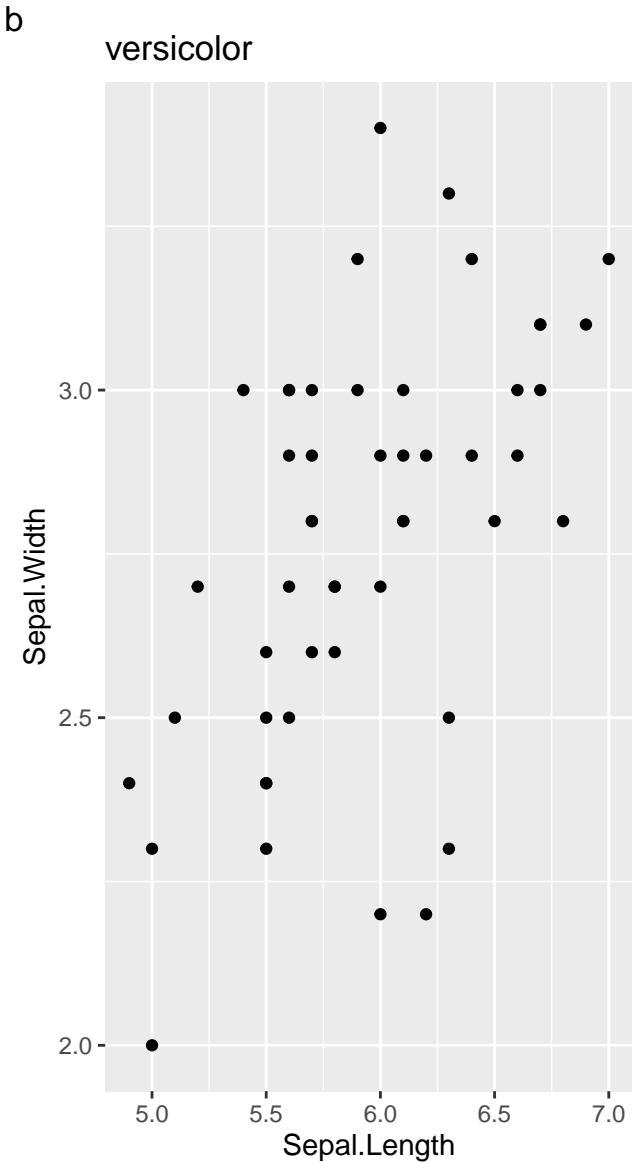
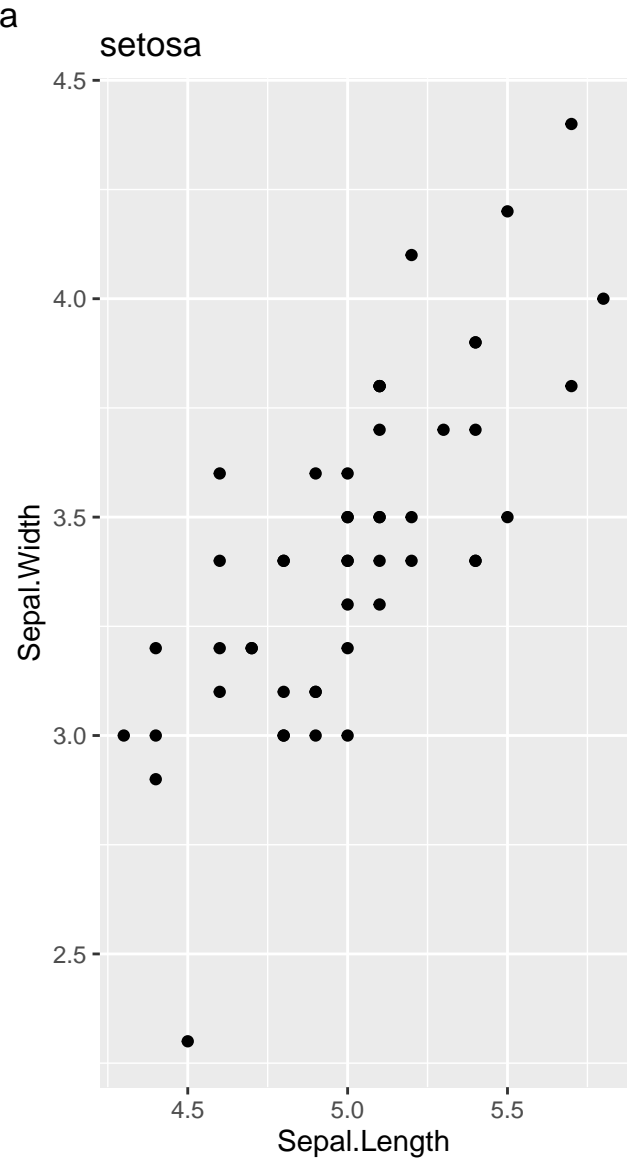
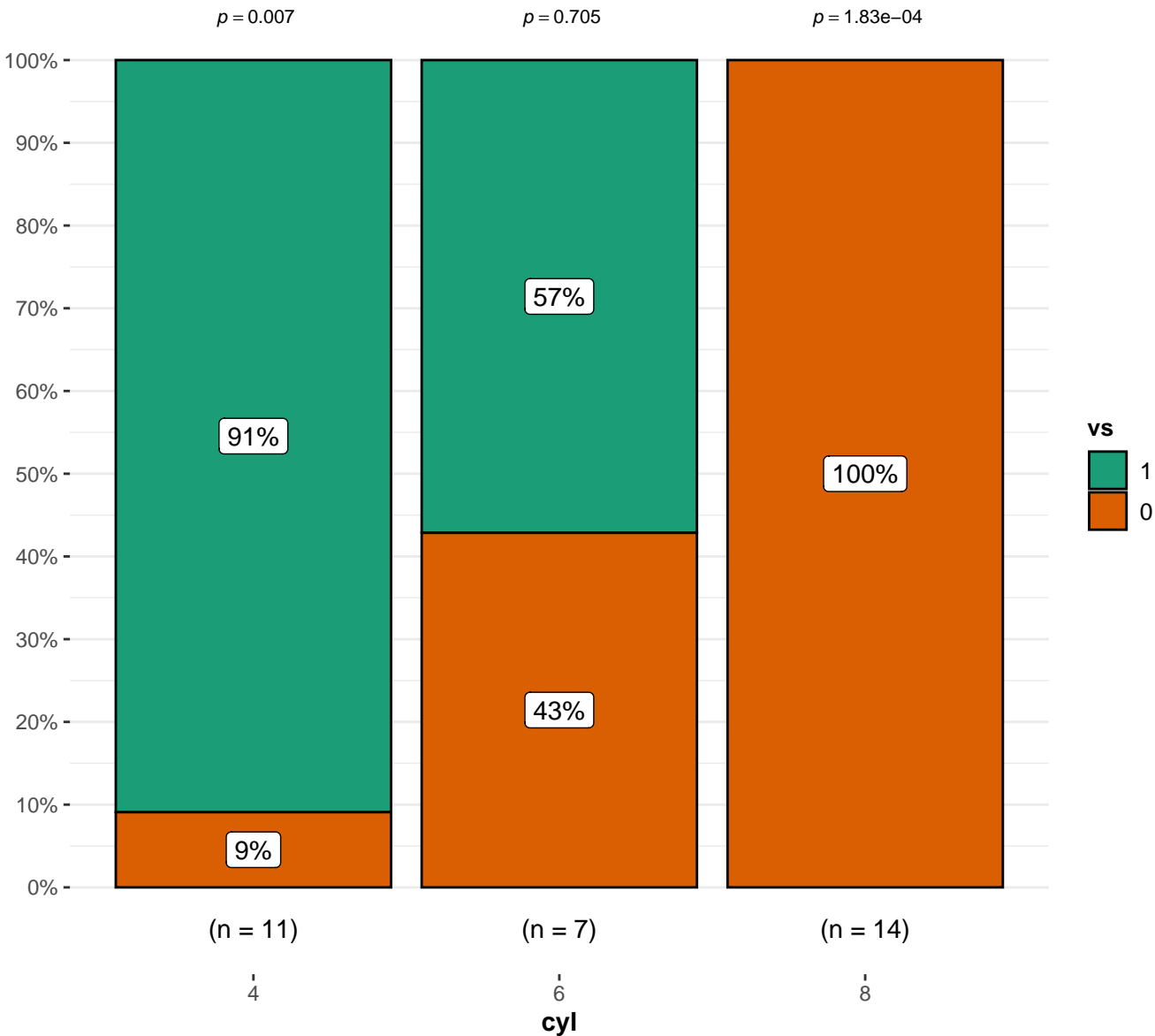


Dataset: Iris Flower dataset
Edgar Anderson collected this data



Note: Only two species of flower are displayed

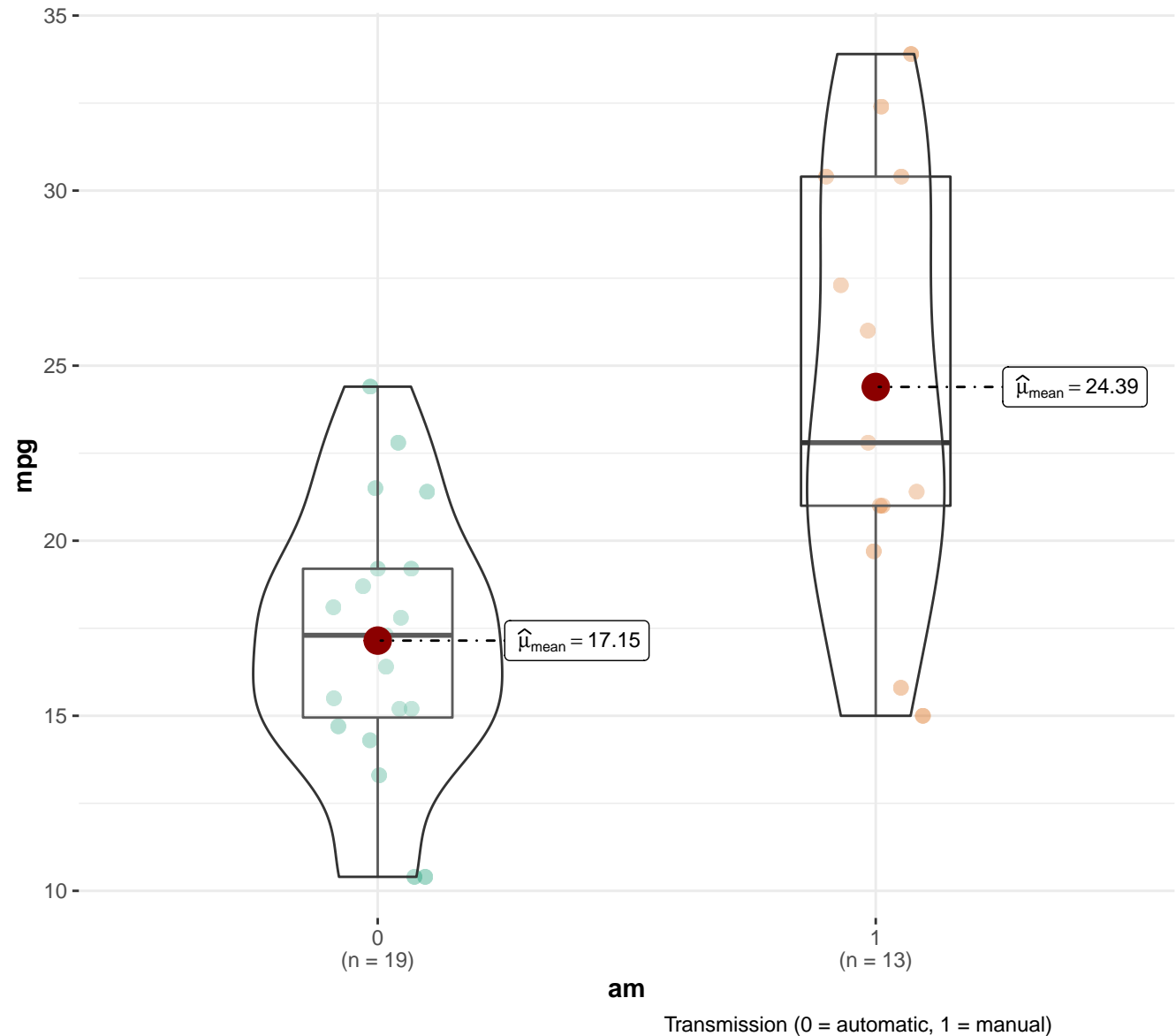
$\chi^2_{\text{Pearson}}(2) = 21.34$, $p = 2.32\text{e-}05$, $\hat{V}_{\text{Cramer}} = 0.79$, $\text{CI}_{95\%} [0.40, 1.11]$, $n_{\text{obs}} = 32$



$\log_e(\text{BF}_{01}) = -10.31$, $\hat{V}_{\text{median}}^{\text{posterior}} = 0.72$, $\text{CI}_{95\%}^{\text{HDI}} [0.52, 0.88]$, $a_{\text{Gunnel-Dickey}} = 1.00$

