

Tetrachoric Correlation Report

First binary variable: school

Second binary variable: sex

Variable selection note: Existing binary variables were selected.

Summary:

variable_1	variable_2	variable_1_level_1	variable_1_level_2	variable_2_level_1	variable_2_level_2	sample_size
school	sex	GP	MS	F	M	649
tetrachoric_rho	standard_error	z_value	p_value	ci95_lower	ci95_upper	pearson_phi_for_observed_binary_scores
-0.1358958	0.06332929	-2.145861	0.0318841	-0.2600212	-0.01177042	-0.08304956
phi_p_value	chi_square_independence	chi_square_p_value	row_threshold_first_variable			
0.03440405	4.476302	0.03436801	0.3901088			
column_threshold_second_variable	negative_log_likelihood	second_derivative_for_se	effect_size_interpretation			
	0.2279017	856.468	249.3393	Weak	latent	association
	decision_alpha_0_05		continuity_note			

Statistically significant latent association No continuity correction was needed.

method_note

Base R maximum likelihood tetrachoric correlation from a 2 x 2 table; no psych package extraction is used.

Observed counts:

	F	M
GP	237	186
MS	146	80

Expected counts from fitted latent model:

	F	M
GP	237	186
MS	146	80

Interpretation:

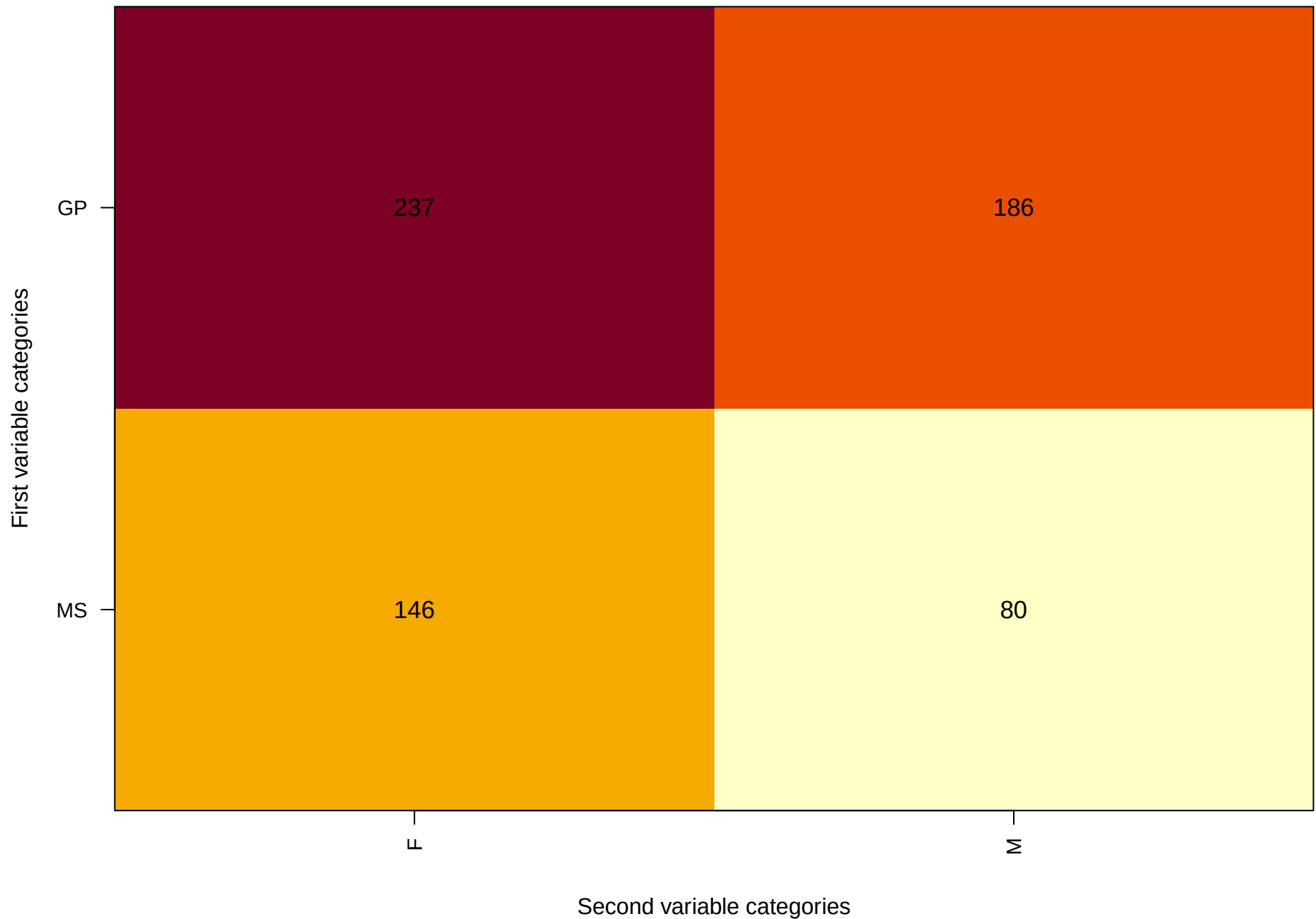
Tetrachoric rho = -0.1359, SE = 0.0633, p = 0.03188.

