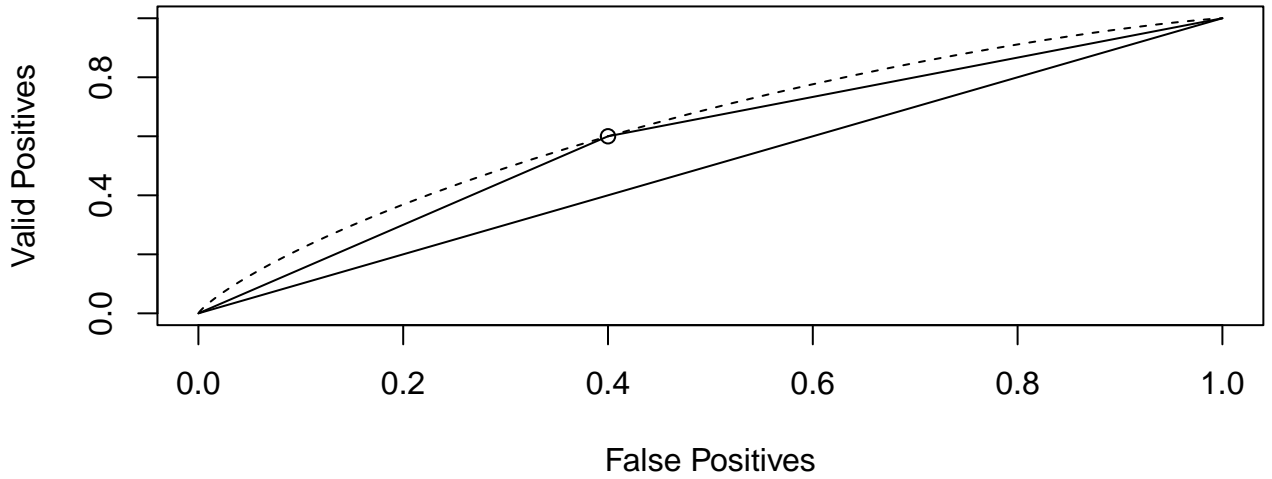
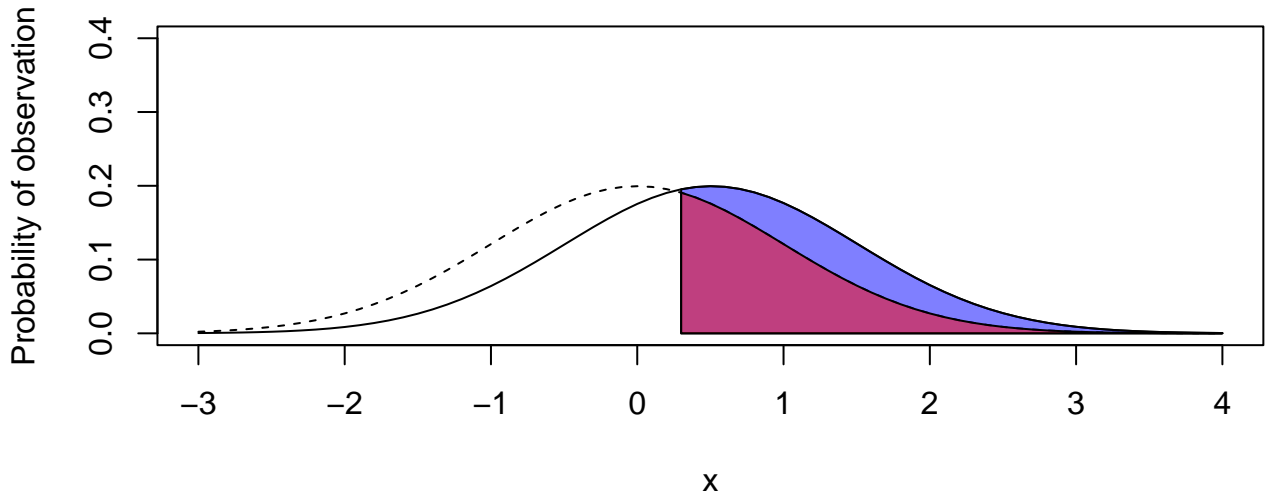


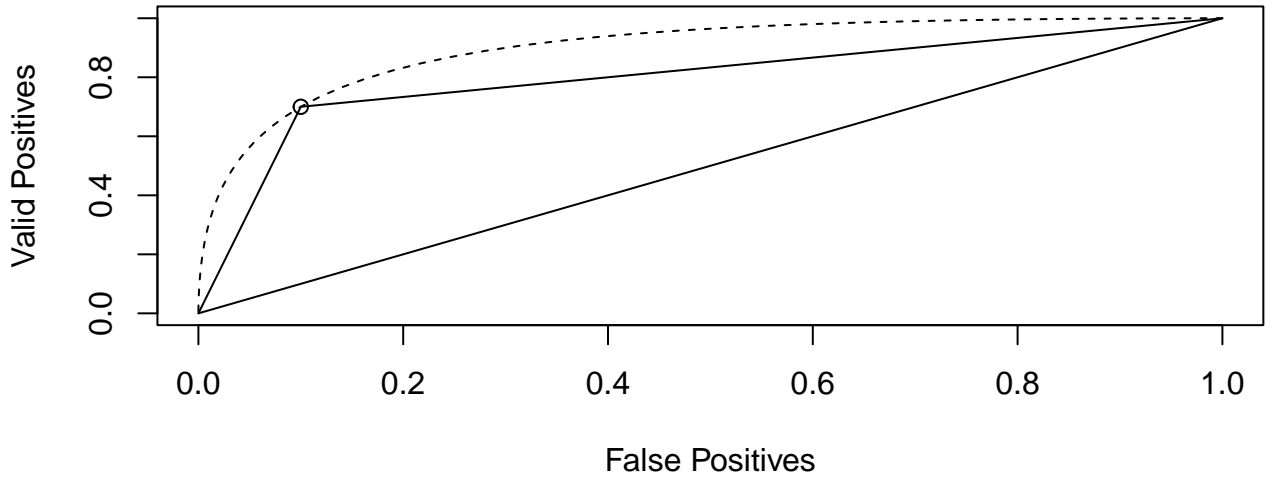
Valid Positives as function of False Positives



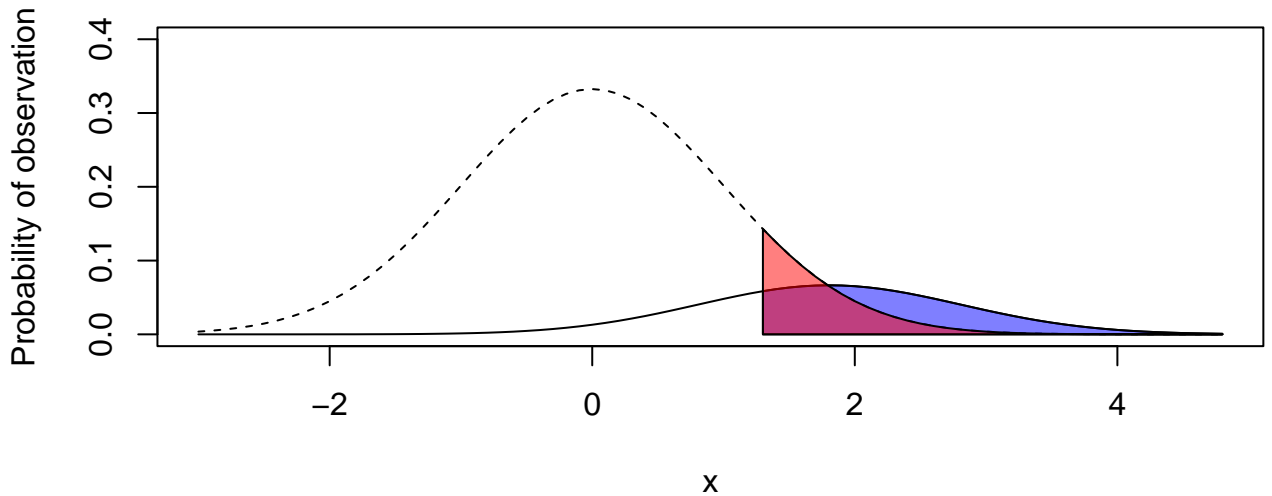
Decision Theory



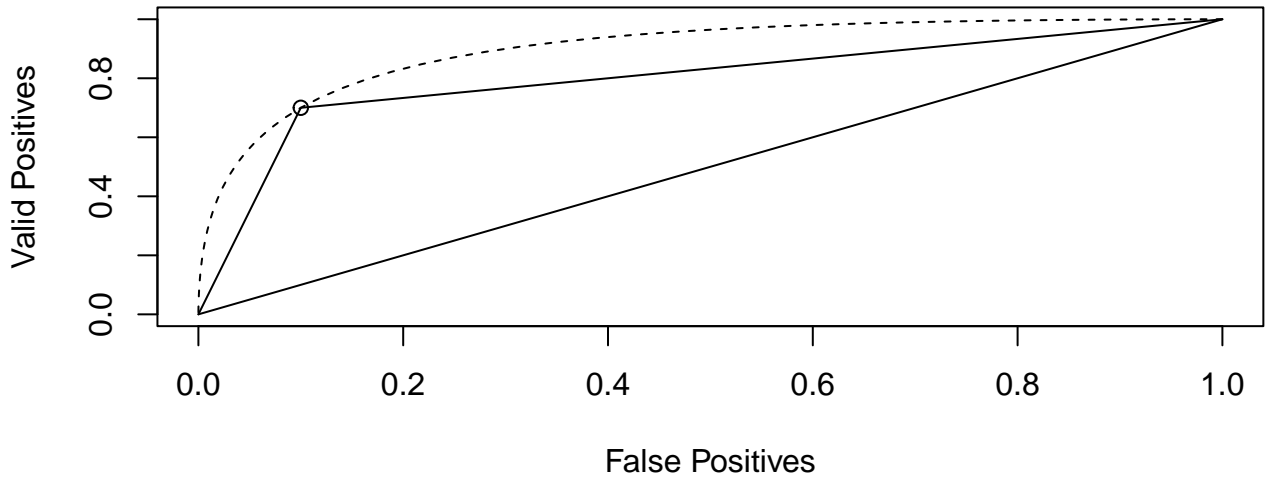
Valid Positives as function of False Positives



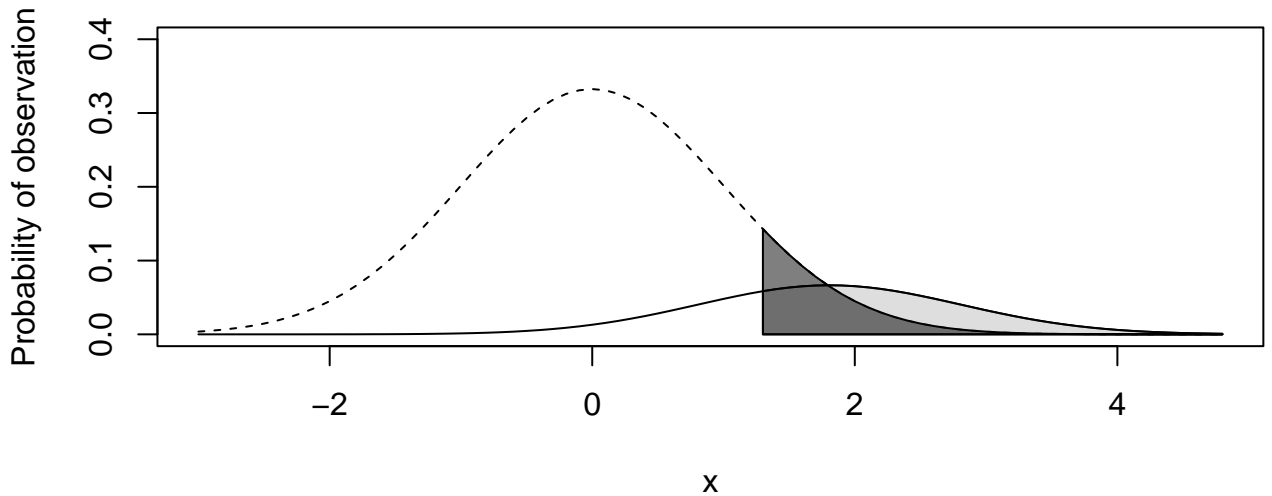
Decision Theory



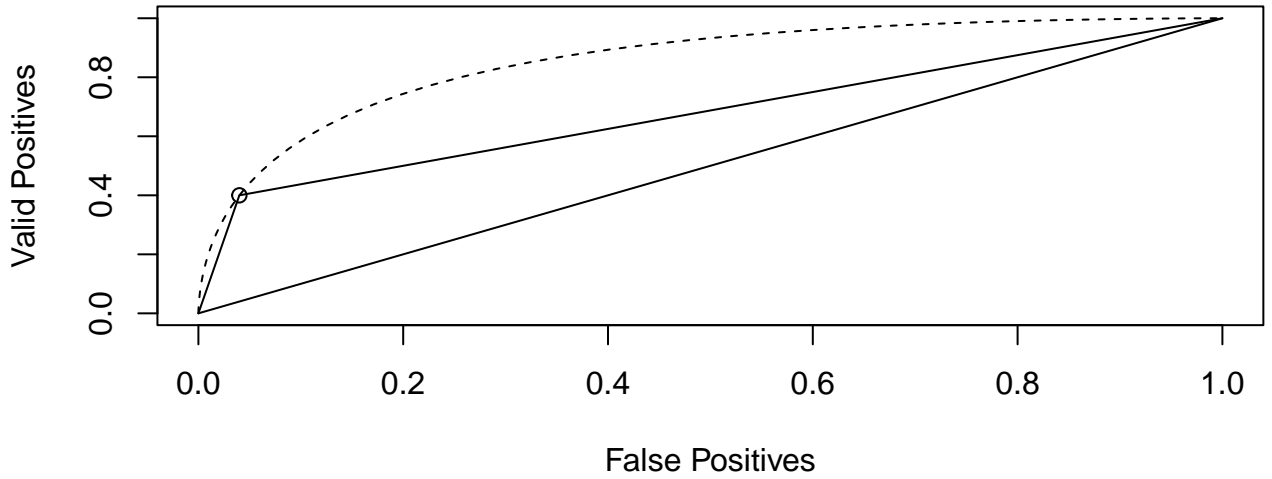
Valid Positives as function of False Positives



Decision Theory

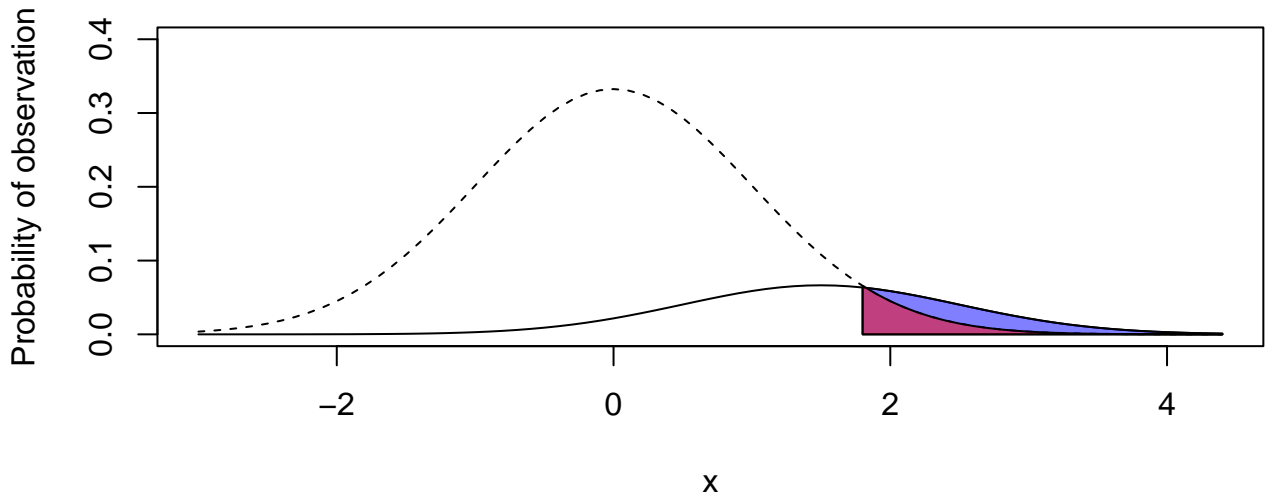


Valid Positives as function of False Positives

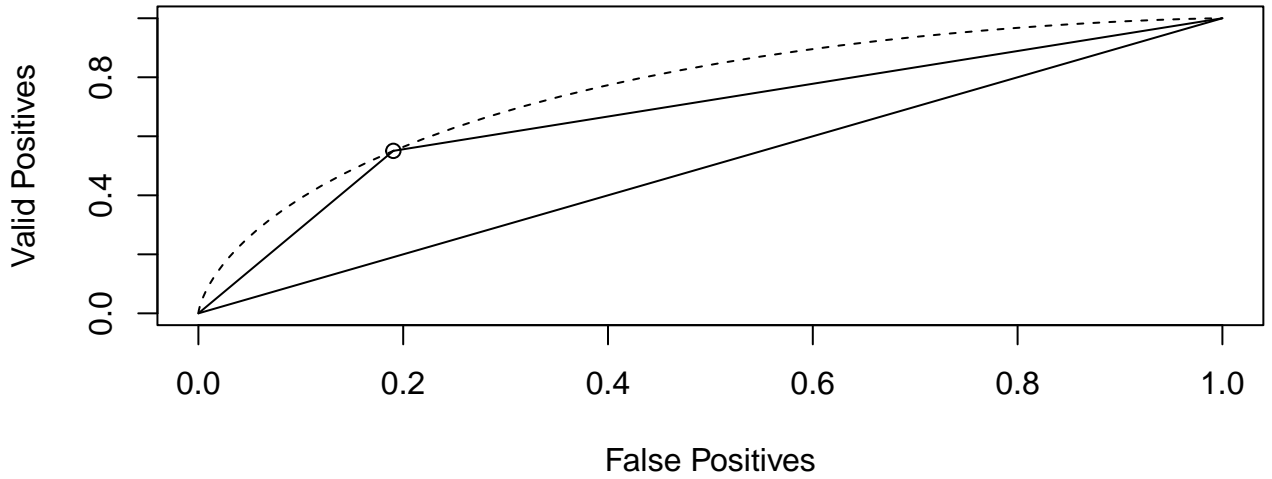


help("AUC")

Decision Theory

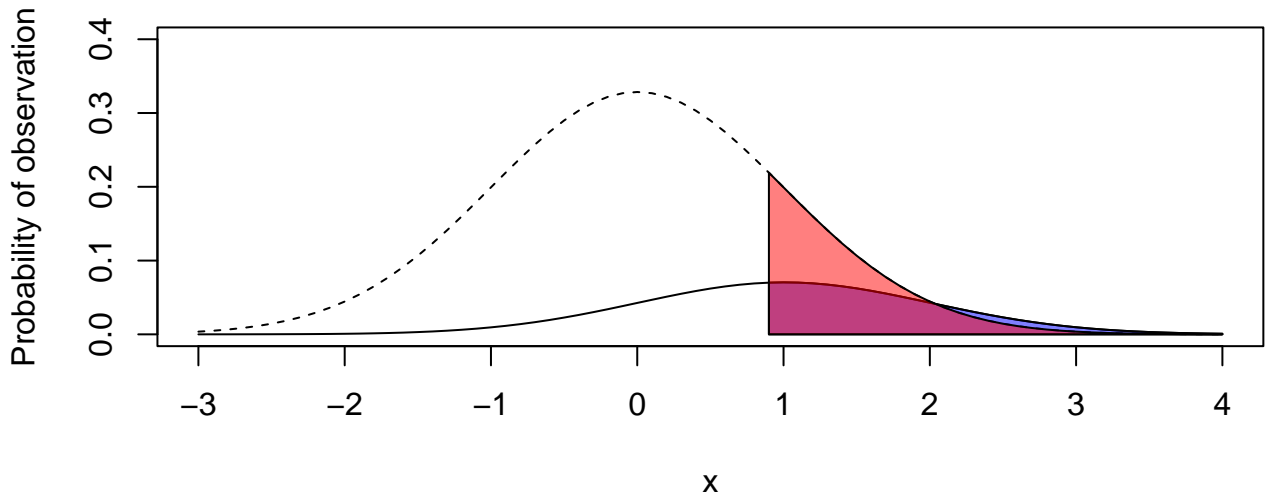


Valid Positives as function of False Positives

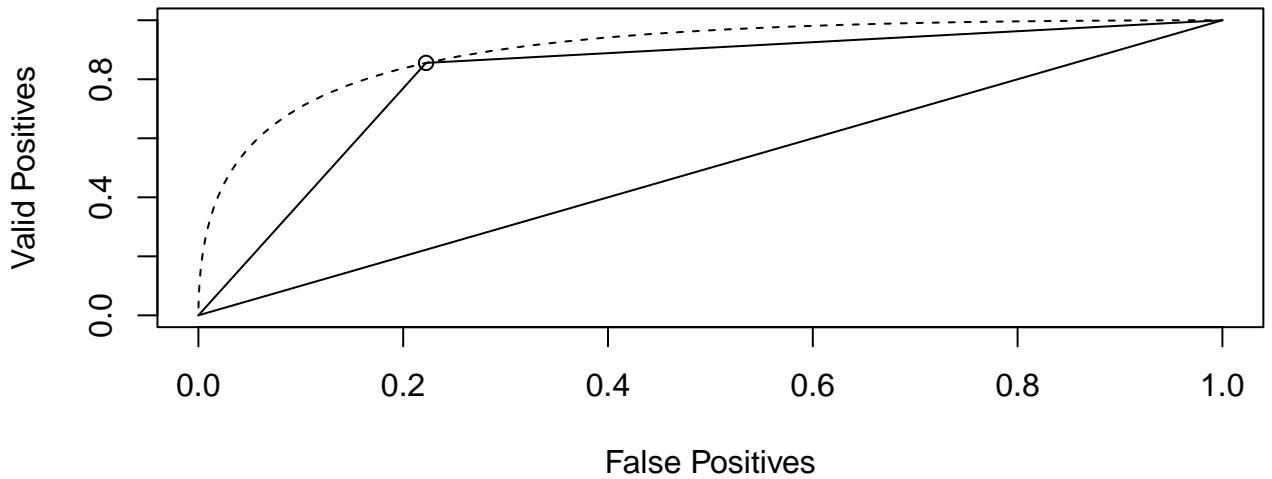


help("AUC")

Decision Theory

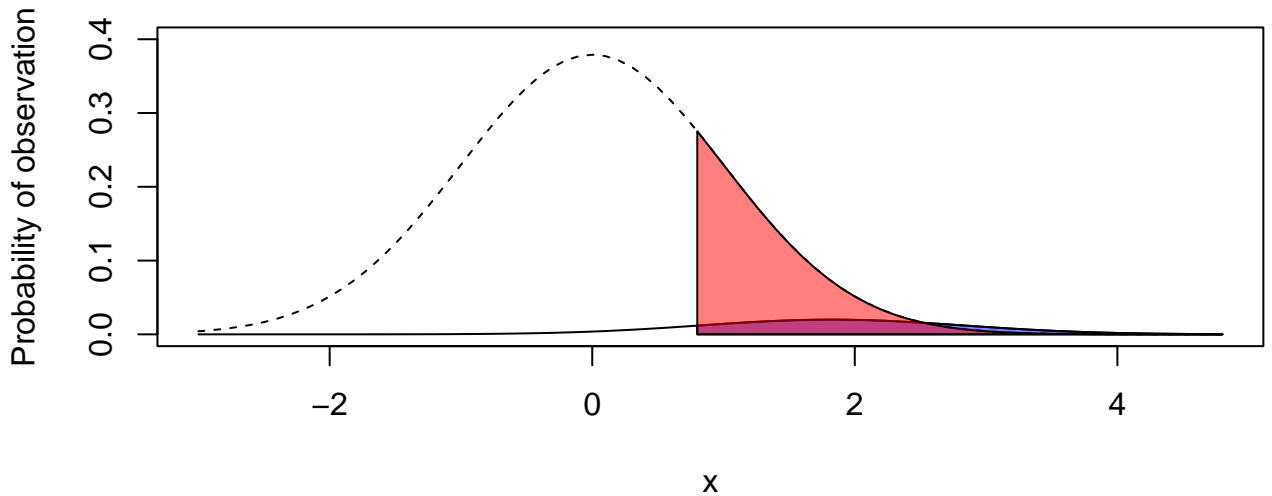


Valid Positives as function of False Positives

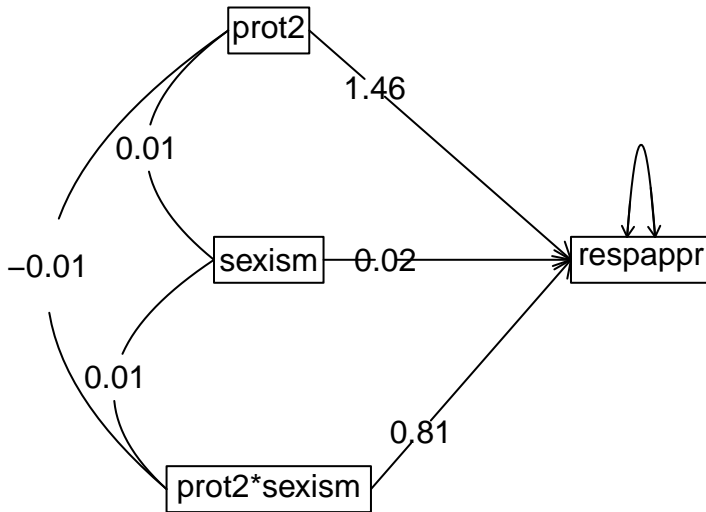


help("AUC")

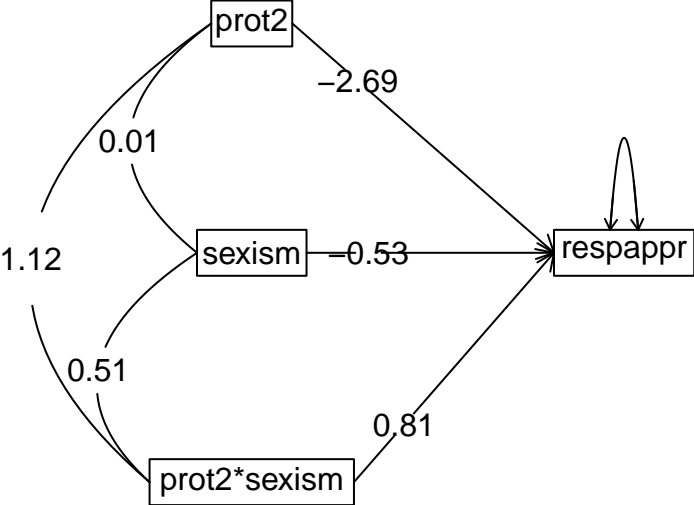
Decision Theory



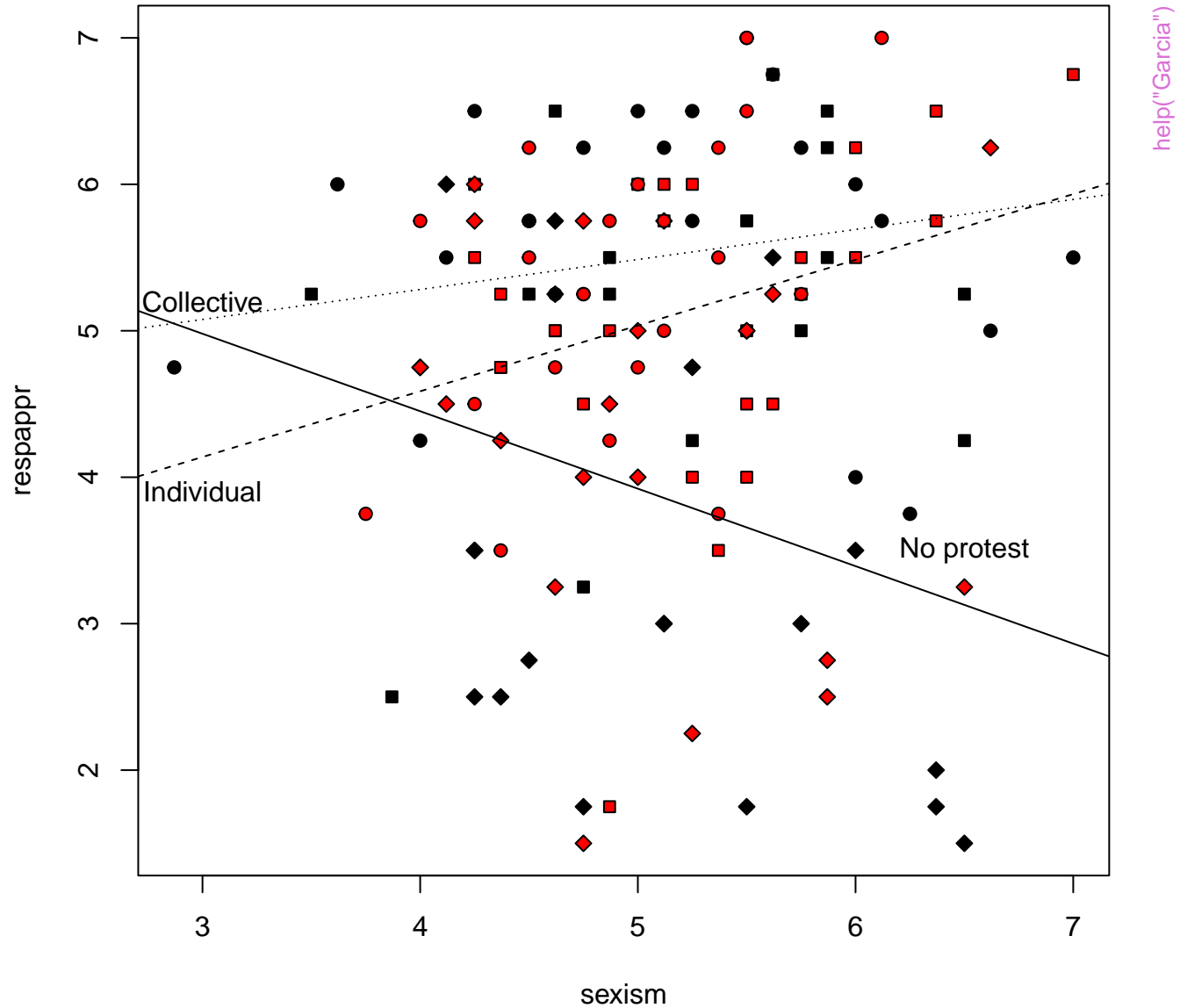
Moderated (mean centered)



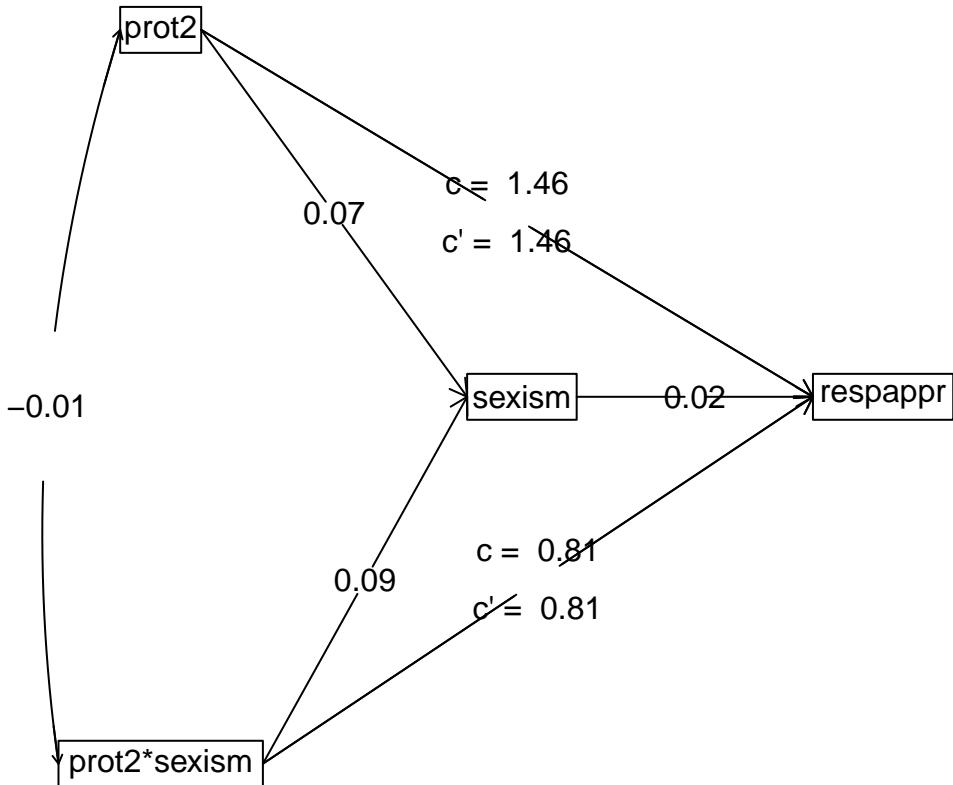
Moderated (don't center)



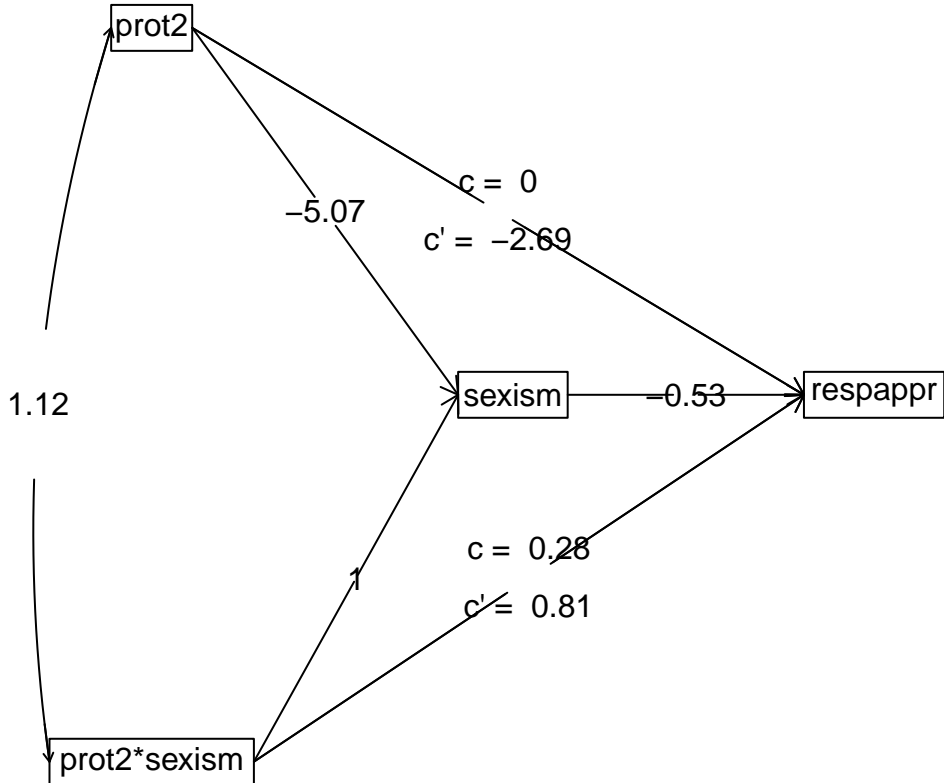
Response to sexism varies as type of protest

