

## APPENDIX D

### Model Specification

The linktest can be used to detect a specification error, and it is issued after the logit or logistic command. The idea behind specification error test is that if the model is properly specified, one should not be able to find any additional predictors that are statistically significant except by chance. After the regression command (in our case, logit or logistic), specification error test uses the linear predicted value ( $\widehat{Happy}$ ) and linear predicted value squared ( $\widehat{Happy}^2$ ) as the predictors to rebuild the model. The variable  $\widehat{Happy}$  and should be a statistically significant predictor, since it is the predicted value from the model. This will be the case unless the model is completely misspecified. On the other hand, if our model is properly specified, variable  $\widehat{Happy}^2$  shouldn't have much predictive power except by chance. Therefore, if  $\widehat{Happy}^2$  is significant, then the specification error test is significant. This usually means that either we have omitted relevant variable(s) or our link function is not correctly specified. The results are show in following Figure

```

Ordered logistic regression      Number of obs   =      671
                                LR chi2(2)       =      91.96
                                Prob > chi2         =      0.0000
Log likelihood = -743.62281     Pseudo R2      =      0.0582
  
```

happy4	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
_hat	-.4754554	1.076856	-0.44	0.659	-2.586055	1.635144
_hatsq	.1054091	.0768215	1.37	0.170	-.0451583	.2559765
/cut1	-.0117338	3.769885			-7.400573	7.377105
/cut2	2.244077	3.781107			-5.166756	9.65491
/cut3	4.986748	3.767629			-2.39767	12.37117

The specification error test is no significant. This is an indication that the ordered logit model is suitable for the dataset in term of model specification.