Effect size: Weak latent association

Decision: Statistically significant latent association

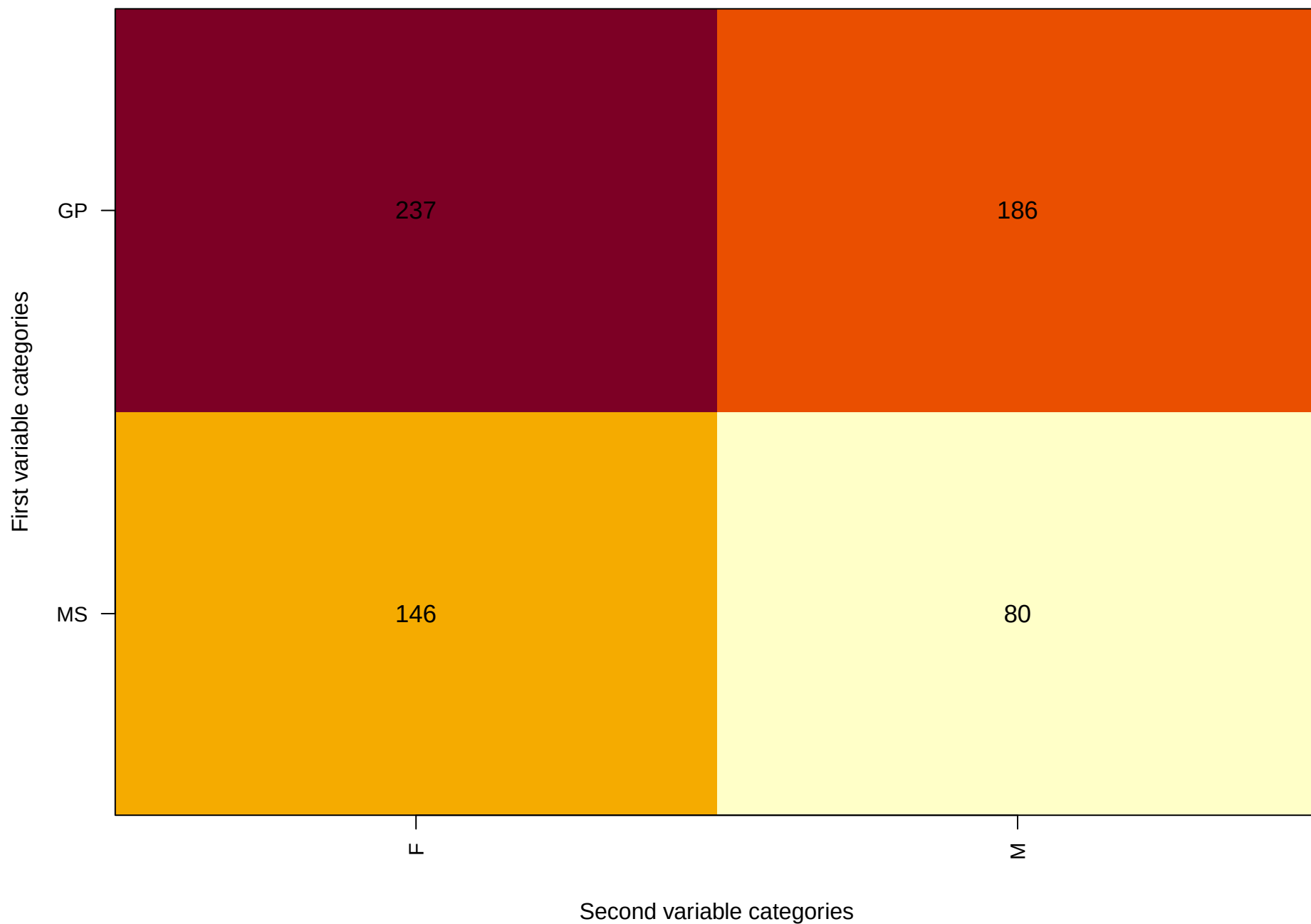
Tetrachoric Correlation: Colorful Observed 2 x 2 Table