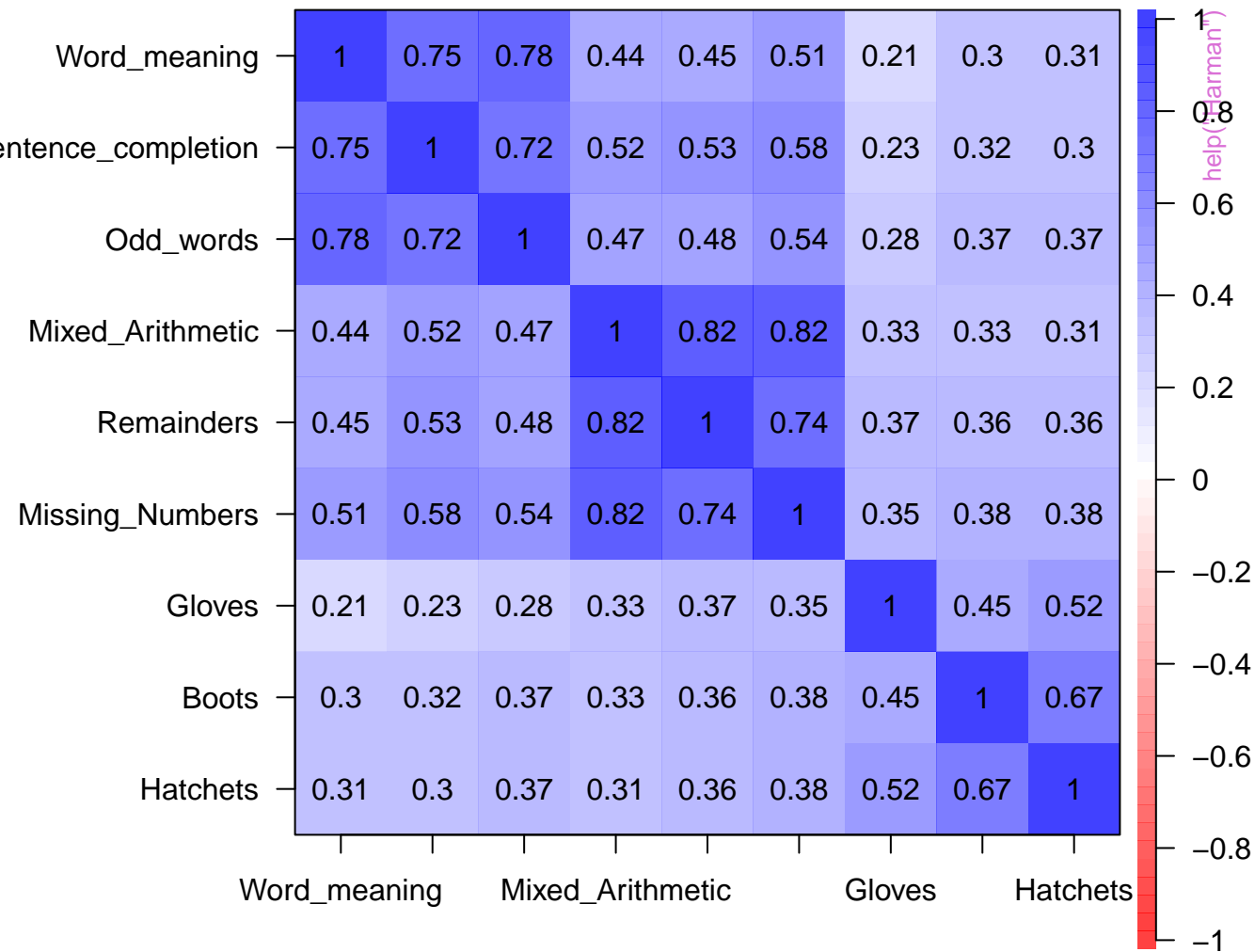


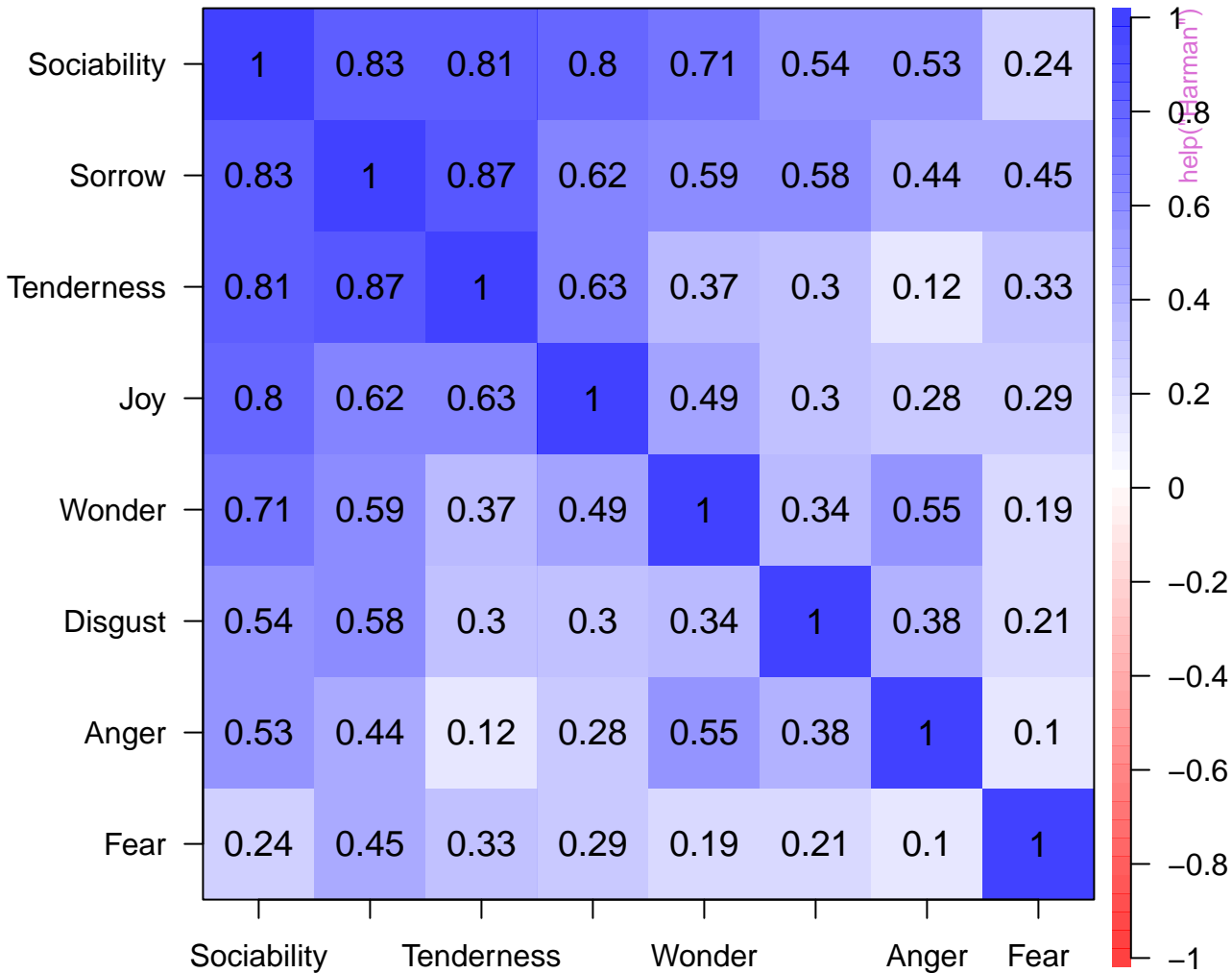
Moderated mediation (mean centered)



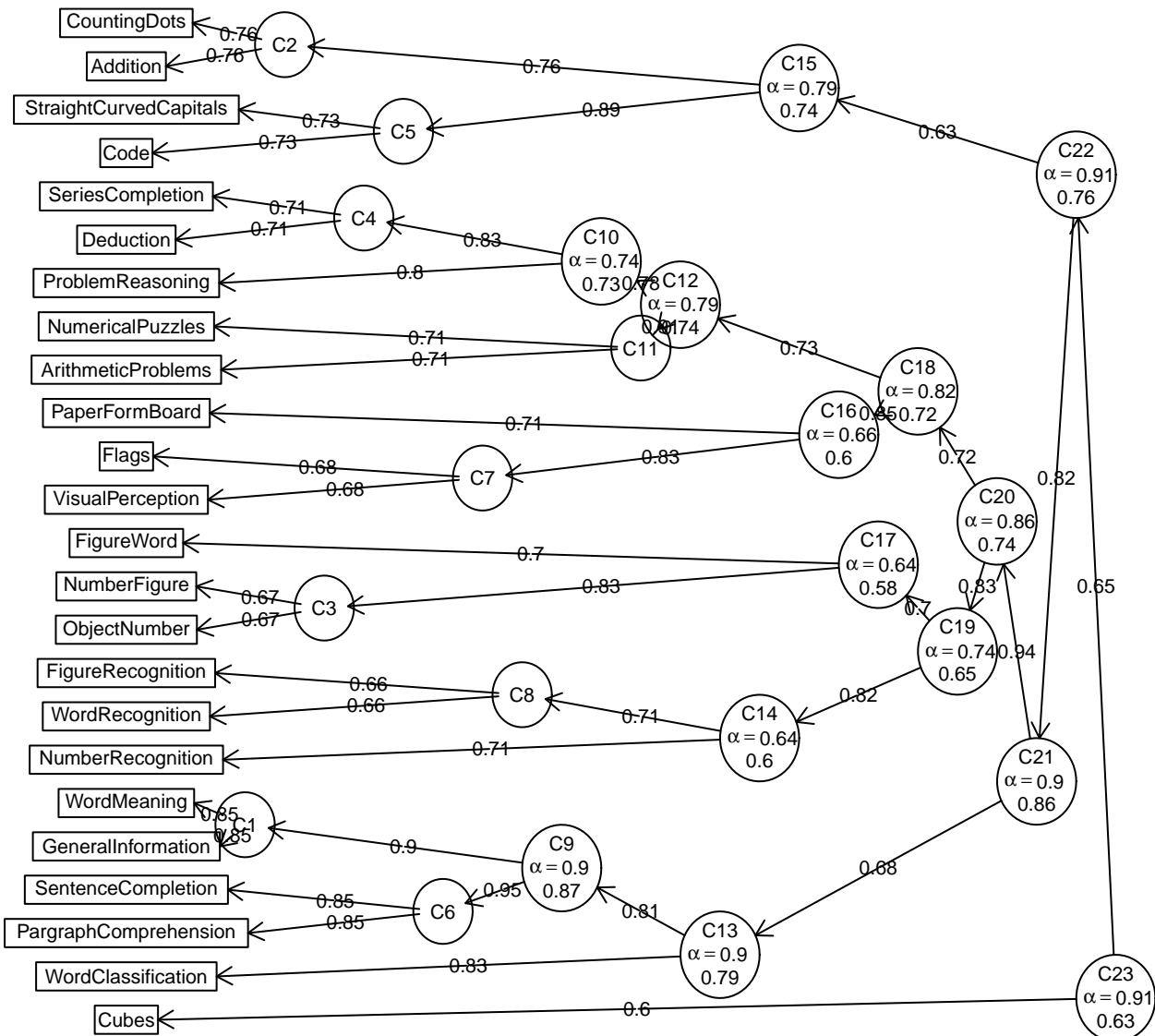
Moderated mediation (not centered)