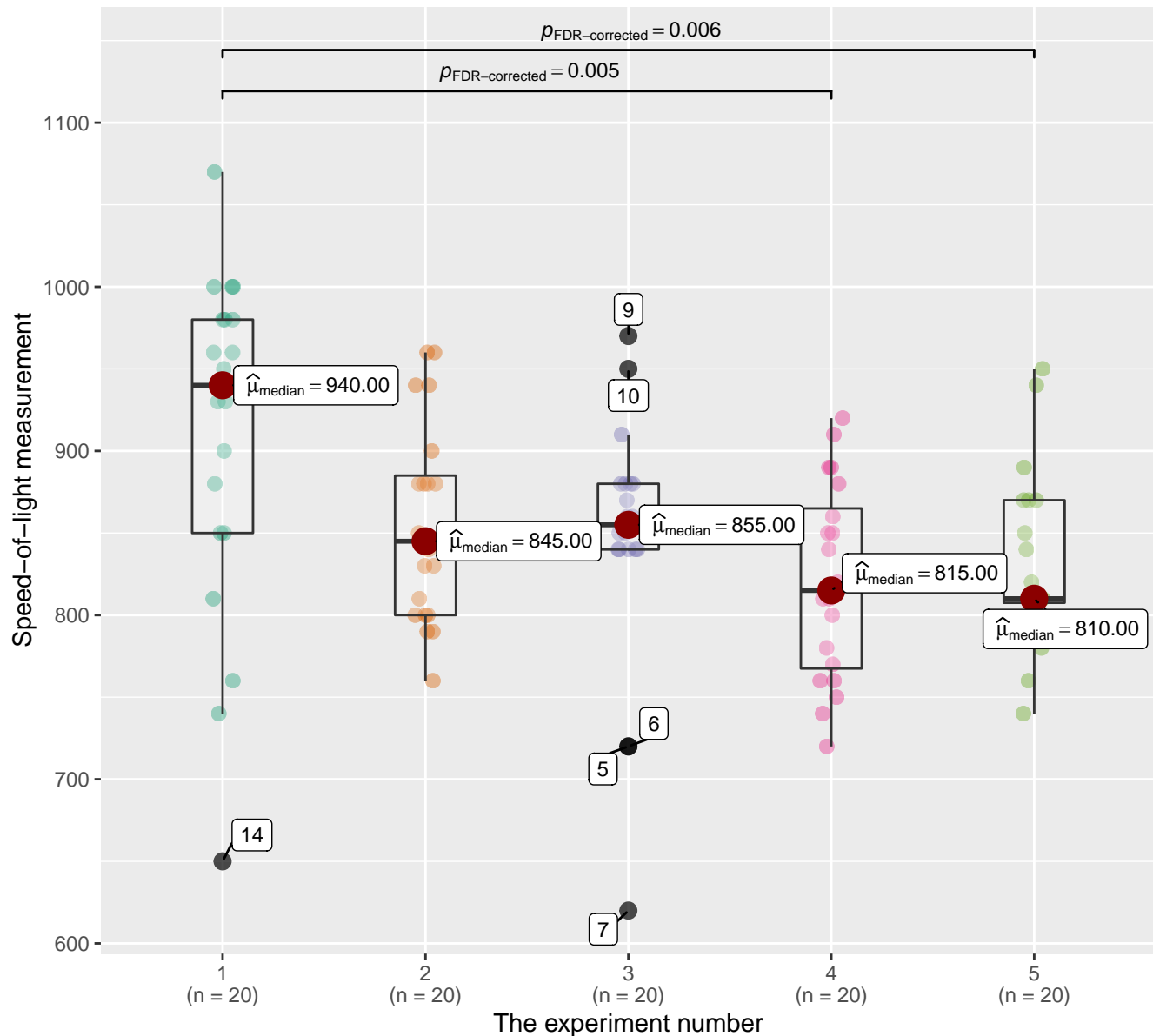
Fuel efficiency by type of car transmission

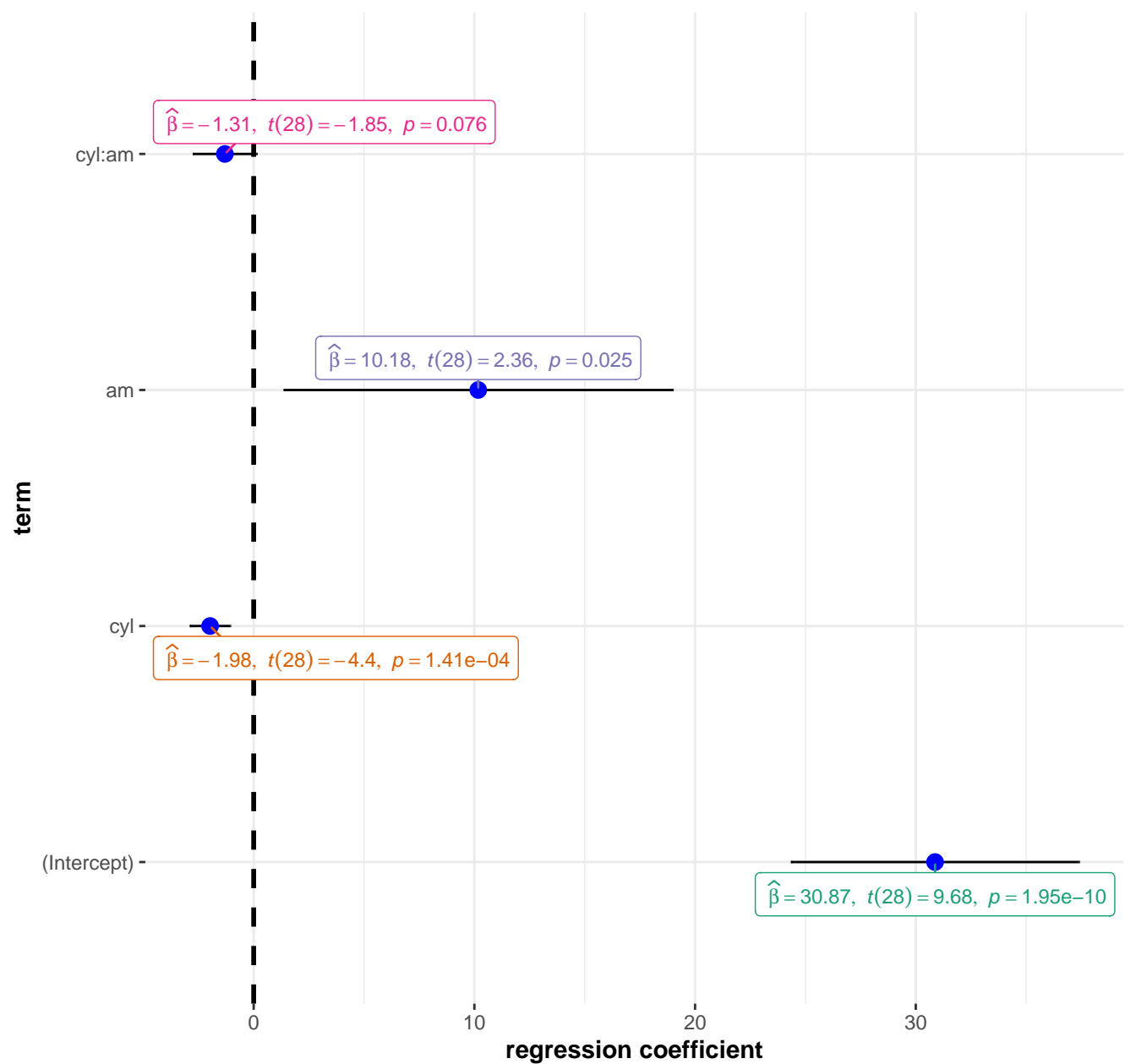
$t_{\text{Welch}}(18.33) = -3.77$, $p = 0.001$, $\hat{g}_{\text{Hedge}} = -1.44$, $\text{CI}_{95\%} [-2.21, -0.65]$, $n_{\text{obs}} = 32$



$\log_e(\text{BF}_{01}) = -4.46$, $\hat{\delta}_{\text{median}}^{\text{posterior}} = 6.44$, $\text{CI}_{95\%}^{\text{HDI}} [2.68, 10.05]$, $r_{\text{Cauchy}}^{\text{JZS}} = 0.71$

$\chi^2_{\text{Kruskal-Wallis}}(4) = 15.02$, $p = 0.005$, $\hat{\epsilon}^2_{\text{ordinal}} = 0.15$, $\text{CI}_{95\%} [0.05, 0.37]$, $n_{\text{obs}} = 100$





$z = 5.736$, $p = 9.68\text{e-}09$, $\hat{\beta}_{\text{summary}}^{\text{meta}} = 0.619$, $\text{CI}_{95\%} [0.407, 0.830]$, $n_{\text{effects}} = 5$