The tetrachoric estimate is based on this binary cross-tabulation.



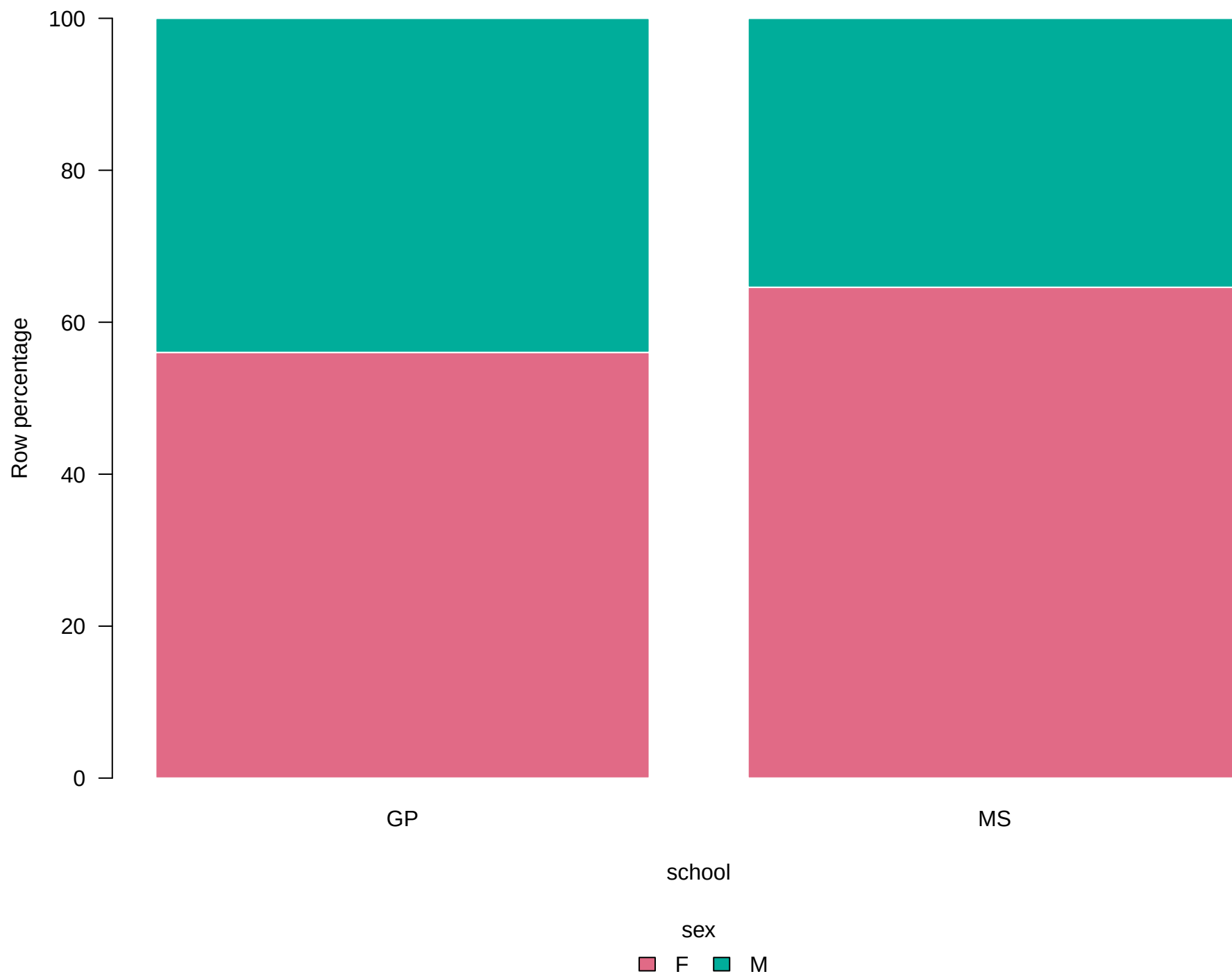
Tetrachoric Correlation: Colorful Expected Counts

Expected counts are calculated from the fitted latent bivariate normal model.