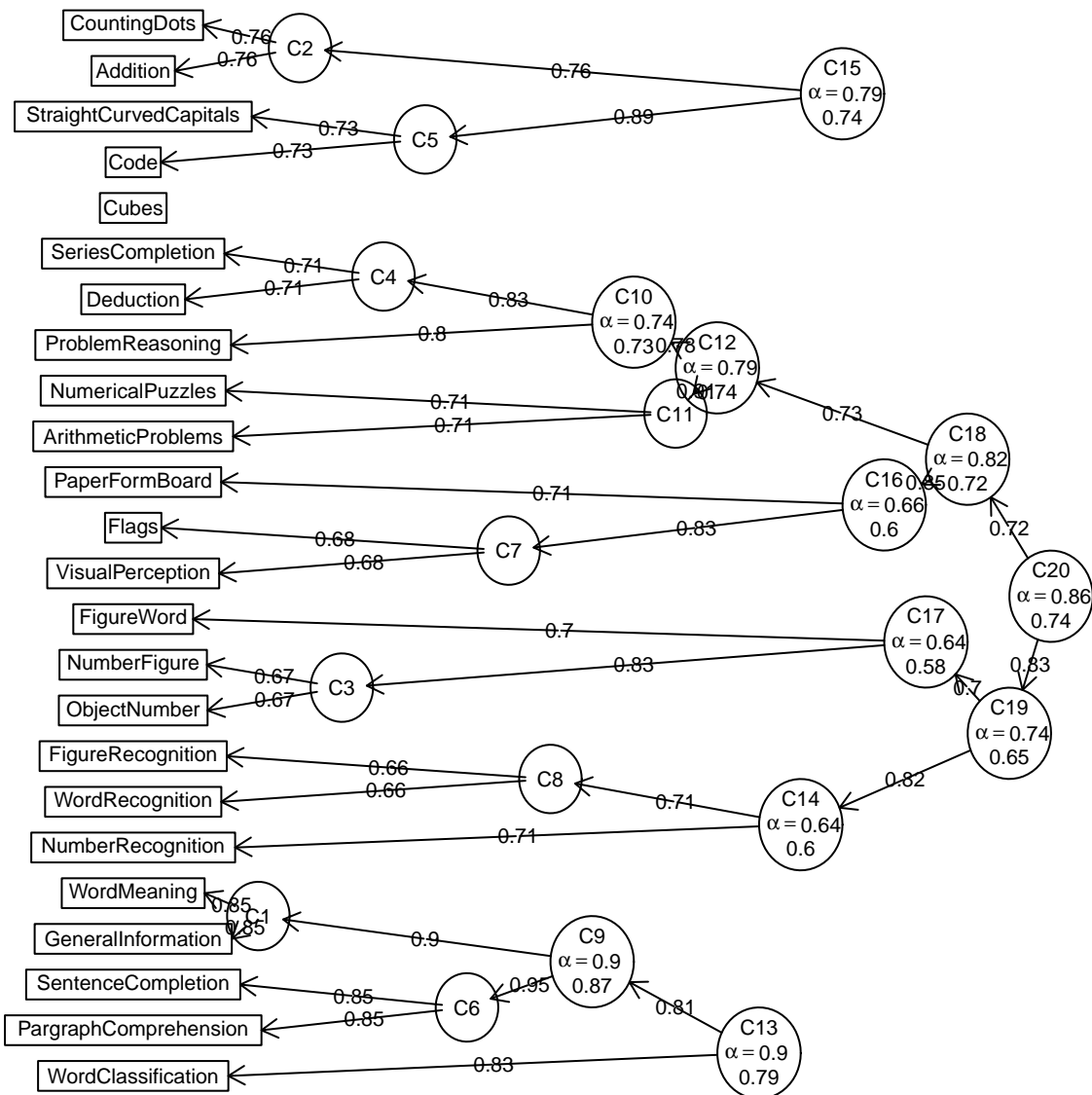




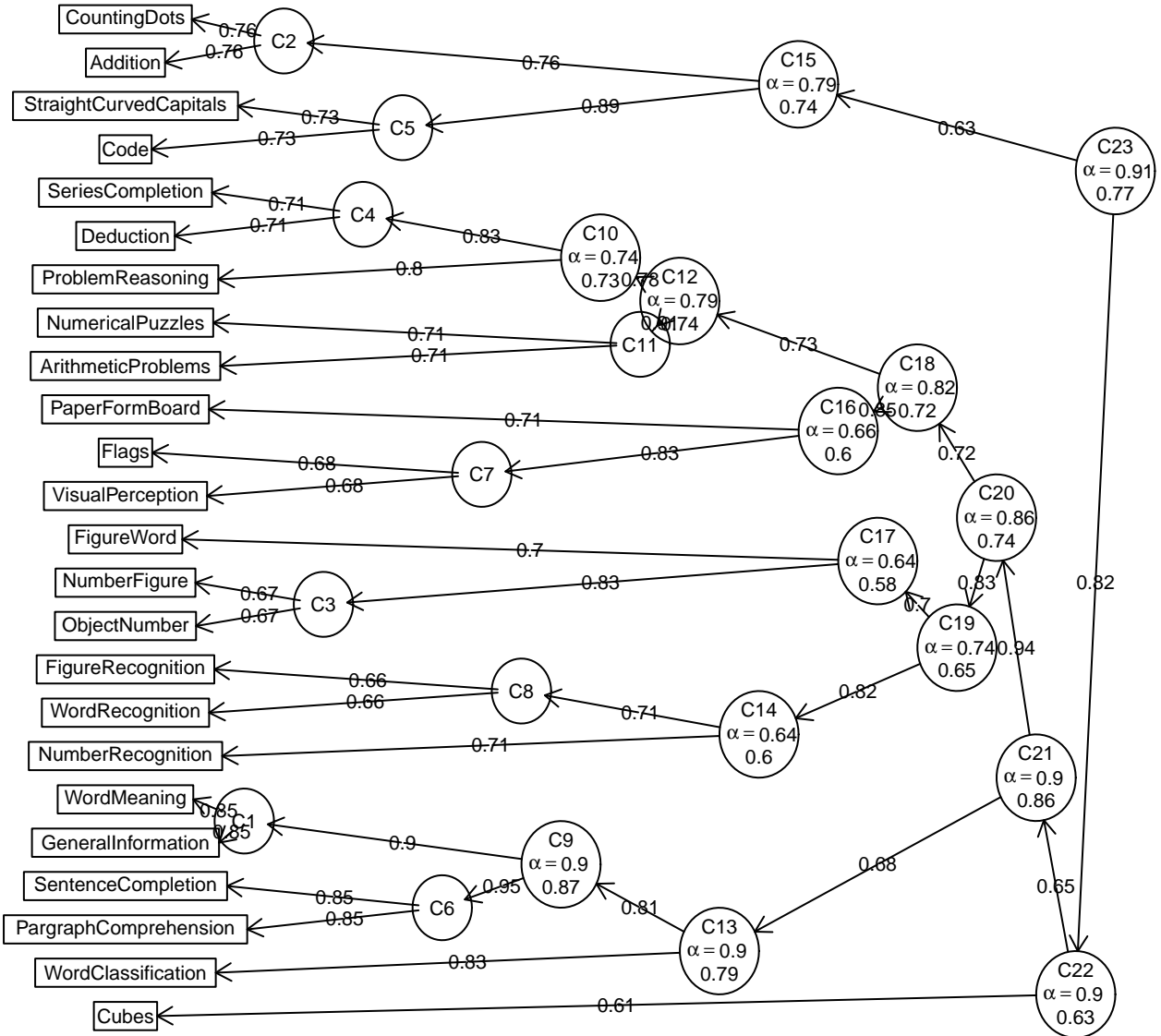
ICLUST of the Harman data

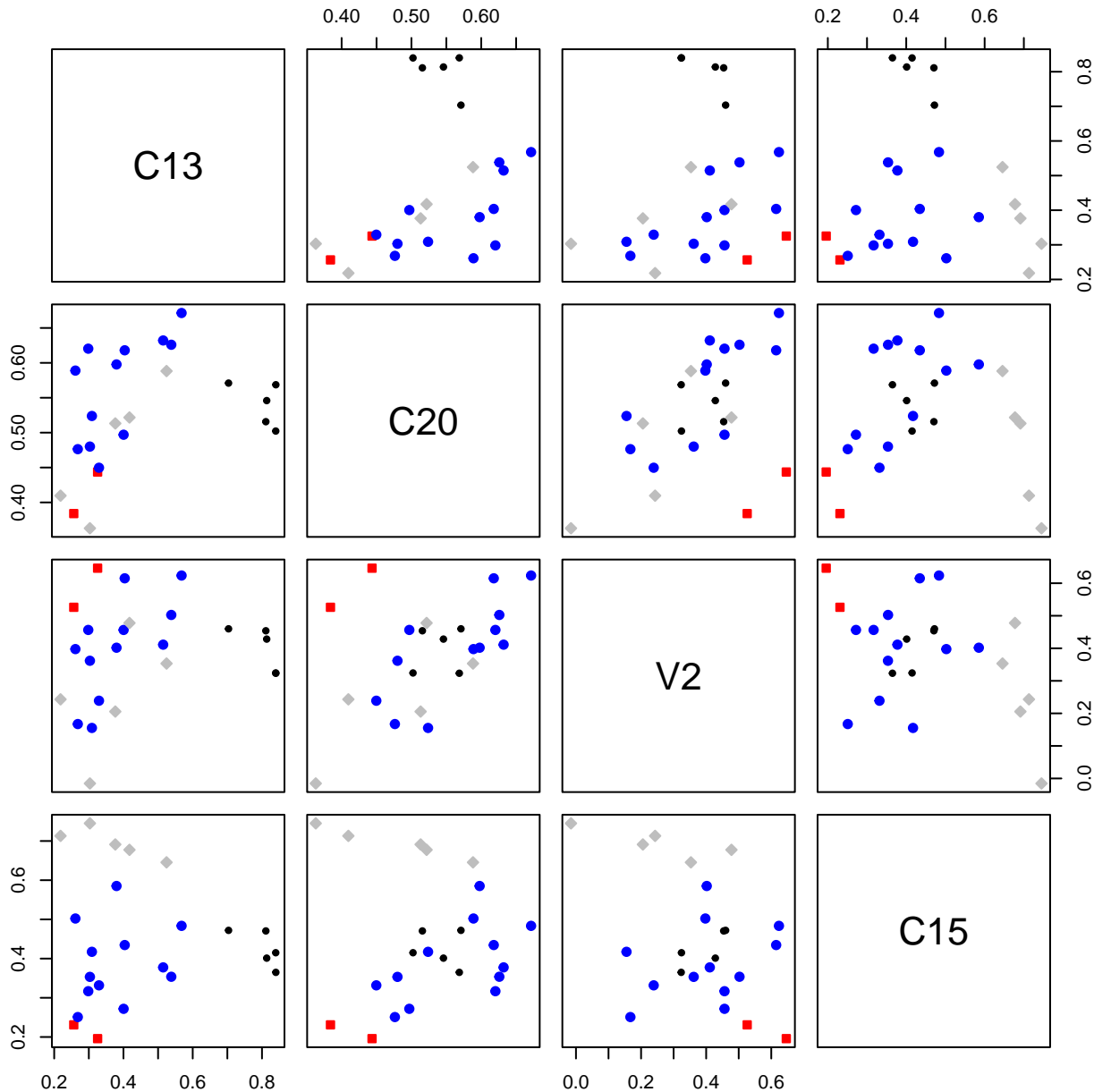


Force 4 clusters

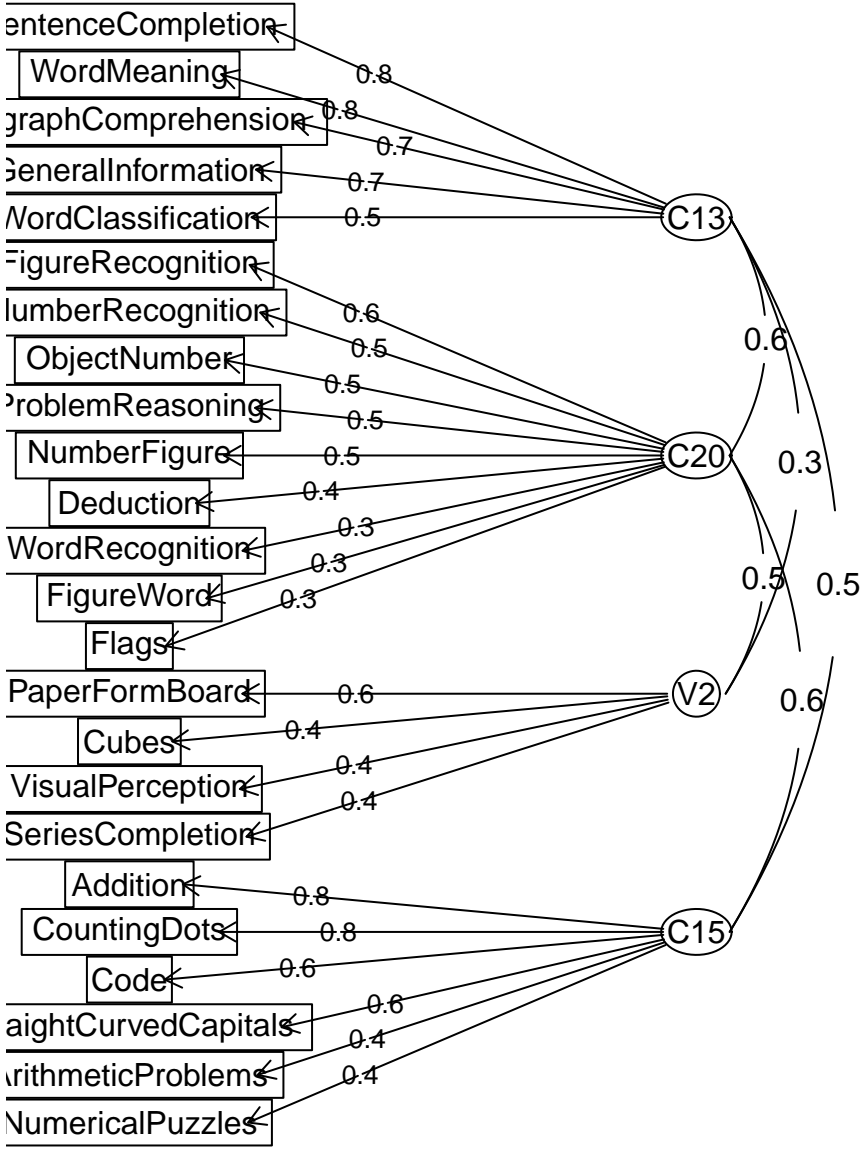


ICLUST

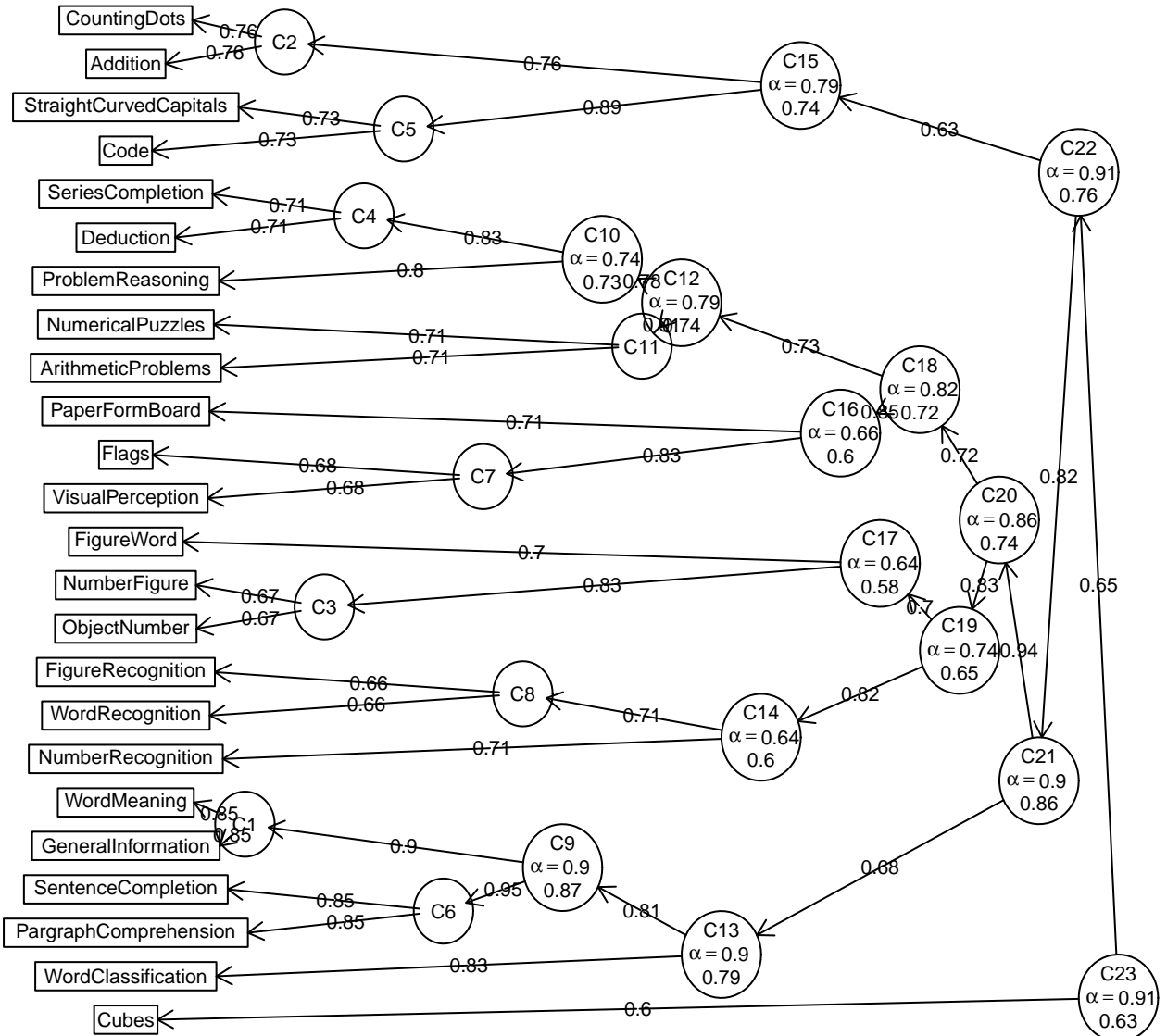


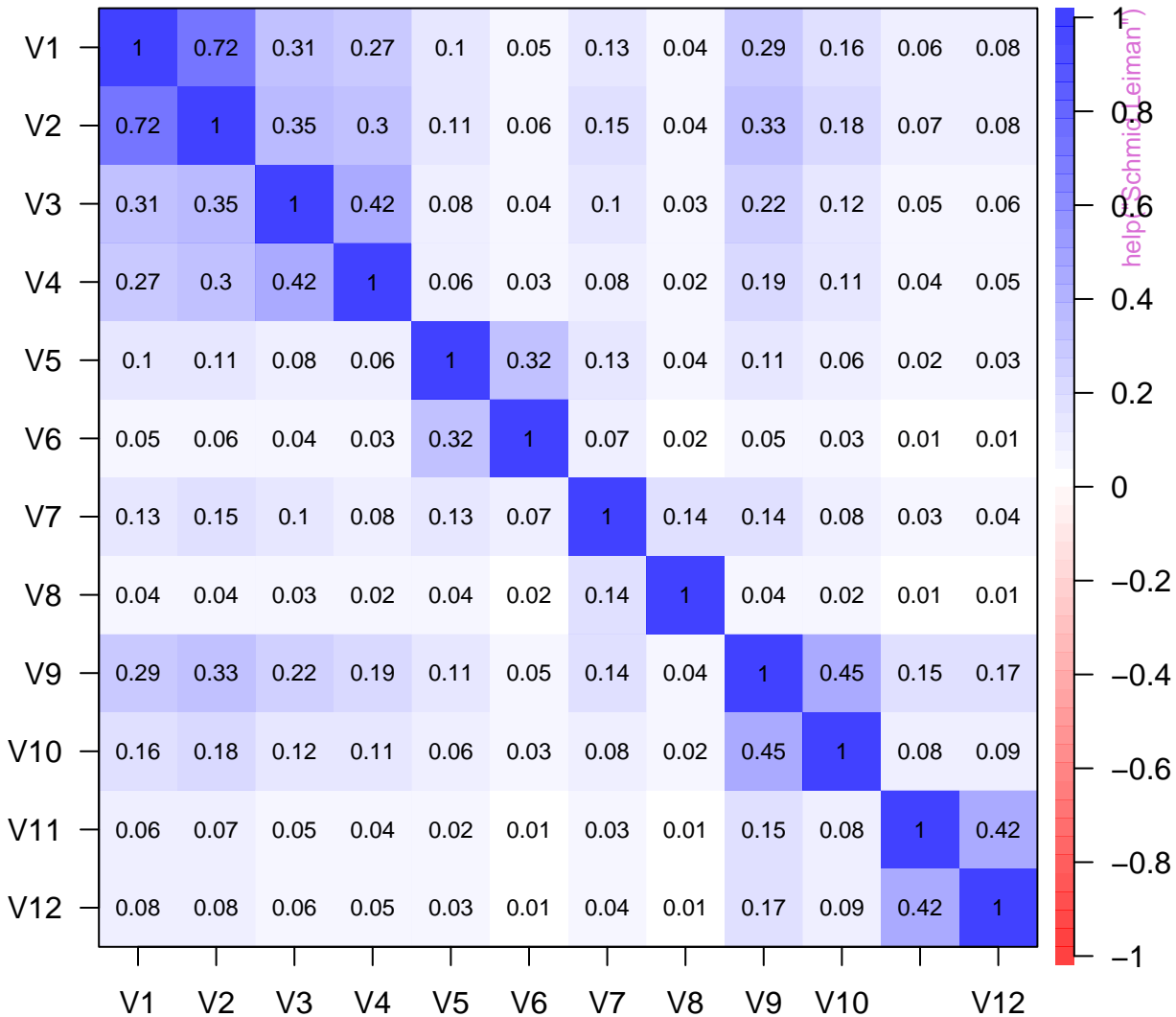


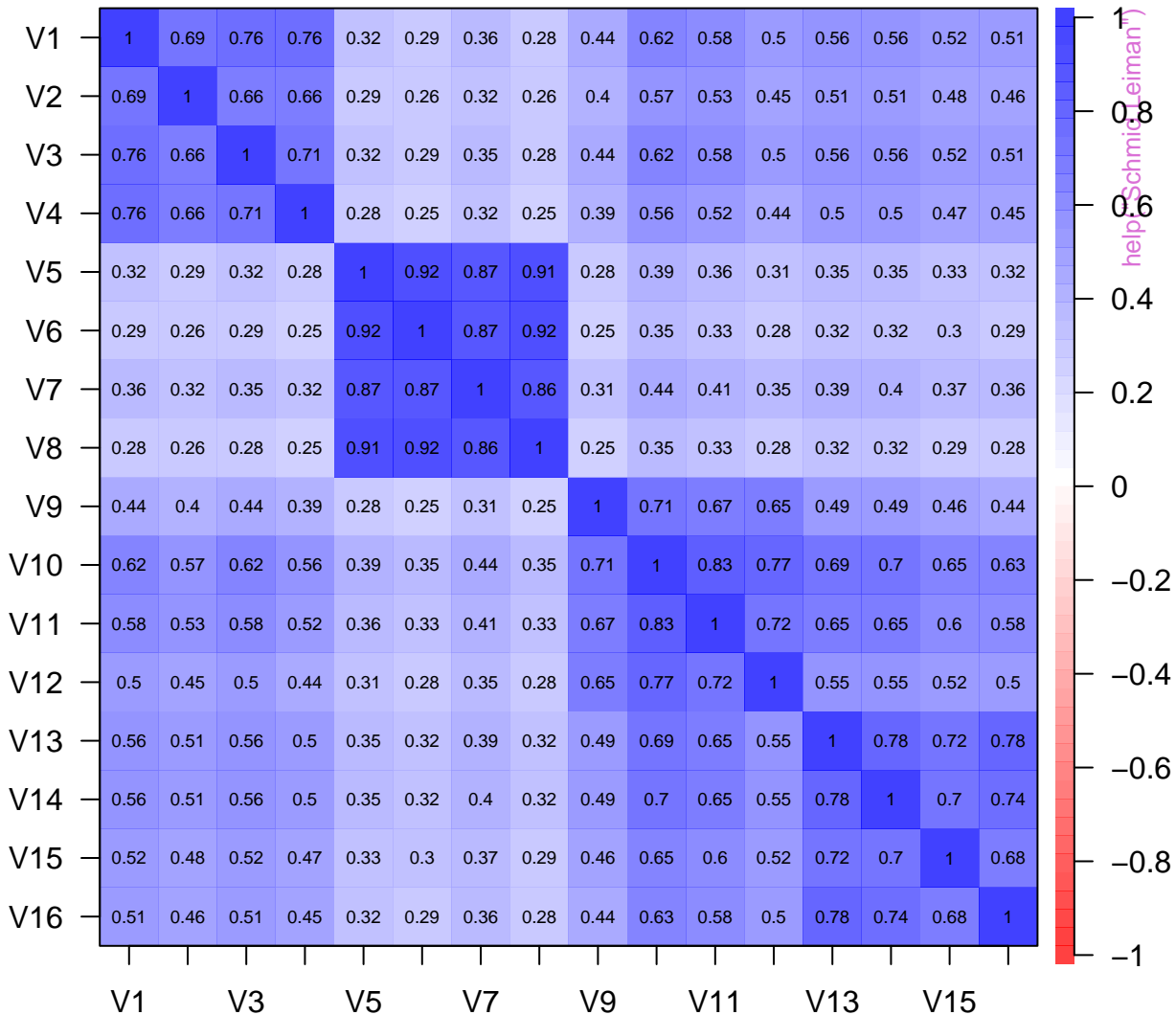
Pattern taken from iclust



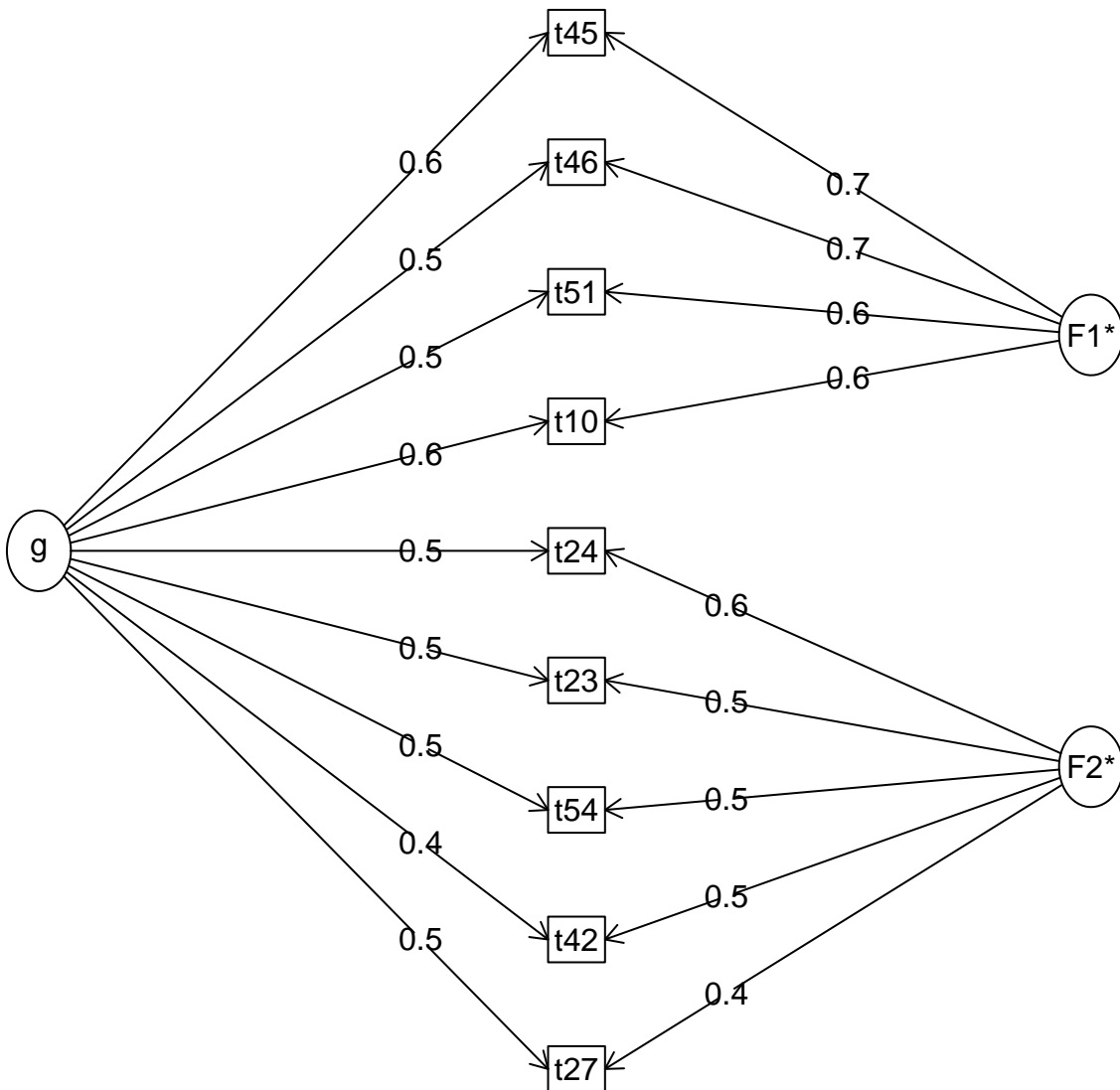
ICLUST



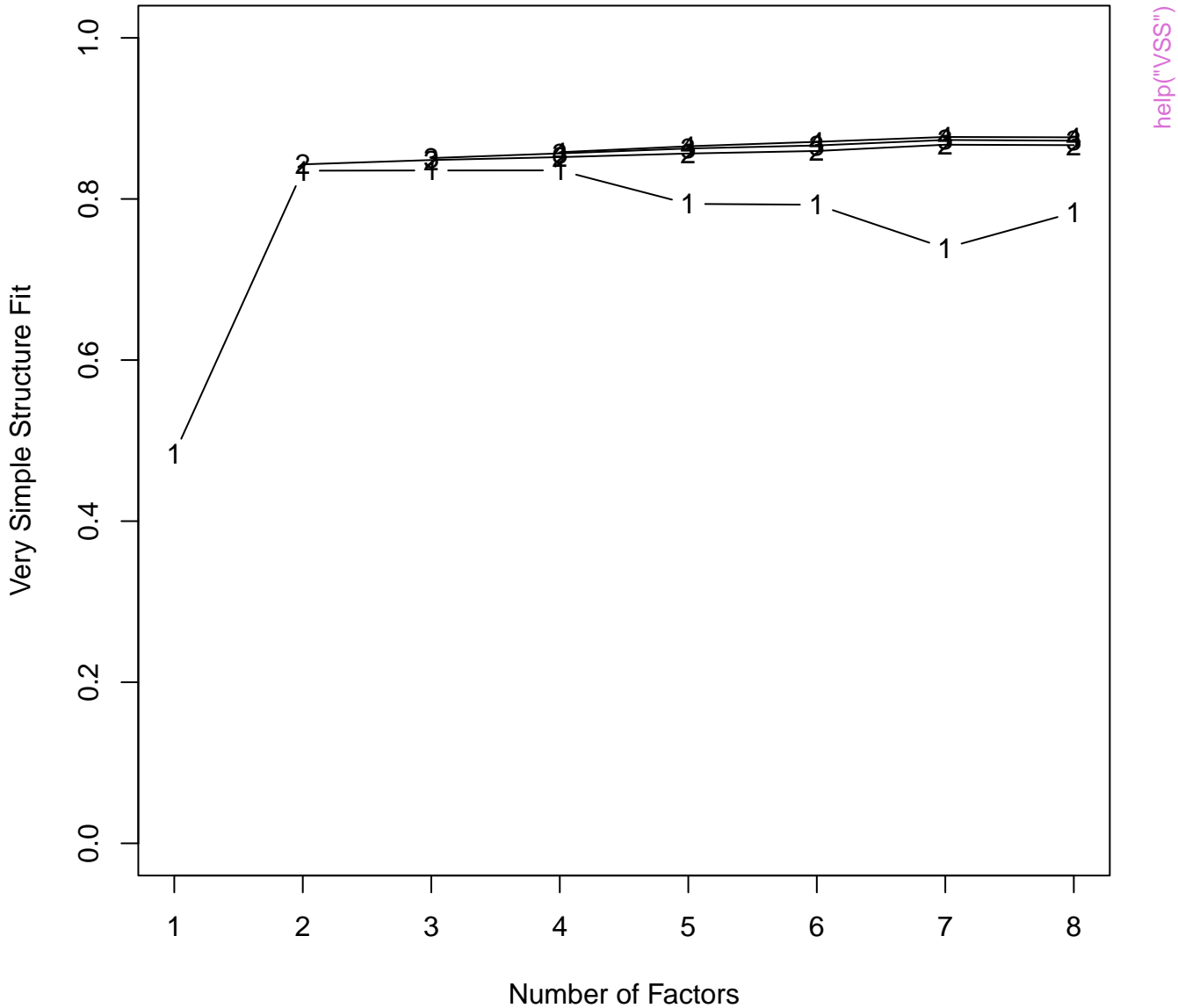




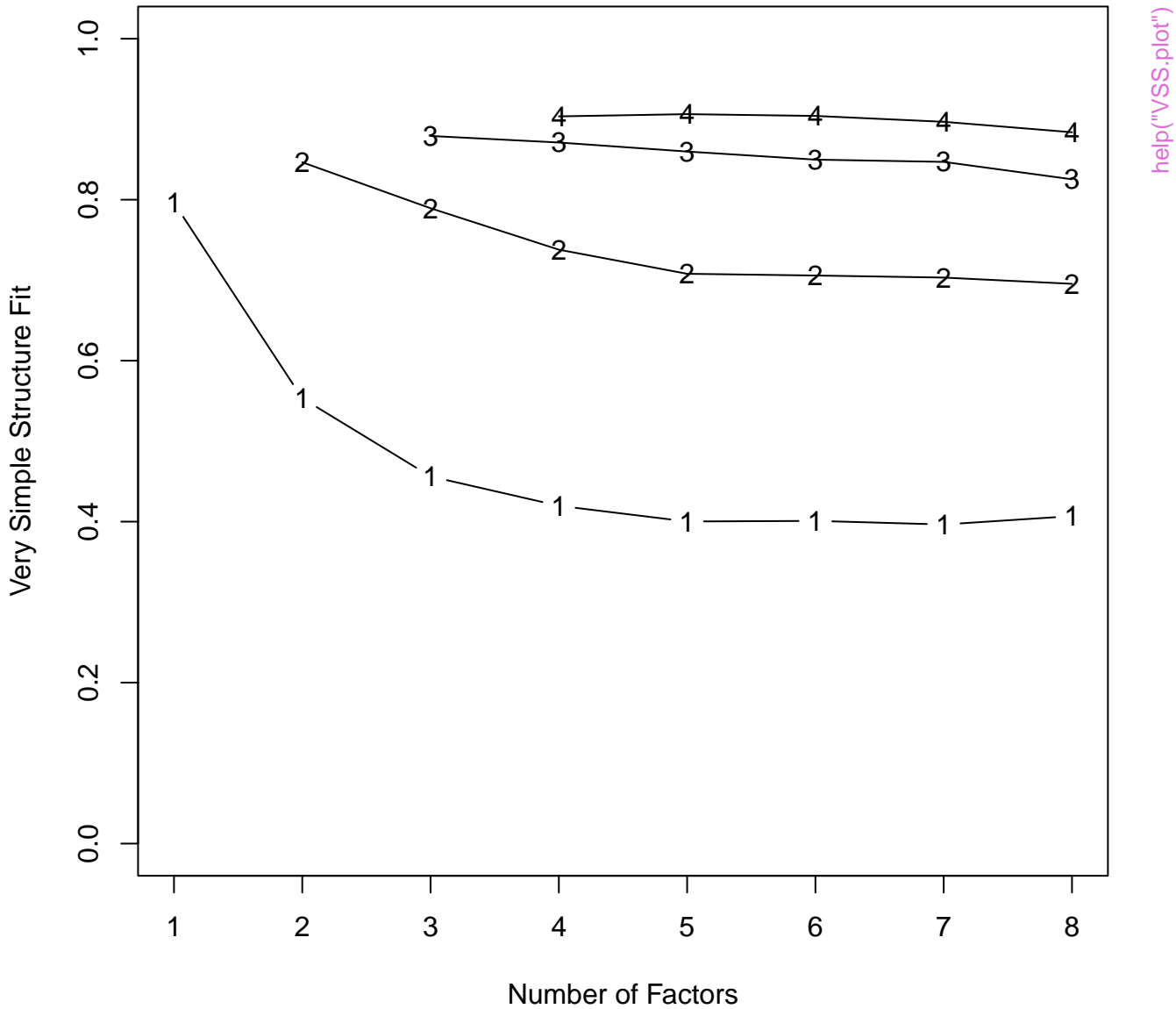
Omega



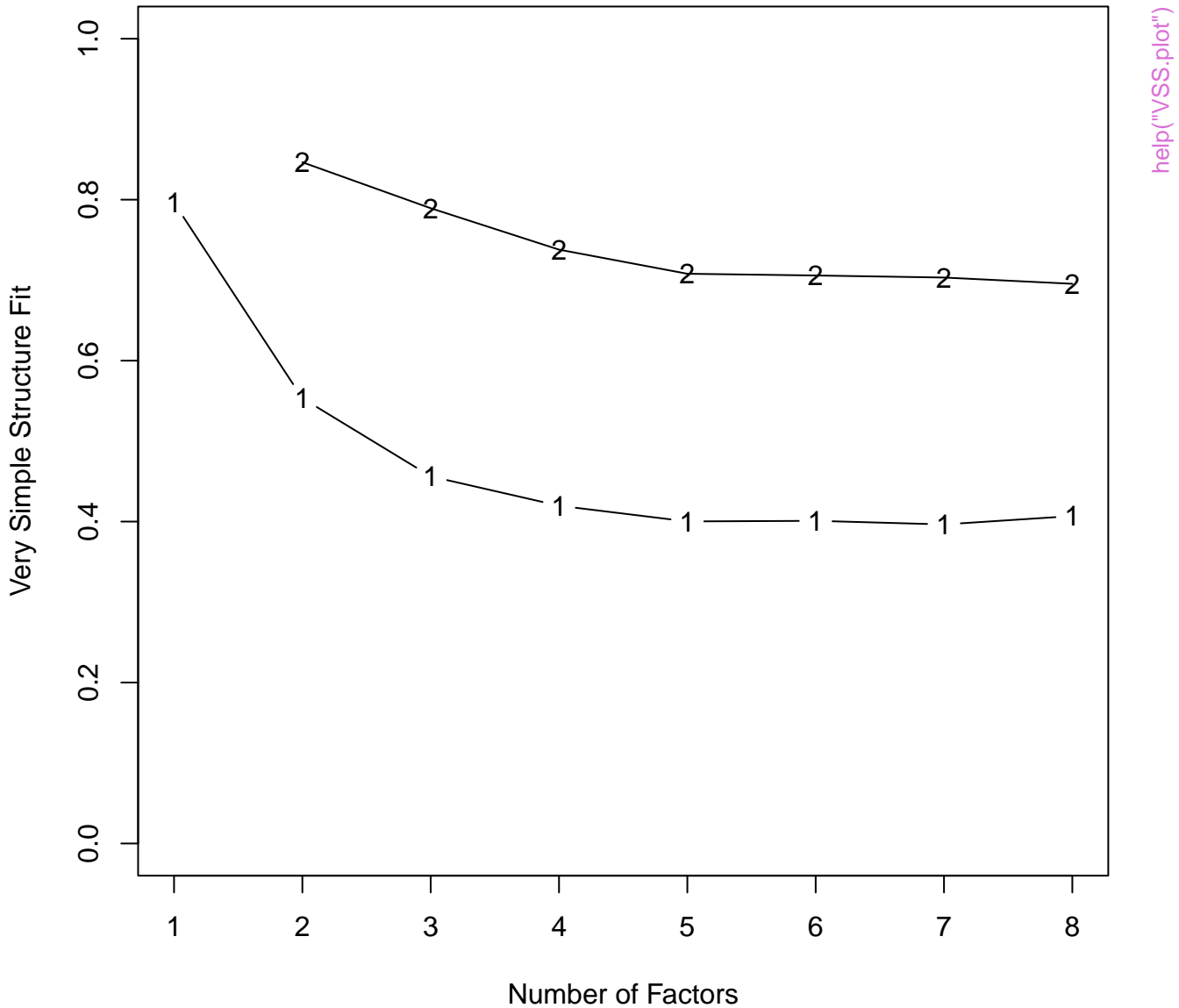
VSS of 24 simple structure variables



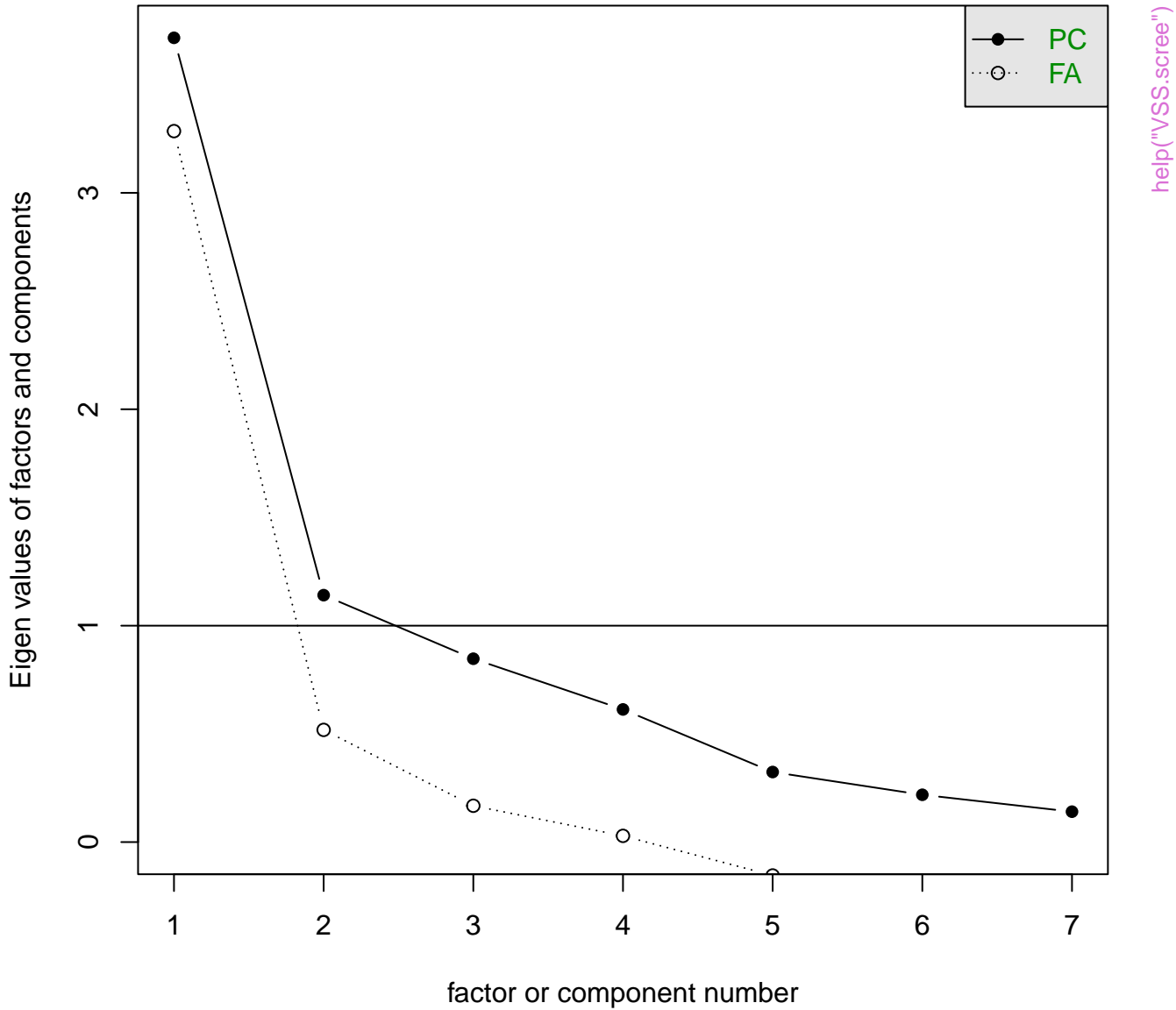
Very Simple Structure



VSS of Holzinger–Harmon problem

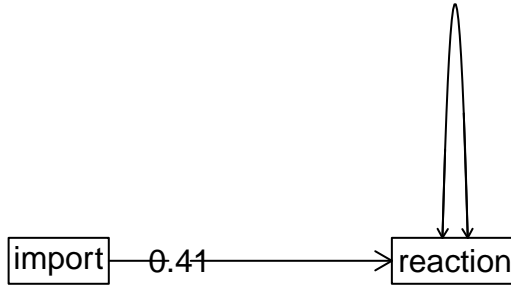


Scree plot

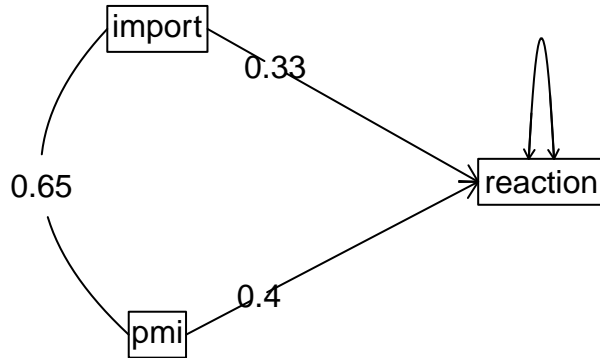


help("VSS.scree")

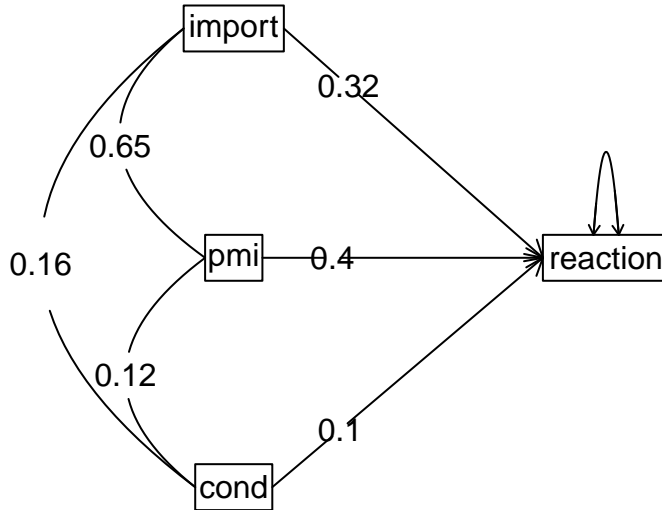
Regression Models



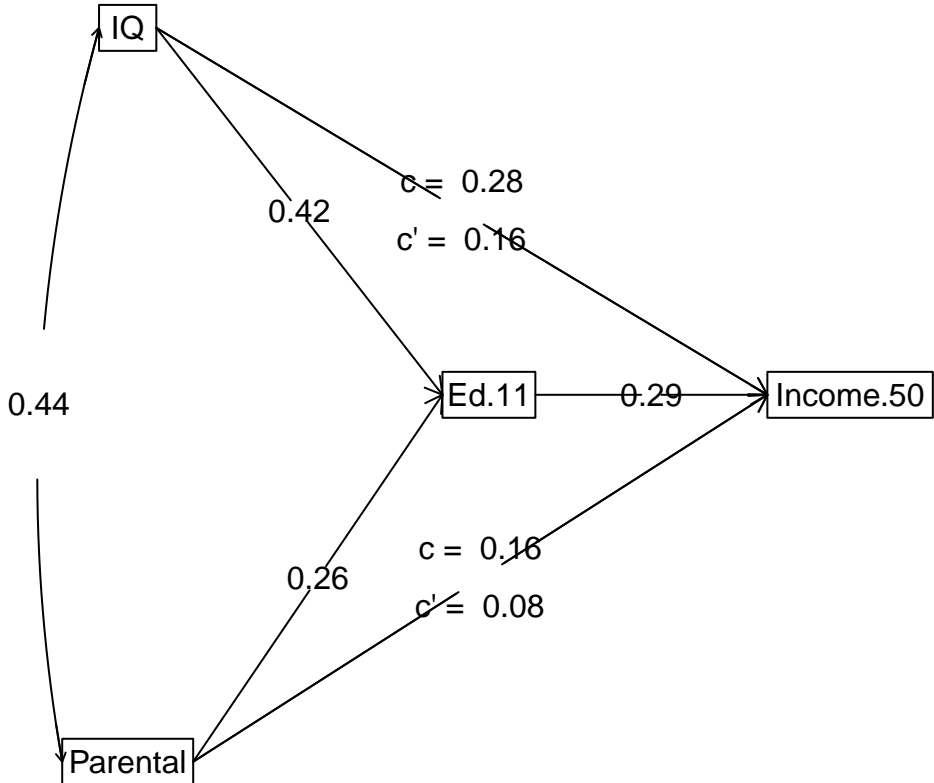
Regression Models



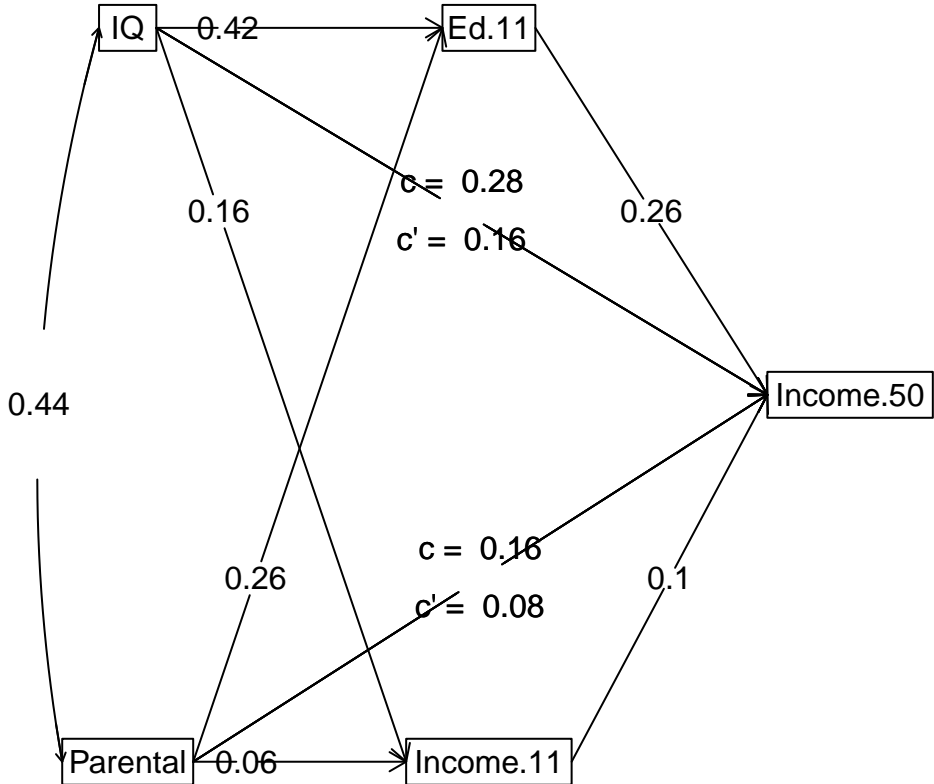
Regression Models



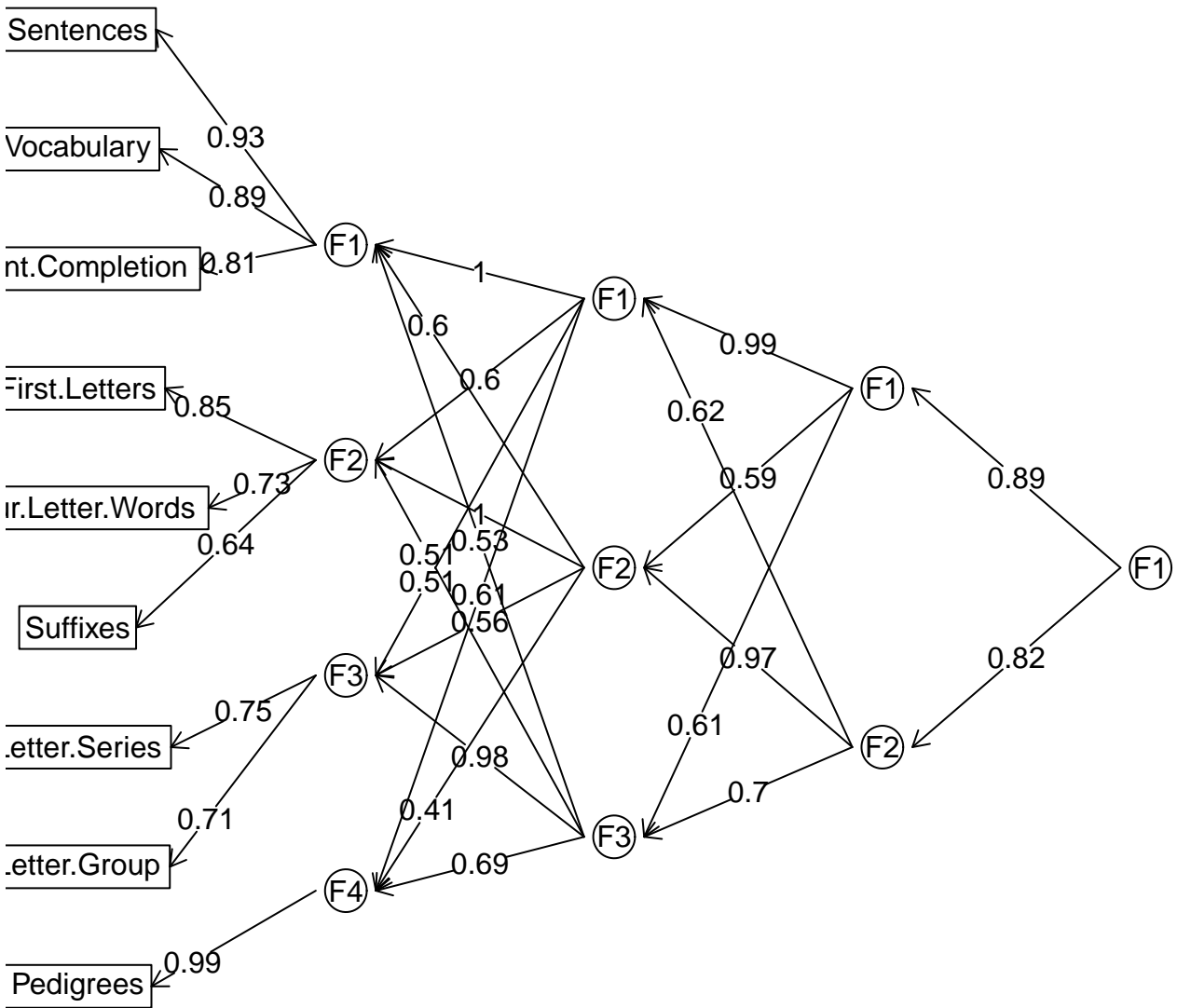
Mediation



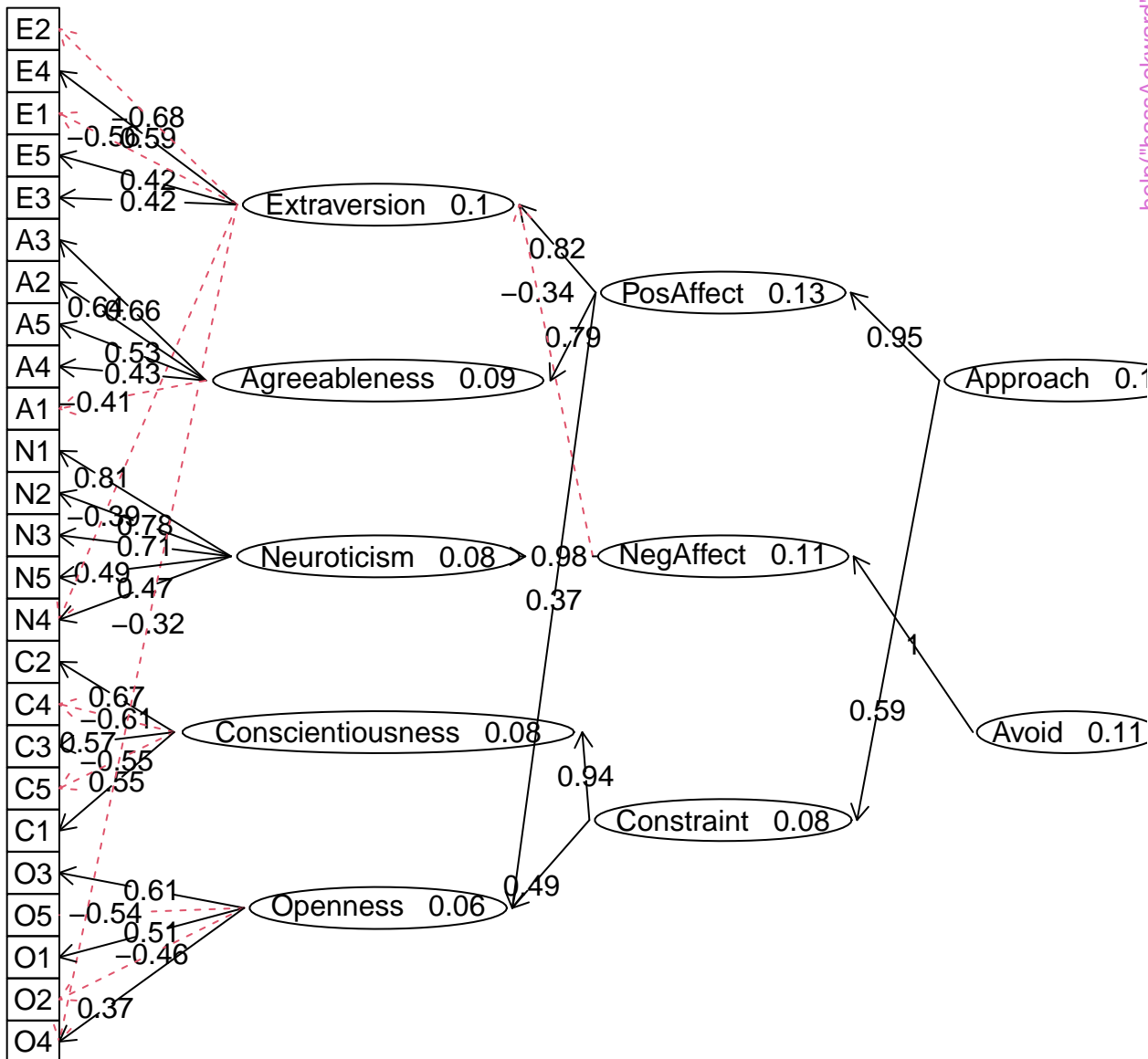
Mediation



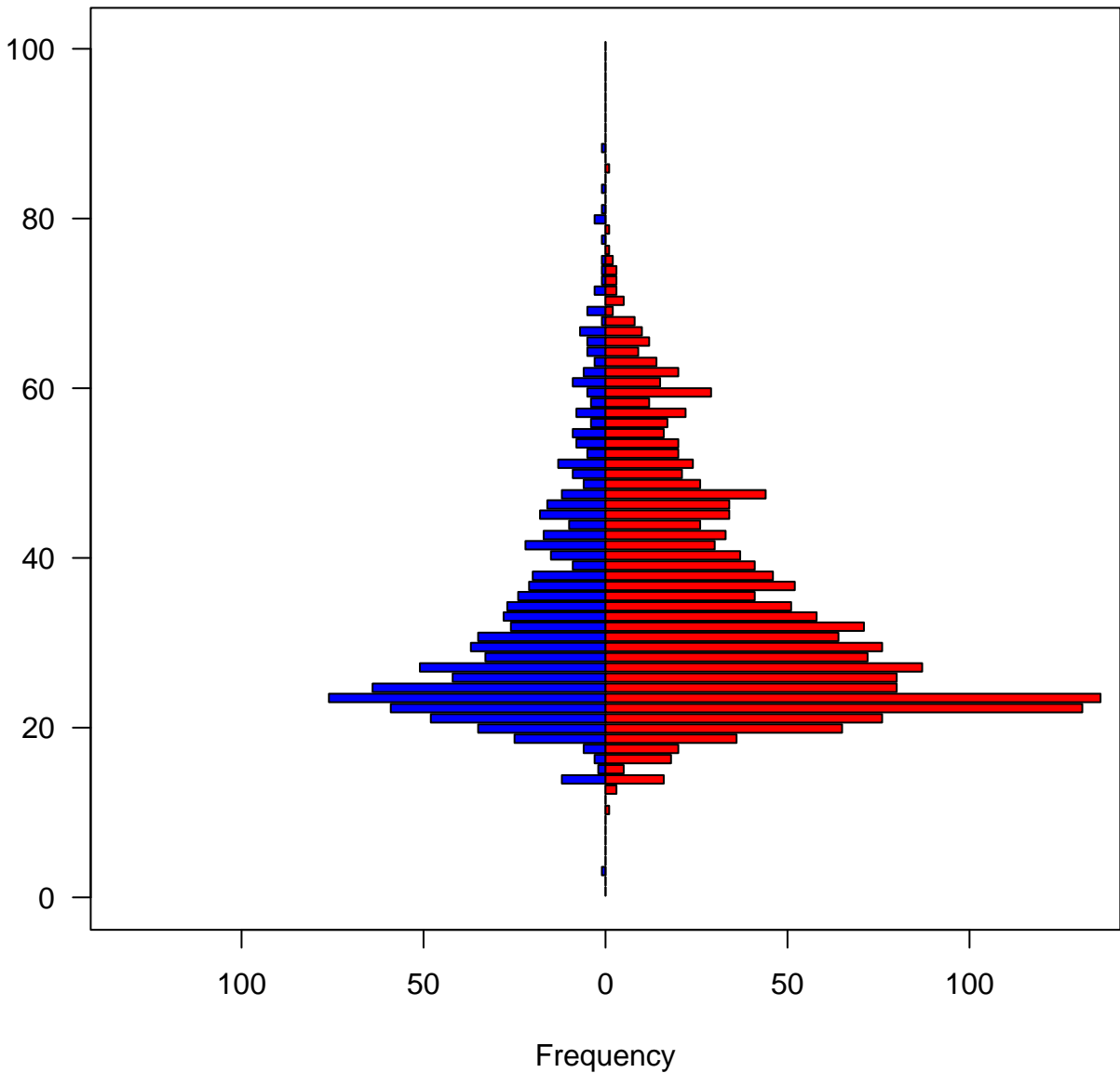
Thurstone data set



bfi data set from psychTools

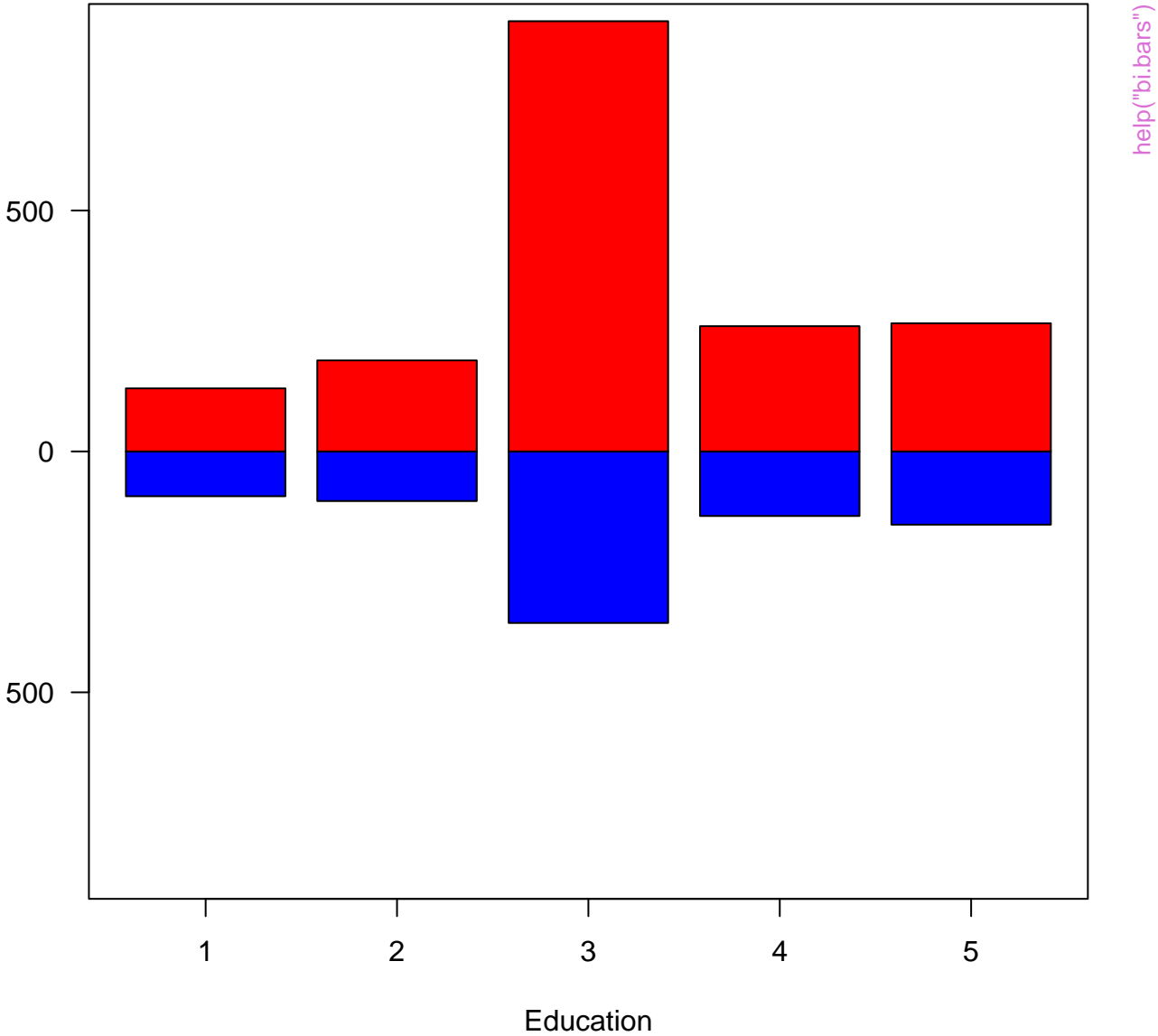


Age by males and females

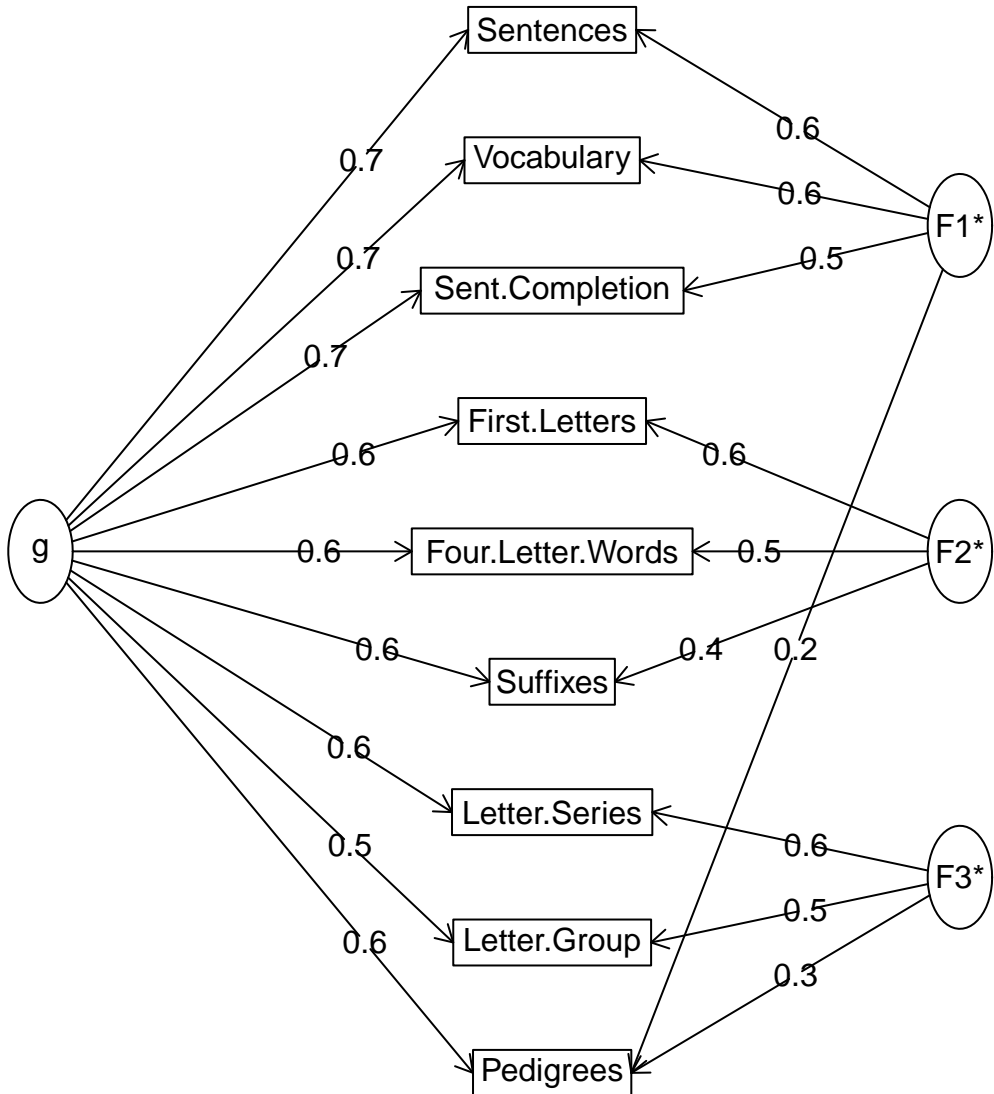


help("bi.bars")