term

Oceania

$\hat{\beta} = 0.956$, $t(22) = 15.373$, $p = 2.99\text{e-}13$

Americas

$\hat{\beta} = 0.558$, $t(298) = 11.619$, $p = 5.45\text{e-}26$

Africa

$\hat{\beta} = 0.426$, $t(622) = 11.73$, $p = 7.6\text{e-}29$

Europe

$\hat{\beta} = 0.781$, $t(358) = 23.644$, $p = 4.05\text{e-}75$

Asia

$\hat{\beta} = 0.382$, $t(394) = 8.206$, $p = 3.29\text{e-}15$

0.0

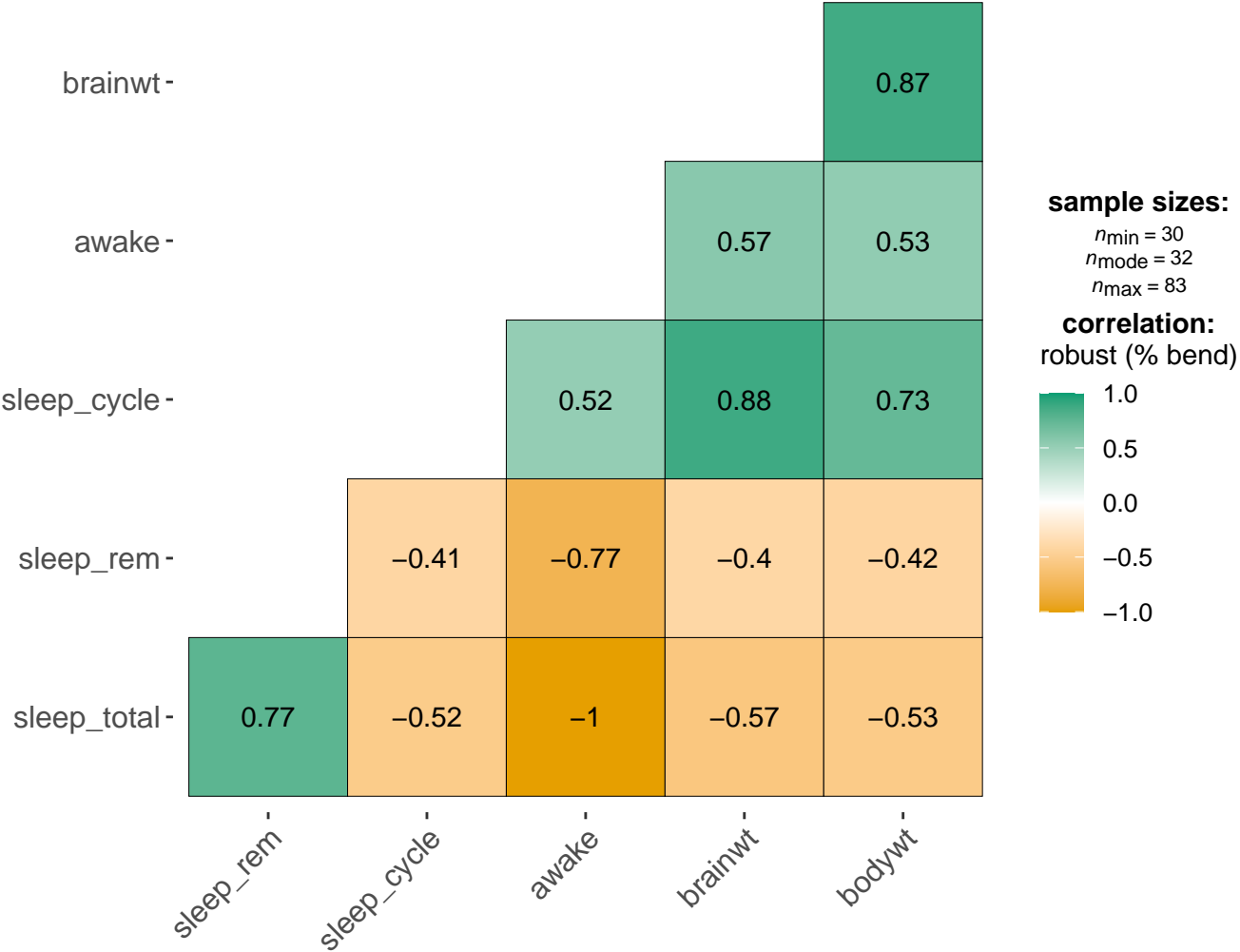
0.3

0.6

0.9

regression coefficient

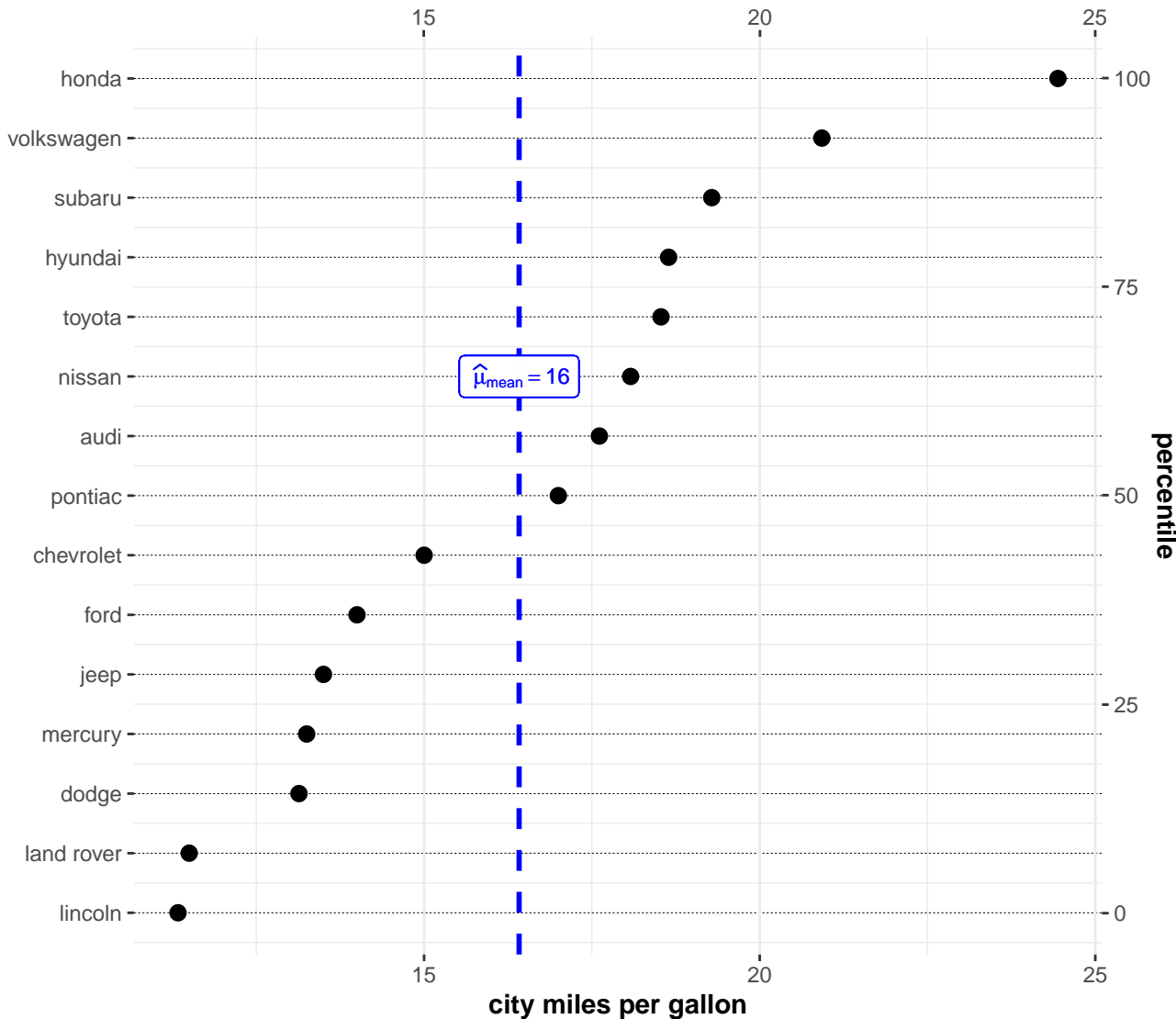
$\log_e(\text{BF}_{01}) = -3.587$, $\hat{\delta}_{\text{mean}}^{\text{posterior}} = 0.594$, $\text{CI}_{95\%}^{\text{HDI}} [0.331, 0.868]$, $r_{\text{Cauchy}}^{\text{JZS}} = 0.707$



X = non-significant at $p < 0.05$ (Adjustment: Holm)

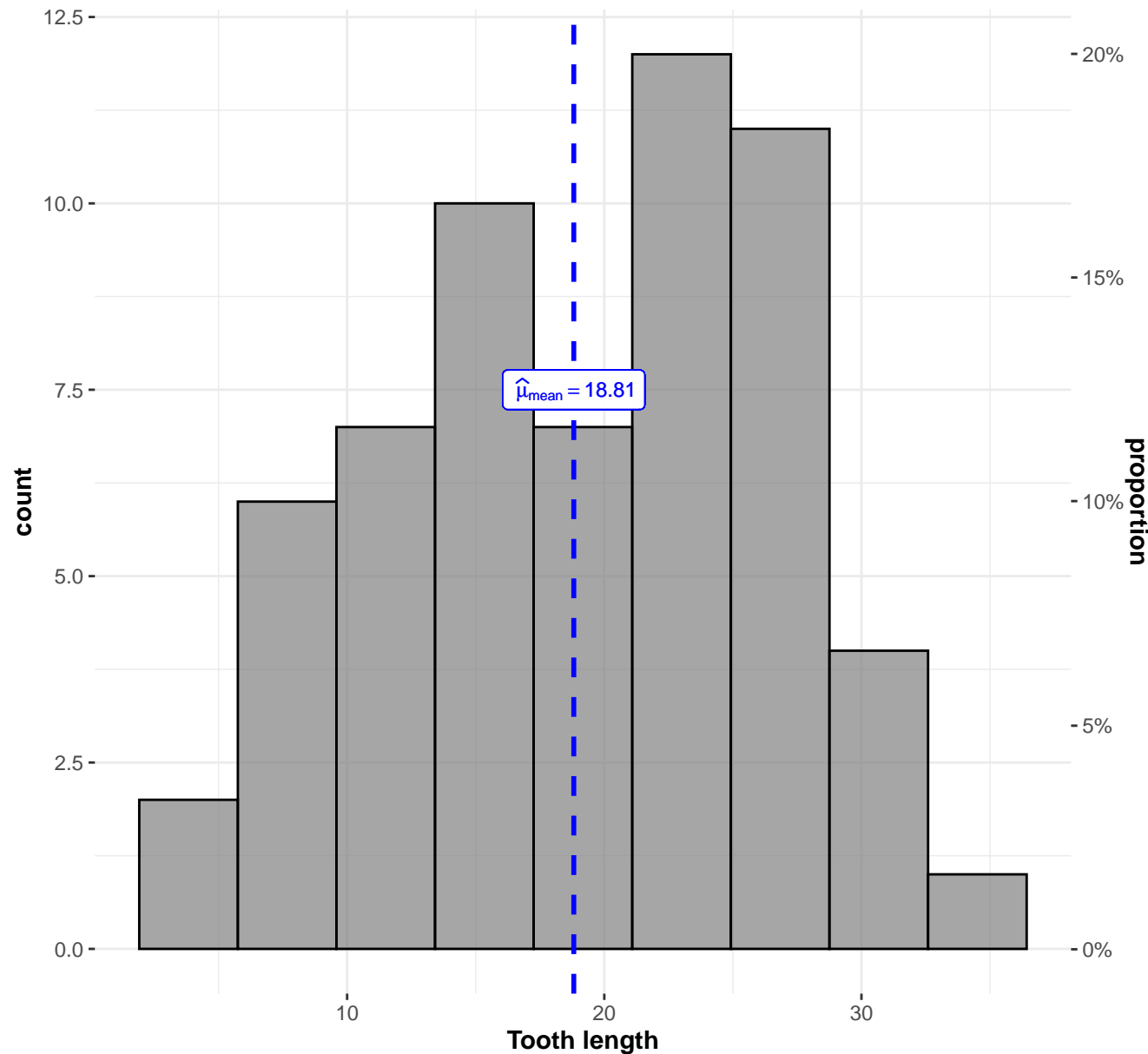
Fuel economy data

$t_{\text{Student}}(14) = 1.47$, $p = 0.163$, $\hat{g}_{\text{Hedge}} = 0.36$, $\text{CI}_{95\%} [-0.15, 0.88]$, $n_{\text{obs}} = 15$



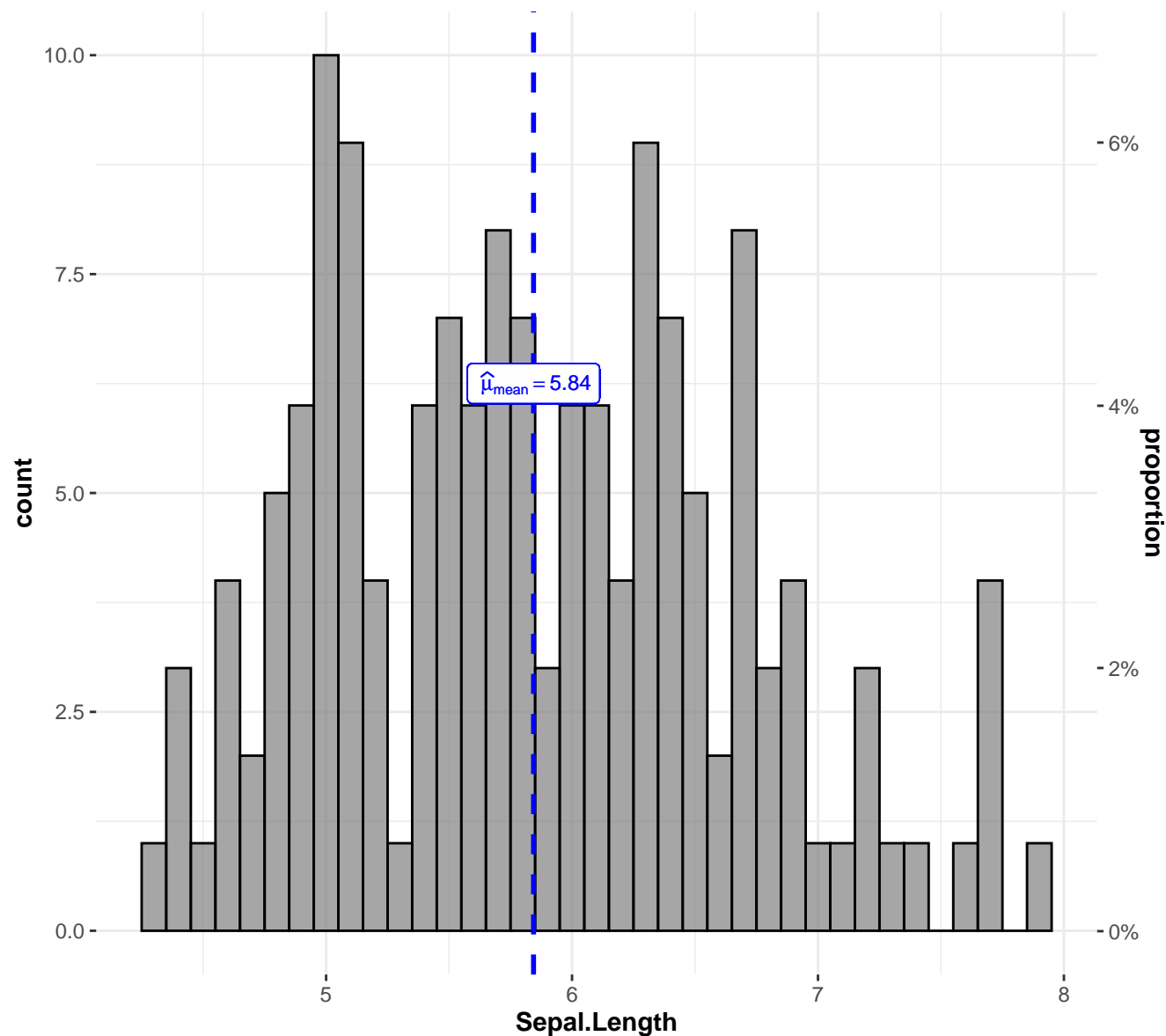
$\log_e(\text{BF}_{01}) = 0.44$, $\hat{\delta}_{\text{median}}^{\text{posterior}} = -1.26$, $\text{CI}_{95\%}^{\text{HDI}} [-3.38, 0.80]$, $r_{\text{Cauchy}}^{\text{JZS}} = 0.71$

$t_{\text{Student}}(59) = 19.05$, $p = 6.94\text{e-}27$, $\hat{g}_{\text{Hedge}} = 2.43$, $\text{CI}_{95\%} [1.94, 2.95]$, $n_{\text{obs}} = 60$



$\log_e(\text{BF}_{01}) = -54.54$, $\hat{\delta}_{\text{posterior median}} = -18.75$, $\text{CI}_{95\%}^{\text{HDI}} [-20.73, -16.70]$, $r_{\text{Cauchy}}^{\text{JZS}} = 0.71$

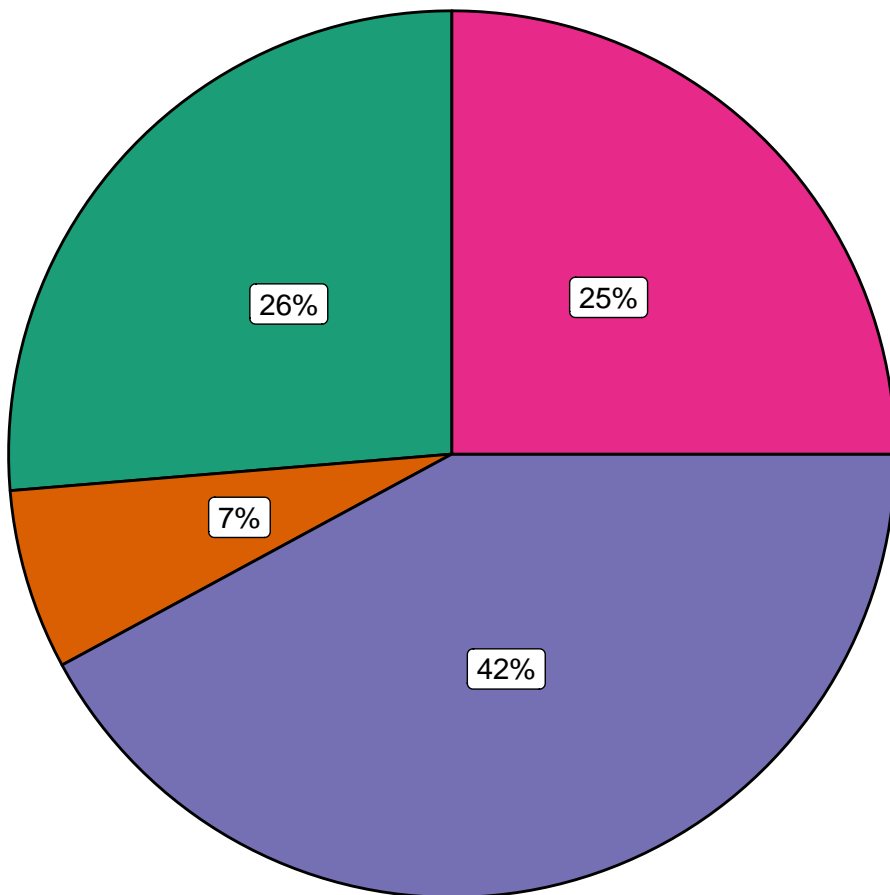
$t_{\text{Student}}(149) = 42.05$, $p = 1.48\text{e-}84$, $\hat{g}_{\text{Hedge}} = 3.42$, $\text{CI}_{95\%} [3.01, 3.84]$, $n_{\text{obs}} = 150$



