Assignment 2 - Obama & Happiness - Discrete Choice Modelling

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Loading in Packages & Data

Table 1: Descriptives split by voting for Obama

		voted Obama				didn't vote Obama				combined			
		Mean	SD	N	Percent	Mean	SD	N	Percent	Mean	SD	N	Percent
Happiness	Very Happy			269	15.89			221	13.05			490	28.94
	Pretty Happy			622	36.74			355	20.97			977	57.71
	Not Too Happy			167	9.86			59	3.48			226	13.35
Bachelor or Graduate degrees of parents	0			787	46.49			475	28.06			1262	74.54
	1 or more			271	16.01			160	9.45			431	25.46
Sex	Male			420	24.81			310	18.31			730	43.12
	Female			638	37.68			325	19.20			963	56.88
Age		52.32	16.76	1058	62.49	56.00	16.31	635	37.51	53.70	16.68	1693	100.00
All				1058	62.49			635	37.51			1693	100.00

Comments: Data from the General Social Survey R package.

Model Estimaton & Odd Ratios

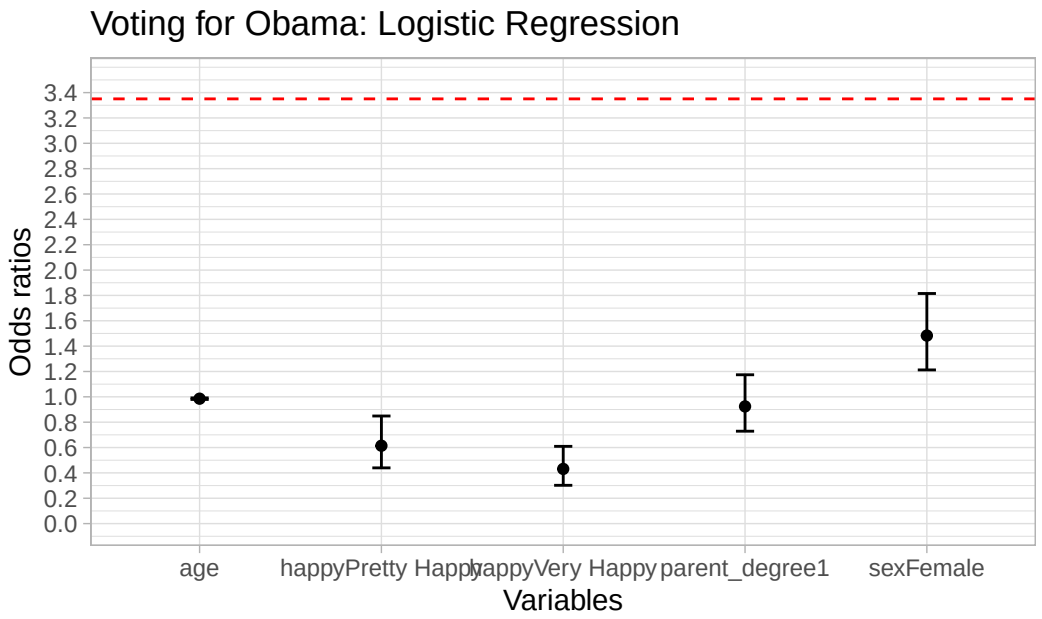
Table 2: Voting for Obama. Logistic probability models

	Model 1	Model 2	Model 3
(Intercept)	2.831***	2.803***	5.142***
	[2.117, 3.838]	[2.091, 3.809]	[3.189, 8.382]
happyVery Happy	0.430***	0.427***	0.431***
	[0.303, 0.605]	[0.300, 0.602]	[0.302, 0.609]
happyPretty Happy	0.619**	0.615**	0.614**
	[0.445, 0.852]	[0.442, 0.847]	[0.440, 0.849]
parent_degree1		1.061	0.924
		[0.845, 1.335]	[0.729, 1.174]
age			0.985***
			[0.979, 0.992]
sexFemale			1.483***
			[1.212, 1.815]
Num.Obs.	1693	1693	1693
AIC	2220.6	2222.3	2192.1
BIC	2236.9	2244.1	2224.7
Log.Lik.	−1107.301	−1107.172	−1090.037

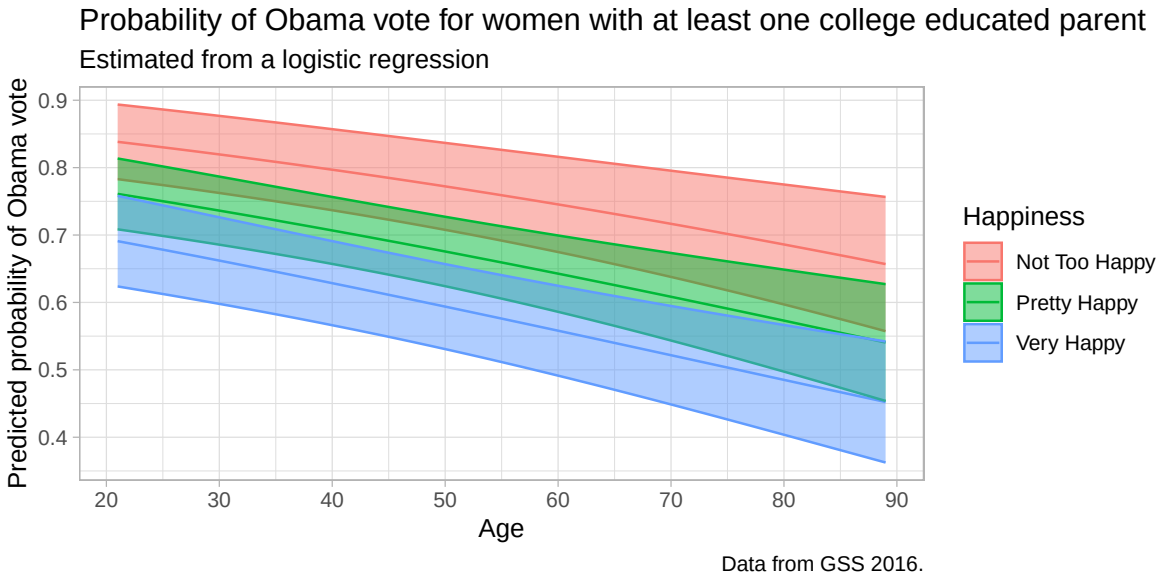
+ p < 0.1, * p < 0.05, ** p < 0.01, *** p < 0.001

Source: General Social Survey data from the socviz R package.

Comments: The reference cateogory for happy is 'Not Too Happy'.



Predicted Probabilities



Model Fit

Table 3: Voting for Obama: Model fit statistics

	Model 1	Model 2	Model 3
Nagelkerke's pseudo-R2	0.02044	0.02064	0.04754
Share of correct predictions	0.62493	0.62493	0.62788
Likelihood Ratio	NA	0.61086	3.6181e-08

Note: A prediction is considered correct when its probability is greater than 0.5. The Likelihood ratio is always calculated with the model to the left. Data from GSS 2016.

Conclusion