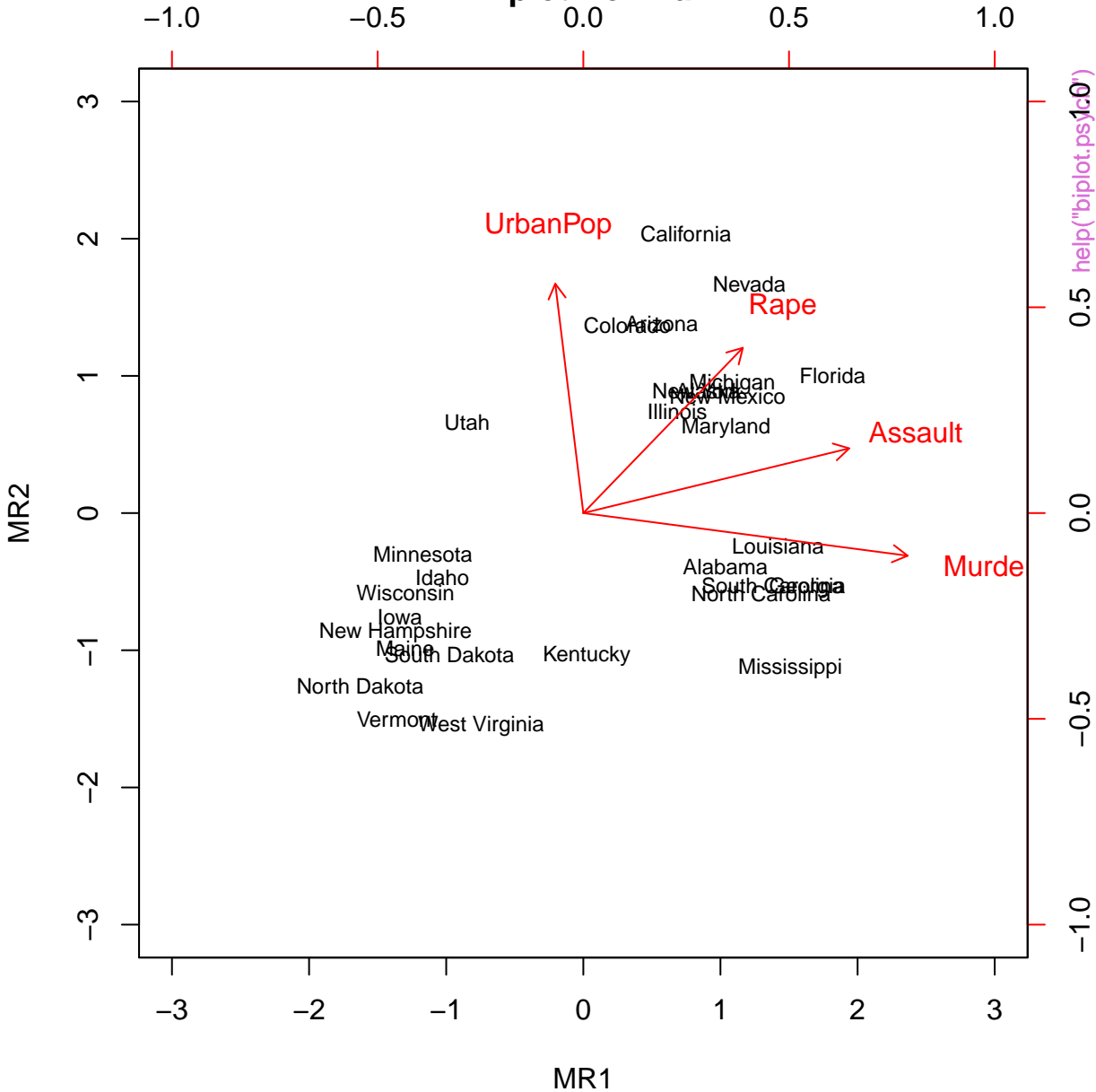
Education by gender

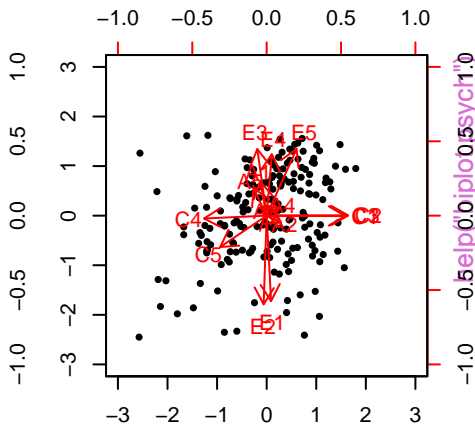
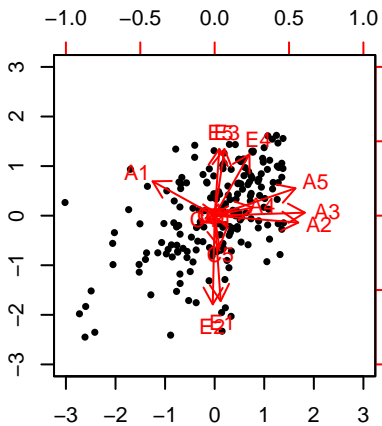
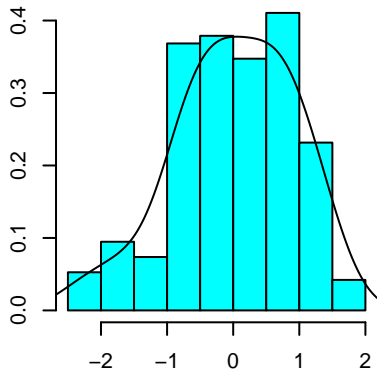
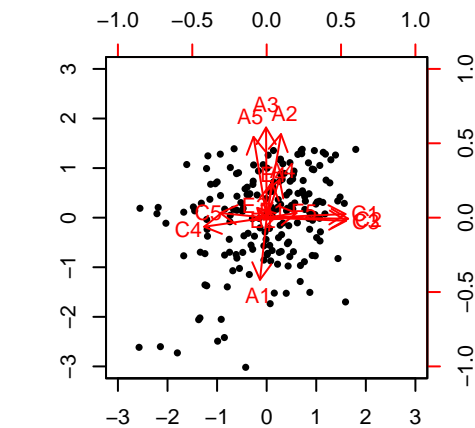
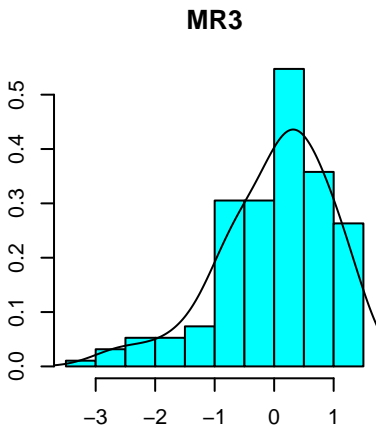
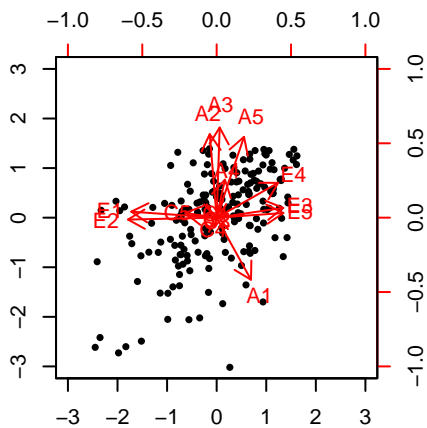
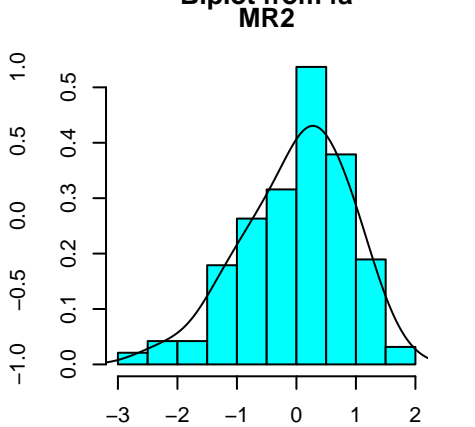
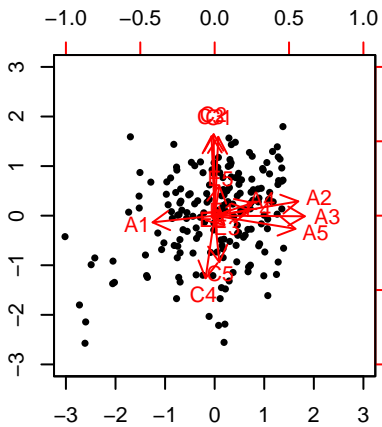
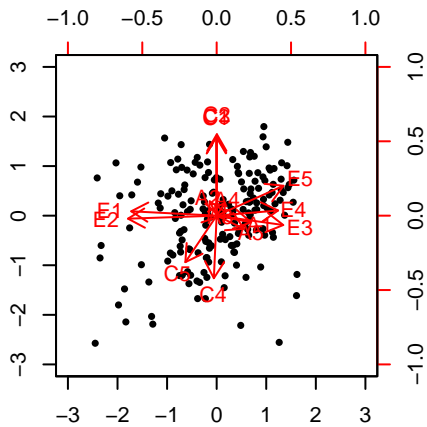


9 variables from Thurstone

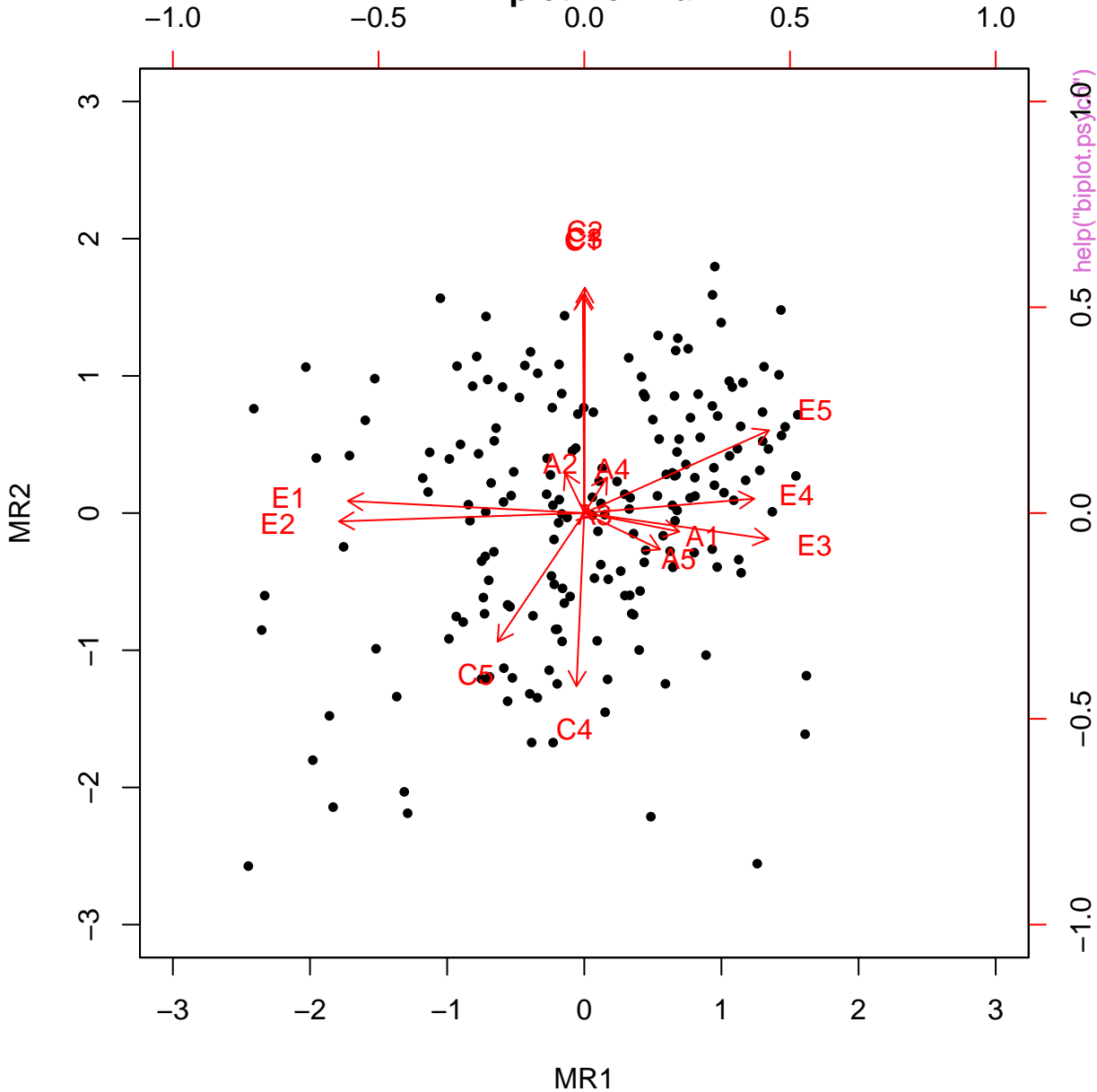


Biplot from fa

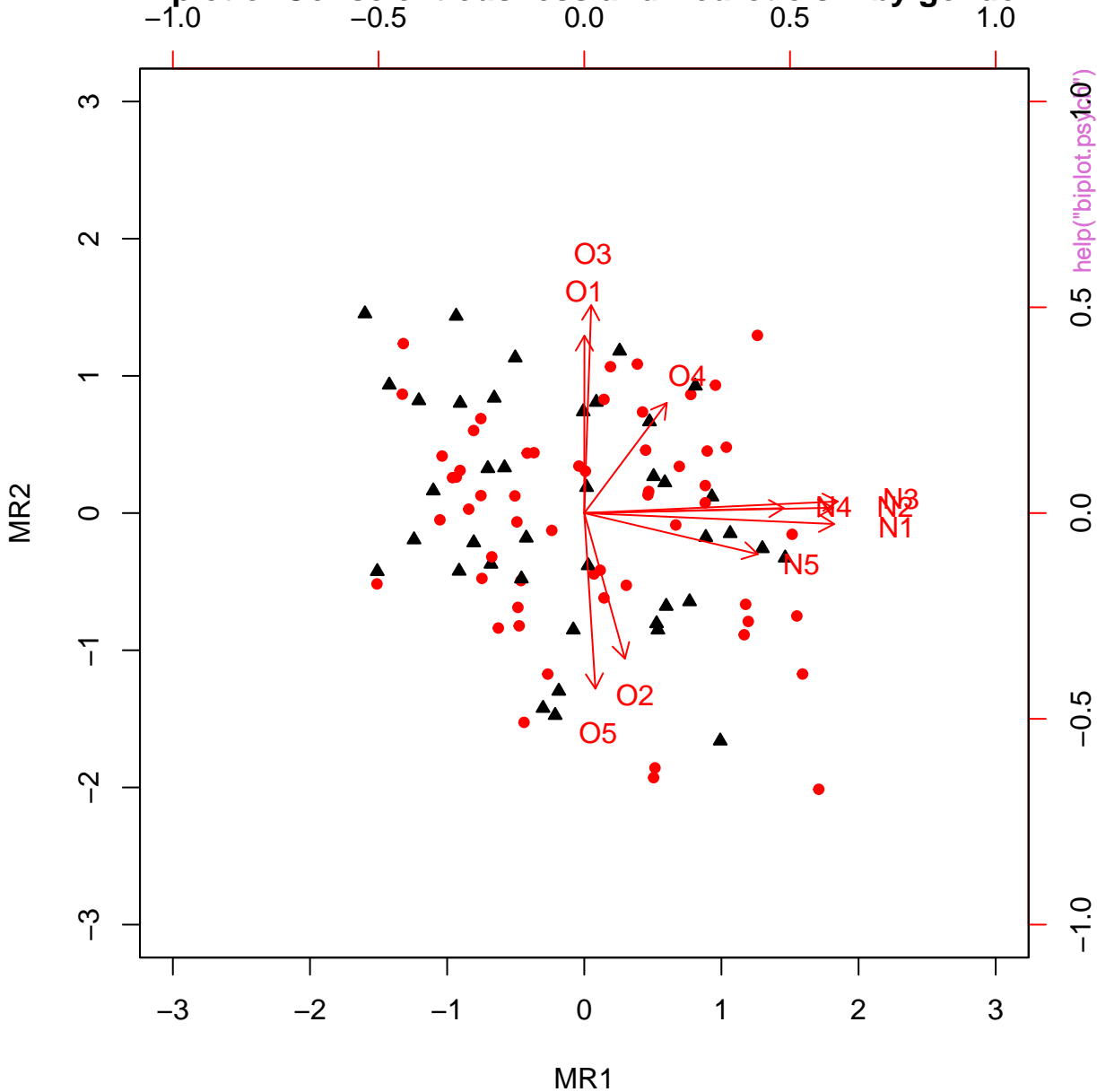


MR1**MR3****Biplot from fa
MR2**

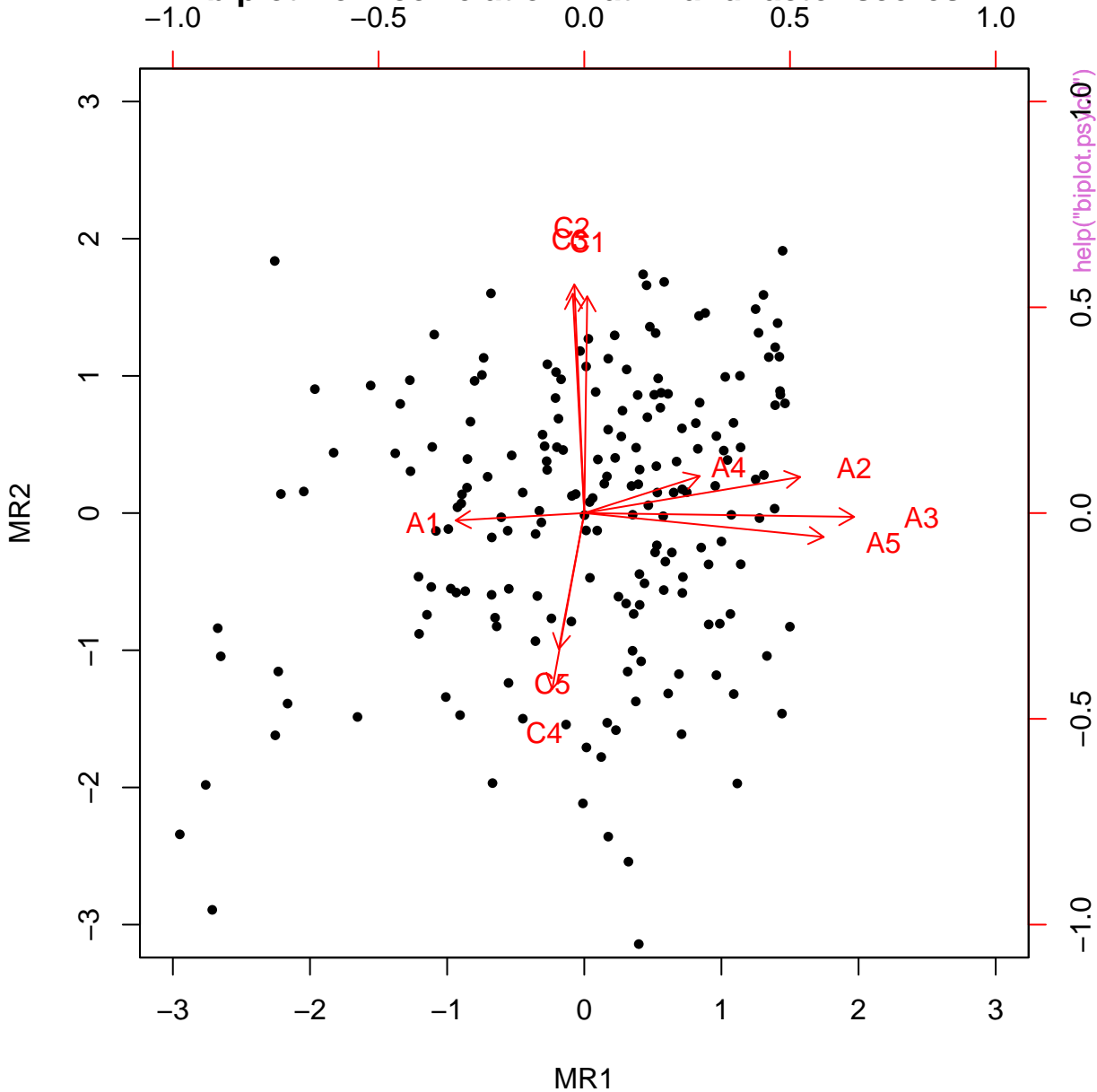
Biplot from fa

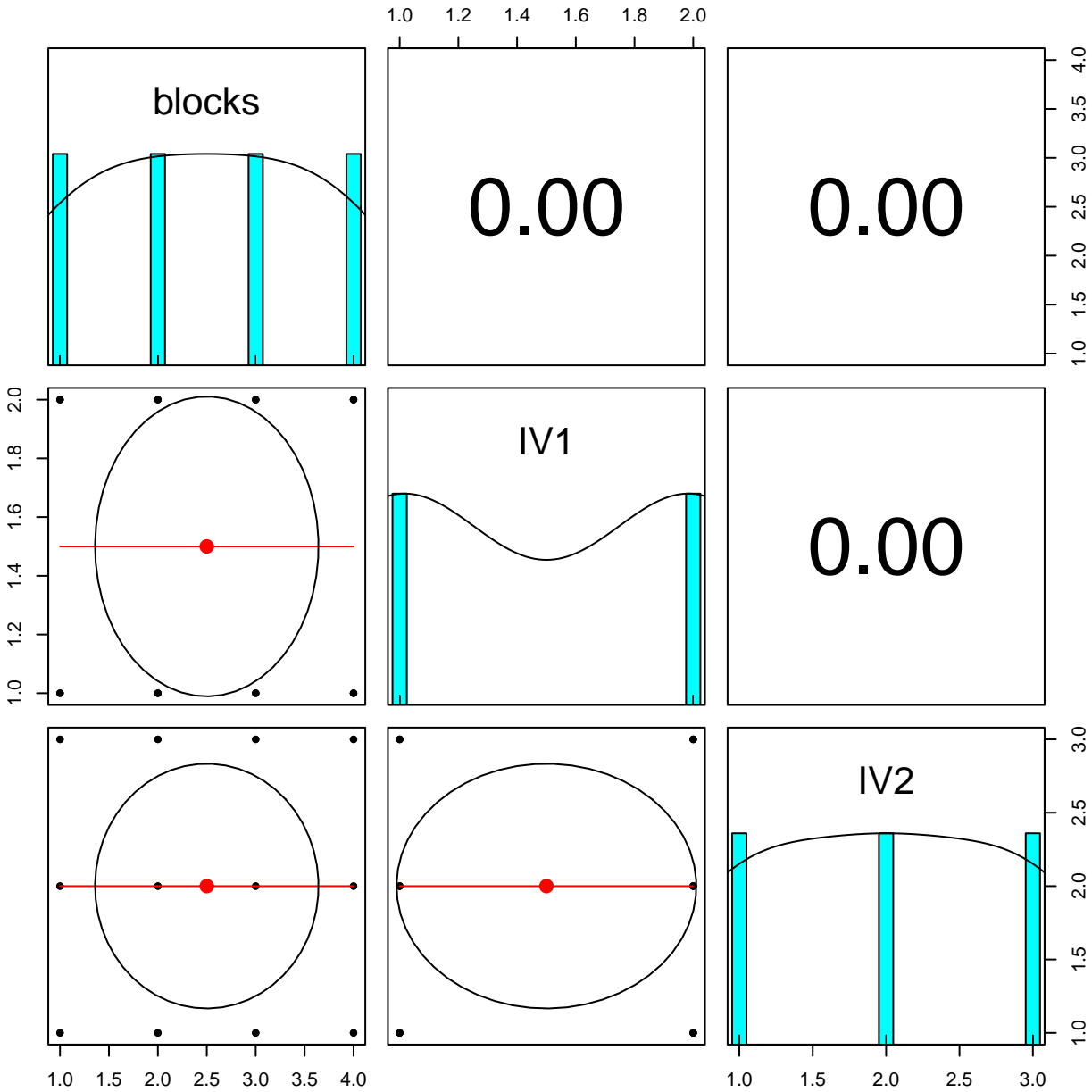


Biplot of Conscientiousness and Neuroticism by gender

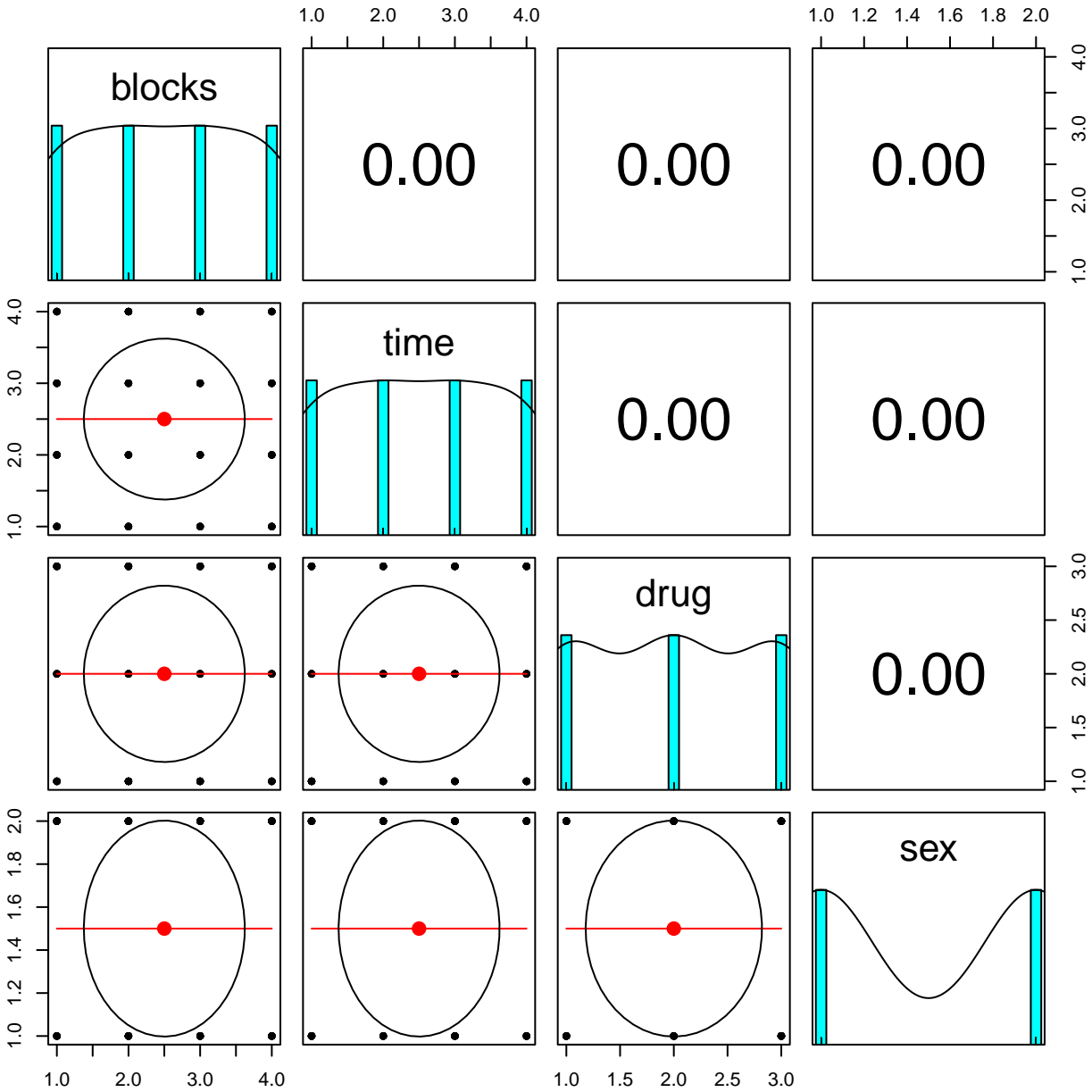


biplot from correlation matrix and factor scores



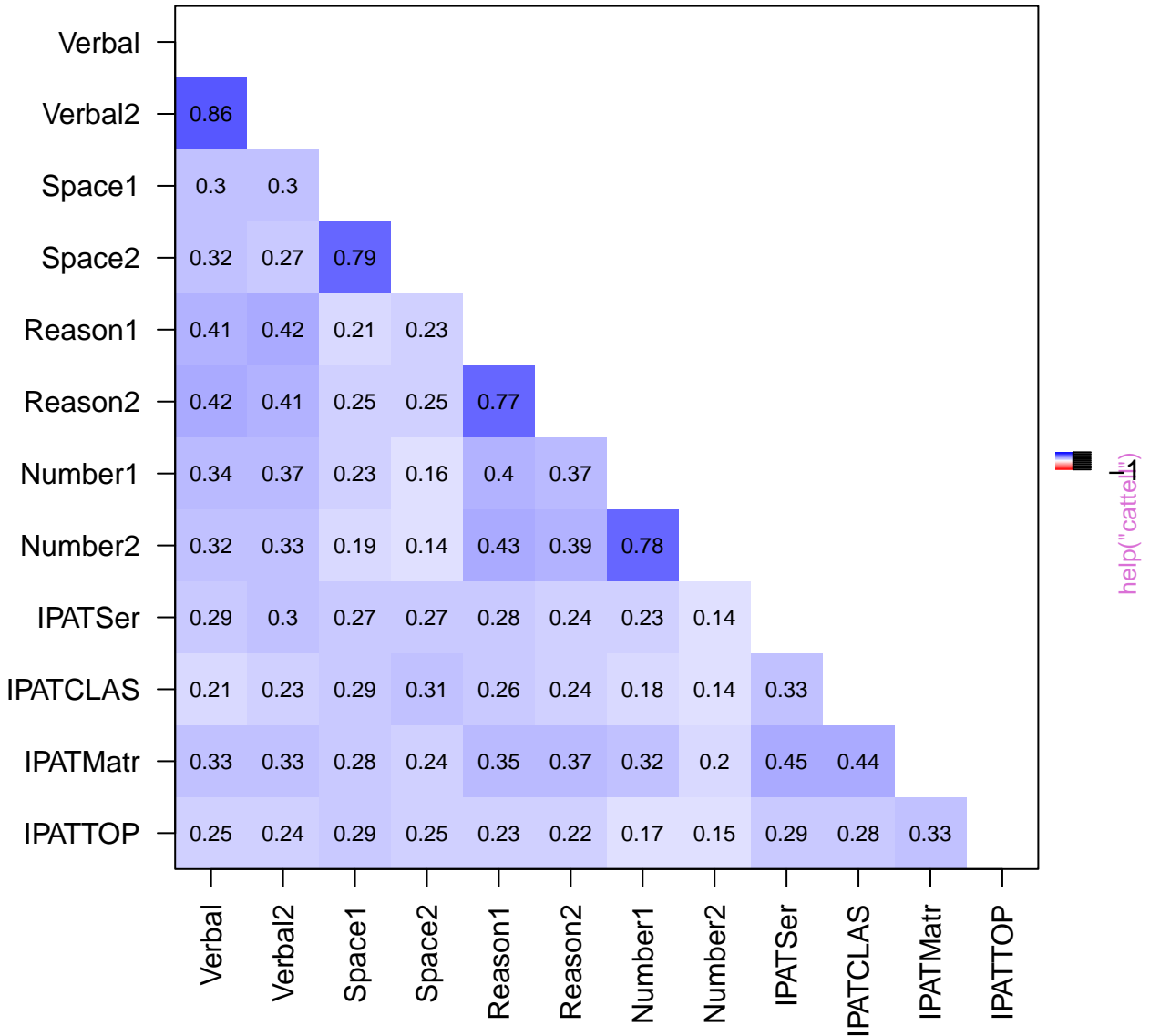


help("block.random")

