

Ordinal: Groups with an ordering.

Nominal: Groups without an ordering.

Examples:

- Car air condition preferences: *little importance, important, very important*
- Laptop color preferences: *gray, green, pink, yellow*
- Course satisfaction: *poor, good, very good, excellent*
- Housing satisfaction: *low, medium, high*
- Breath: *normal, boarder line, abnormal*
- Political sympathies: *SV, Ap, Sp, V, KrF, H, Frp*

Laptop color preferences

Color preferences for people who buys a laptop.

Available colors: green, pink, yellow, gray

Explanatory variables: sex (M,F) and age (< 19, 19 – 65, > 65)

Model:

		Yellow	Green	Pink	Gray
Males	< 18	0.4	0.4	0.05	0.15
	18 – 65	0.2	0.3	0.02	0.48
	> 65	0.1	0.5	0.05	0.35
Females	< 18	0.3	0.3	0.3	0.1
	18 – 65	0.3	0.2	0.2	0.3
	> 65	0.3	0.2	0.3	0.2

Pearson chi-square residuals:

$$r_i = \frac{o_i - r_i}{\sqrt{e_i}}$$

Chi-square statistic: $X^2 = \sum_{i=1}^N r_i^2 \approx \chi^2(N - p)$

Deviance: $D = 2(l(b_{max}) - l(b))$
 $\approx \chi^2(N - p)$

Likelihood ratio chi-square statistic $C = 2(l(b) - l(b_{min}))$
 $\approx \chi^2(p - (J - 1))$

AIC: $AIC = -2l(\hat{\pi}; y) + 2p$