

Survey Analysis in R

Standalone verified Python analysis

Method: Survey Analysis in R

Method type: software_workflow

Design: R-survey-style post-stratified estimate that gives equal target weight to the four school-by-sex cells.

Variables: school, sex, famrel, freetime, goout, Dalc, Walc, health

Inference scope: No group-difference test is imposed; the task estimates a post-stratified mean, linearized standard error, and effective sample size.

Formula: $w_h = N / (H * n_h)$; $mean_w = \sum(w_i * y_i) / \sum(w_i)$; $SE = \sqrt{\sum(w_i^2 * (y_i - mean_w)^2) / (\sum(w_i))^2}$.

Source rows: 649

Calculated metrics:

weighted_scale_mean: 3.6582646675203065

linearized_standard_error: 0.02193665530685875

ci_low: 3.615268823118863

ci_high: 3.70126051192175

effective_sample_size: 552.7711926024875

poststrata: 4

unweighted_scale_mean: 3.674884437596302

Independent reference values:

weighted_scale_mean: 3.6582646675203065

linearized_standard_error: 0.02193665530685875

ci_low: 3.615268823118863

ci_high: 3.70126051192175

effective_sample_size: 552.7711926024875

poststrata: 4

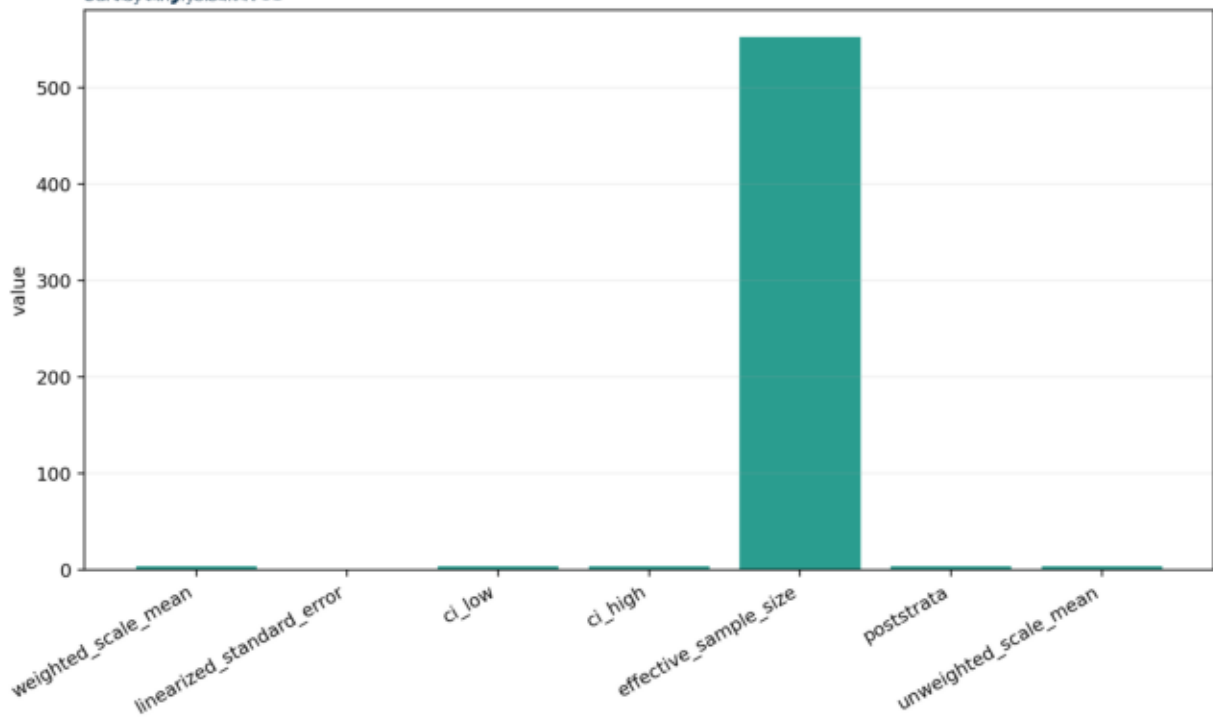
unweighted_scale_mean: 3.674884437596302

Interpretation:

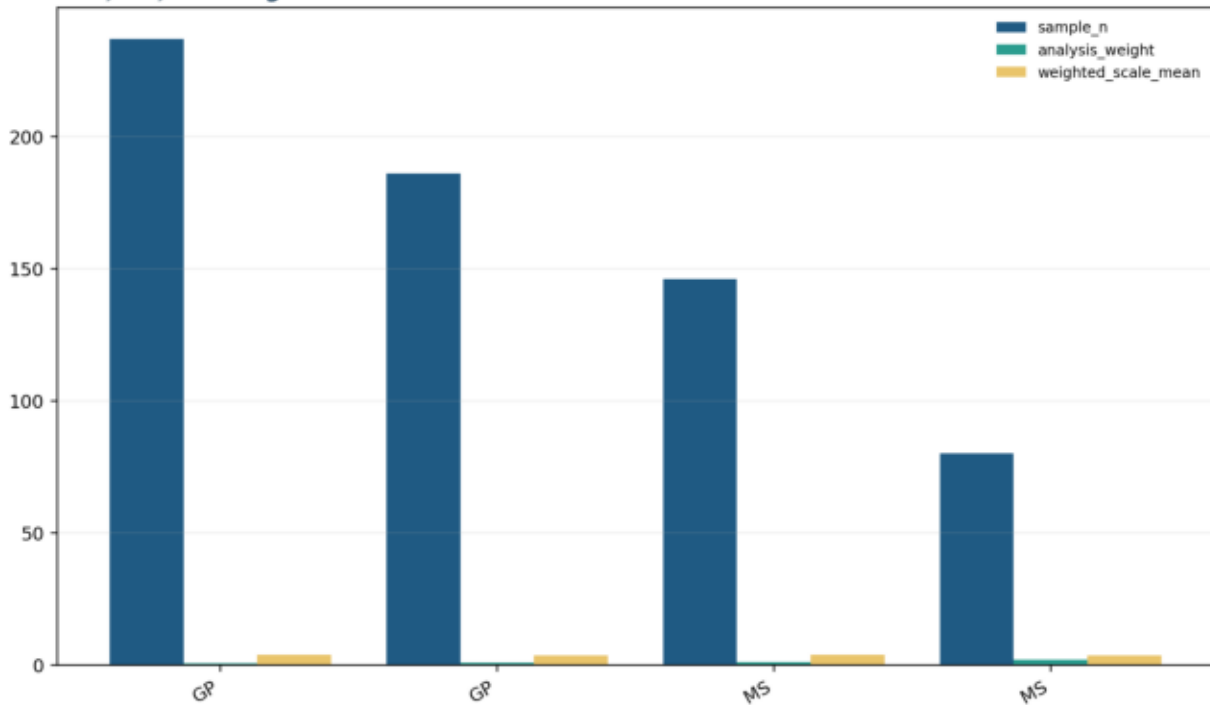
Four school-by-sex poststrata receive equal target weight.

Weighted mean=3.658265; effective n=552.771.