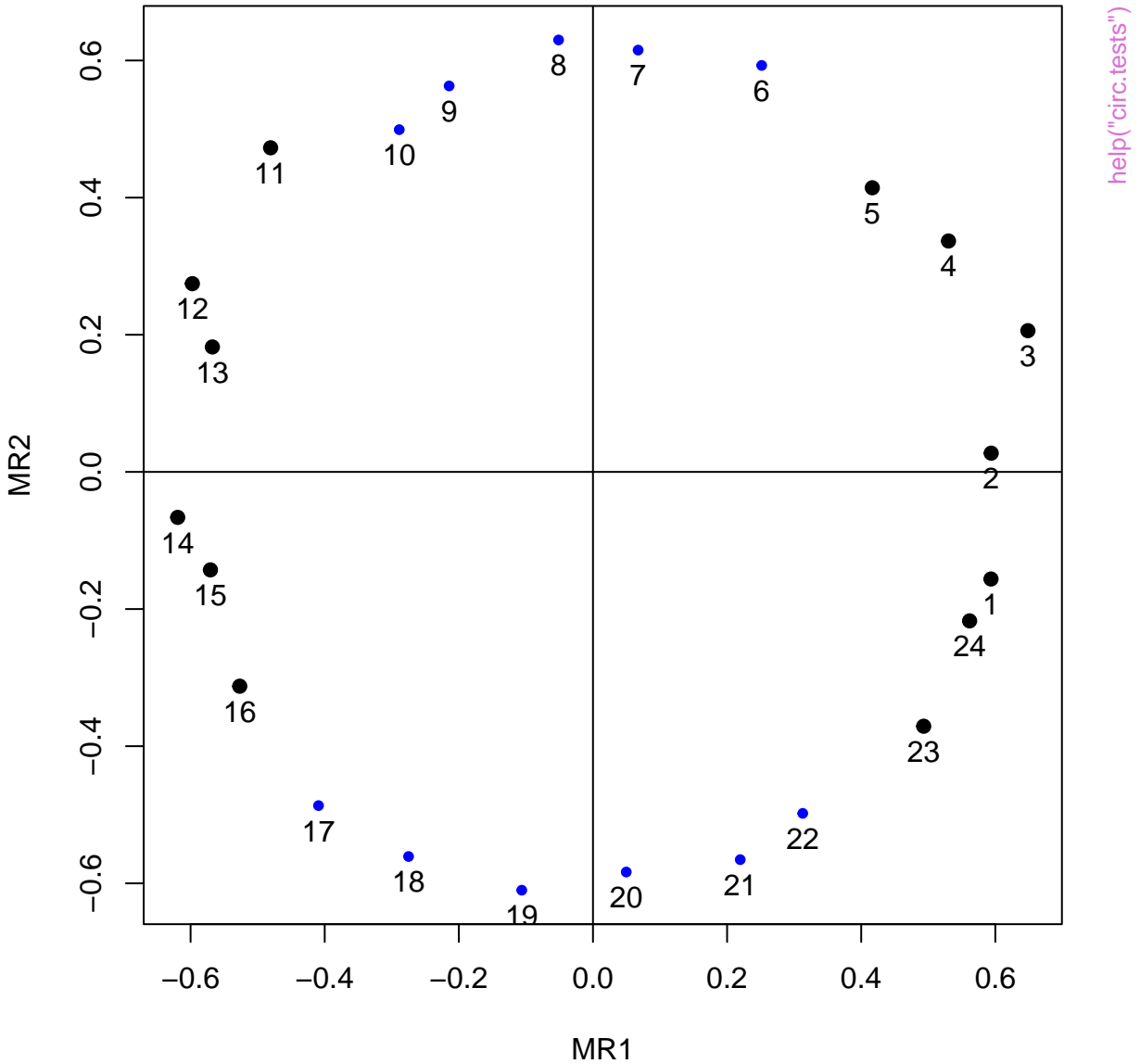


help("block.random")

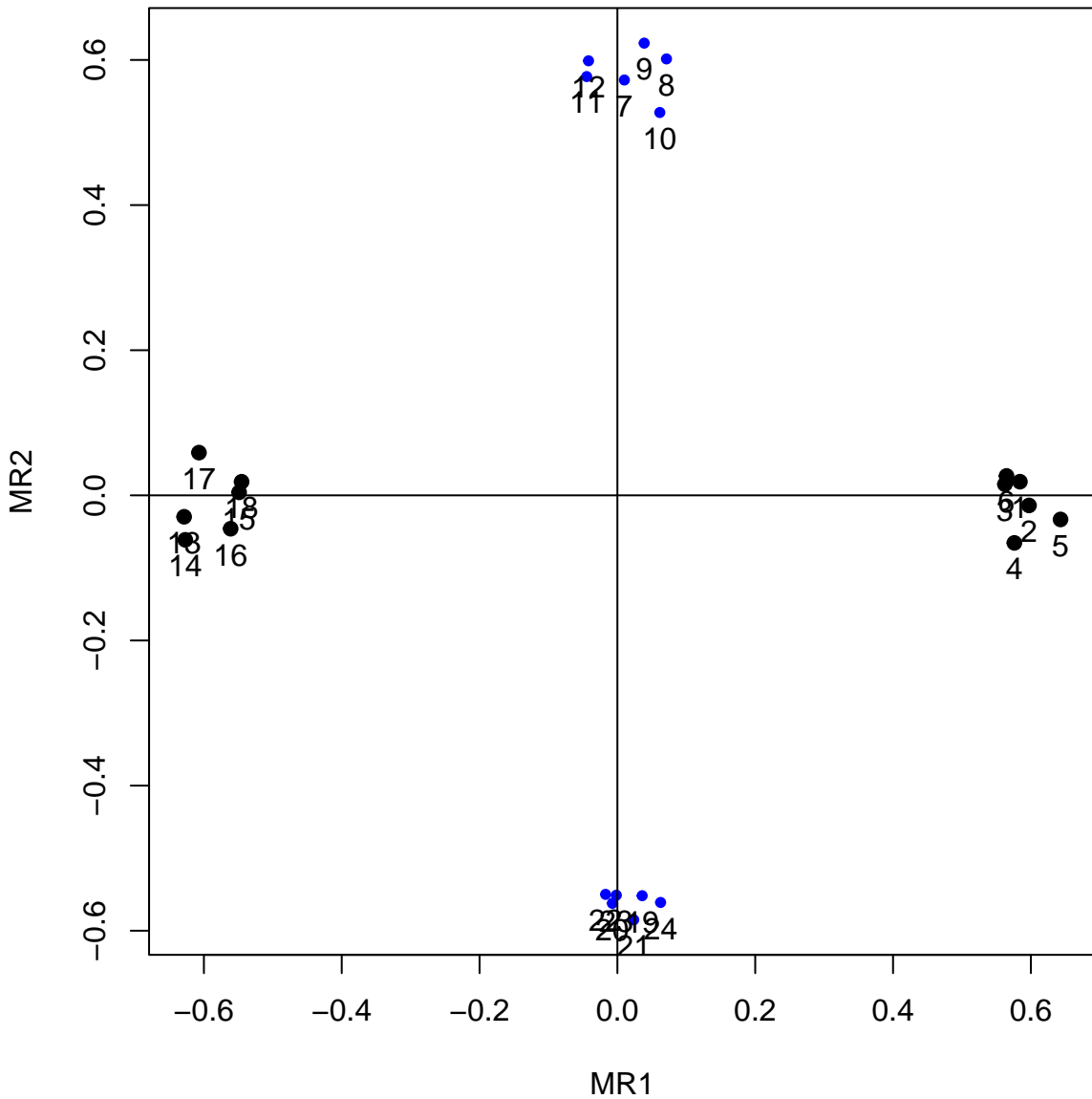
12 cognitive variables from Cattell (1963)



Circumplex Structure

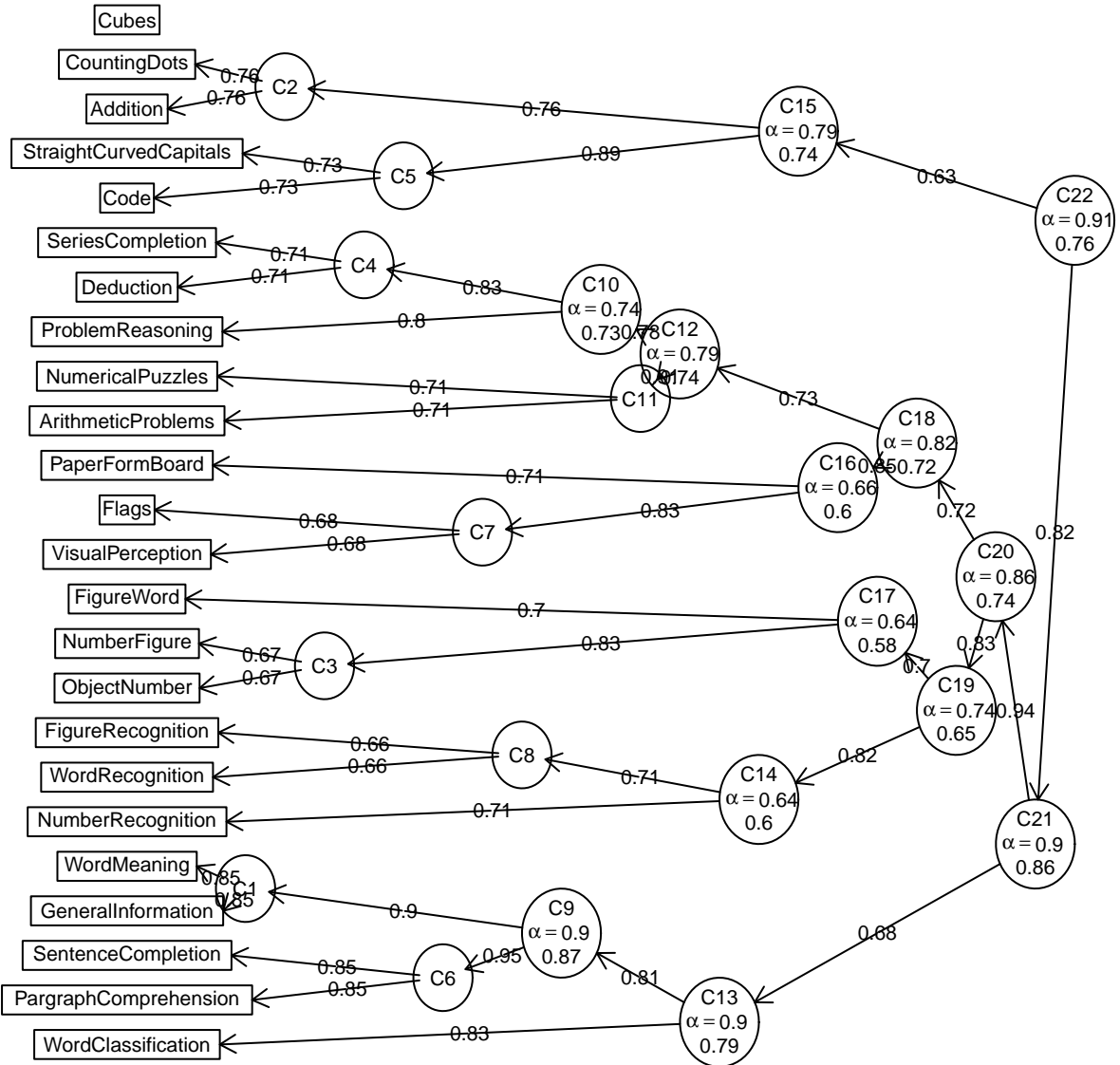


Simple Structure

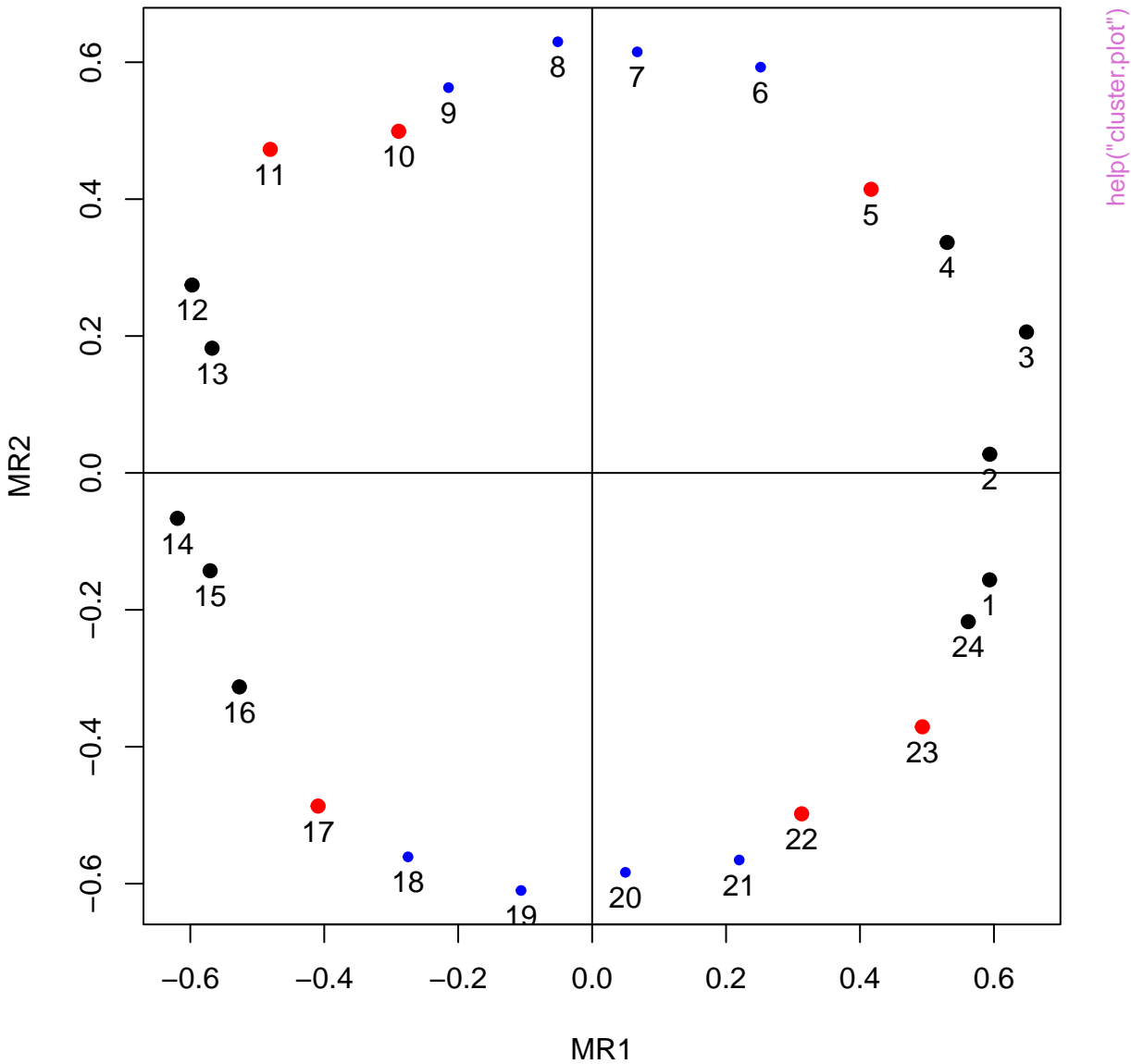


help("circ.tests")

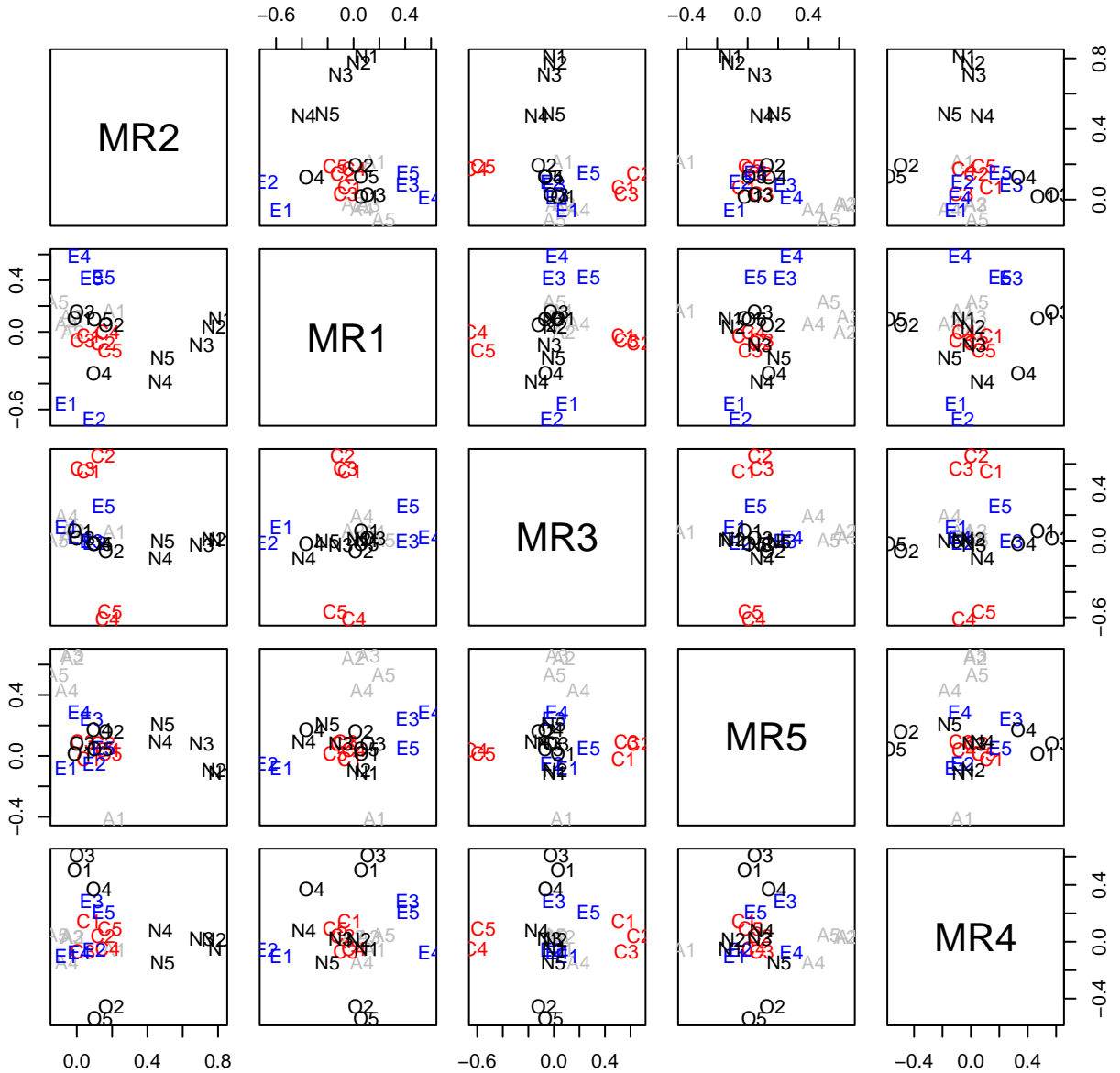
ICLUST



Factor Analysis



Factor Analysis

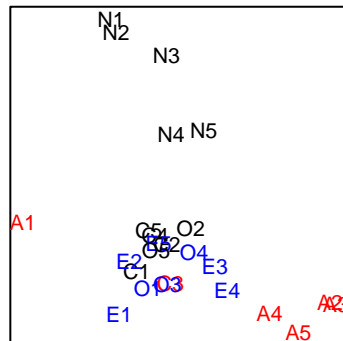
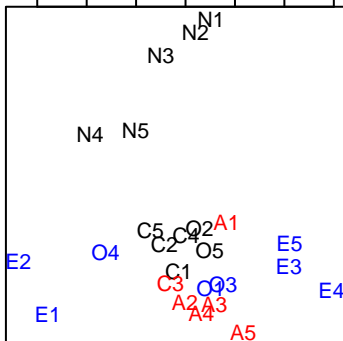


help("cluster.plot")

Factor Analysis

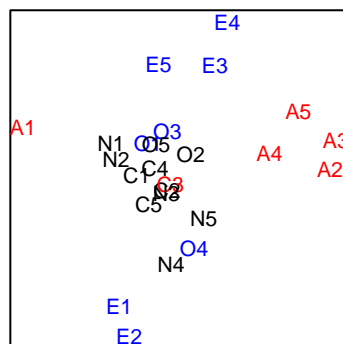
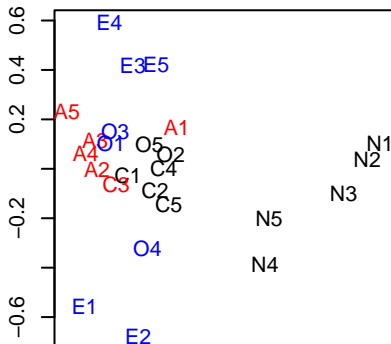
-0.6 -0.2 0.2 0.4 0.6

MR2

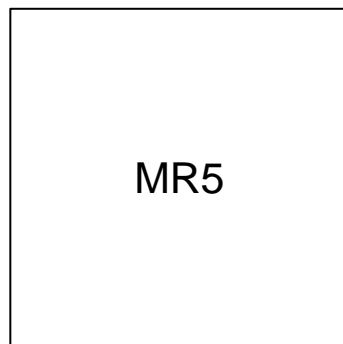
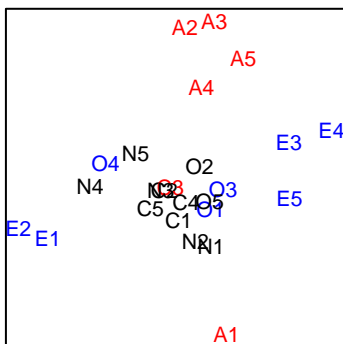
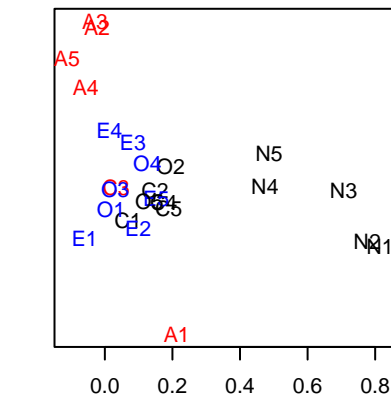


help("cluster.plot")

MR1



MR5

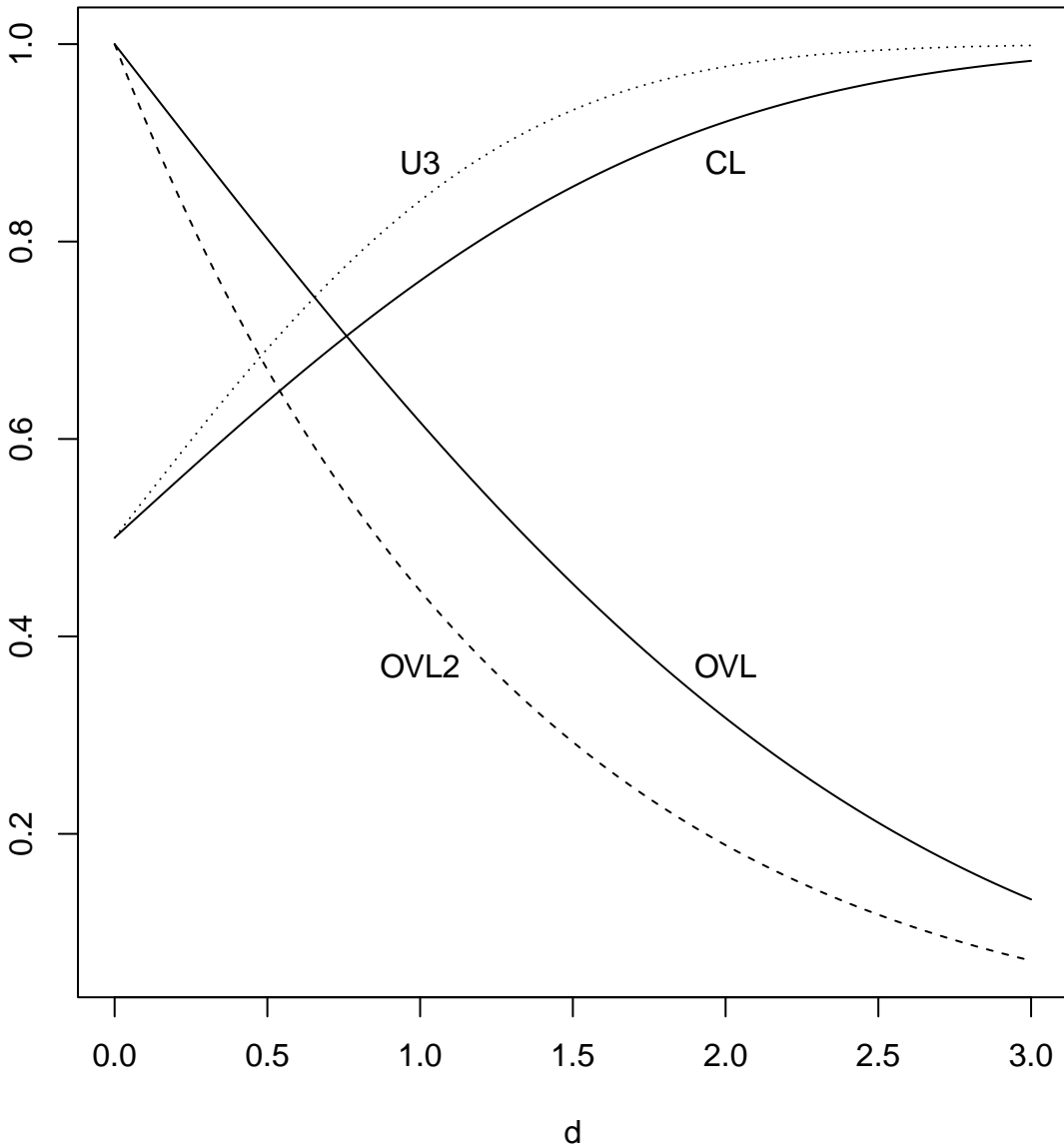


0.0 0.2 0.4 0.6 0.8

-0.4 0.0 0.2 0.4 0.6

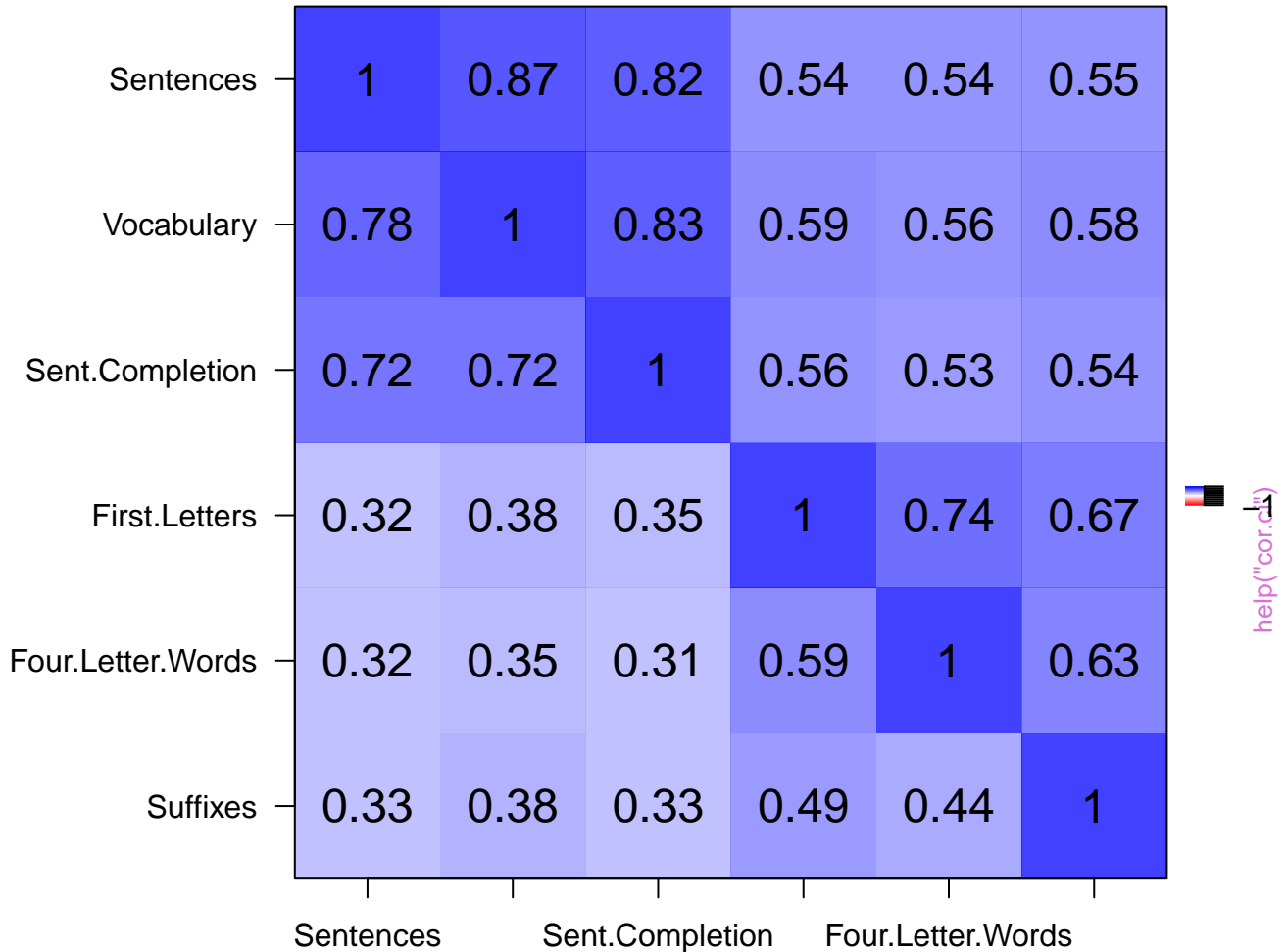
-0.4 0.0 0.2 0.4 0.6

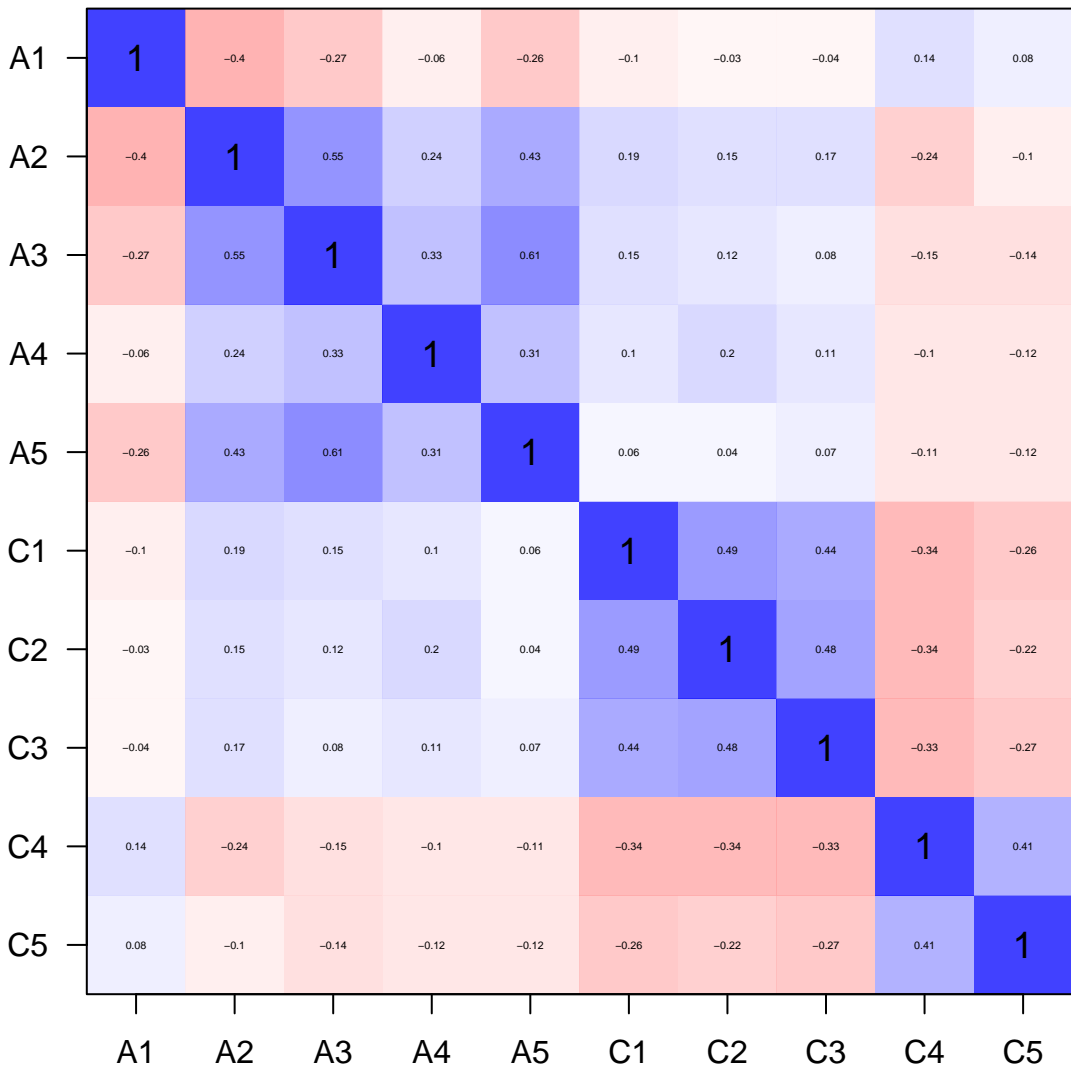
Four representations of effect size (d)



help("cohen.d")

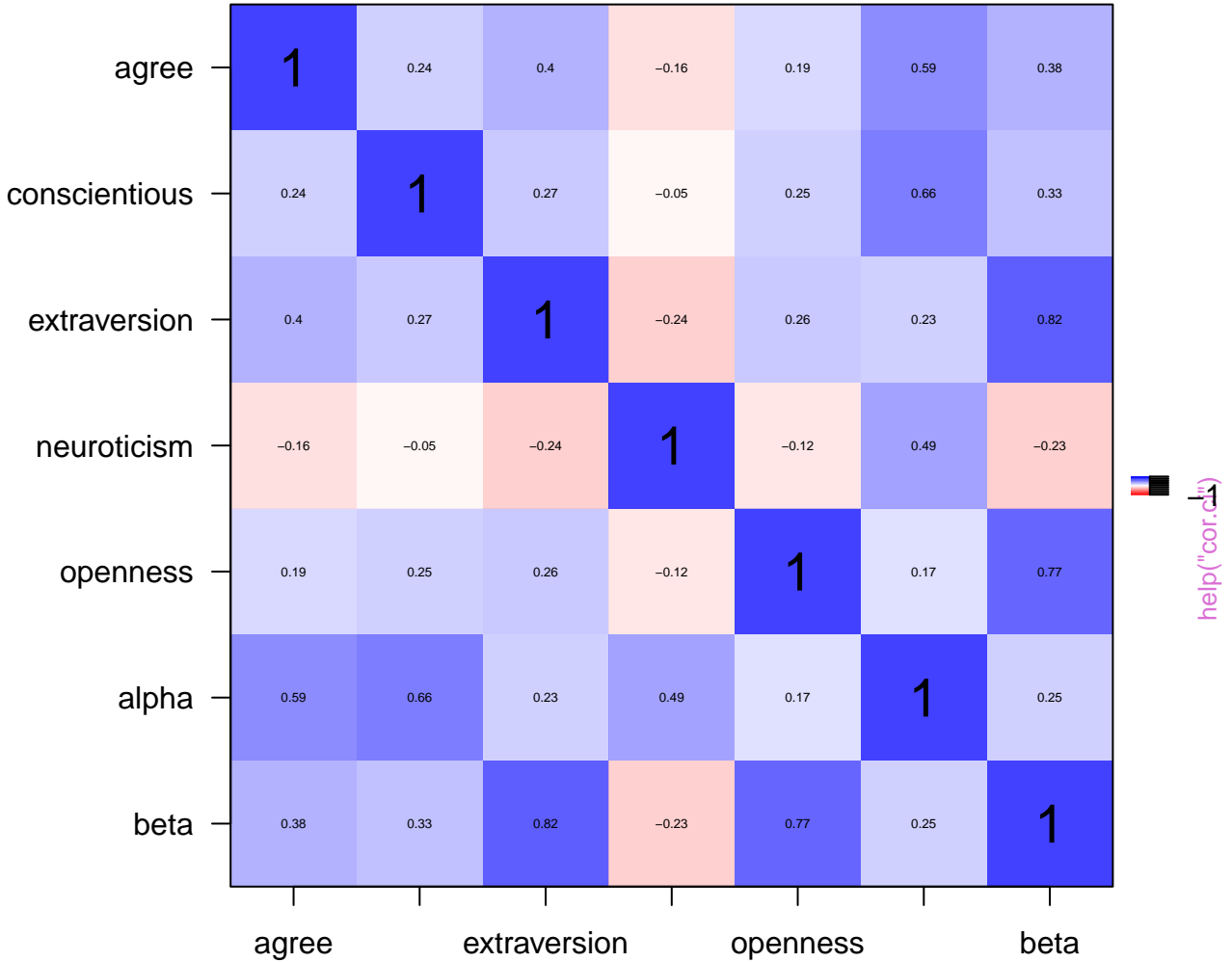
Upper and lower confidence intervals of correlations