Note: Iris dataset by Anderson

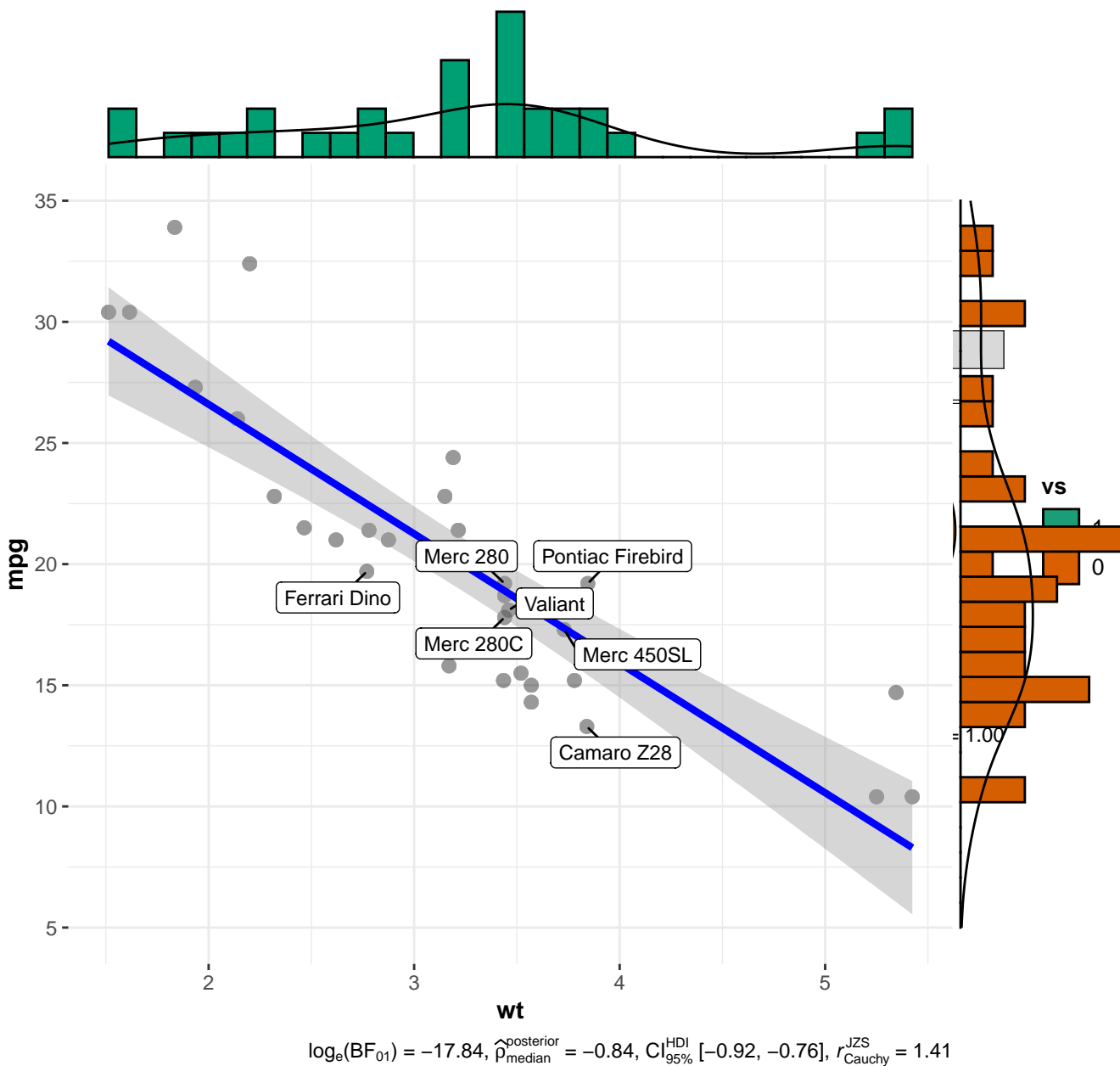
$\log_e(\text{BF}_{01}) = -186.14$, $\hat{\delta}_{\text{median}}^{\text{posterior}} = -2.84$, $\text{CI}_{95\%}^{\text{HDI}} [-2.97, -2.71]$, $r_{\text{Cauchy}}^{\text{JZS}} = 0.80$

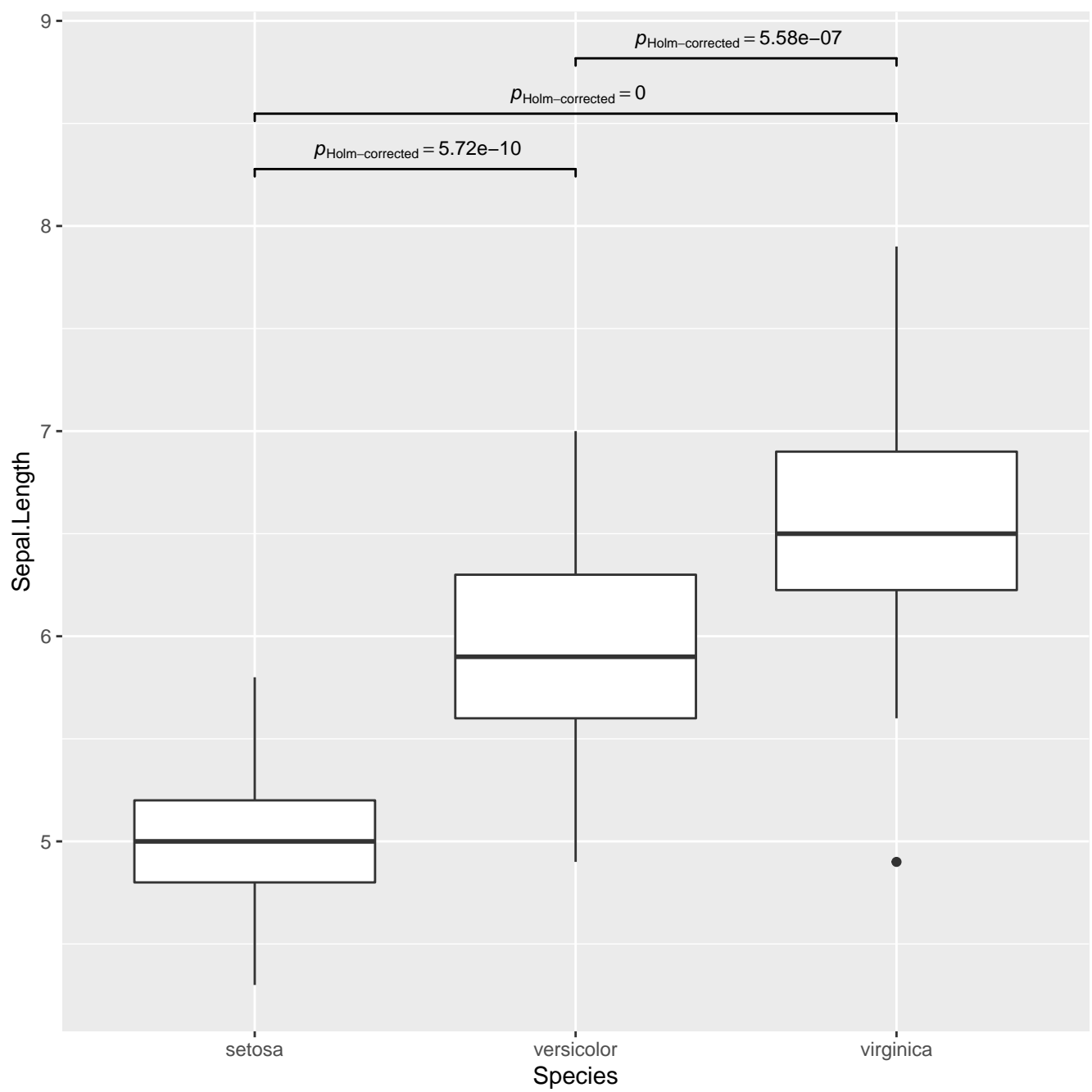
$\chi^2_{\text{gof}}(3) = 19.26$, $p = 2.41\text{e-}04$, $\widehat{V}_{\text{Cramer}} = 0.27$, $\text{CI}_{95\%} [0.11, 0.38]$, $n_{\text{obs}} = 76$



$\log_e(\text{BF}_{01}) = -3.74$, $a_{\text{Guel-Dickey}} = 1.00$

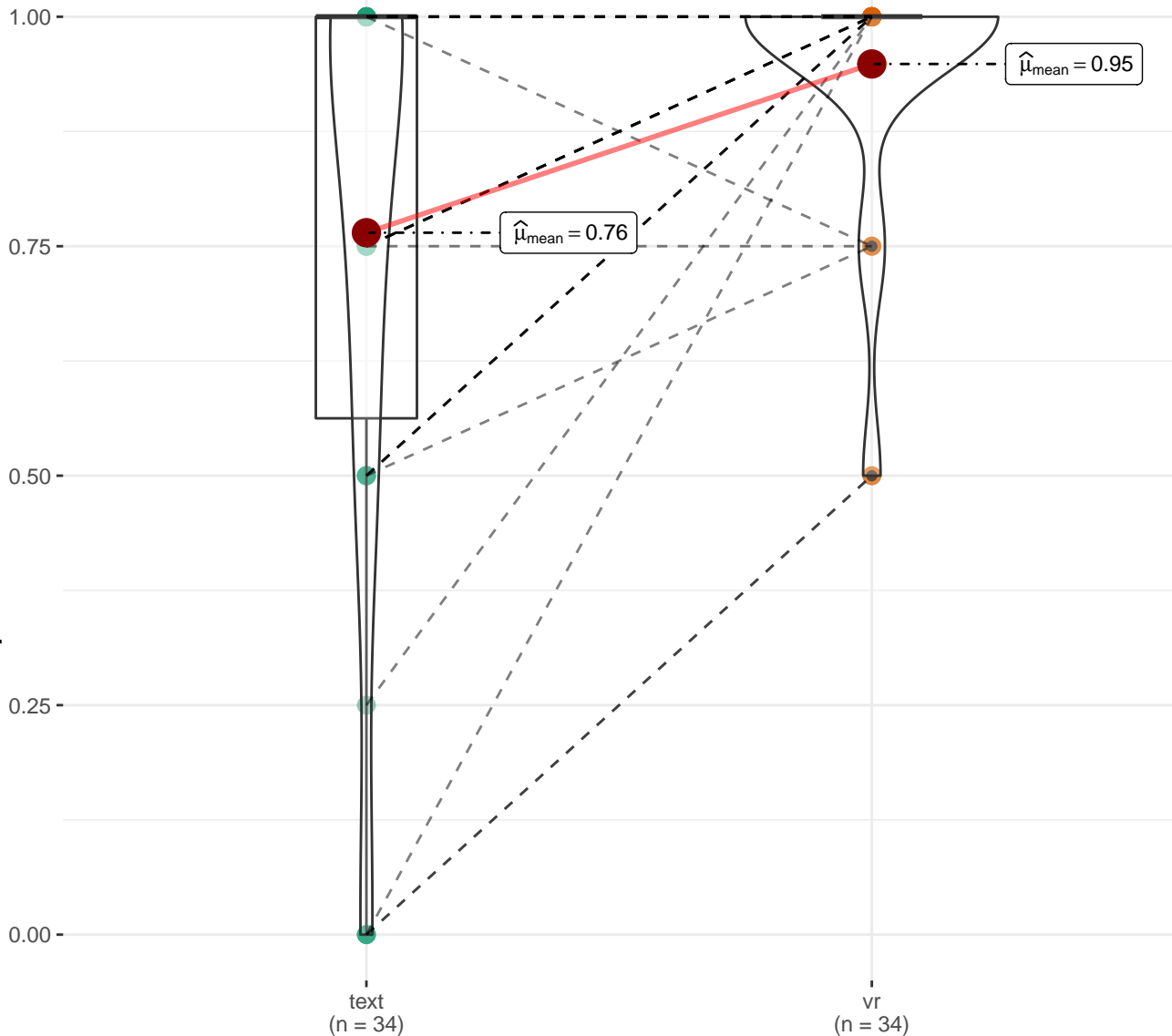
$t_{\text{Student}}(30) = -9.56$, $p = 1.29\text{e-}10$, $\hat{r}_{\text{Pearson}} = -0.87$, $\text{CI}_{95\%} [-0.93, -0.74]$, $n_{\text{pairs}} = 32$





$t_{\text{Student}}(33) = -3.96$, $p = 3.73\text{e-}04$, $\hat{g}_{\text{Hedge}} = -0.66$, $\text{CI}_{95\%} [-1.04, -0.30]$, $n_{\text{pairs}} = 34$

