Assignment 2 - Obama & Happiness - Discrete Choice Modelling

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Loading in Packages & Data

Preparing Data & Descriptives

Table 1: Descriptives split by voting for Obama

		voted Obama			didn't vote Obama			combined		
		Mean	SD	Percent	Mean	SD	Percent	Mean	SD	Percent
Obama	voted Obama			60.26			0.00			60.26
	didn't vote Obama			0.00			39.74			39.74
Happiness	Very Happy			15.78			13.75			29.53
	Pretty Happy			36.29			22.61			58.90
	Not Too Happy			8.19			3.38			11.57
Bachelor or Graduate degrees of parents	1 or more			20.36			12.02			32.38
	0			39.89			27.72			67.62
Sex	Male			23.89			19.16			43.05
	Female			36.36			20.59			56.95
Age		52.84	16.67	60.26	55.48	16.10	39.74	53.89	16.49	100.00
All				60.26			39.74			100.00

Comments: Data from the General Social Survey R package.

Model Estimaton & Odd Ratios

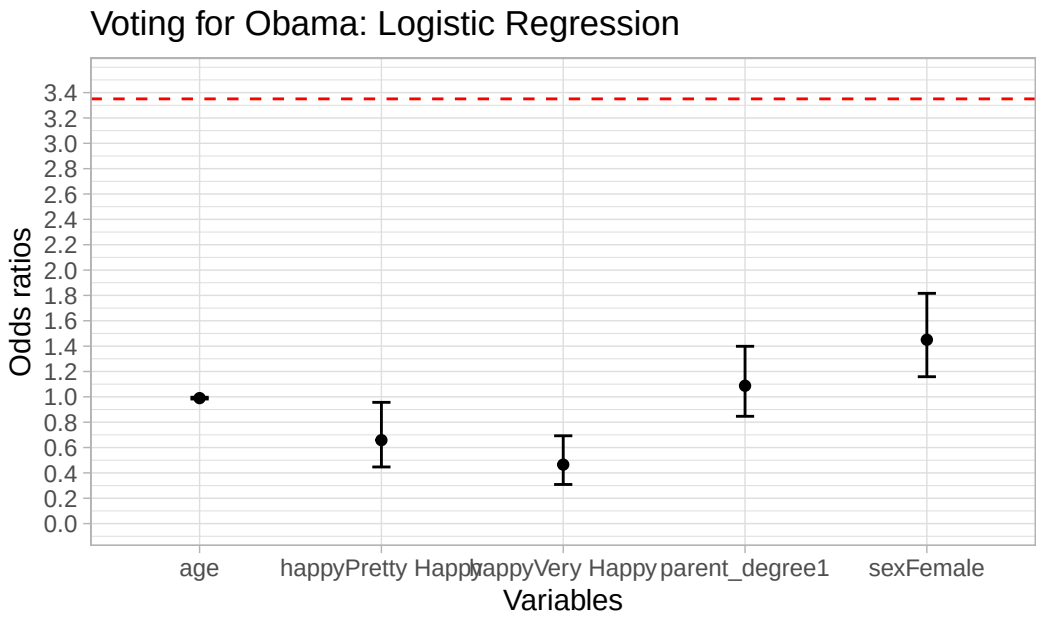
Table 2: Voting for Obama. Logistic probability models

	Model 1	Model 2	Model 3
(Intercept)	2.422***	2.316***	3.350***
	[1.724, 3.460]	[1.641, 3.322]	[1.922, 5.908]
happyVery Happy	0.474***	0.465***	0.465***
	[0.315, 0.703]	[0.309, 0.691]	[0.309, 0.693]
happyPretty Happy	0.662*	0.652*	0.658*
	[0.451, 0.959]	[0.444, 0.944]	[0.447, 0.956]
parent_degree1		1.207	1.087
		[0.952, 1.533]	[0.846, 1.399]
age			0.990**
			[0.983, 0.997]
sexFemale			1.450**
			[1.159, 1.816]
Num.Obs.	1331	1331	1331
AIC	1779.2	1778.8	1765.5
BIC	1794.8	1799.6	1796.7
Log.Lik.	−886.621	−885.416	−876.759

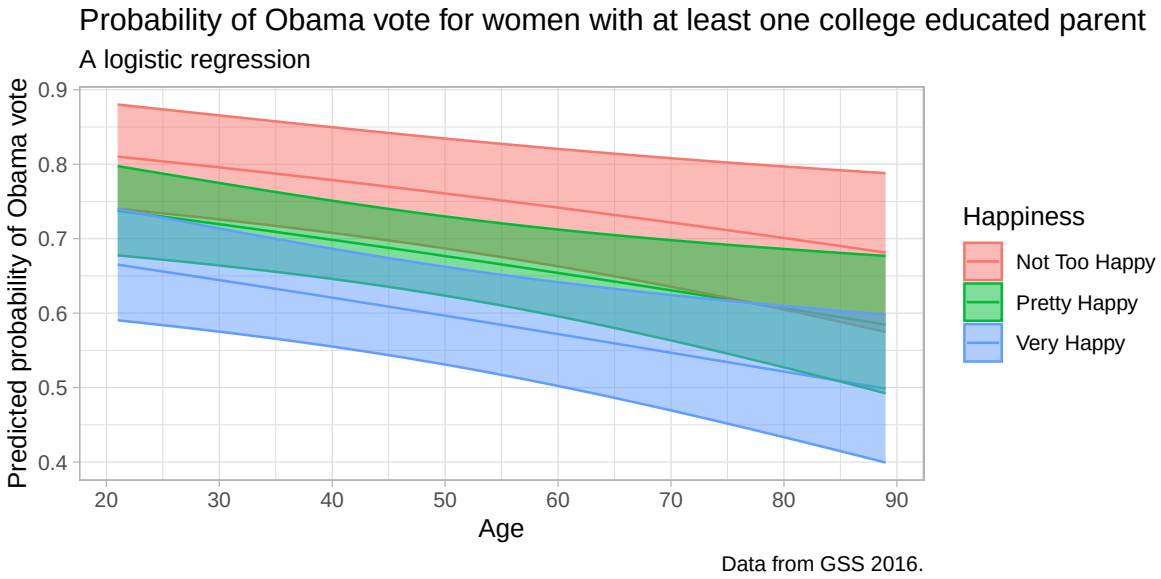
+ p < 0.1, * p < 0.05, ** p < 0.01, *** p < 0.001

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	0.0156848	0.0181043	0.0353545
Share of correct predictions	0.6025545	0.6025545	0.6063110
Likelihood Ratio	NA	0.1205225	0.0001739

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