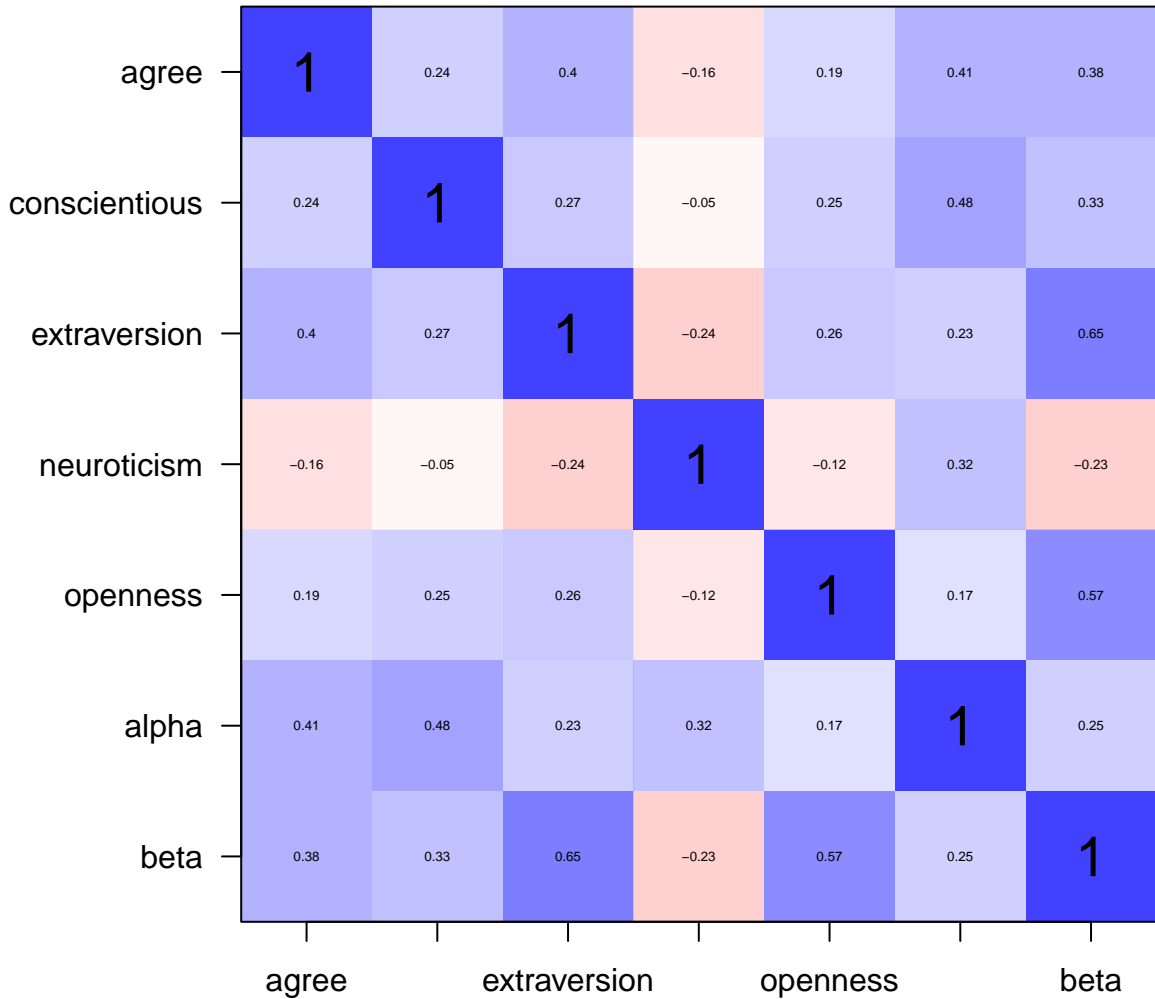


help("cor.c4")

correlation with overlapping scales

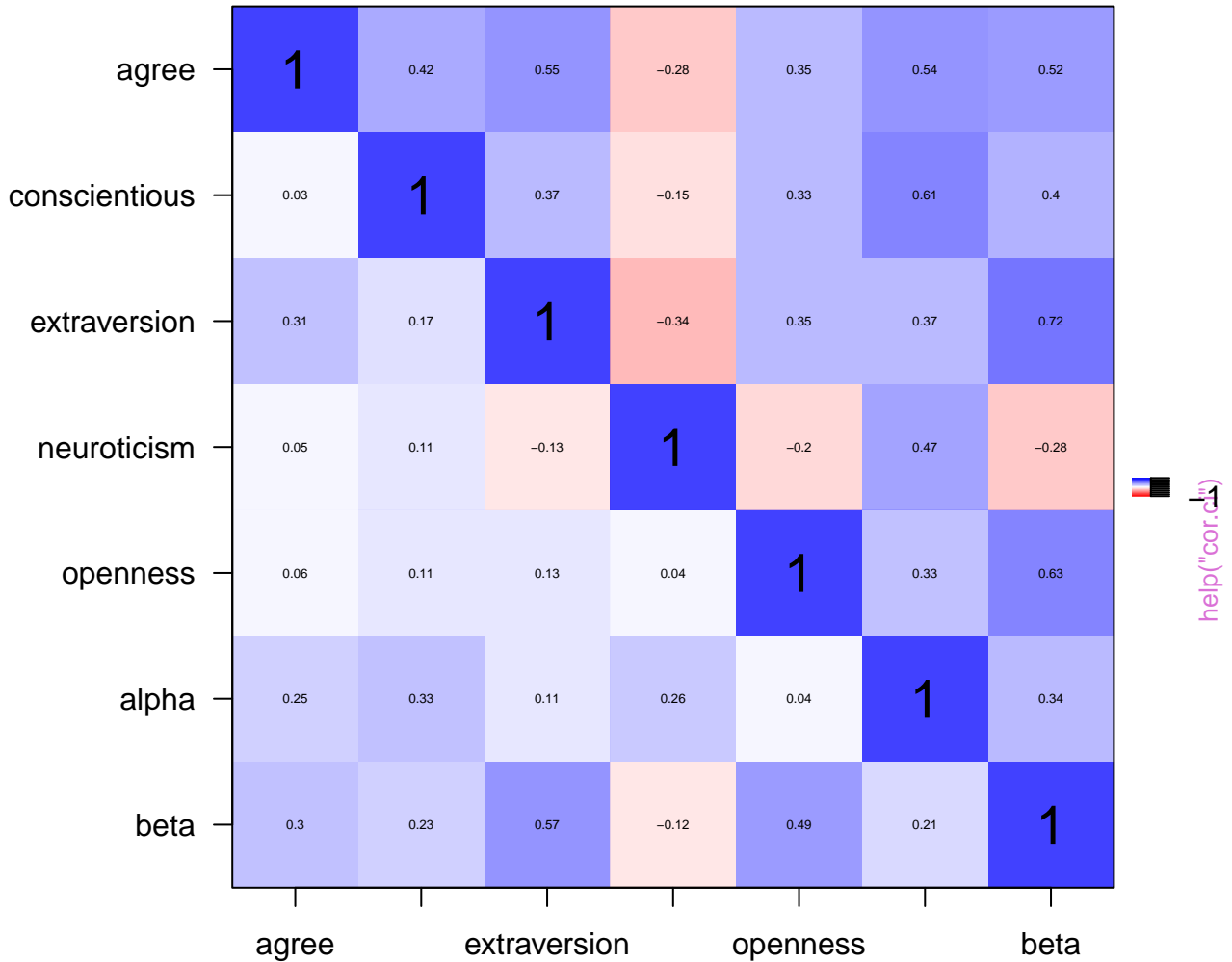


Correct for overlap

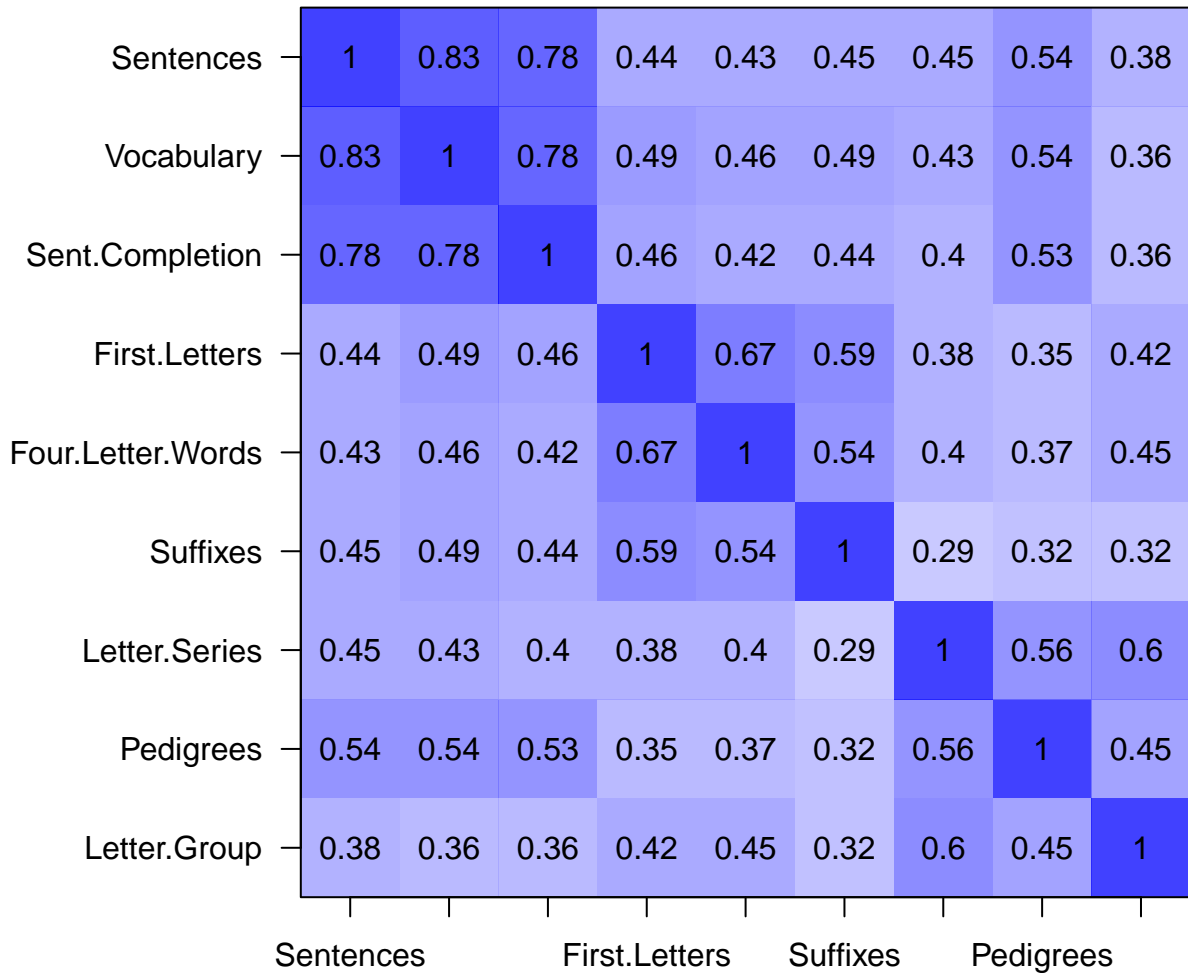


help("cor.4")

Upper and lower confidence intervals of correlations

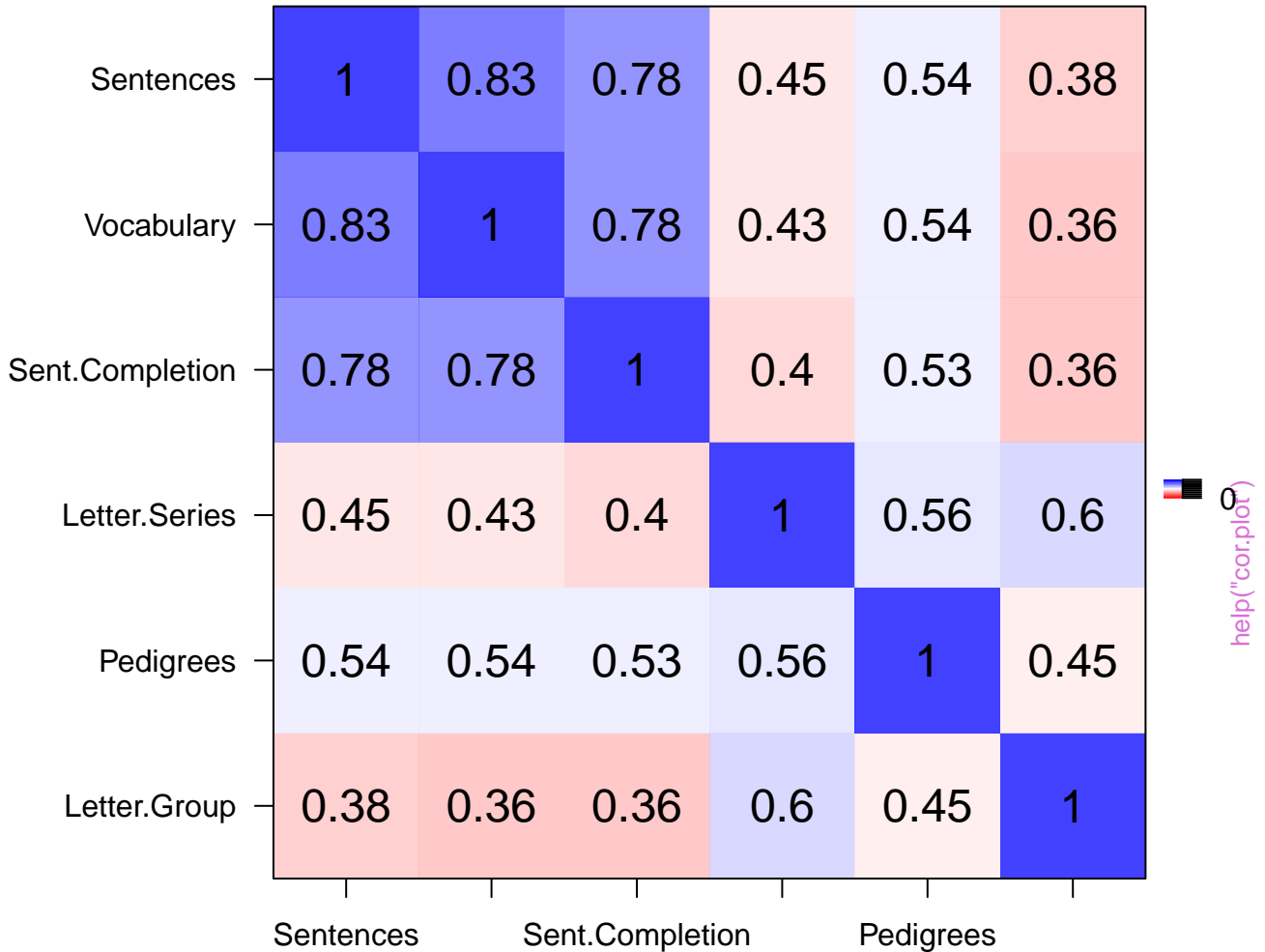


9 cognitive variables from Thurstone

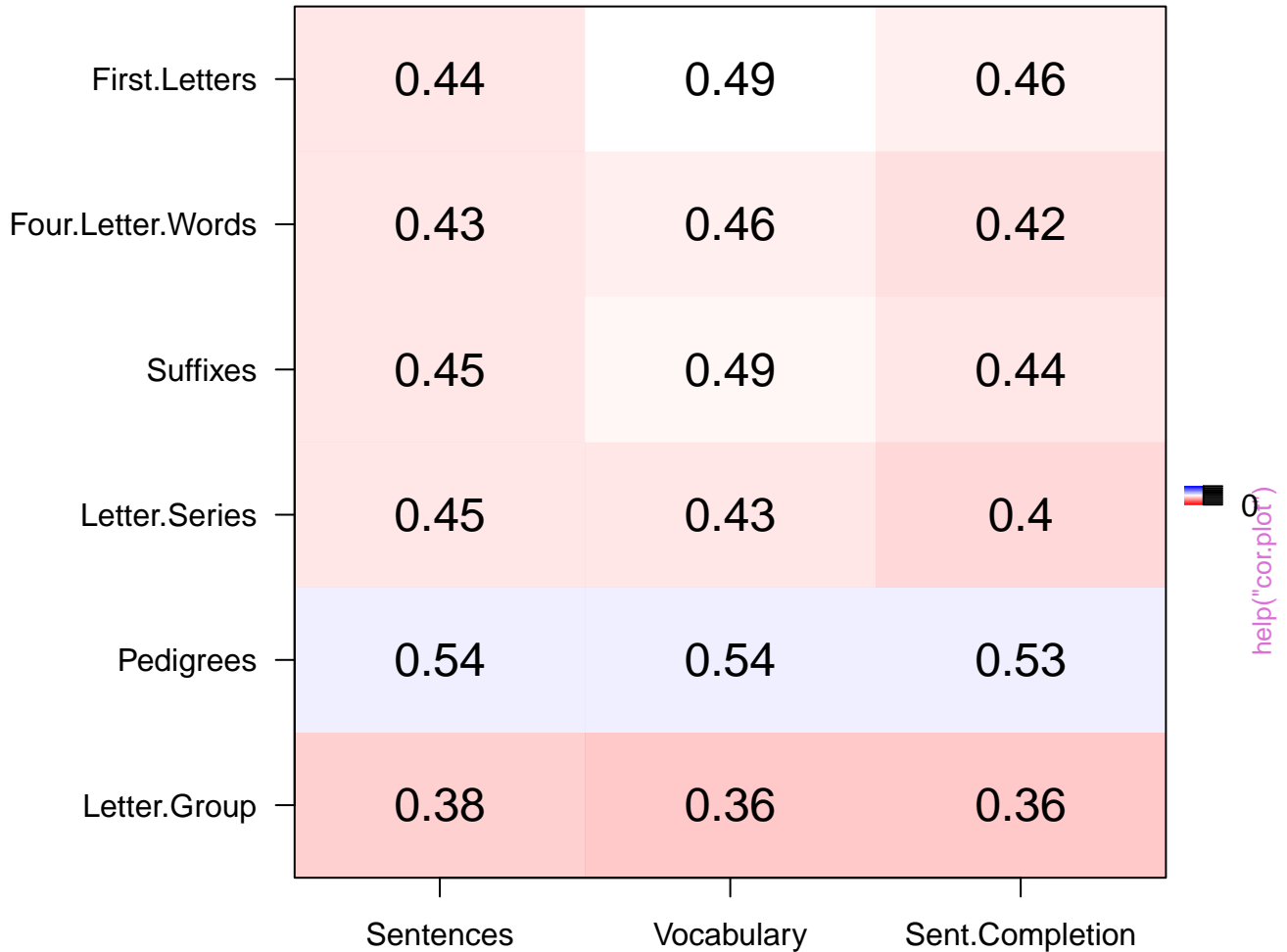


help("cor.plot")

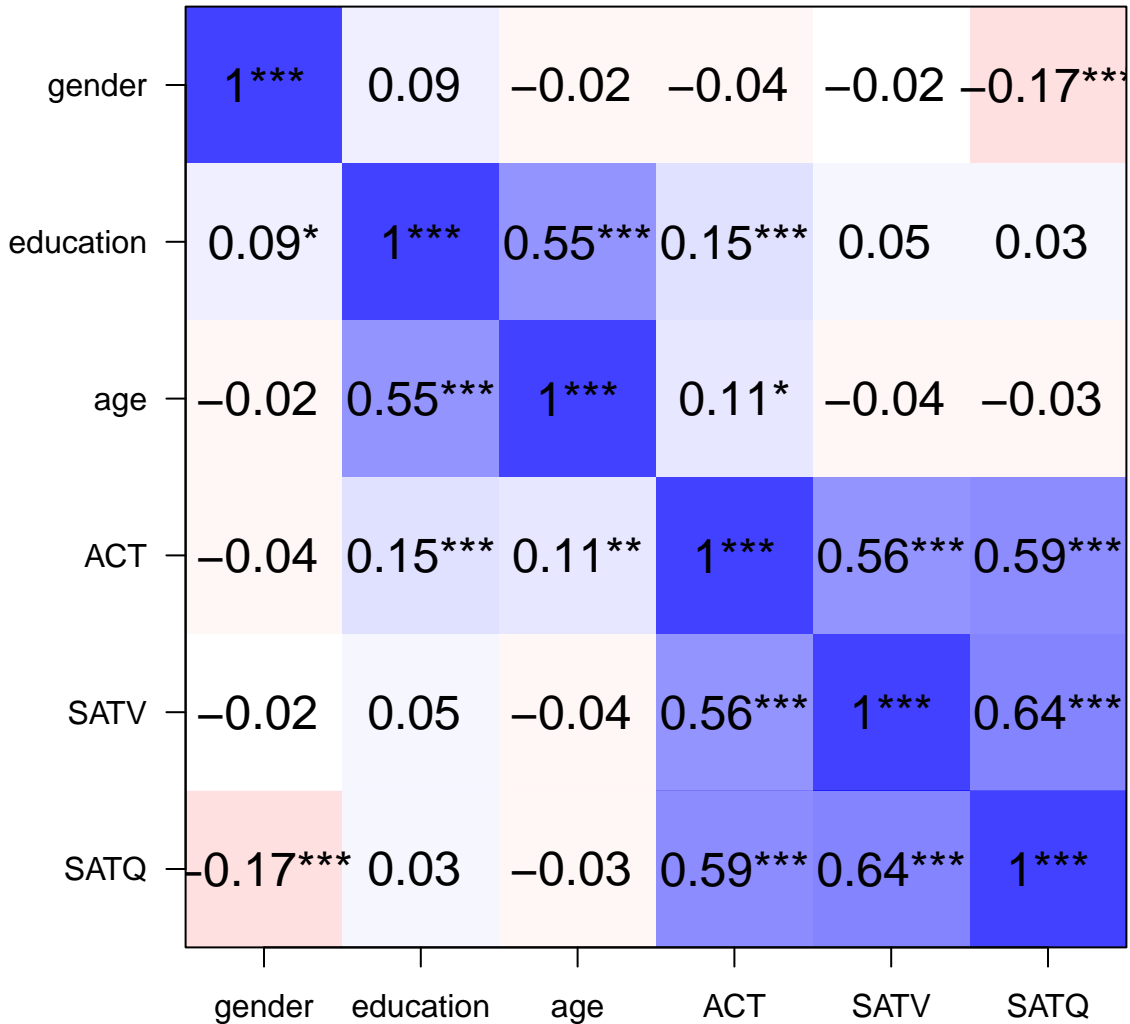
9 cognitive variables from Thurstone



9 cognitive variables from Thurstone

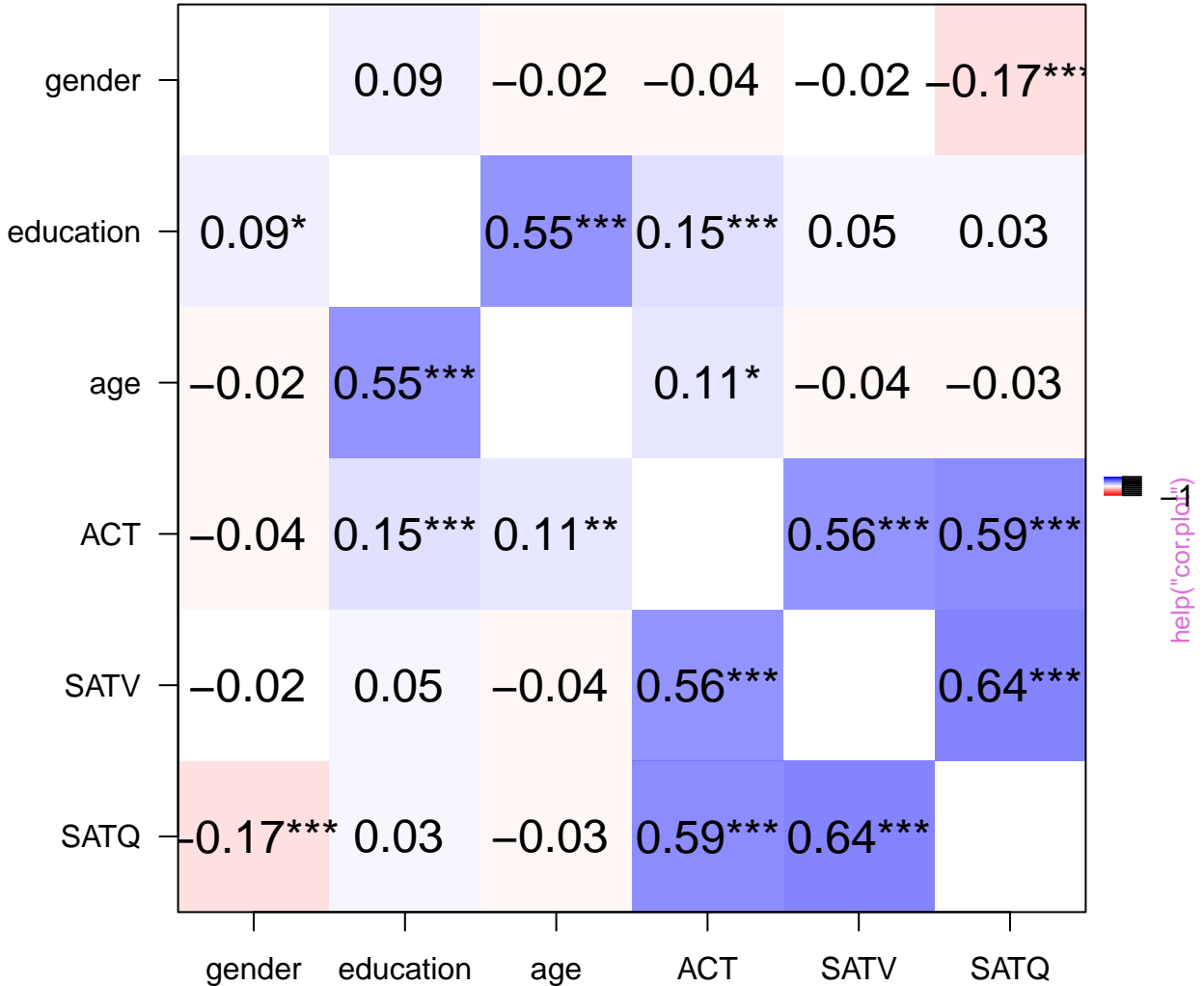


Correlation plot

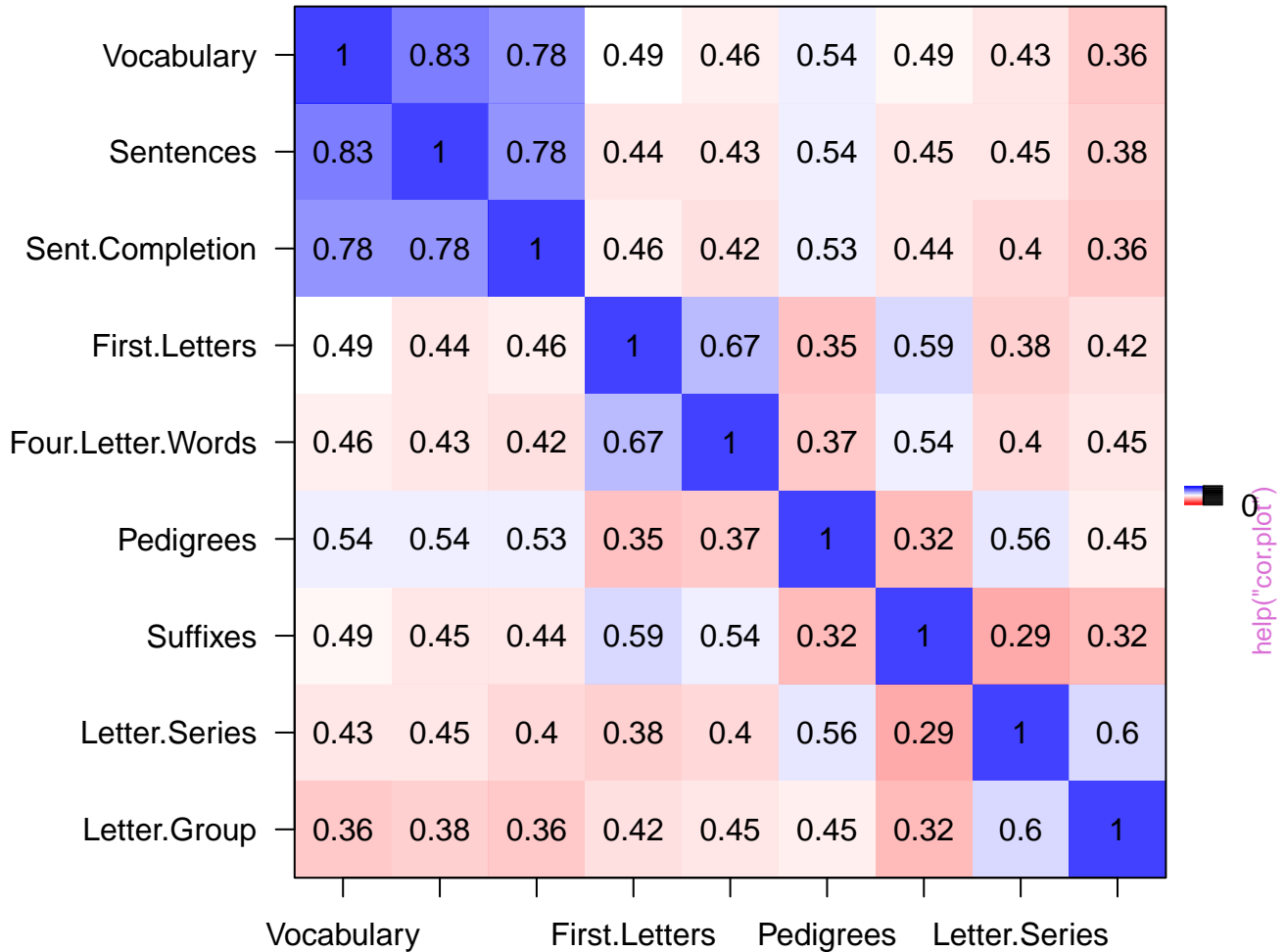


help("cor.plot")

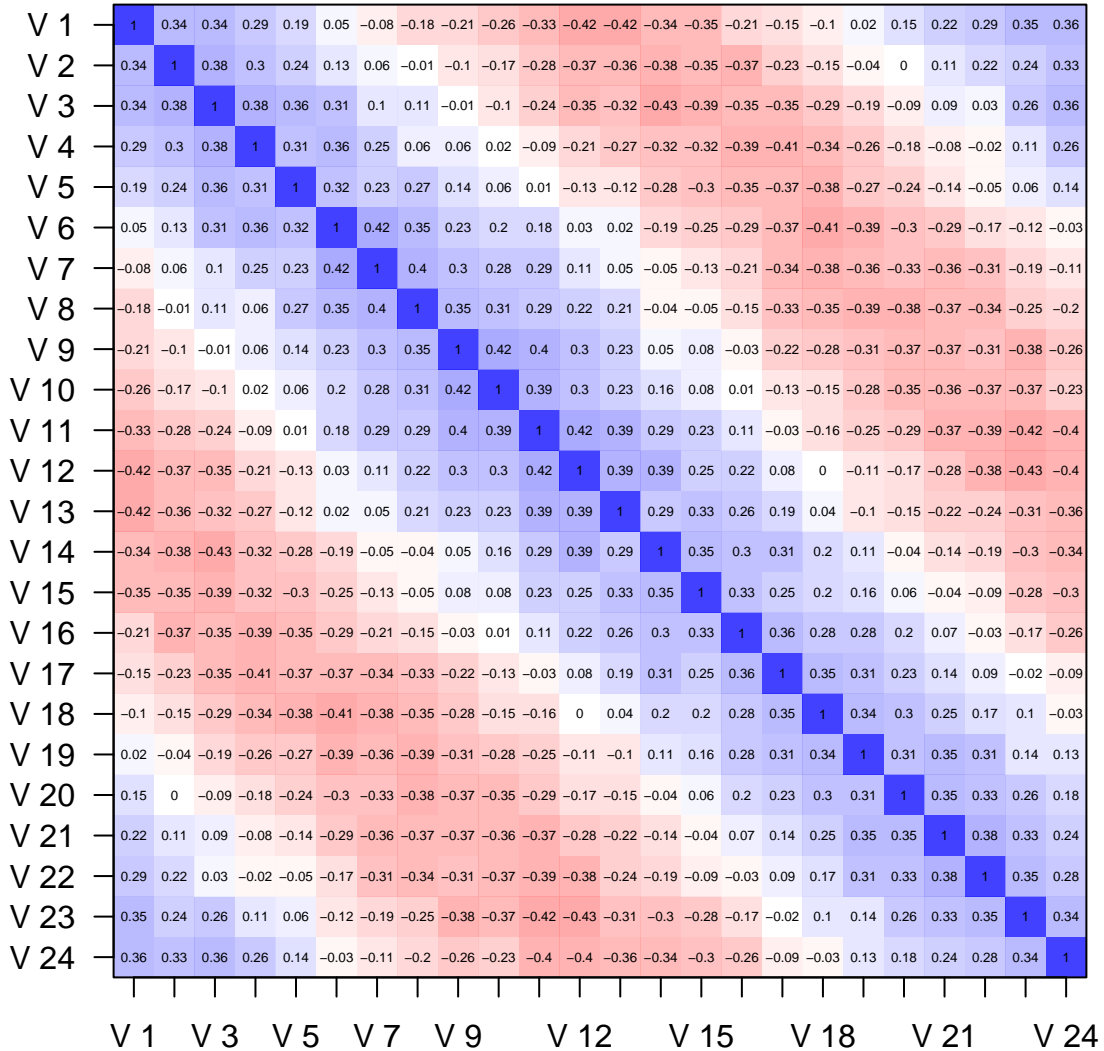
Correlation plot with Holm corrected 'significance'



9 cognitive variables from Thurstone (sorted by factor load)