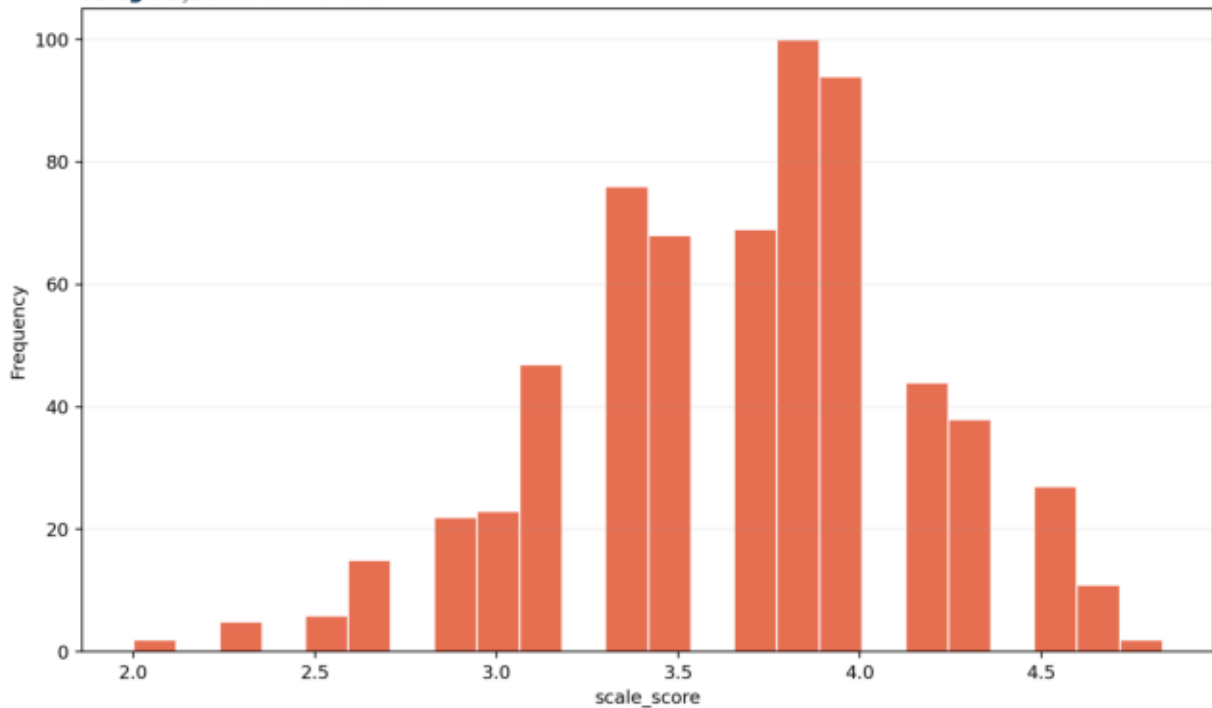
Primary Metrics



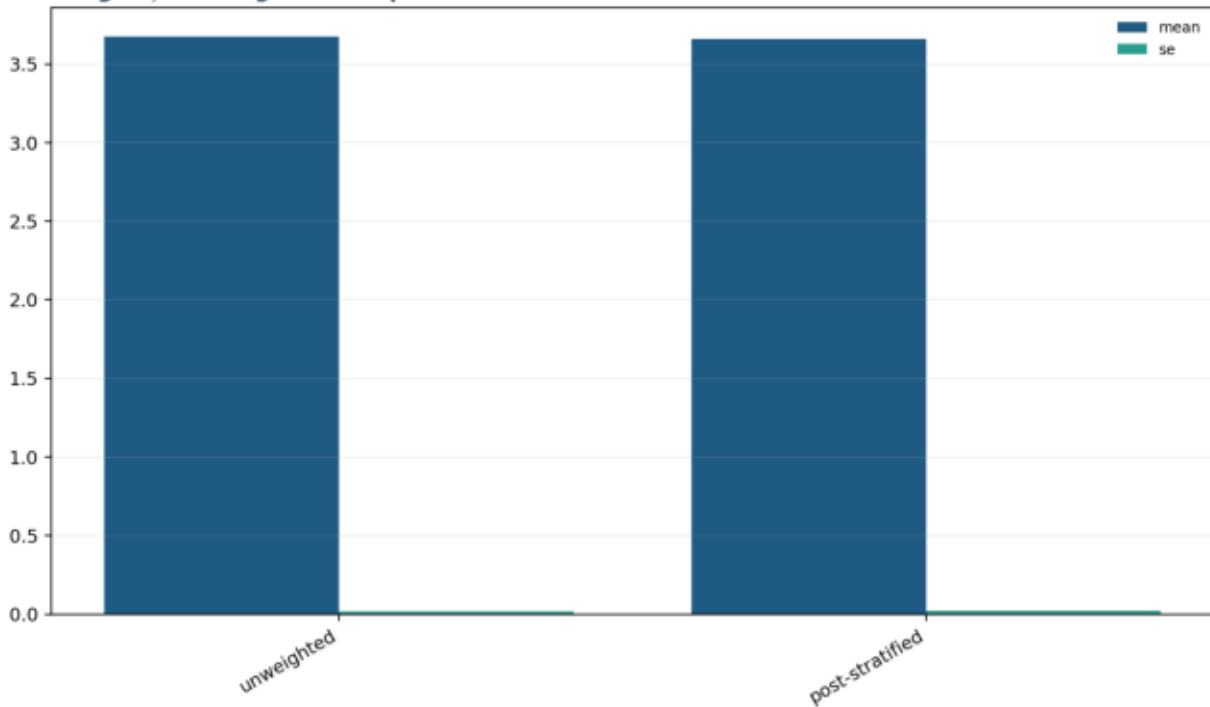
Poststratum Weights



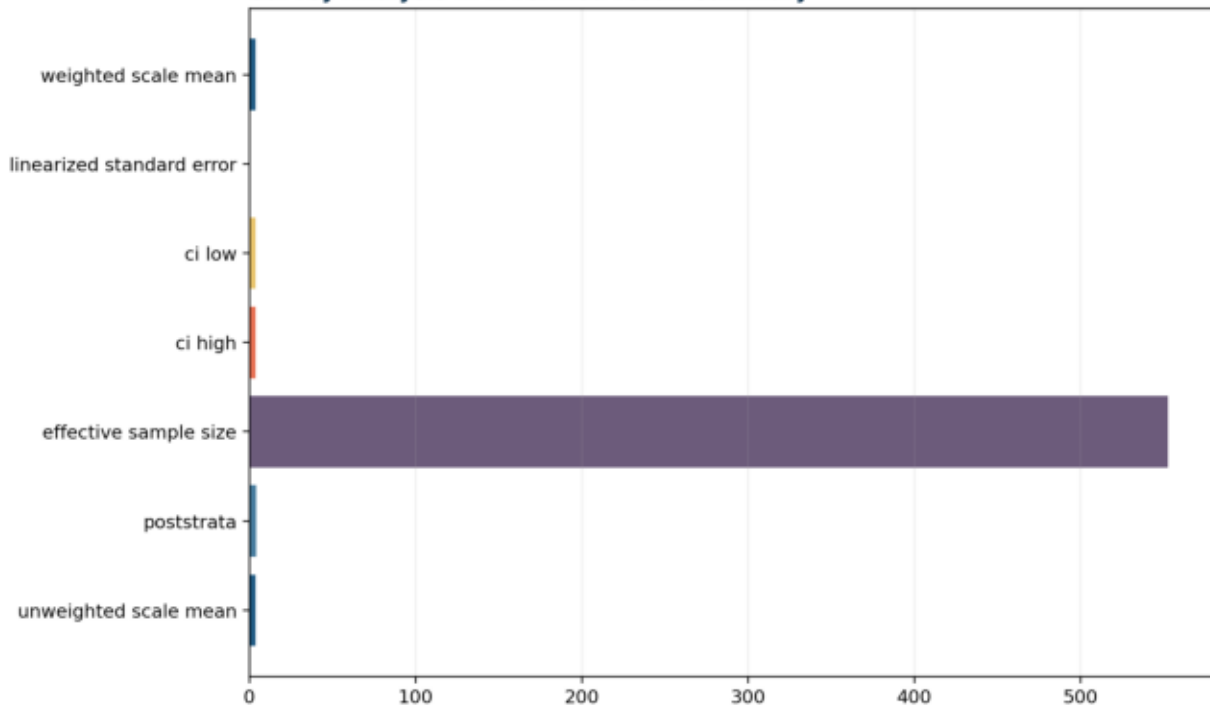
Weighted Score Preview



Weighted Unweighted Comparison



Survey Analysis in R verified result summary



Primary Metrics

metric	value
weighted_scale_mean	3.65826
linearized_standard_error	0.0219367
ci_low	3.61527
ci_high	3.70126
effective_sample_size	552.771
poststrata	4
unweighted_scale_mean	3.67488

Poststratum Weights

school	sex	sample_n	analysis_weight	weighted_scale_mean
GP	F	237	0.684599	3.69058
GP	M	186	0.872312	3.67921
MS	F	146	1.1113	3.71119
MS	M	80	2.02813	3.55208

Weighted Score Preview

school	sex	scale_score	weight	weighted_contribution
GP	F	4	0.684599	2.7384
GP	F	4	0.684599	2.7384
