

Handout: Ordinal Logistic Regression

ses * sex Crosstabulation

Count		sex		Total
		1.00	2.00	
ses	1.00	50	89	139
	2.00	144	155	299
	3.00	79	83	162
Total		273	327	600

ses * race Crosstabulation

Count		race				Total
		1.00	2.00	3.00	4.00	
ses	1.00	23	8	24	84	139
	2.00	34	14	24	227	299
	3.00	14	12	10	126	162
Total		71	34	58	437	600

Model Fitting Information

Model	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	1221.075			
Final	1148.593	72.482	6	.000

Link function: Logit.

Goodness-of-Fit

	Chi-Square	df	Sig.
Pearson	1148.222	1138	.410
Deviance	1125.438	1138	.599

Link function: Logit.

Pseudo R-Square

Cox and Snell	.114
Nagelkerke	.130
McFadden	.058

Link function: Logit.

Parameter Estimates

		Estimate	Std. Error	Wald	df	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Threshold	[ses = 1.00]	2.509	.555	20.422	1	.000	1.421	3.597
	[ses = 2.00]	4.927	.587	70.497	1	.000	3.777	6.077
Location	math	.043	.012	14.121	1	.000	.021	.066
	writing	.027	.011	5.833	1	.016	.005	.049
	[sex=1.00]	.456	.170	7.210	1	.007	.123	.788
	[sex=2.00]	0 ^a	.	.	0	.	.	.
	[race=1.00]	-.143	.255	.314	1	.575	-.644	.357
	[race=2.00]	-.151	.345	.193	1	.660	-.827	.524
	[race=3.00]	-.476	.279	2.910	1	.088	-1.024	.071
	[race=4.00]	0 ^a	.	.	0	.	.	.

Link function: Logit.

a. This parameter is set to zero because it is redundant.

Test of Parallel Lines^a

Model	-2 Log Likelihood	Chi-Square	df	Sig.
Null Hypothesis	1148.593			
General	1142.142	6.450	6	.375

The null hypothesis states that the location parameters (slope coefficients) are the same across response categories.

a. Link function: Logit.

ses * Predicted Response Category Crosstabulation

Count		Predicted Response Category			Total
		1.00	2.00	3.00	
ses	1.00	18	117	4	139
	2.00	10	259	30	299
	3.00	7	131	24	162
Total		35	507	58	600