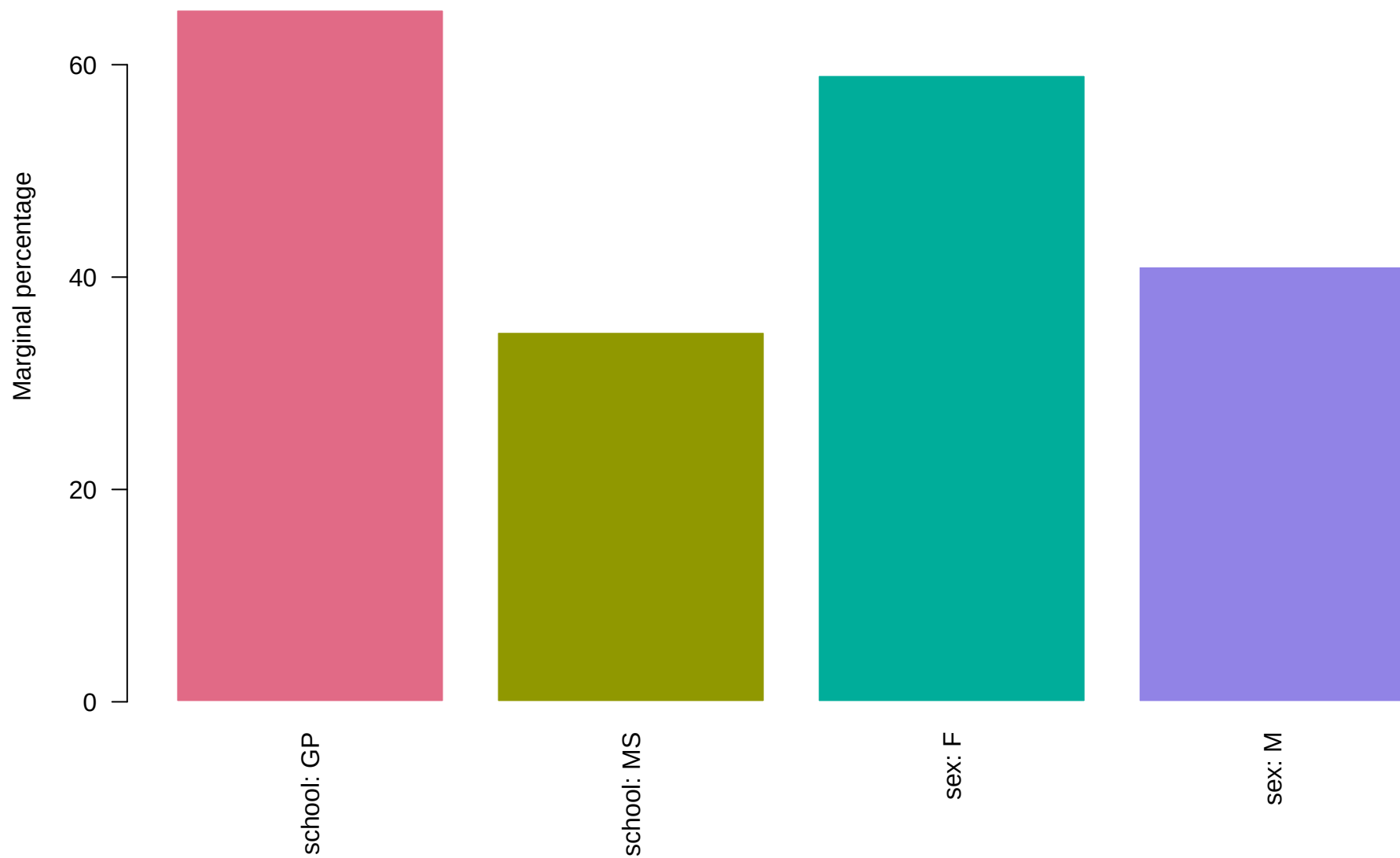
Tetrachoric Correlation: Colorful Row Percentage Pattern

Each row sums to 100%, showing how the second binary variable changes across the first.



