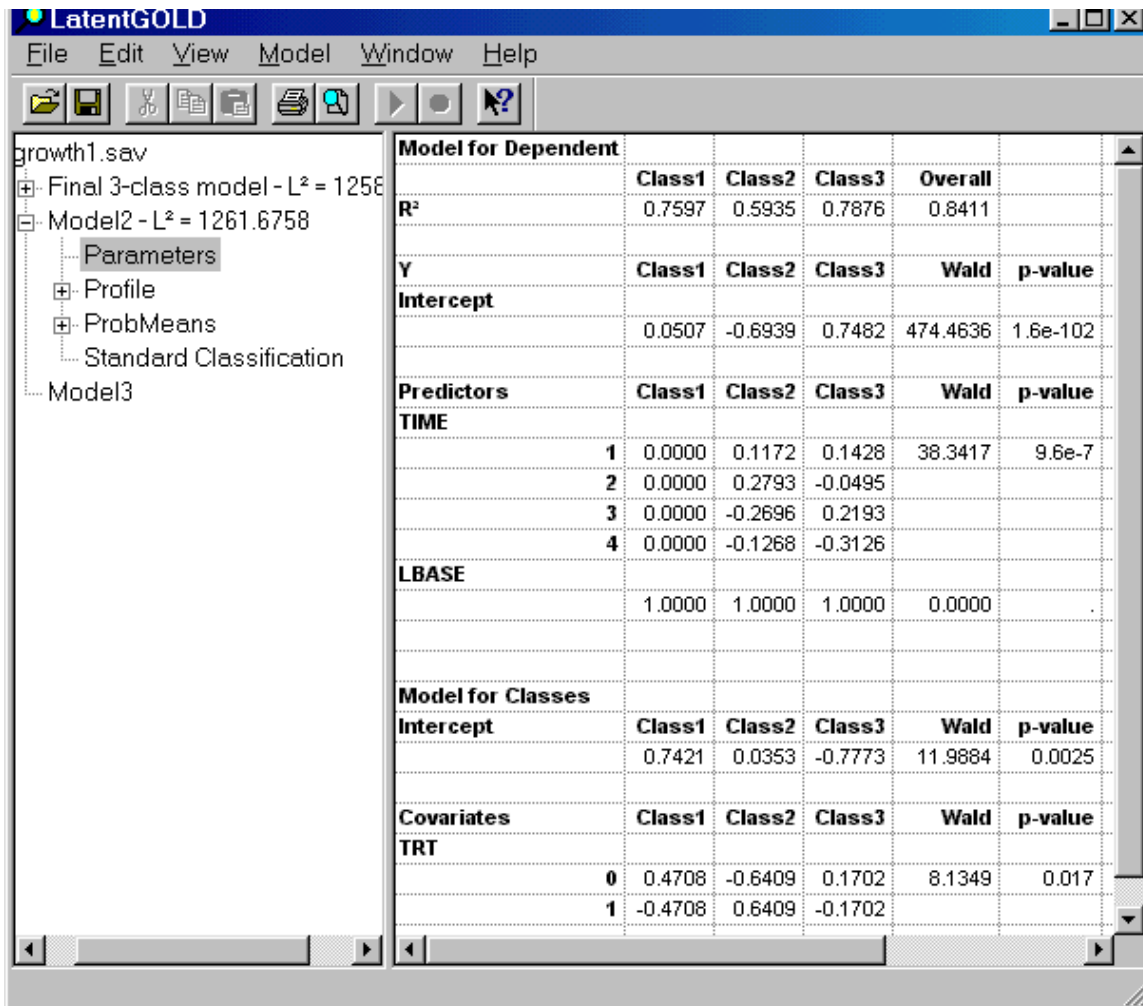


Figure 5. Parameters Output for Model 2

The estimates are very similar to the ones obtained before, but now we also see that the null hypothesis that the treatment and placebo groups have the same probabilities of being in the classes is rejected ($p=0.017$).

An alternative approach is to test the significance of TRT (and the other covariates) without altering the *inactive* status of these covariates and therefore not changing the parameter estimates at all from the final 3-class model. To do this, we will use the extended SI-CHAID program.

To re-estimate the model and setup the extended CHAID analysis:

- Double Click on 'Final 3-class model'
- Click on ClassPred to Open the ClassPred tab
- Select CHAID
- Click Estimate

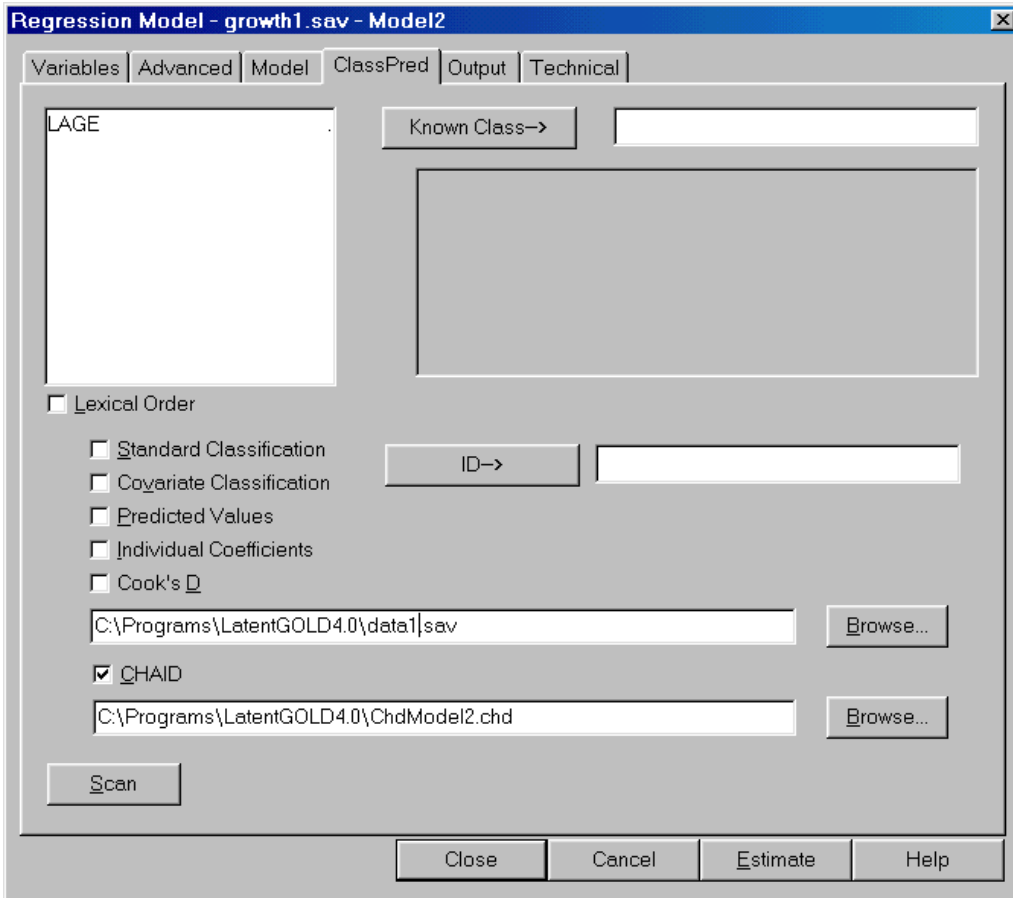


Figure 6. ClassPred Tab: CHAID option