Proportion of utilitarian decisions

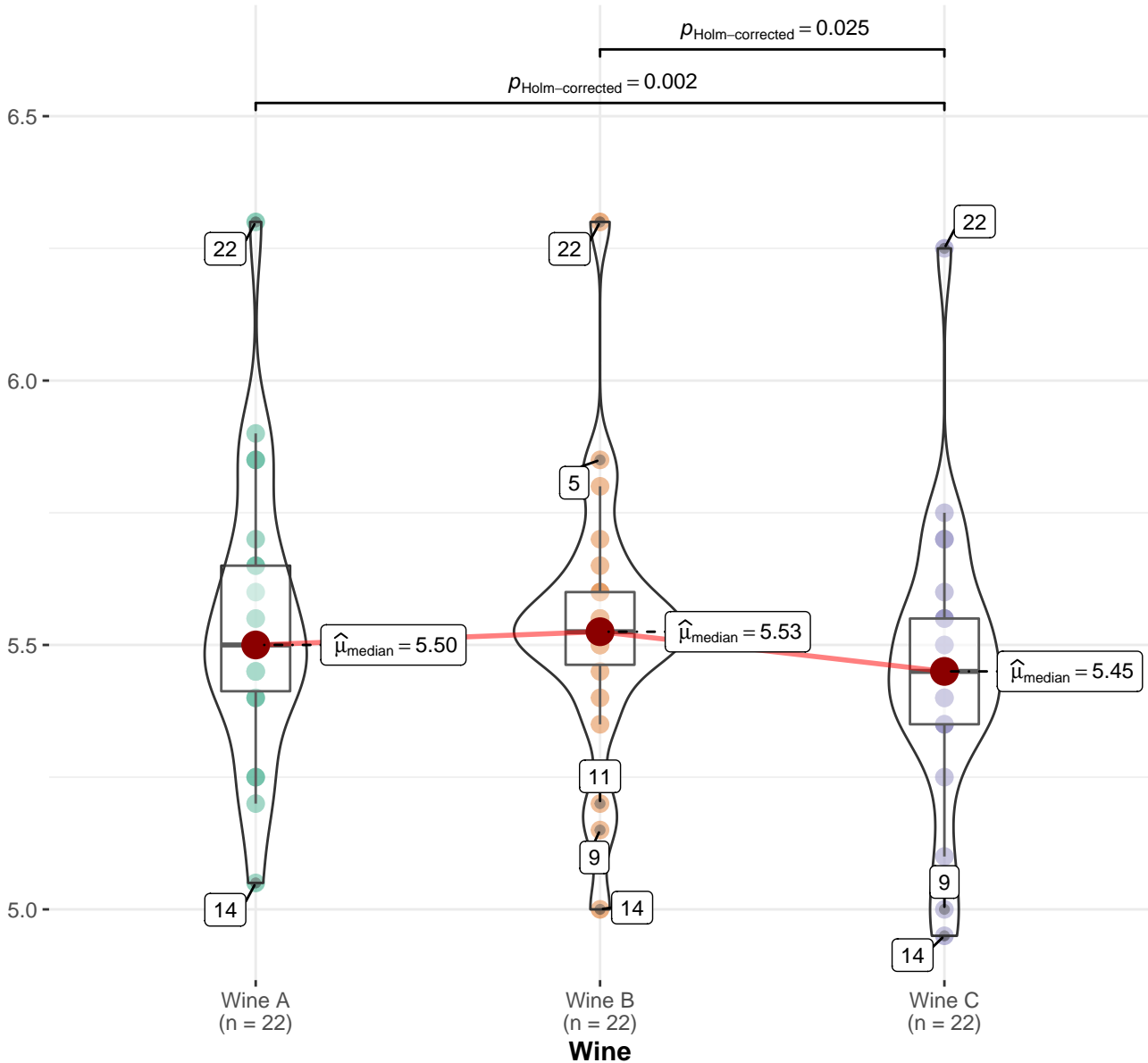


Presentation modality

$\log_e(\text{BF}_{01}) = -4.34$, $\hat{\delta}_{\text{median}}^{\text{posterior}} = 0.17$, $\text{CI}_{95\%}^{\text{HDI}} [0.08, 0.27]$, $r_{\text{Cauchy}}^{\text{JZS}} = 0.71$

$\chi^2_{\text{Friedman}}(2) = 11.14, p = 0.004, \widehat{W}_{\text{Kendall}} = 0.81, \text{CI}_{95\%} [0.81, 0.99], n_{\text{pairs}} = 22$

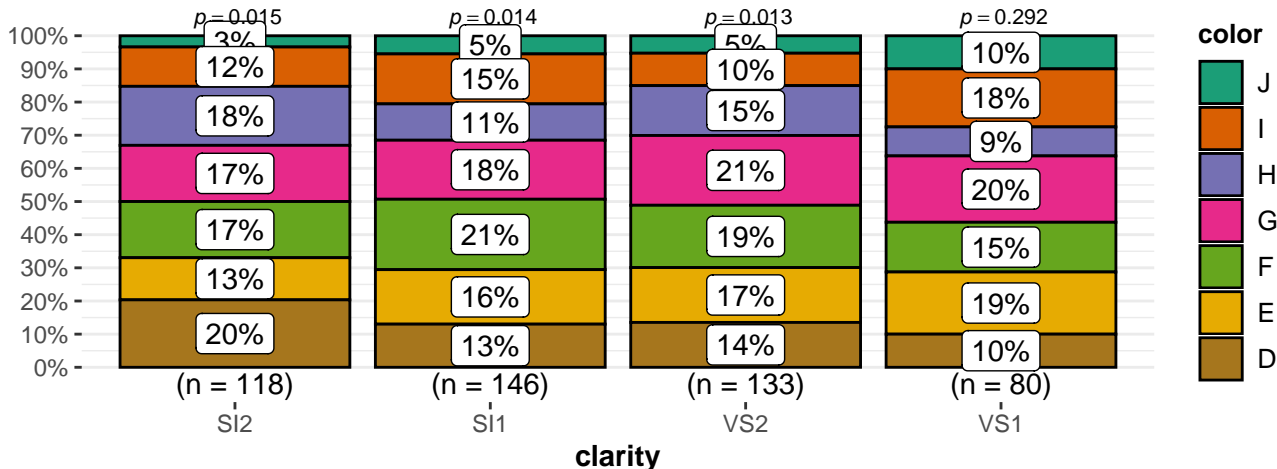
Taste



Pairwise test: **Durbin-Conover test**; Comparisons shown: **only significant**

Quality: Very Good

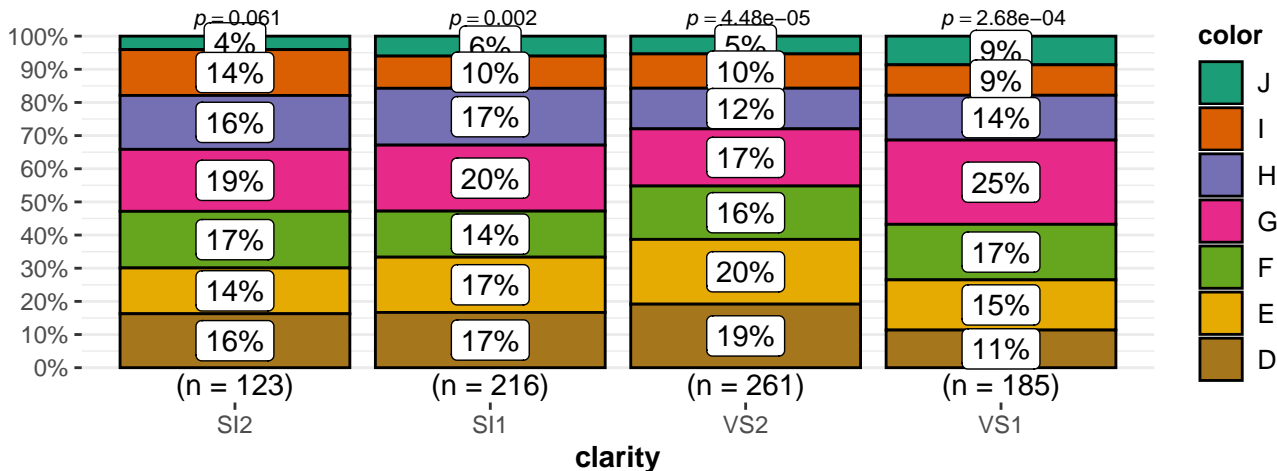
$\chi^2_{\text{Pearson}}(18) = 17.95$, $p = 0.459$, $\hat{V}_{\text{Cramer}} = 0.00$, $\text{CI}_{95\%} [0.00, 0.00]$, $n_{\text{obs}} = 477$



$\log_e(\text{BF}_{01}) = 16.13$, $\hat{V}_{\text{median}}^{\text{posterior}} = 0.15$, $\text{CI}_{95\%}^{\text{HDI}} [0.11, 0.19]$, $a_{\text{Gunel-Dickey}} = 1.00$

Quality: Ideal

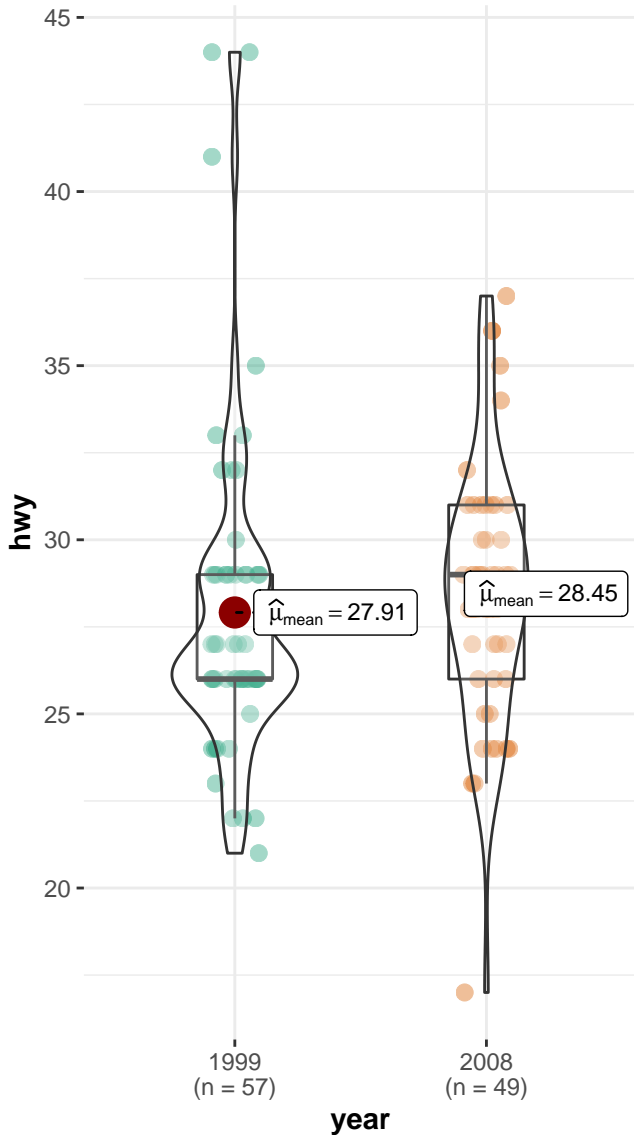
$\chi^2_{\text{Pearson}}(18) = 17.85$, $p = 0.466$, $\hat{V}_{\text{Cramer}} = 0.00$, $\text{CI}_{95\%} [0.00, 0.00]$, $n_{\text{obs}} = 785$



$\log_e(\text{BF}_{01}) = 20.36$, $\hat{V}_{\text{median}}^{\text{posterior}} = 0.12$, $\text{CI}_{95\%}^{\text{HDI}} [0.09, 0.15]$, $a_{\text{Gunel-Dickey}} = 1.00$