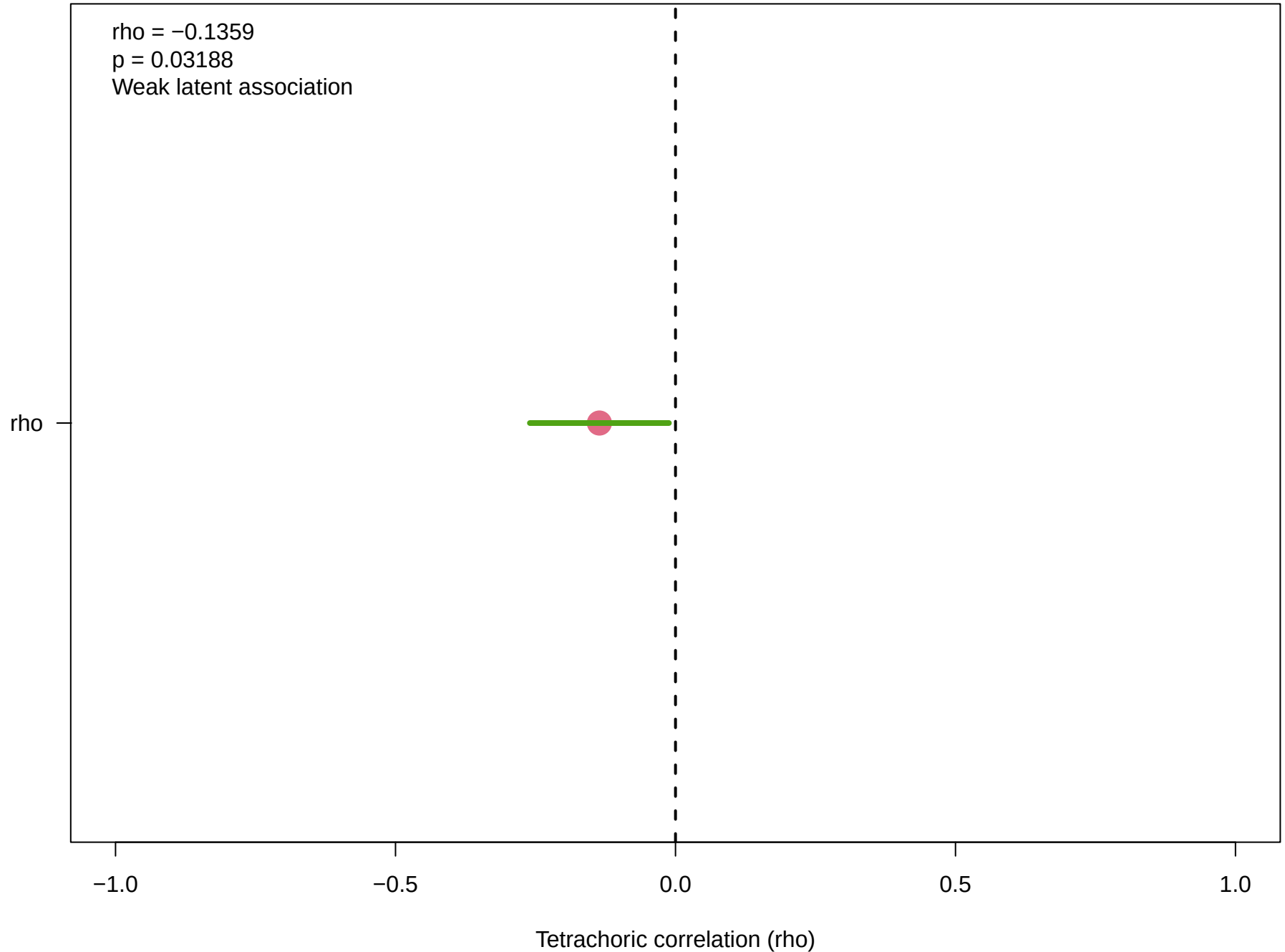
Tetrachoric Correlation: Colorful Marginal Percentages

Thresholds for the latent variables are estimated from these marginal percentages.