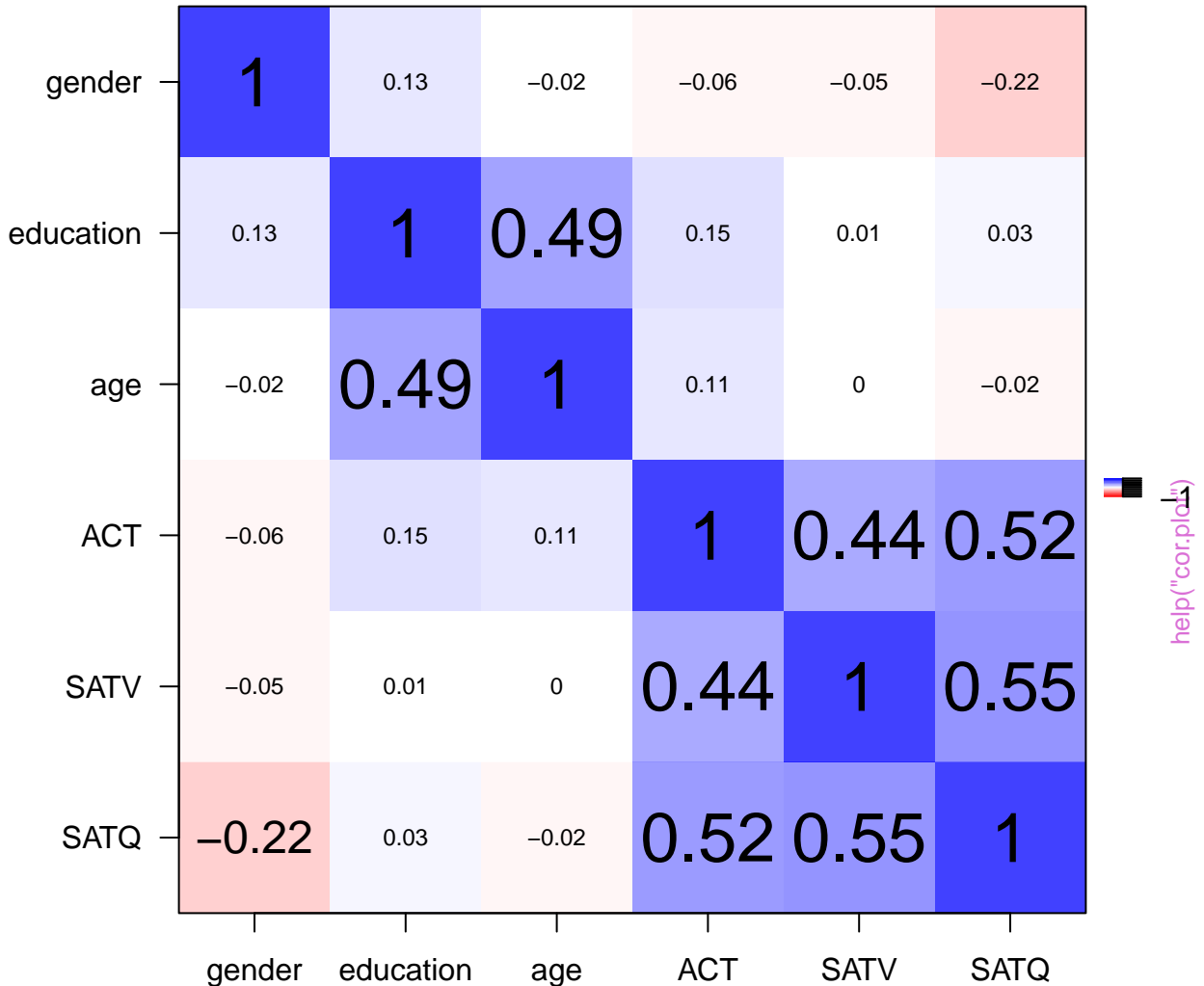


24 variables in a circumplex

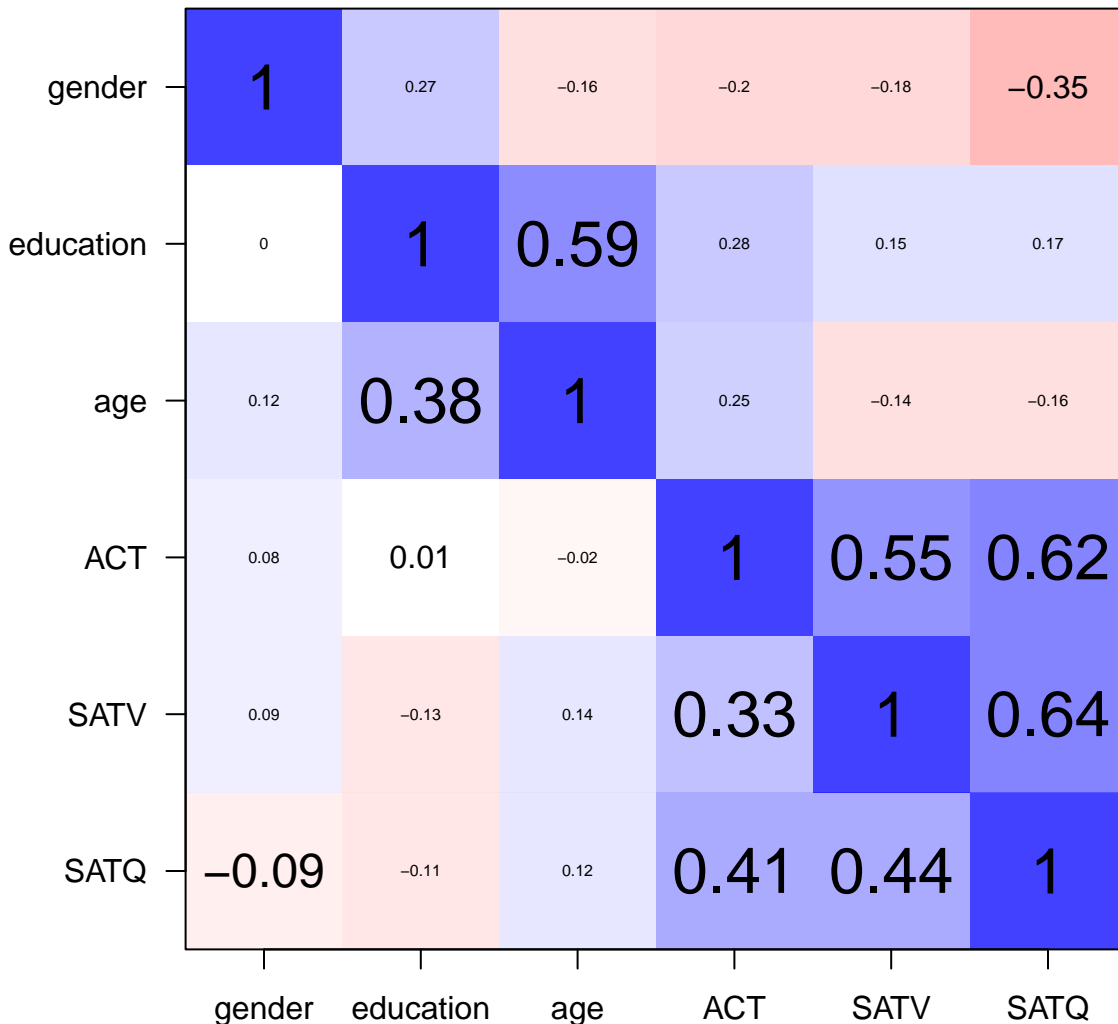


help("cor.plot")

Correlations scaled by probability values

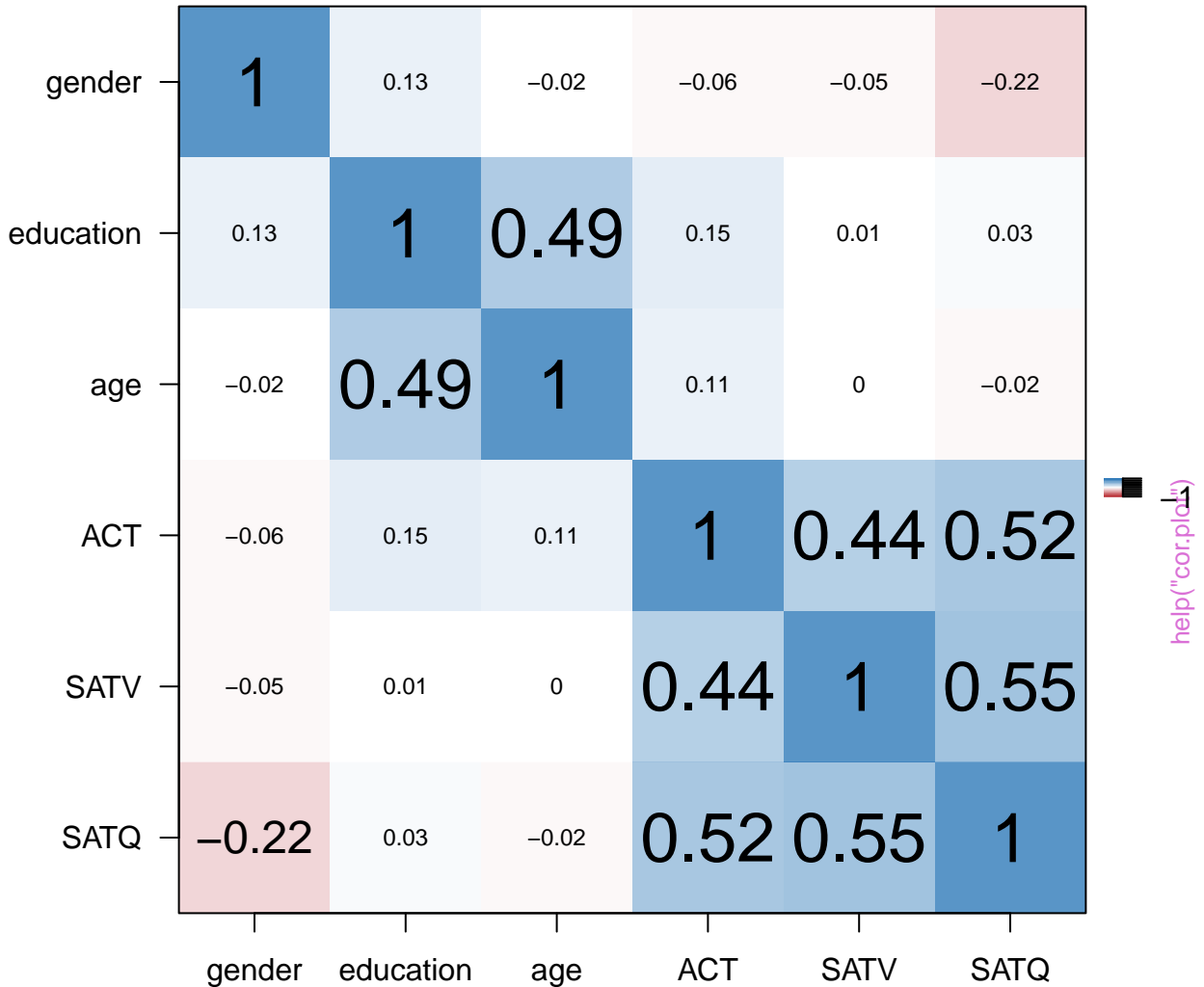


Upper and lower confidence intervals of correlations

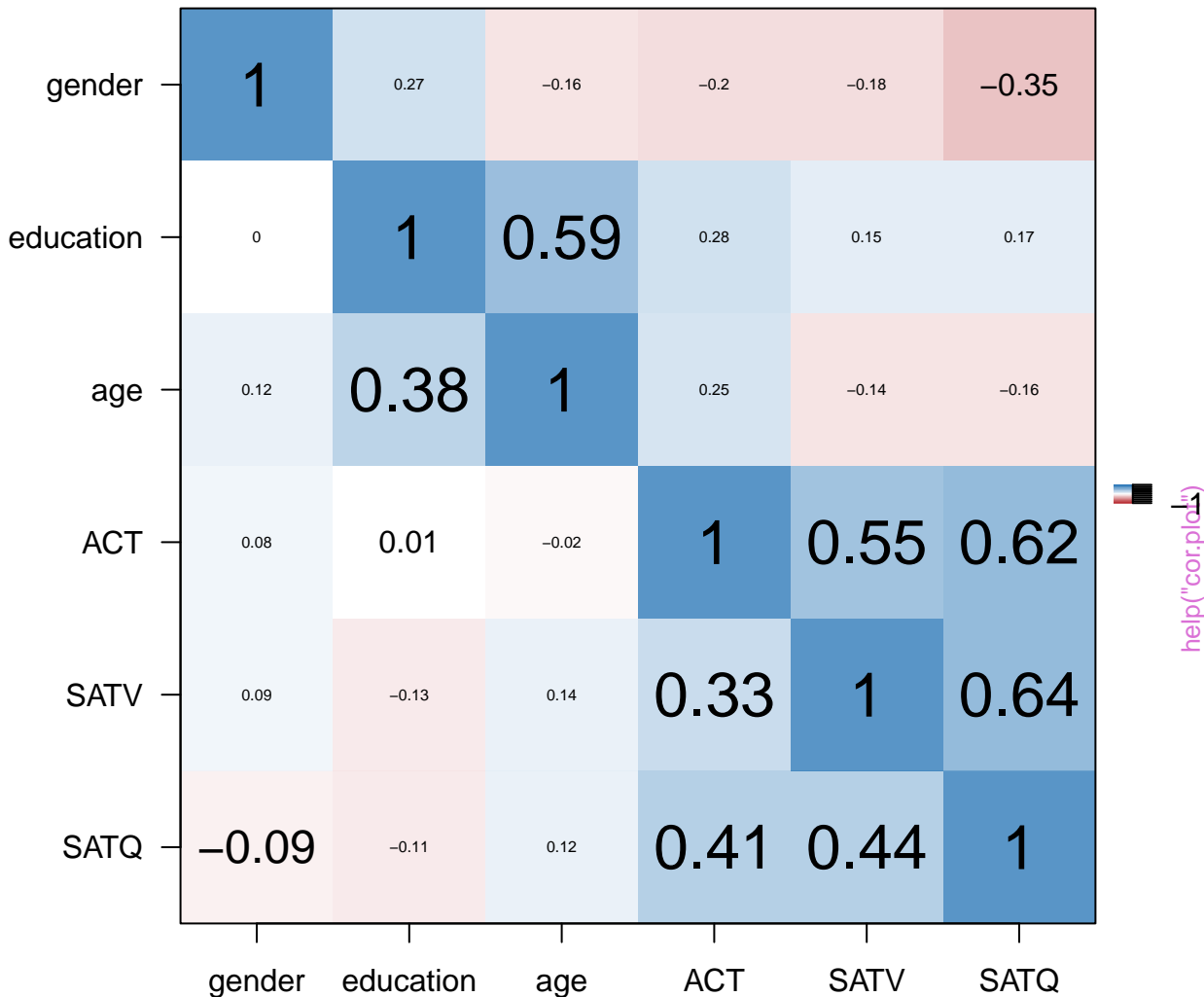


help("cor.plot")

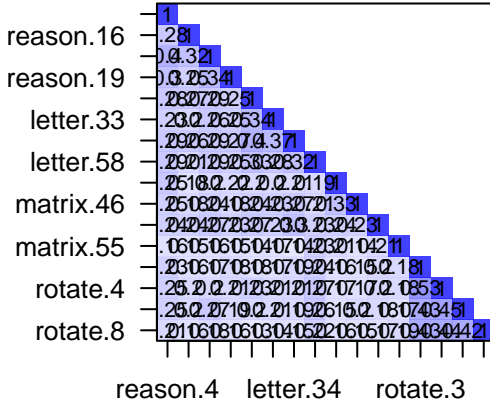
Correlations scaled by probability values



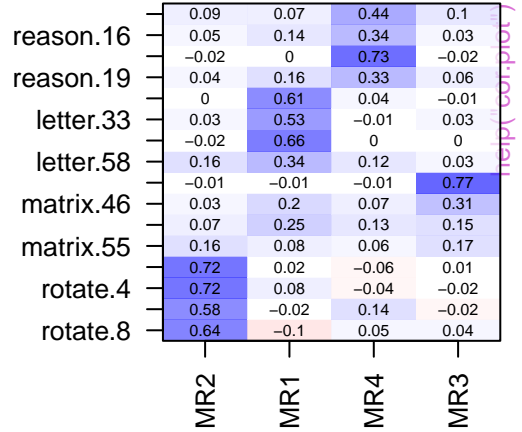
Upper and lower confidence intervals of correlations



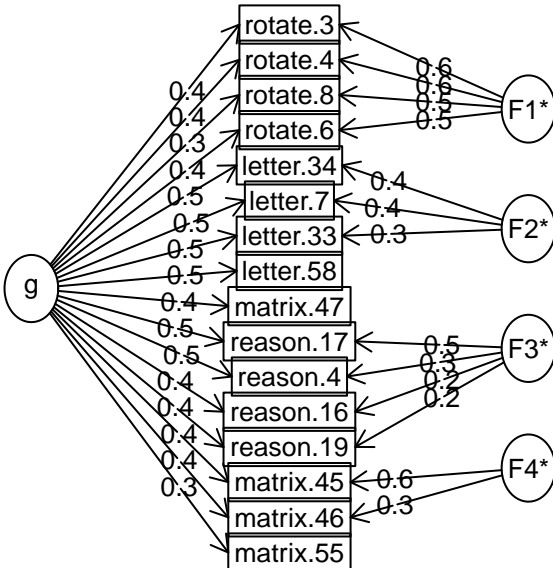
Correlation plot



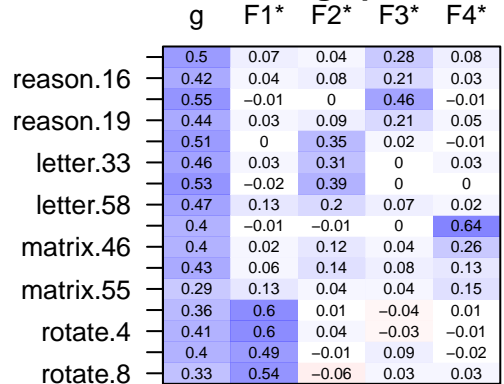
Factor Loadings plot



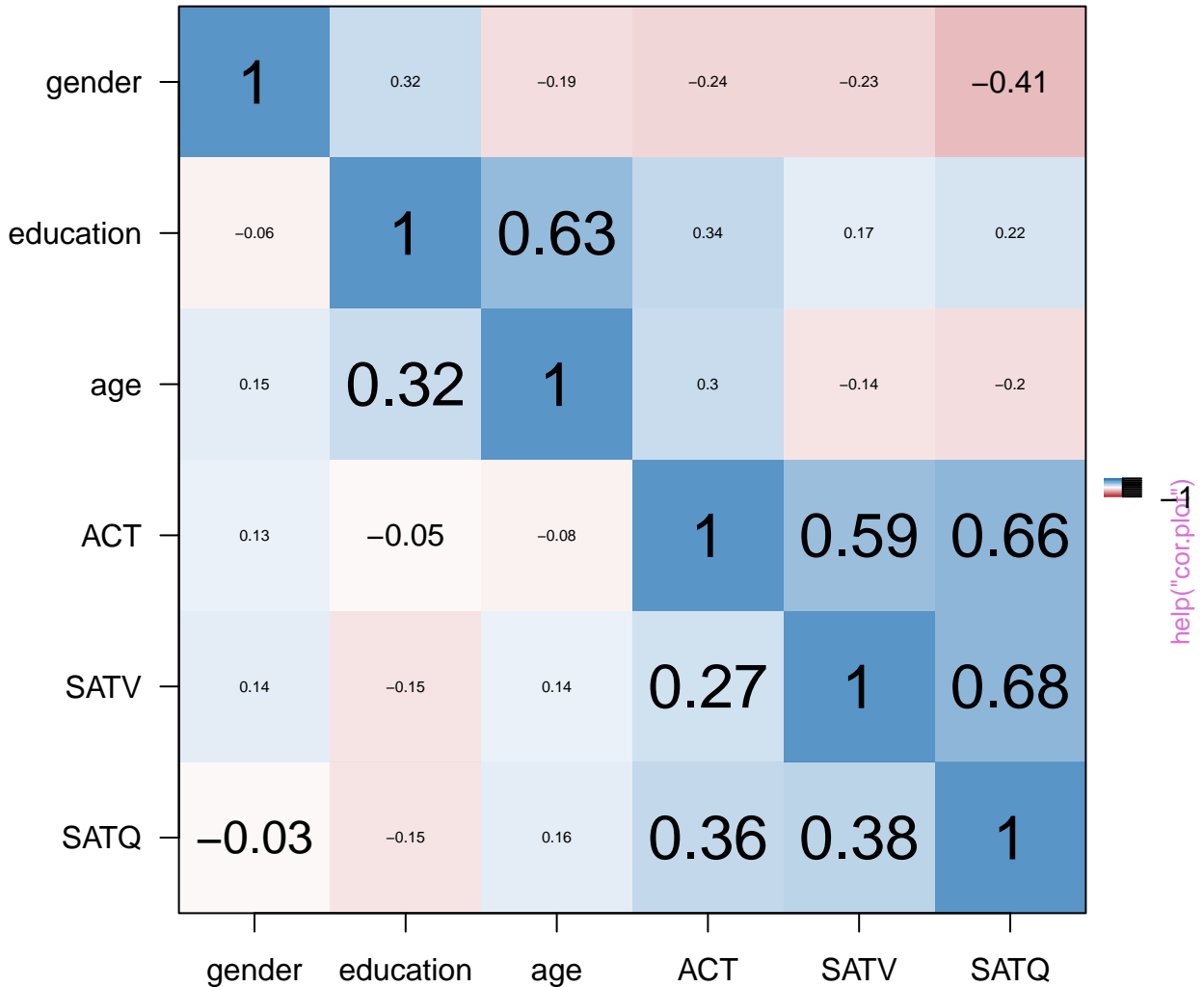
Omega

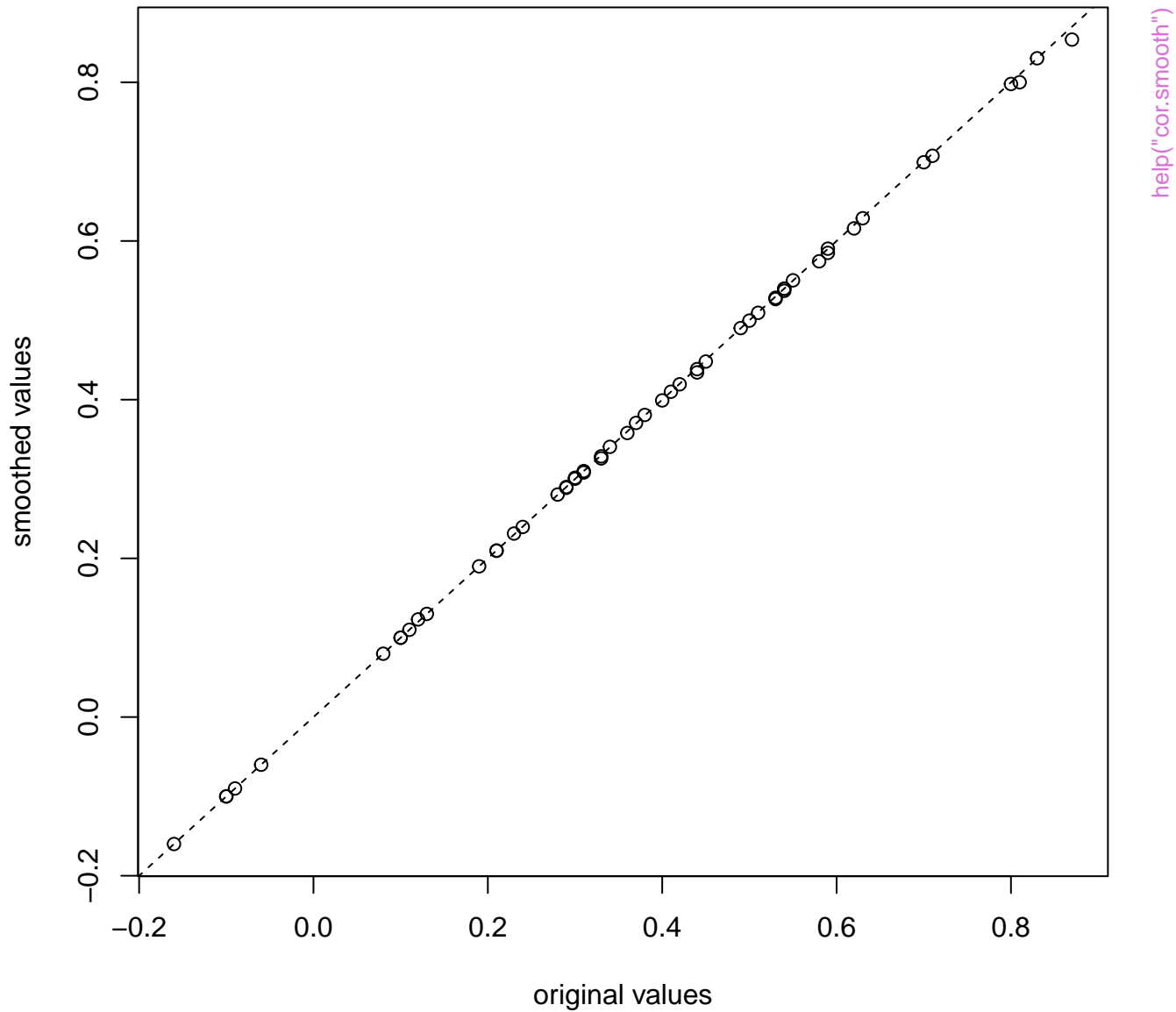


Omega plot

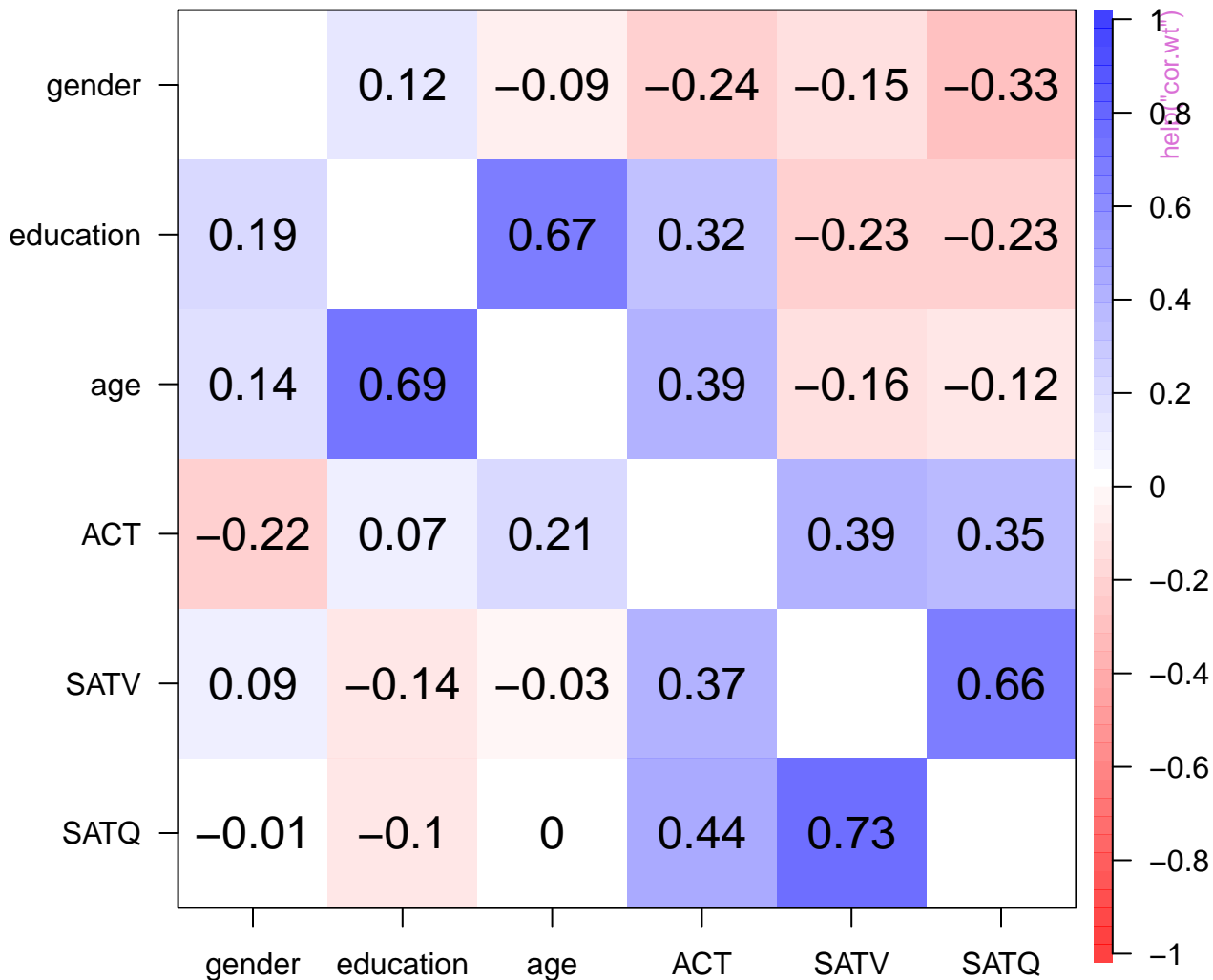


Holm adjusted confidence intervals

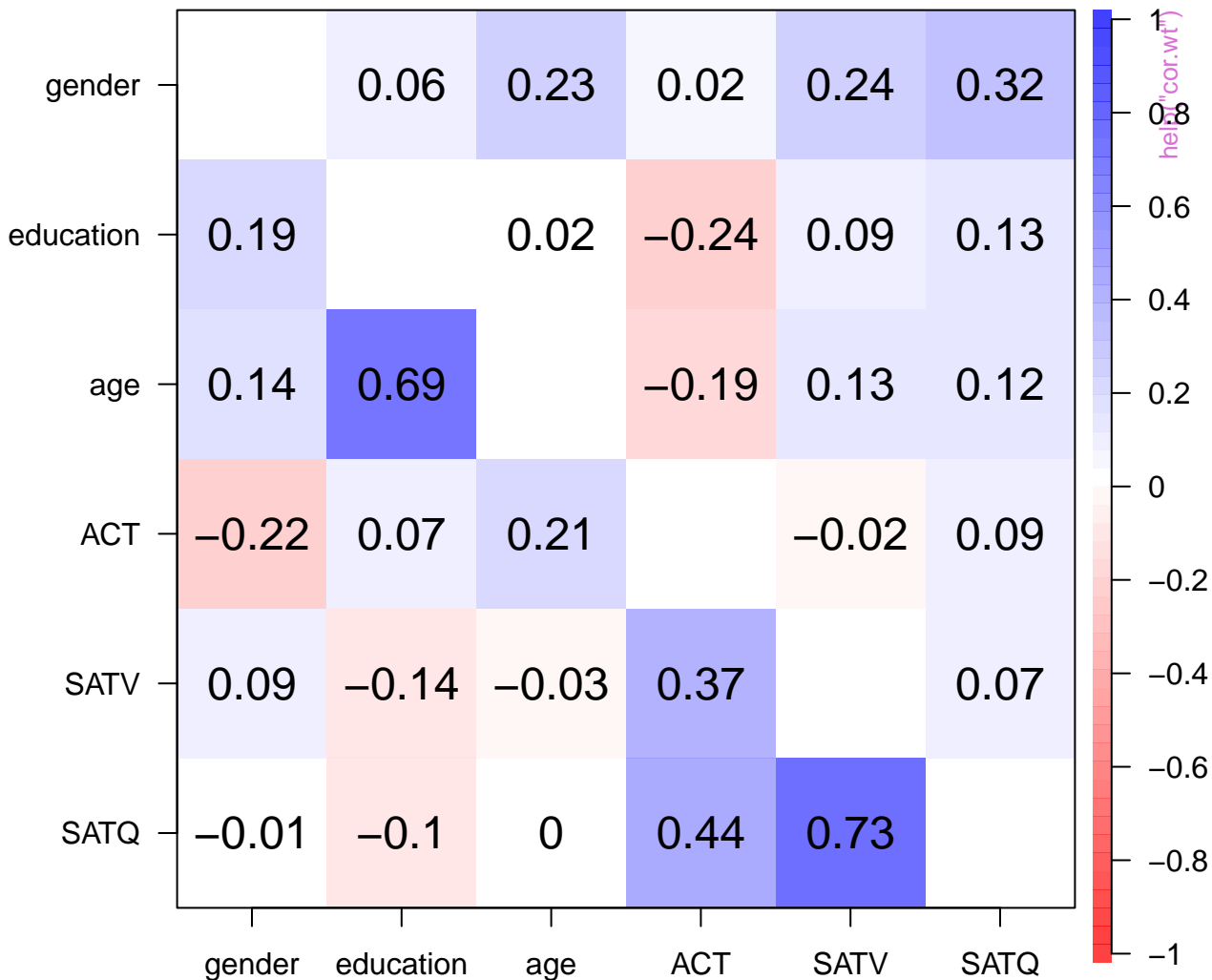




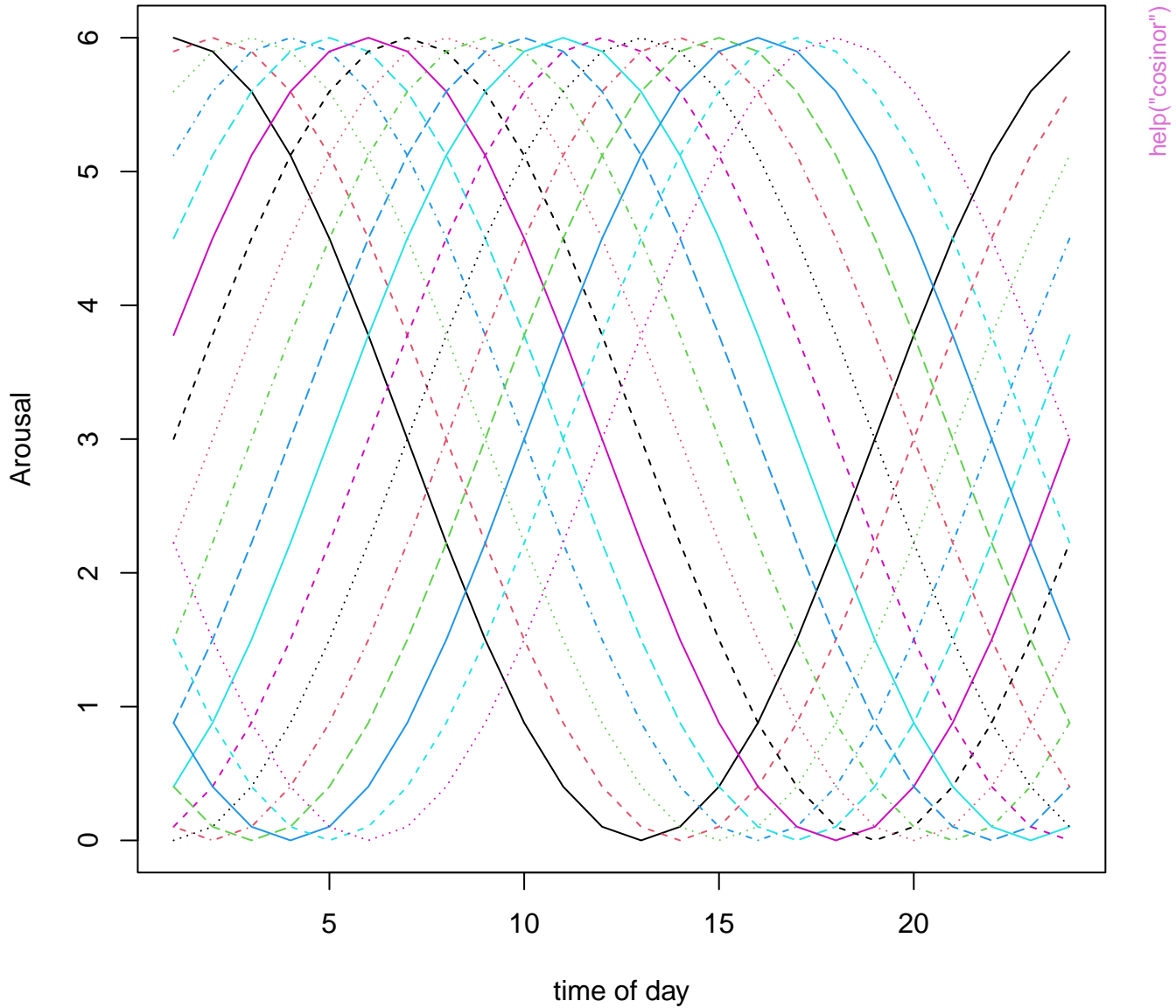
weighted versus unweighted correlations



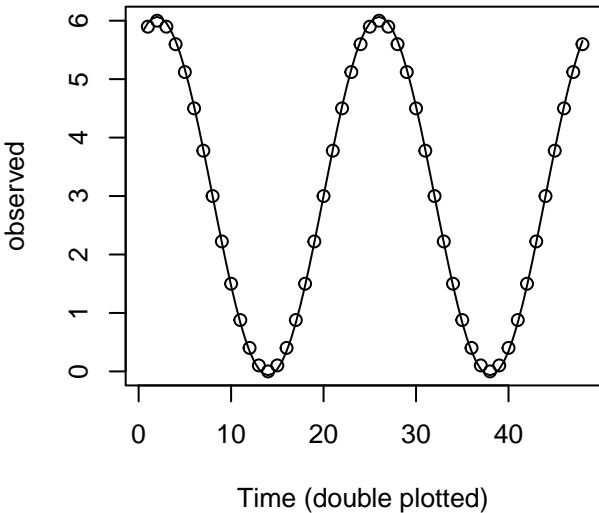
differences of weighted versus unweighted correlations



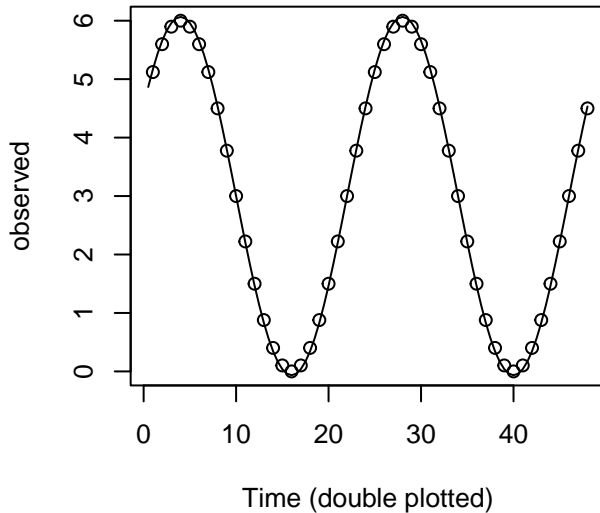
Pure circadian arousal rhythms



ID = 3 2
2

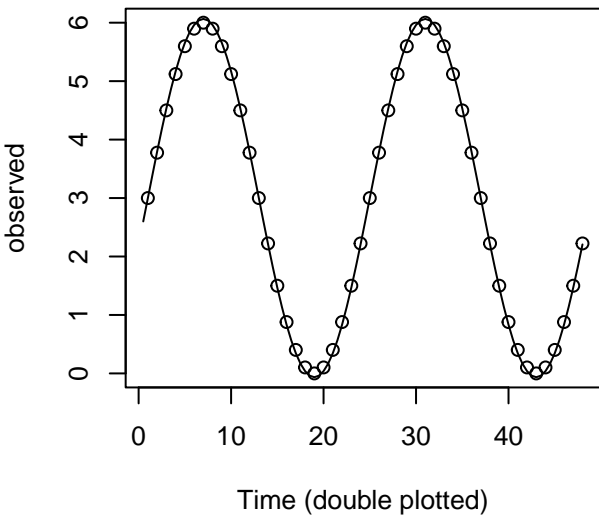


ID = 5 4
4

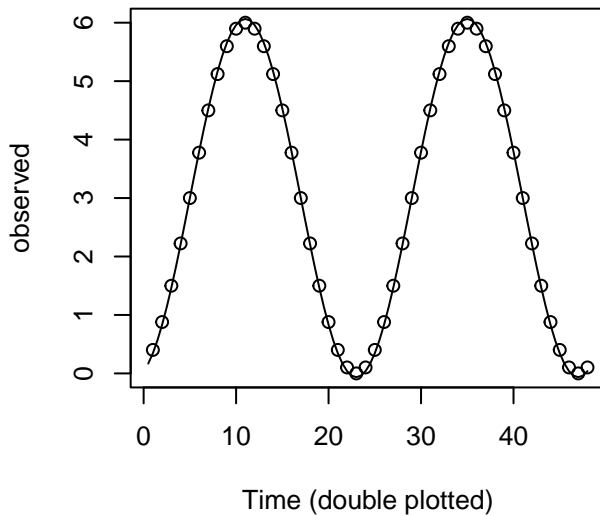


help("cosinor")