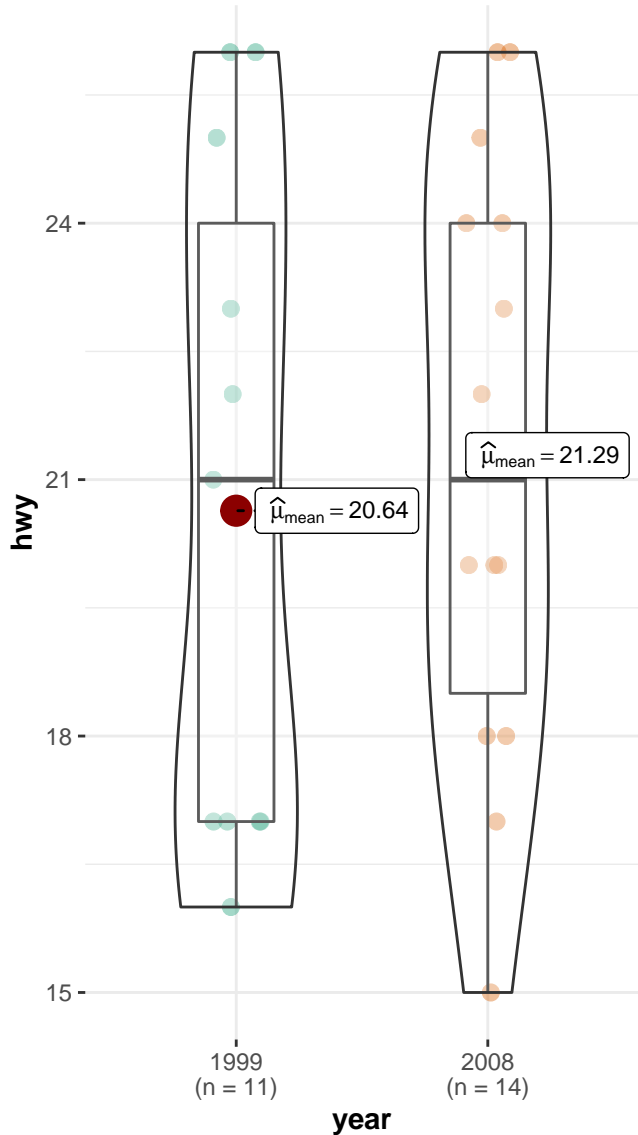
drv: f

$t_{\text{Welch}}(103.71) = -0.66, p = 0.509, \hat{g}_{\text{Hedge}} = -0.13$



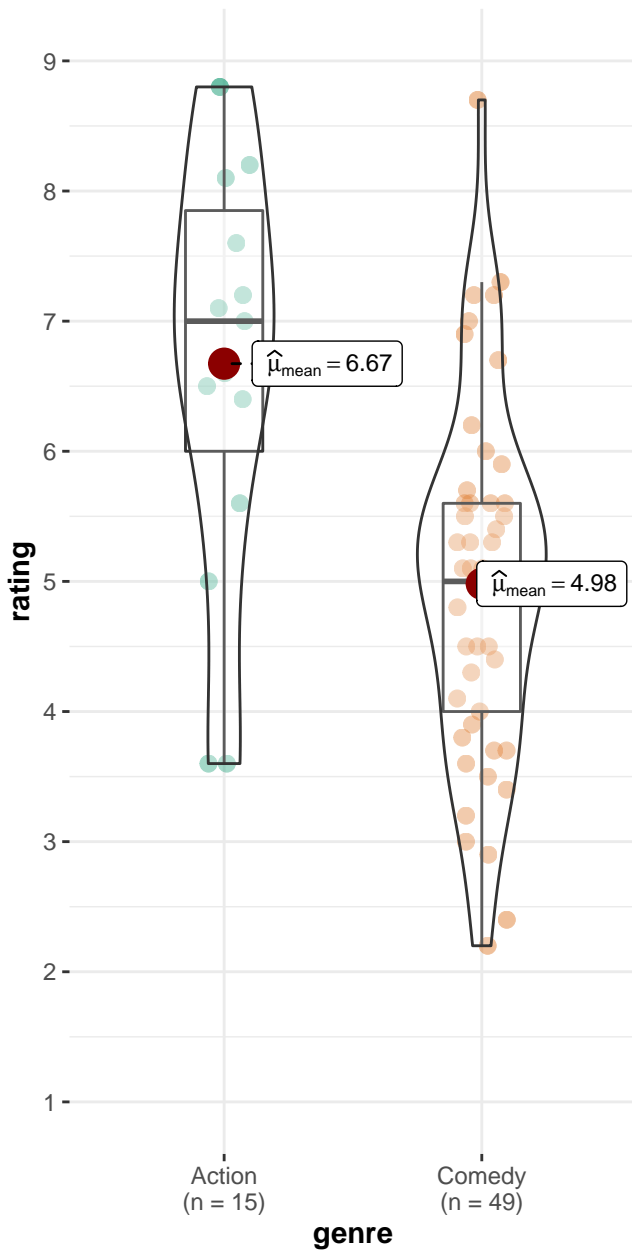
drv: r

$t_{\text{Welch}}(20.19) = -0.43, p = 0.675, \hat{g}_{\text{Hedge}} = -0.17, C$

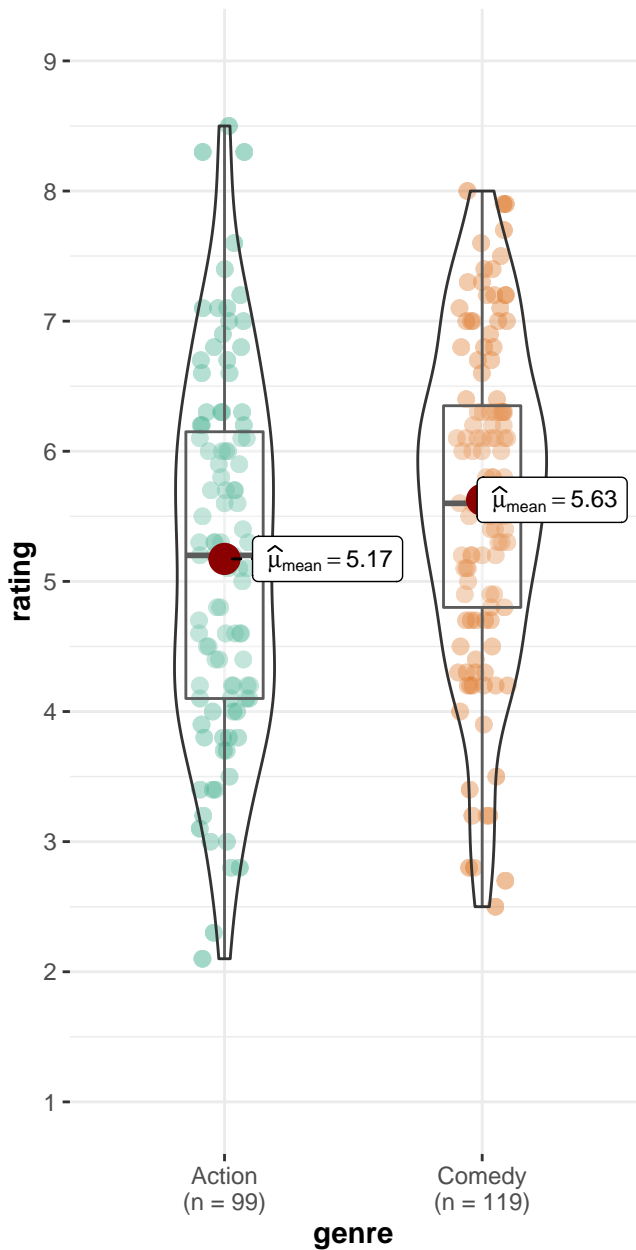


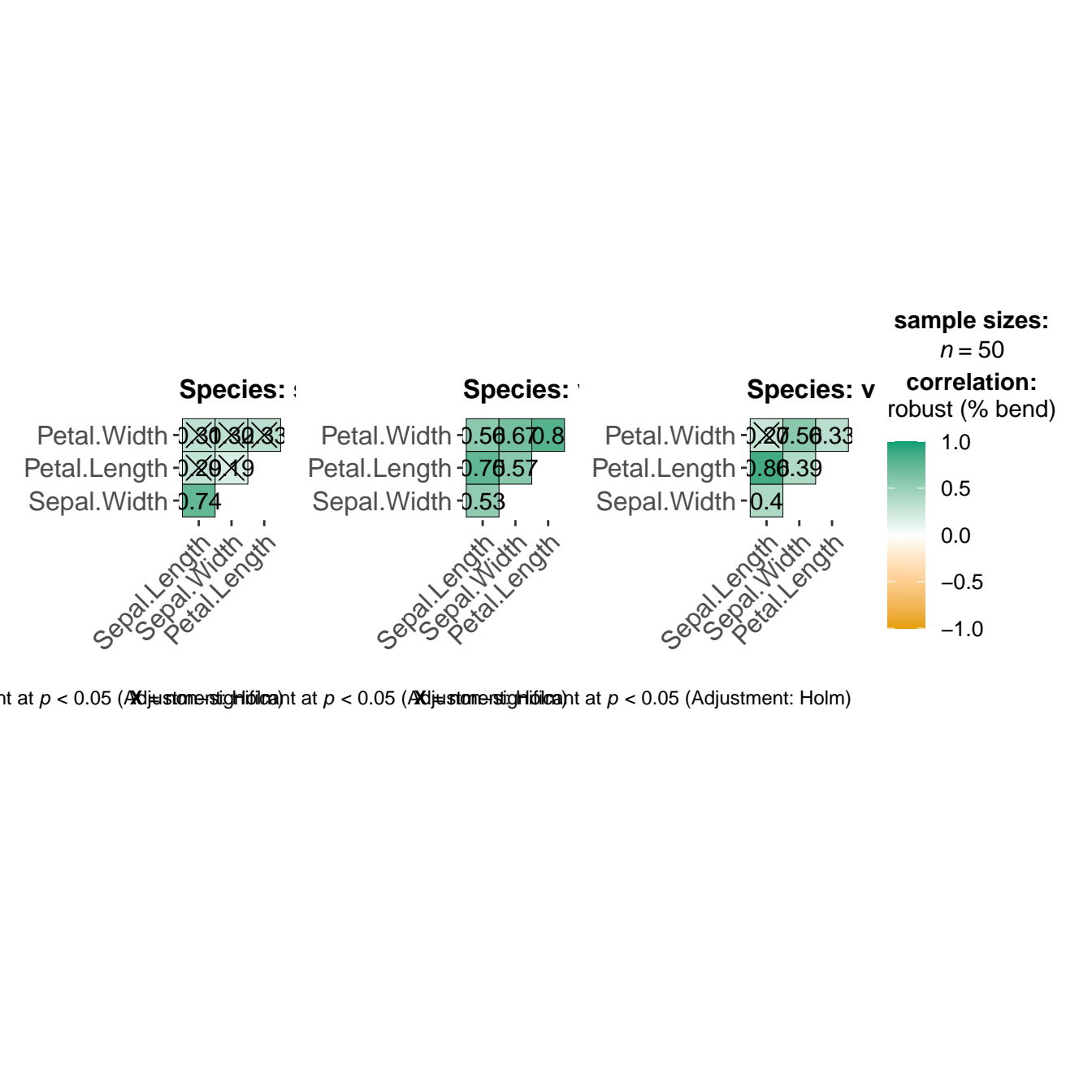
$(BF_{01}) = 1.39, \hat{\delta}_{\text{posterior median}} = 0.47, CI_{95\%}^{\text{HDI}} [-1.05, 1.95], r_{\text{Cauchy}}^{\text{JZS}} = 0.71$ $(BF_{01}) = 0.93, \hat{\delta}_{\text{posterior median}} = 0.44, CI_{95\%}^{\text{HDI}} [-2.06, 3.07], r_{\text{Cauchy}}^{\text{JZS}} = 0.71$