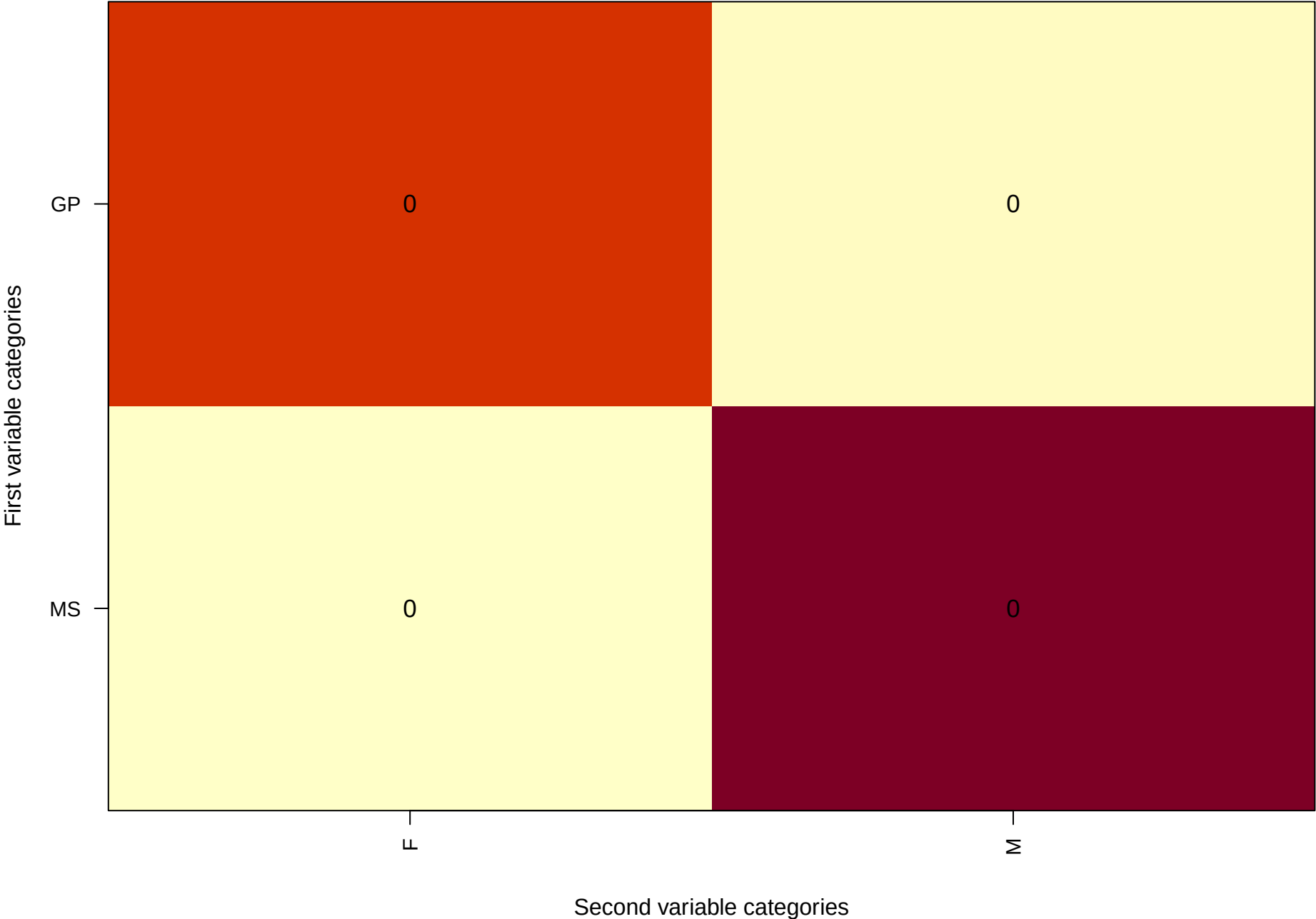
Tetrachoric Correlation: Colorful Latent Association Estimate

The point and interval summarize the latent correlation between two binary variables.



Tetrachoric Correlation: Colorful Standardized Residuals

Large absolute residuals show cells that differ most from the fitted latent model.



Tetrachoric Correlation: Colorful Binary Jitter Plot

Jitter separates overlapping binary points so the 2 x 2 pattern is visible.