GP	F	3.16667	0.684599	2.1679
GP	F	3.66667	0.684599	2.5102
GP	F	3.83333	0.684599	2.6243
GP	M	4.16667	0.872312	3.63463
GP	M	4.16667	0.872312	3.63463
GP	F	3.33333	0.684599	2.282
GP	M	3.16667	0.872312	2.76232
GP	M	4.33333	0.872312	3.78002
GP	F	3.33333	0.684599	2.282
GP	F	3.83333	0.684599	2.6243
GP	M	3.83333	0.872312	3.34386
GP	M	4	0.872312	3.48925
GP	M	4	0.872312	3.48925
GP	F	3.83333	0.684599	2.6243
GP	F	3.16667	0.684599	2.1679
GP	F	4	0.684599	2.7384
GP	M	4.33333	0.872312	3.78002
GP	M	3.33333	0.872312	2.90771
GP	M	3.33333	0.872312	2.90771
GP	M	4.33333	0.872312	3.78002
GP	M	3.83333	0.872312	3.34386
GP	M	4	0.872312	3.48925
GP	F	4	0.684599	2.7384
GP	F	3	0.684599	2.0538

Weighted Unweighted Comparison

estimate	mean	se
unweighted	3.67488	0.0194279
post-stratified	3.65826	0.0219367