mpaa: PG



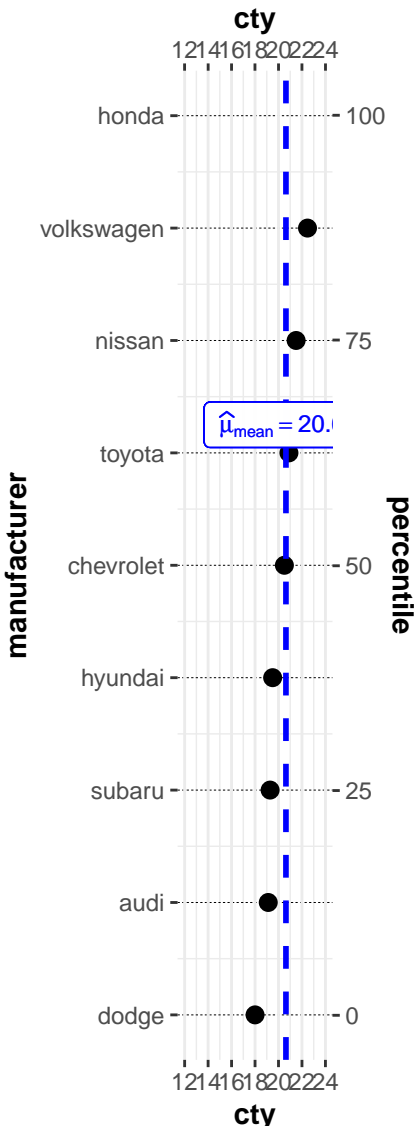
mpaa: R





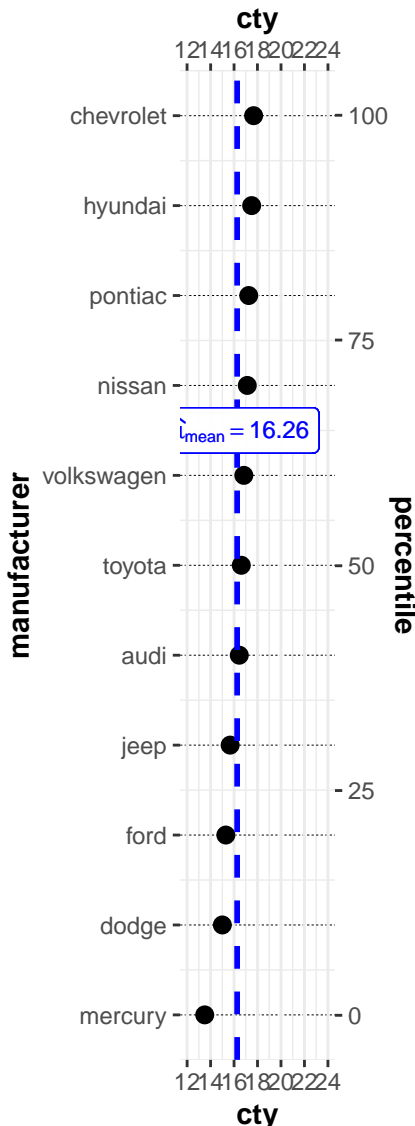
cylinder count: 4

$t_{\text{Student}}(8) = 7.82, p = 1.1 \times 10^{-6}$



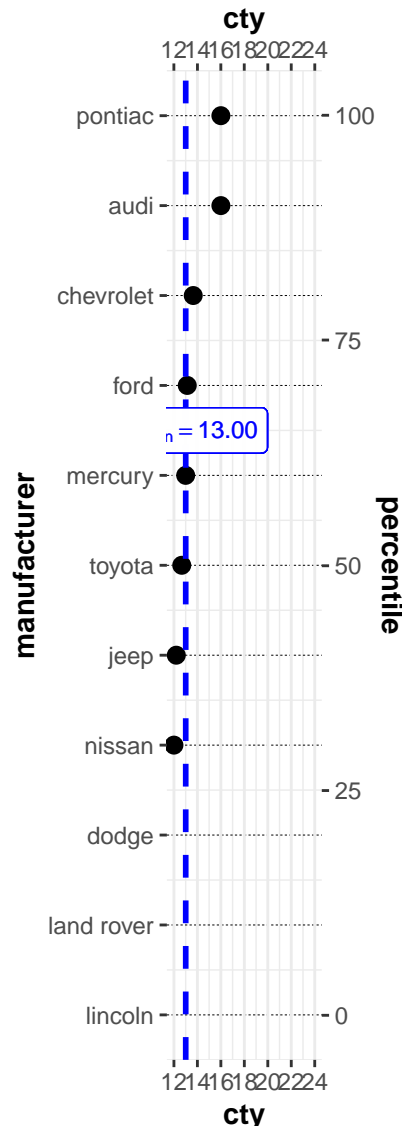
cylinder count: 6

$t_{\text{Student}}(10) = 1.99, p = 0.066$



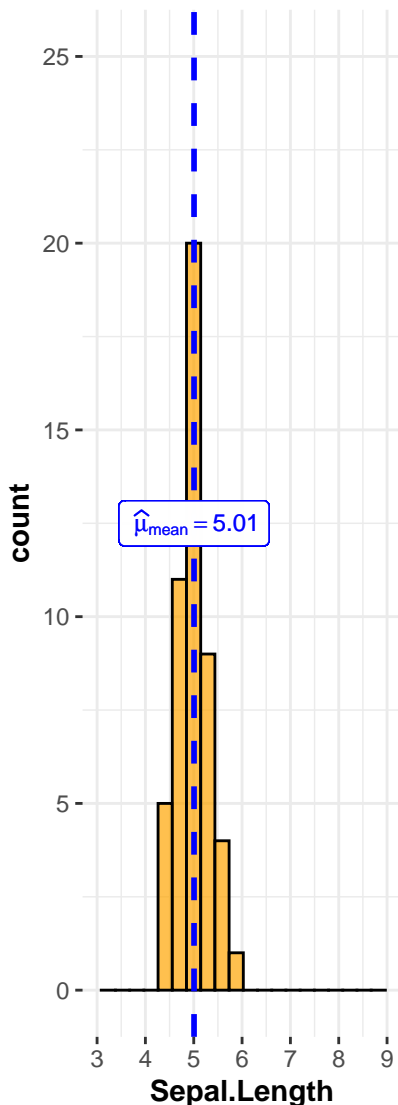
cylinder count: 8

$t_{\text{Student}}(10) = -5.01, p = 3.1 \times 10^{-5}$

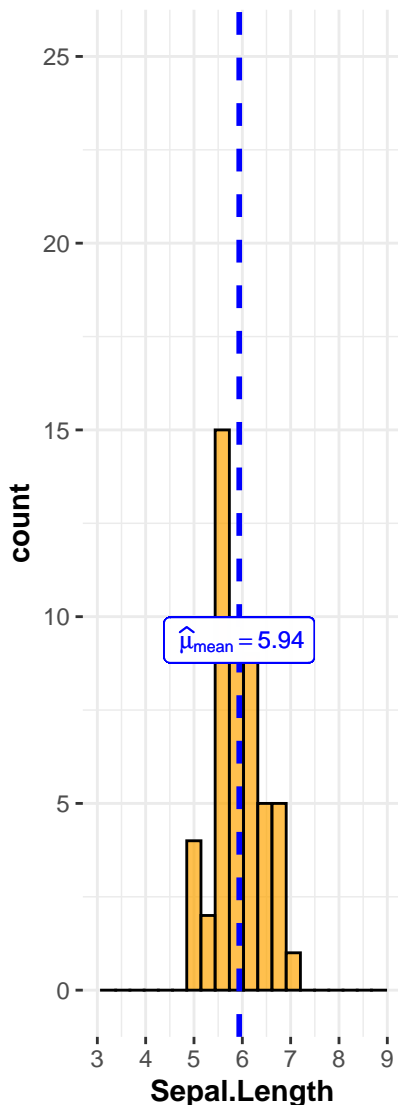


HDI 95% [1.67, 3.53], $r_{\text{Cauchy}} = 0.71$, $\hat{\mu}_{\text{posterior median}} = -0.76$, CI 95% [-0.23, 0.71]
HDI 95% [1.46, 3.19], $r_{\text{Cauchy}} = 0.74$, $\hat{\mu}_{\text{posterior median}} = 2.55$, CI 95% [1.44, 3.77], $r_{\text{Cauchy}} = 0.71$

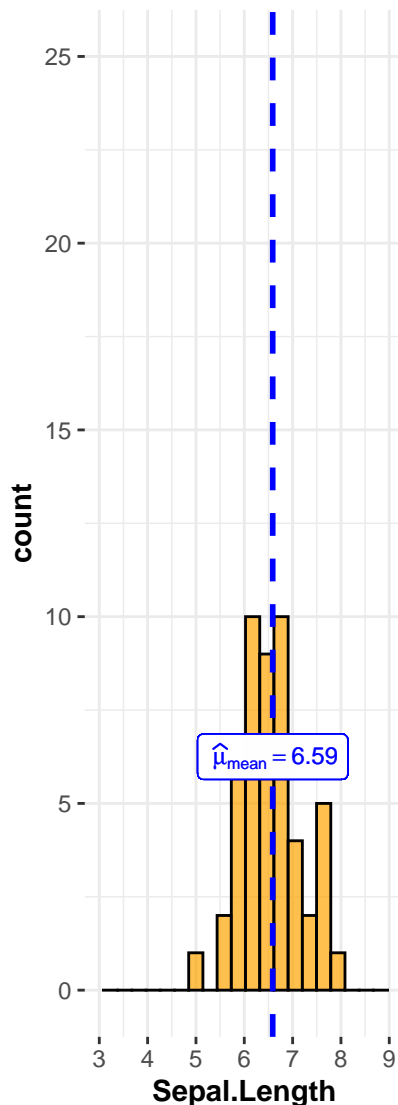
i **Species: setosa**
 $t_{\text{Student}}(49) = 0.12, p = 0.905$



ii **Species: versicolor**
 $t_{\text{Student}}(49) = 12.82, p = 2.84$

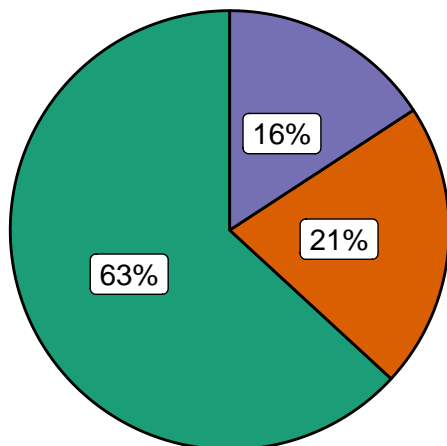


iii **Species: virginica**
 $t_{\text{Student}}(49) = 17.66, p = 6.93e-11$

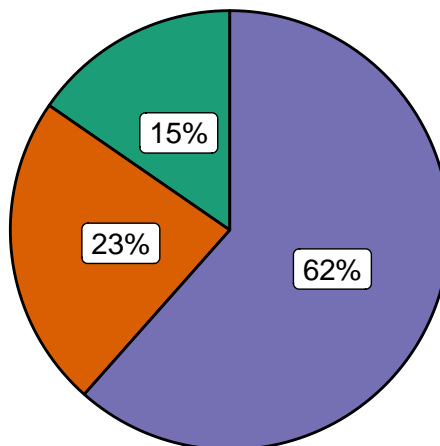


$\text{HDI}_{95\%} = [0.00, 0.43]$, $r_{\text{JZS}}^{\text{posterior}} = 0.74$, $\text{HDI}_{95\%} = [-0.94, 0.74]$, $r_{\text{JZS}}^{\text{posterior}} = 0.74$, $\text{HDI}_{95\%} = [-1.59, -1.11]$, $r_{\text{JZS}}^{\text{posterior}} = 0.71$

am: 0



am: 1

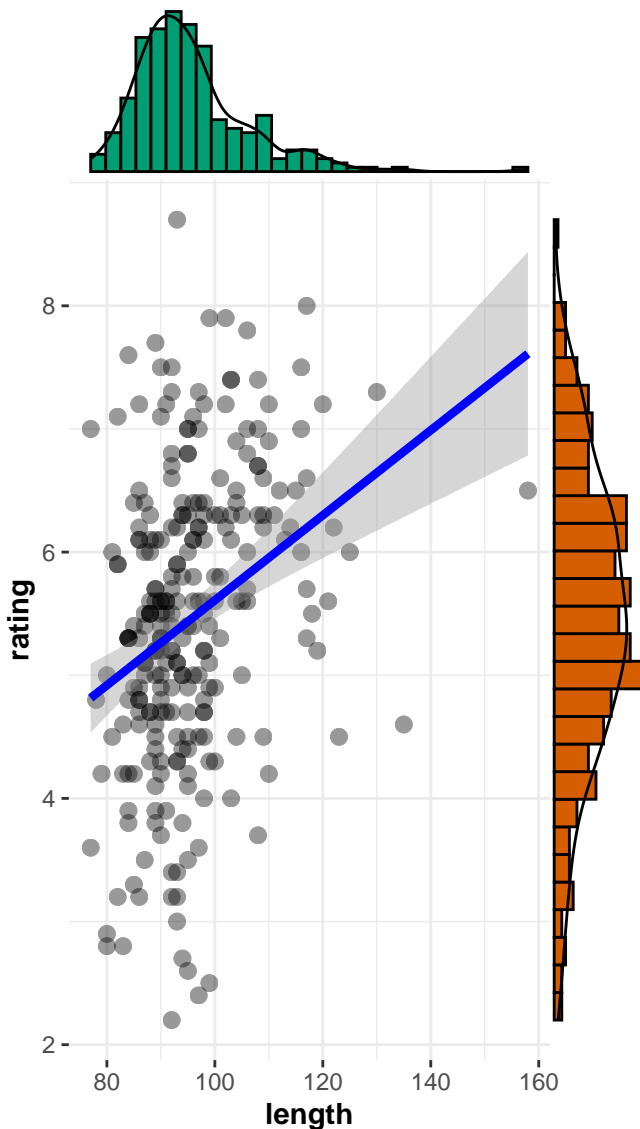


cyl



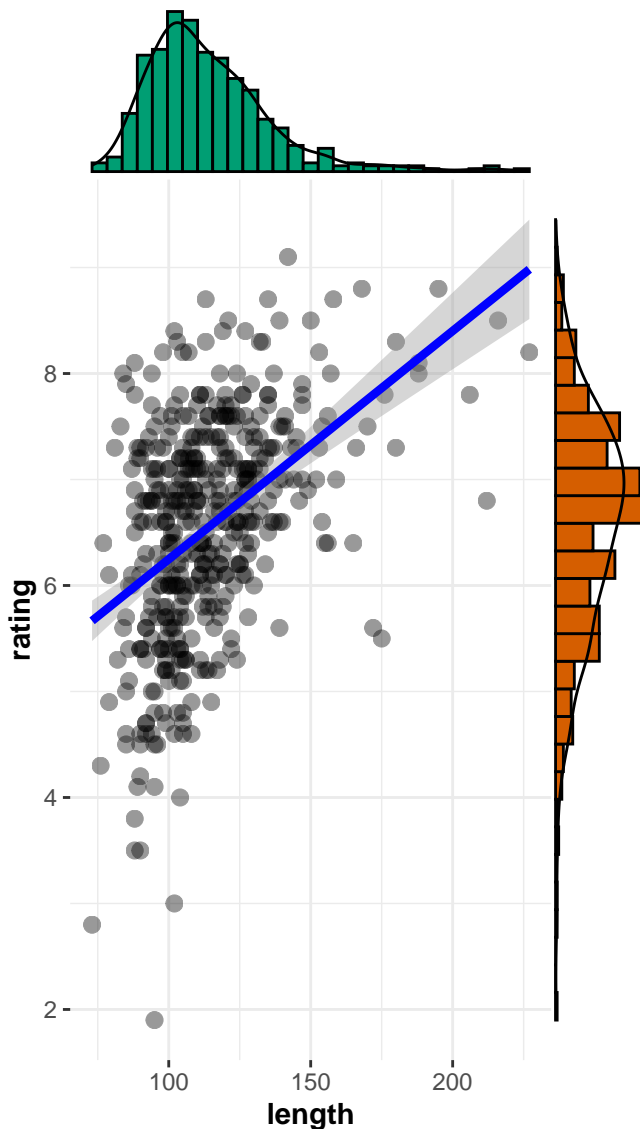
genre: Comedy

$t_{\text{Student}}(258) = 5.20$, $p = 4.02\text{e-}07$, \hat{r}_{Pearson}



genre: Drama

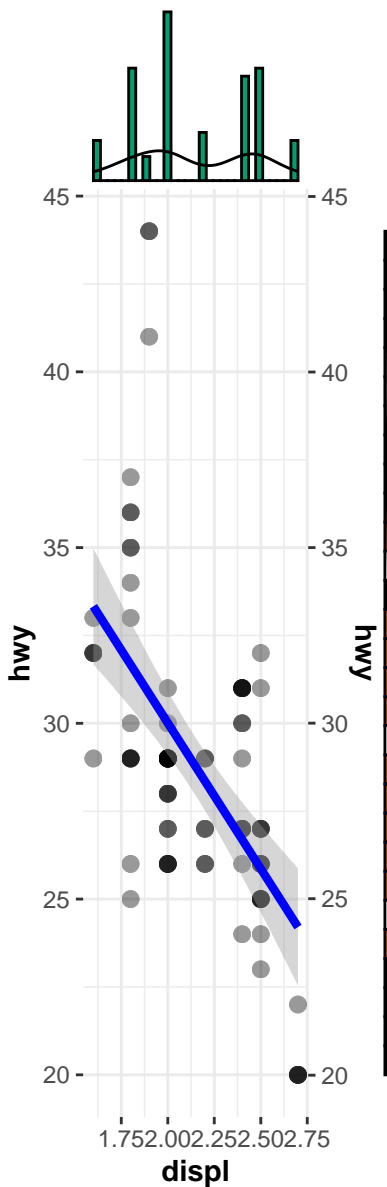
$t_{\text{Student}}(426) = 10.38$, $p = 1.19\text{e-}22$, \hat{r}_{Pearson}



$\log(\text{BF}_{01}) = -45.11$, $\hat{\rho}_{\text{median}} = 0.30$, $\text{CI}_{95\%}^{\text{HDI}} [0.22, 0.40]$, $r_{\text{Cauchy}}^{\text{JZS}} = 1.04$ $\log(\text{BF}_{01}) = -45.11$, $\hat{\rho}_{\text{median}} = 0.45$, $\text{CI}_{95\%}^{\text{HDI}} [0.38, 0.51]$, $r_{\text{Cauchy}}^{\text{JZS}} = 1.41$

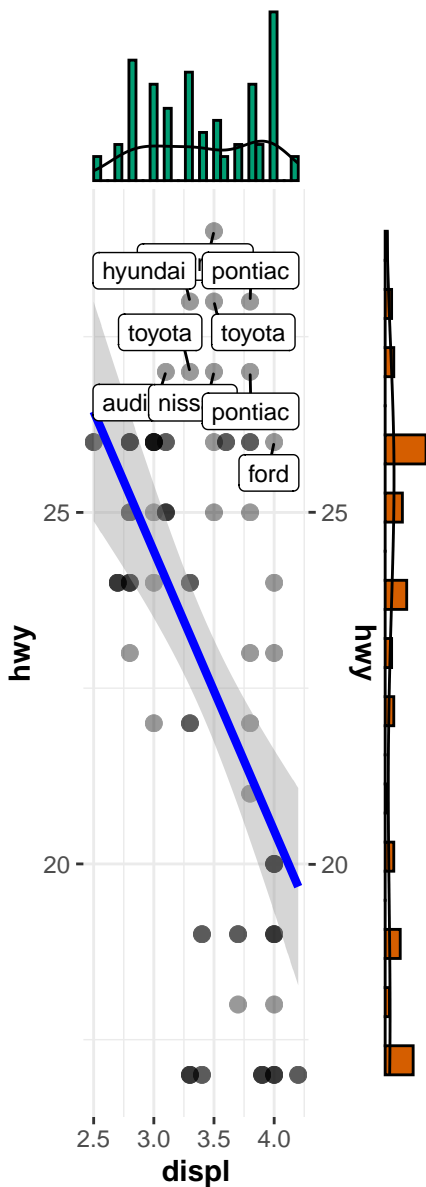
Cylinder count

$t_{\text{Student}}(79) = -6.33,$



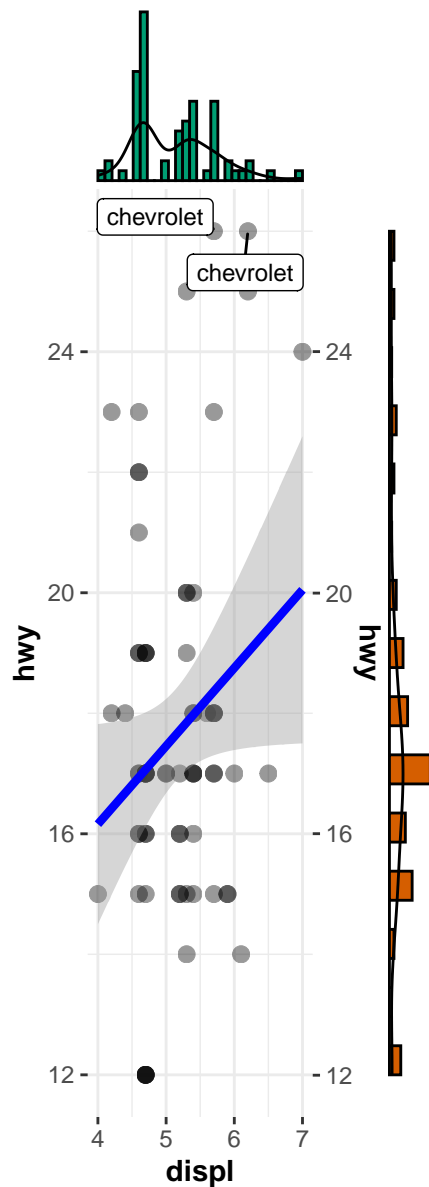
Cylinder count

$t_{\text{Student}}(77) = -5.23,$



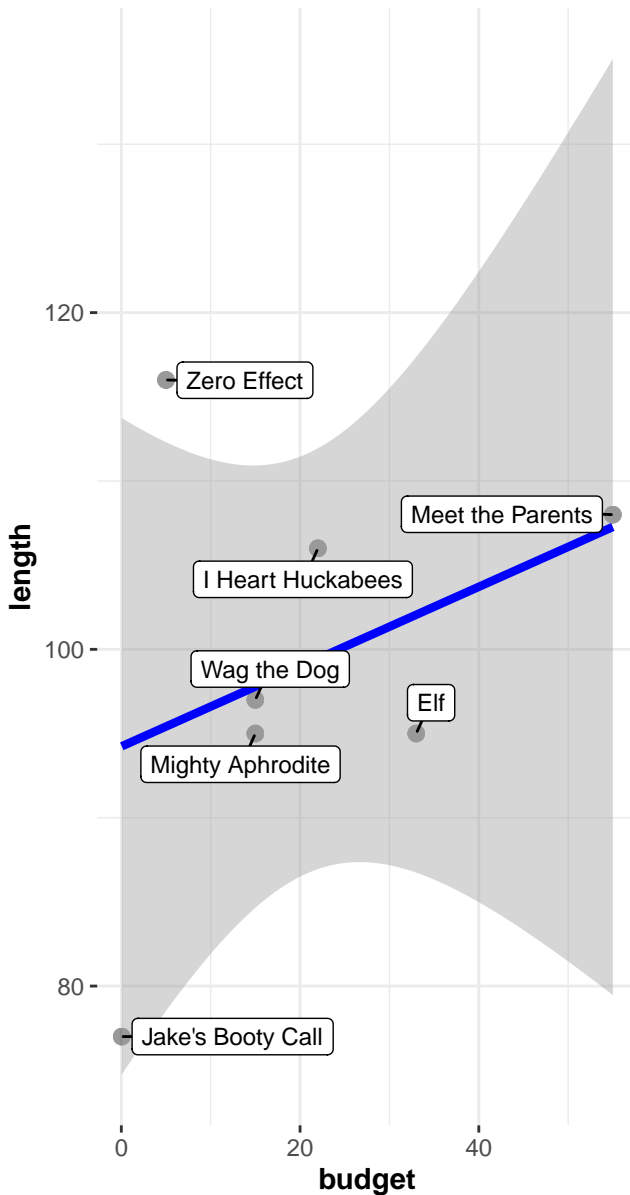
Cylinder count

$t_{\text{Student}}(68) = 1.02,$



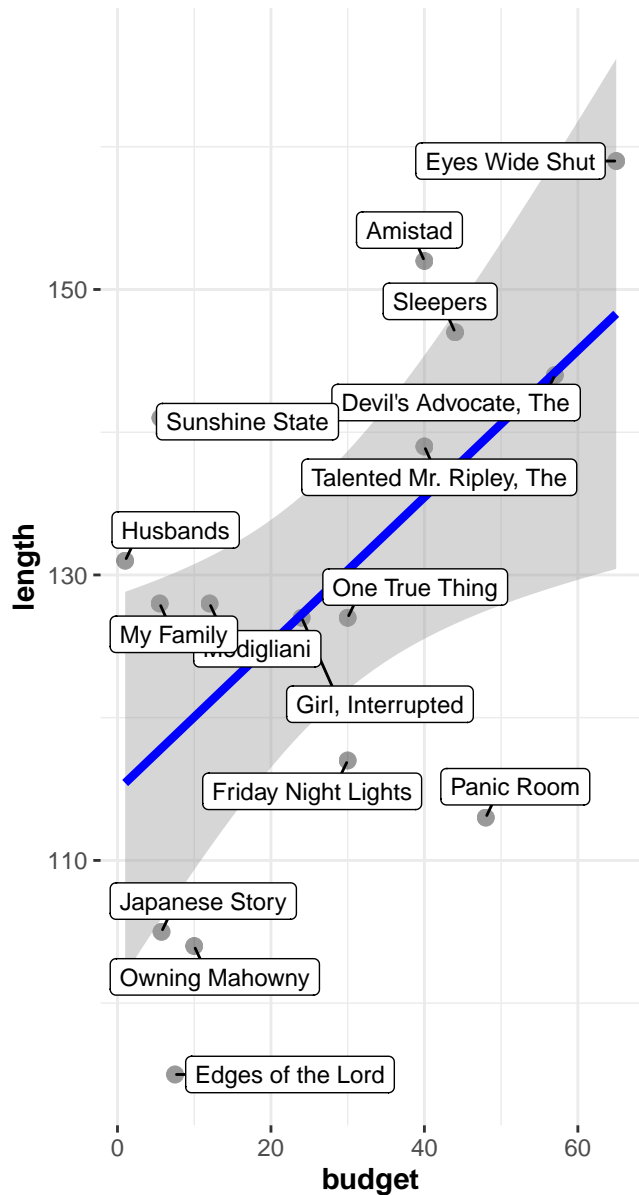
Genre: Comedy

$t_{\text{Student}}(5) = 0.84$, $p = 0.439$, $\hat{r}_{\text{Pearson}} = 0.35$, CI_{95}



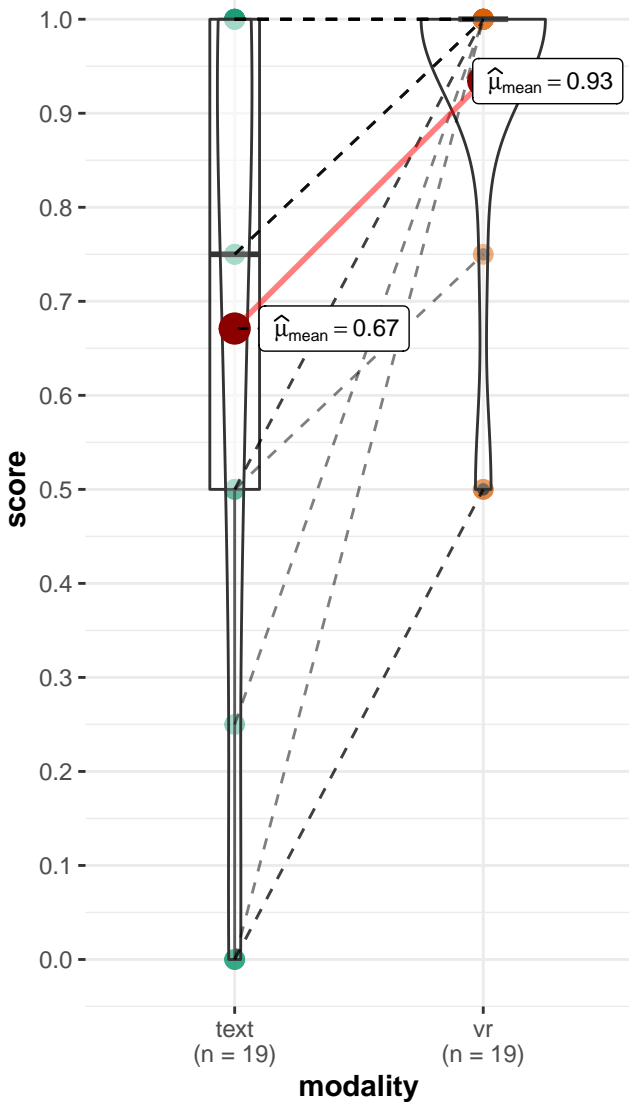
Genre: Drama

$t_{\text{Student}}(14) = 2.67$, $p = 0.018$, $\hat{r}_{\text{Pearson}} = 0.58$, CI_{95}



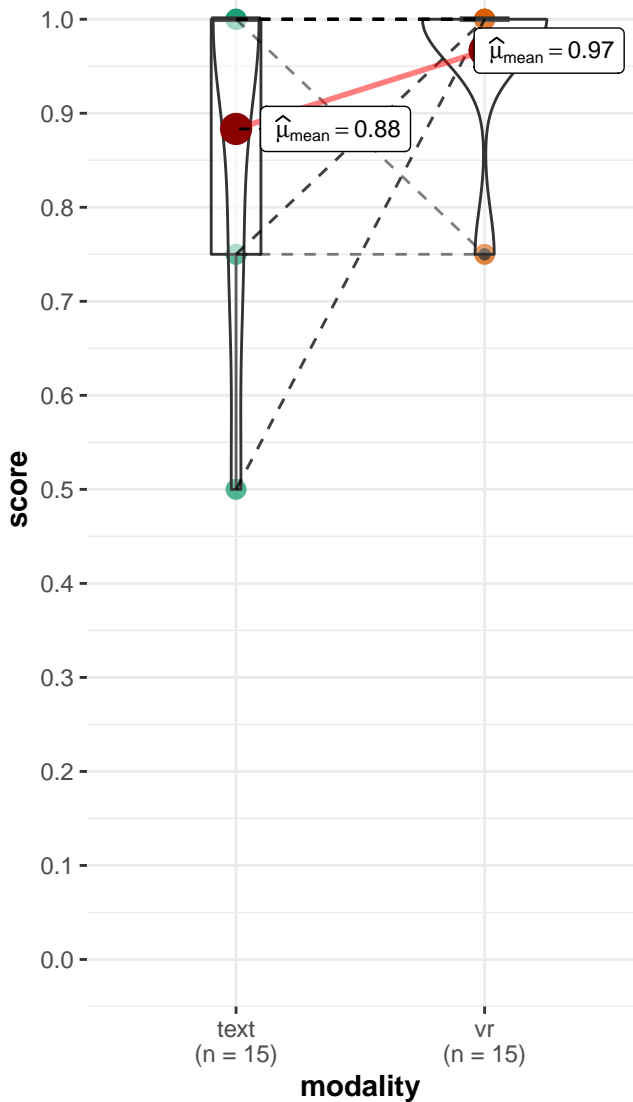
order: 0

$t_{\text{Student}}(18) = -3.90$, $p = 0.001$, $\hat{g}_{\text{Hedge}} = -0.86$, C



order: 1

$t_{\text{Student}}(14) = -1.58$, $p = 0.136$, $\hat{g}_{\text{Hedge}} = -0.39$, C



$\log(\text{BF}_{01}) = -3.56$, $\hat{\delta}_{\text{posterior median}} = 0.24$, $\text{CI}_{95\%}^{\text{HDI}} [0.10, 0.39]$, $r_{\text{Cauchy}}^{\text{JZS}} = 0.71$ $\log(\text{BF}_{01}) = 0.32$, $\hat{\delta}_{\text{posterior median}} = 0.07$, $\text{CI}_{95\%}^{\text{HDI}} [-0.04, 0.17]$, $r_{\text{Cauchy}}^{\text{JZS}} = 0.71$