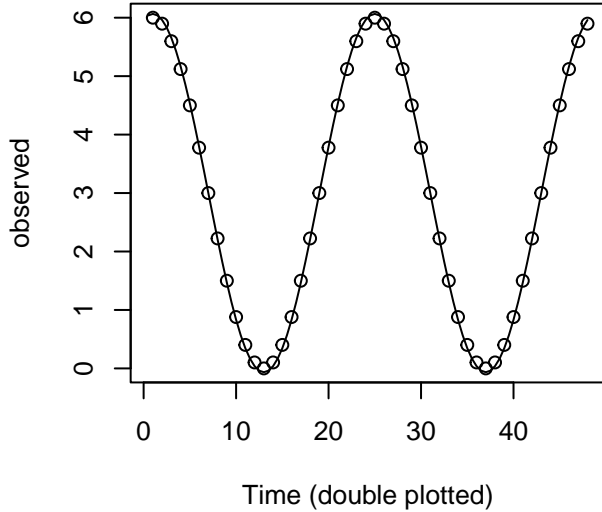
ID = 8 7
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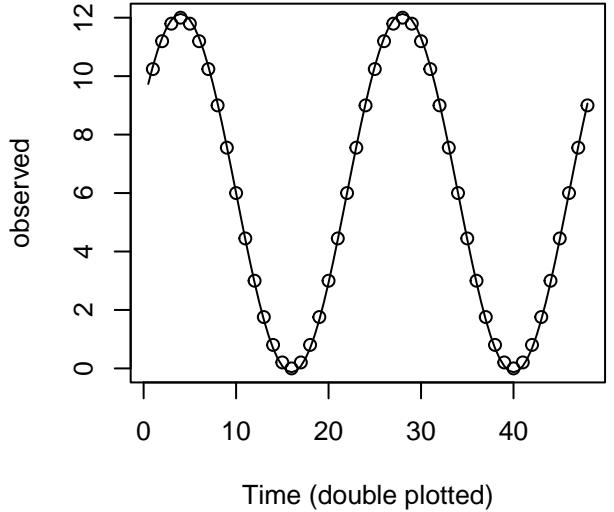
ID = 12 11
11



ID = 1 3 1

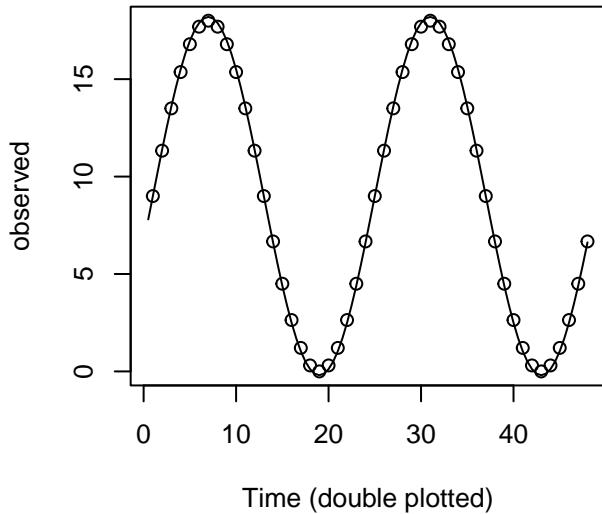


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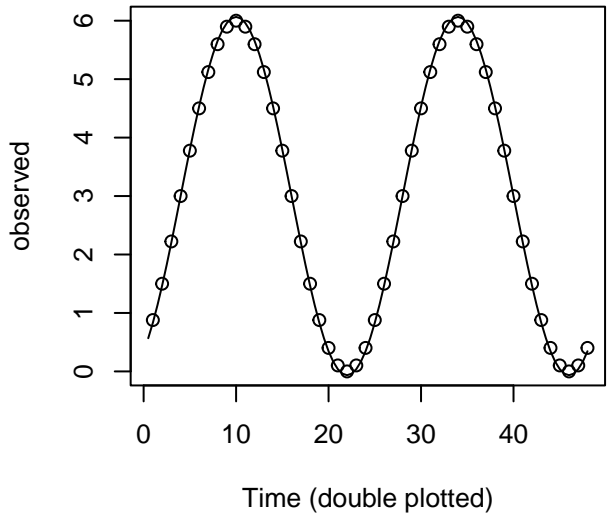


help("cosinor")

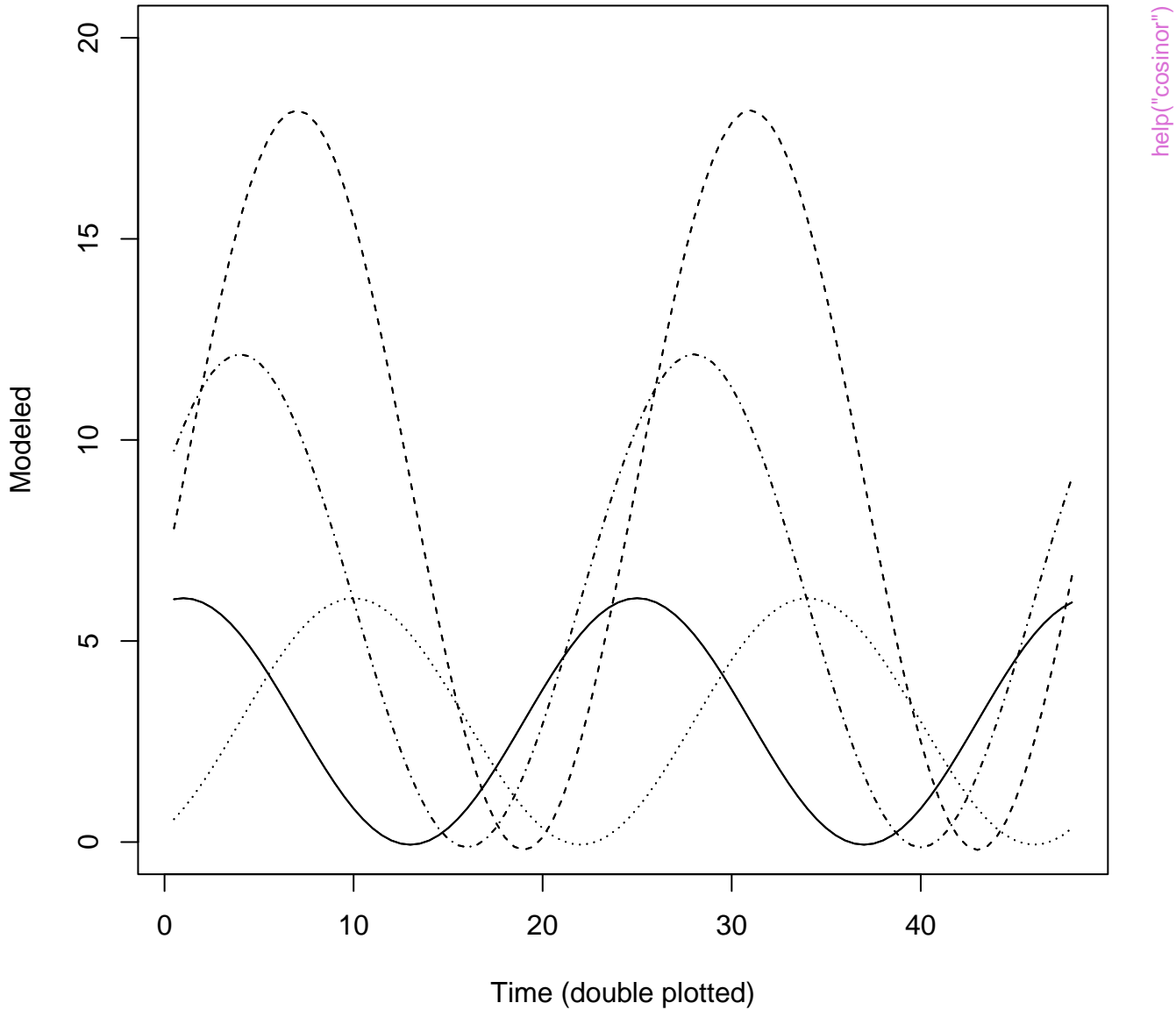
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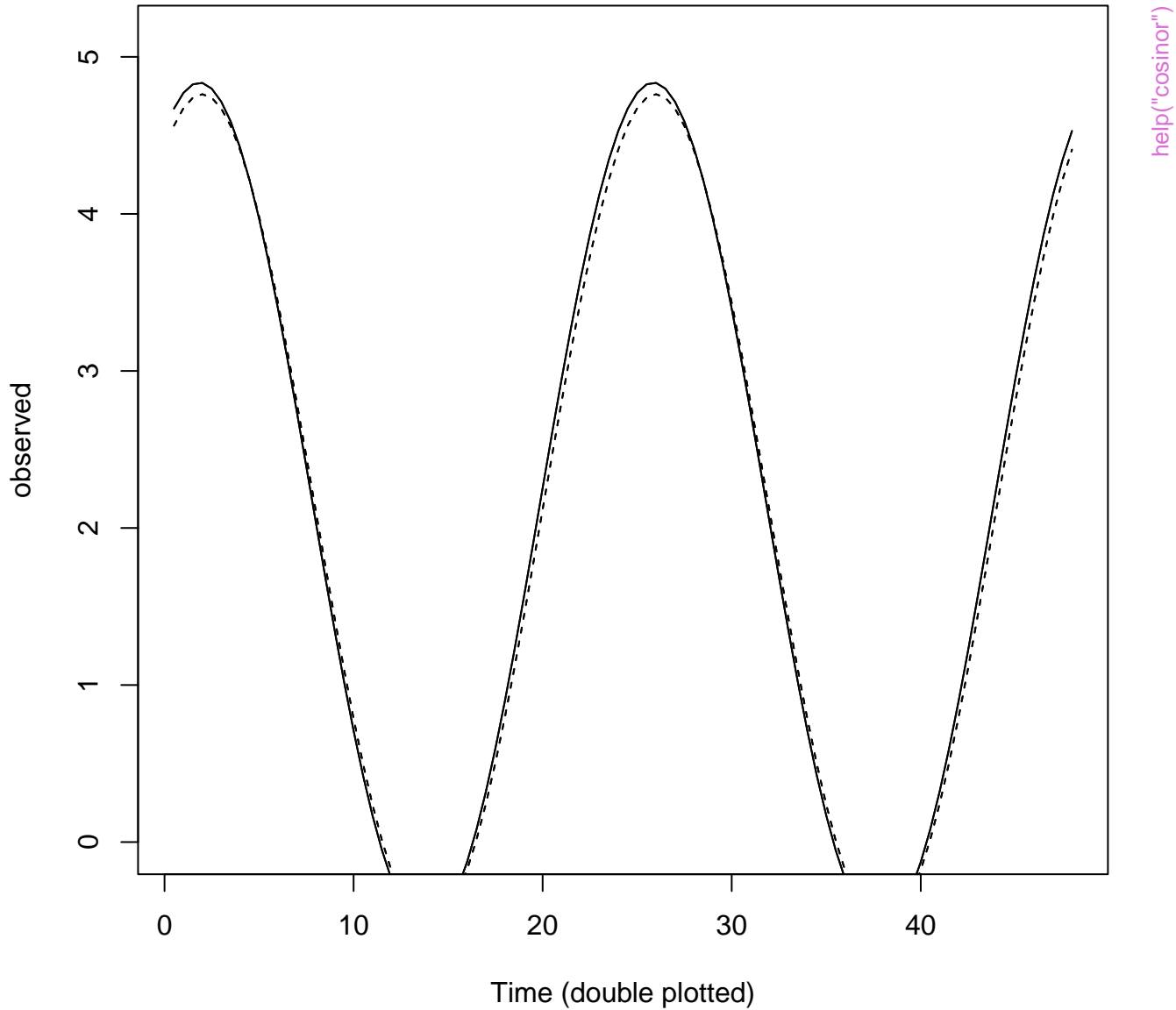
ID = 4 3 10



Cosine fit

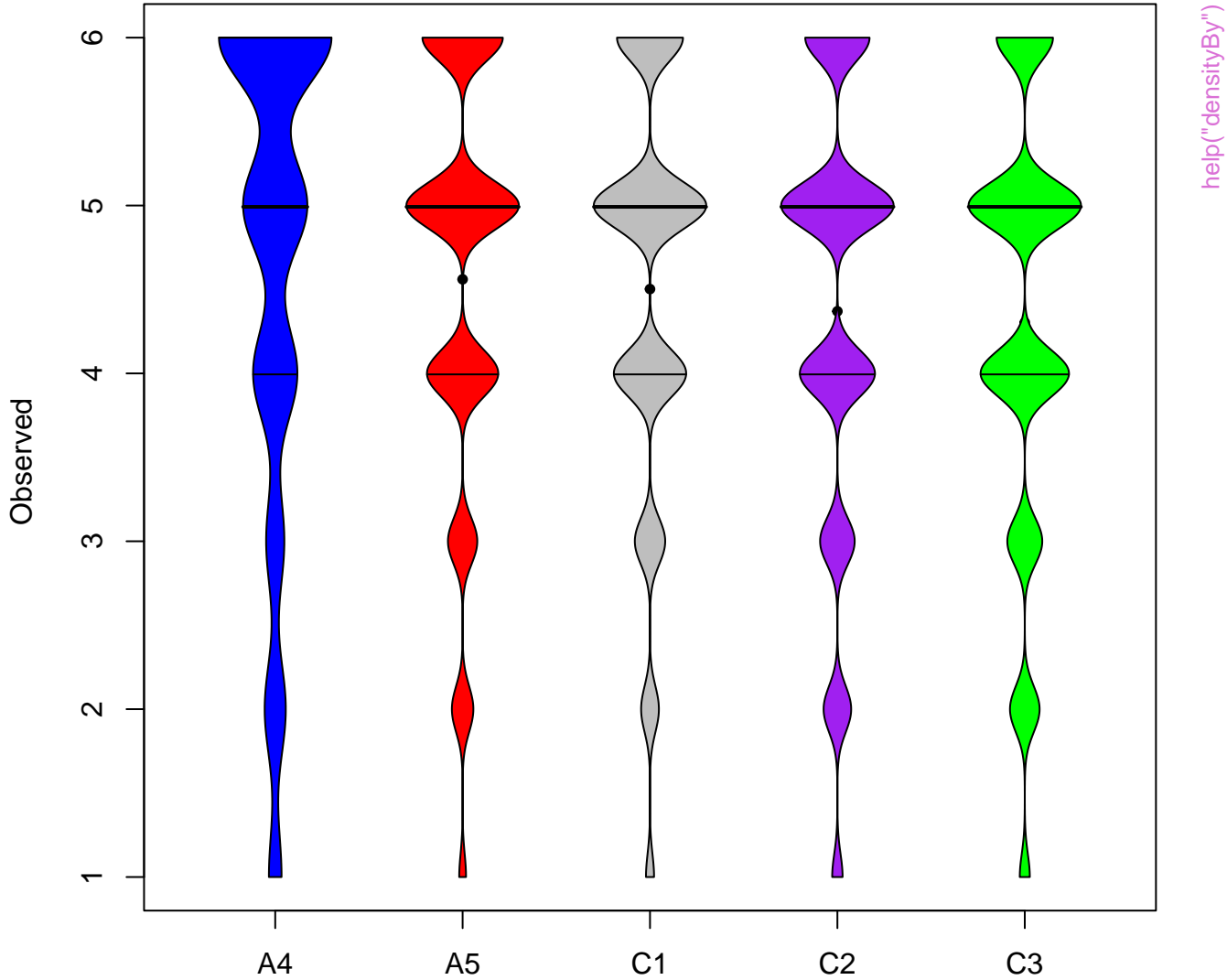


Cosine fit 1.85
1.85



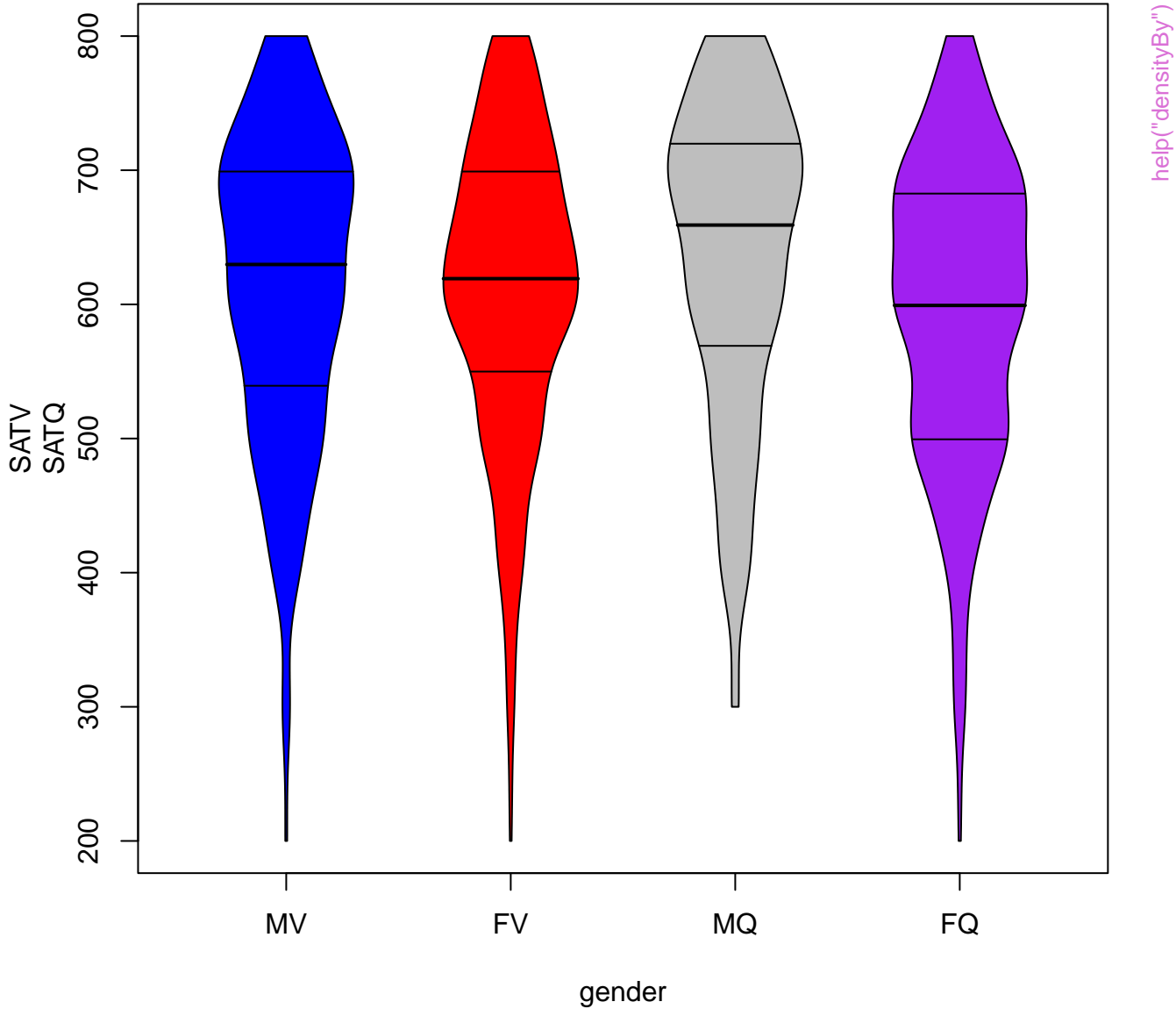
help("cosinor")

Density plot



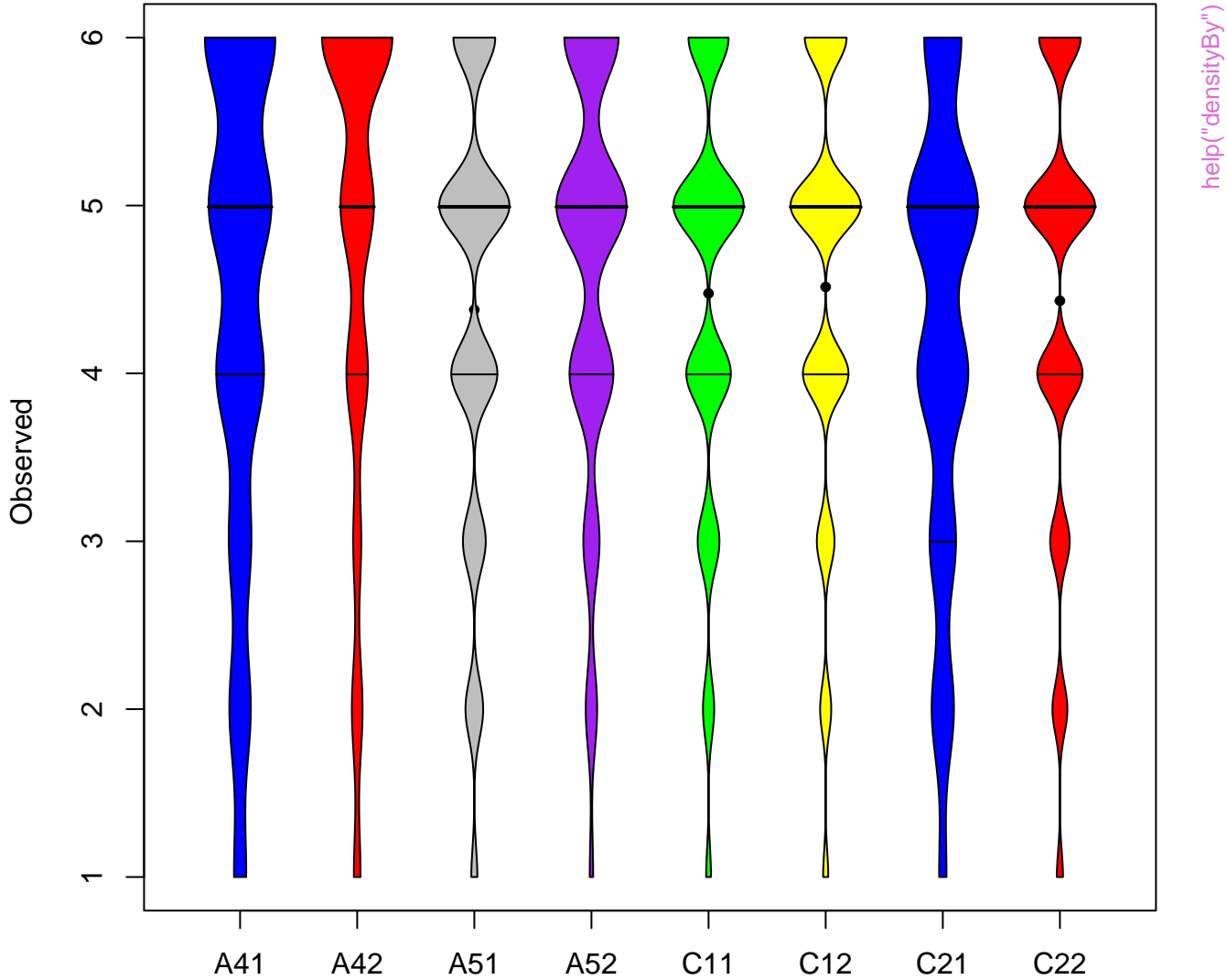
help("densityBy")

Density plot

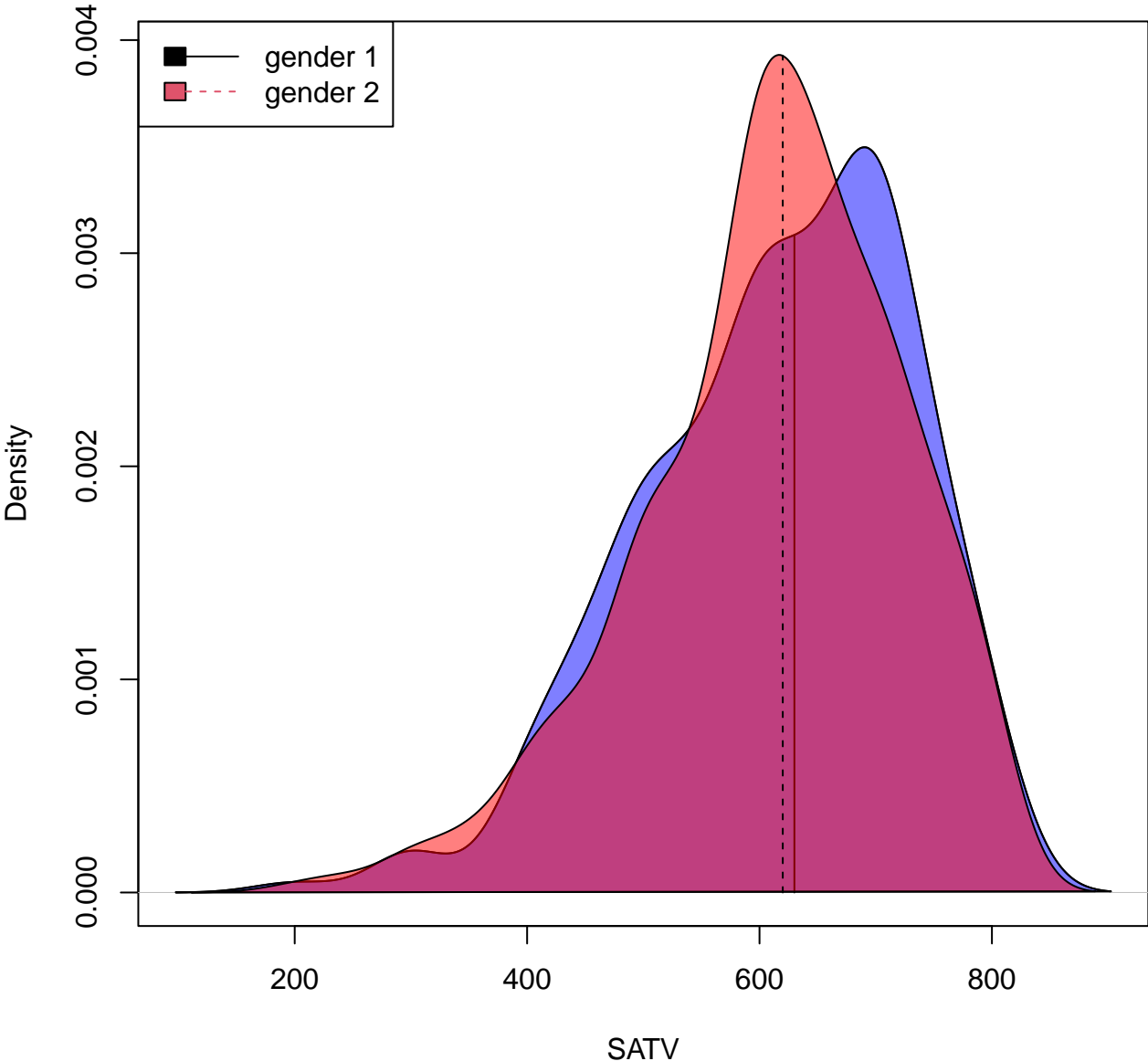


help("densityBy")

Density plot

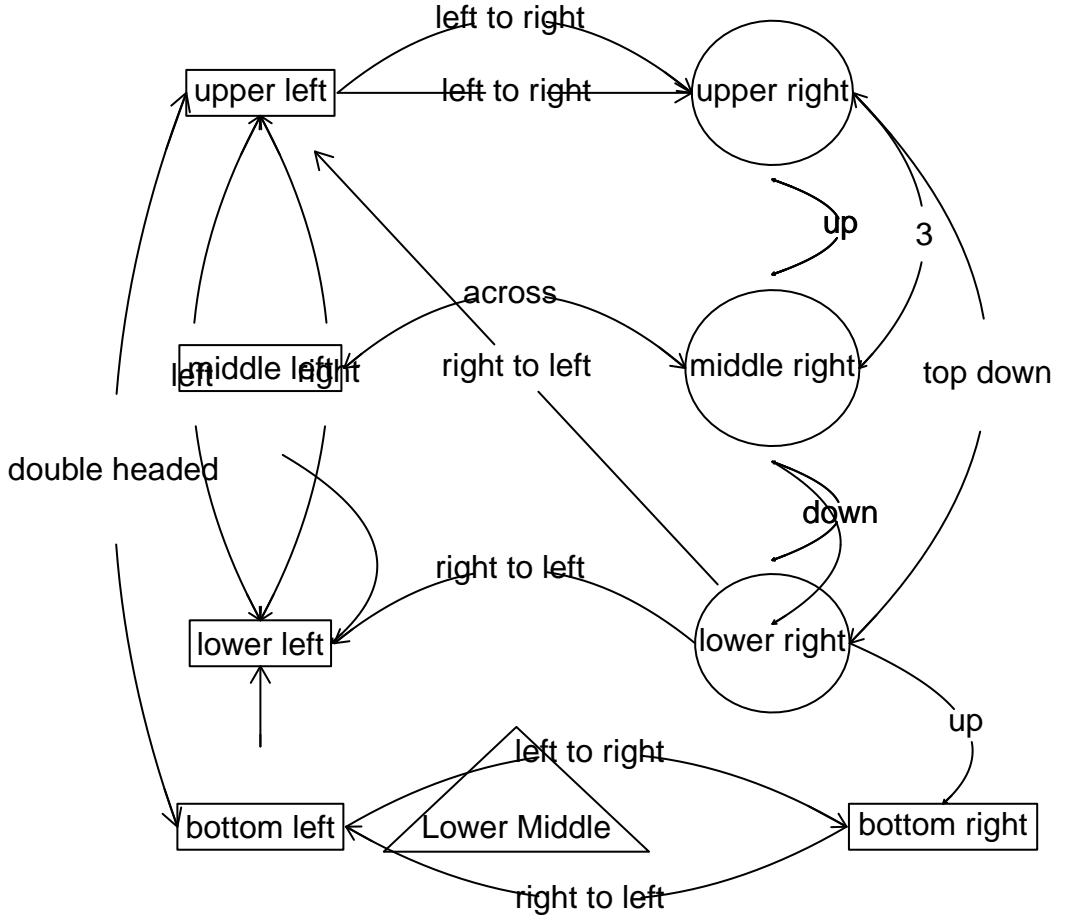


Density Plot

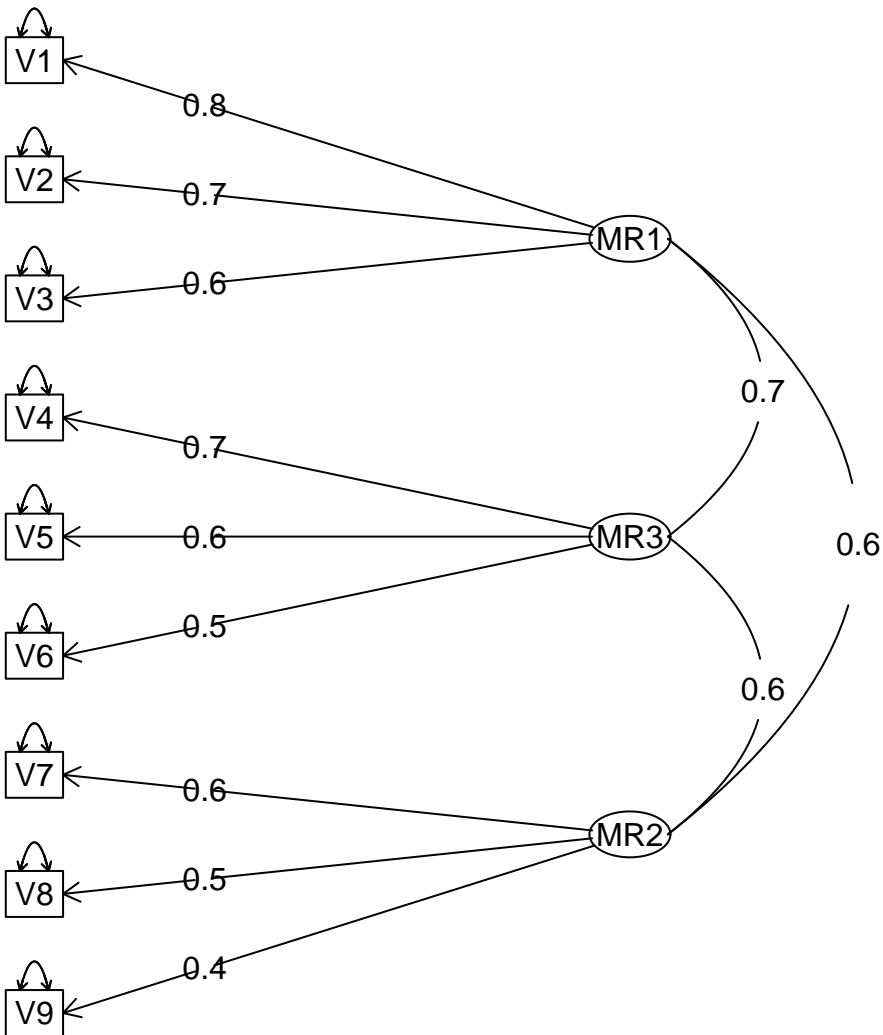


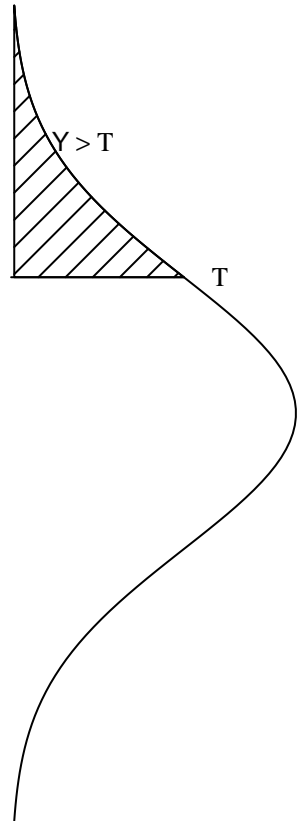
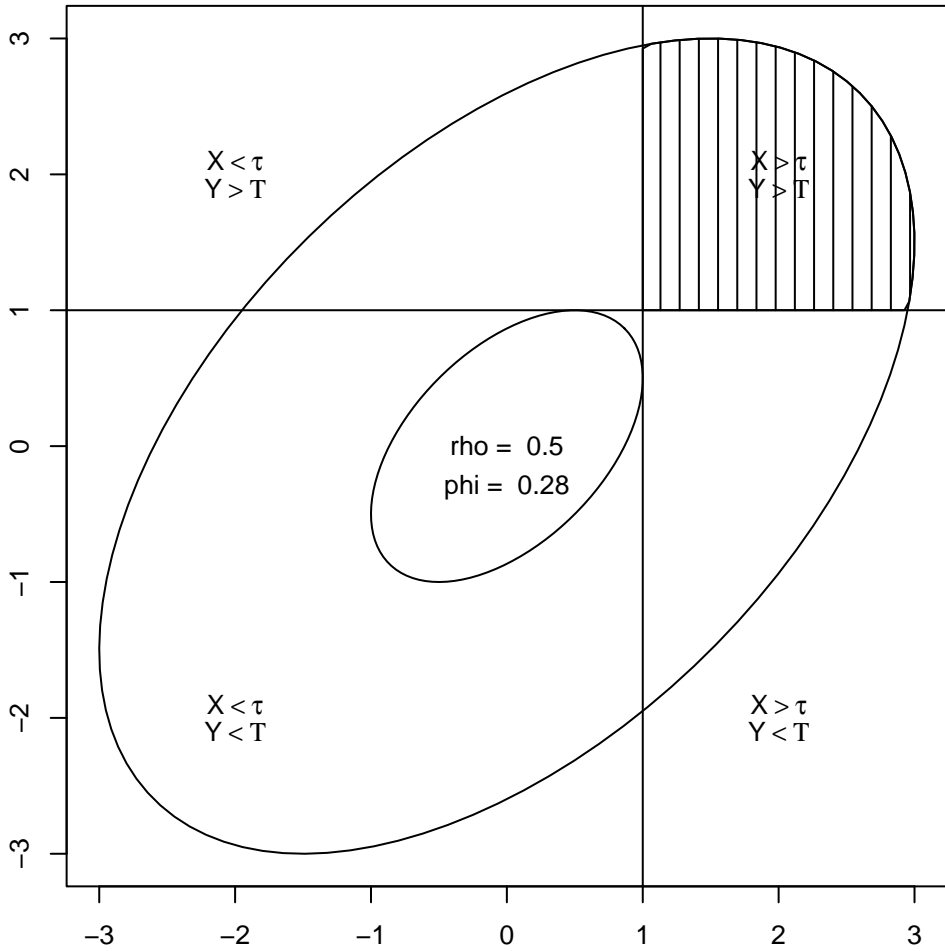
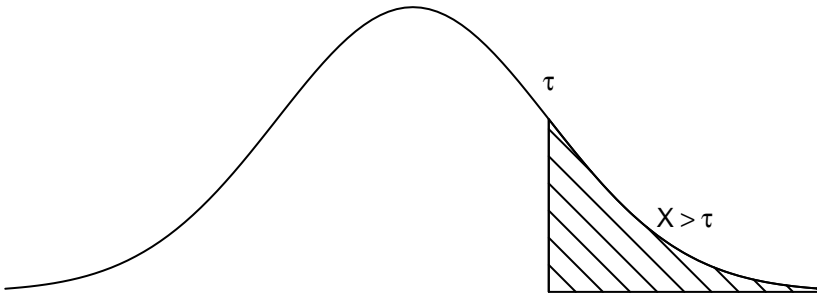
help("densityBy")

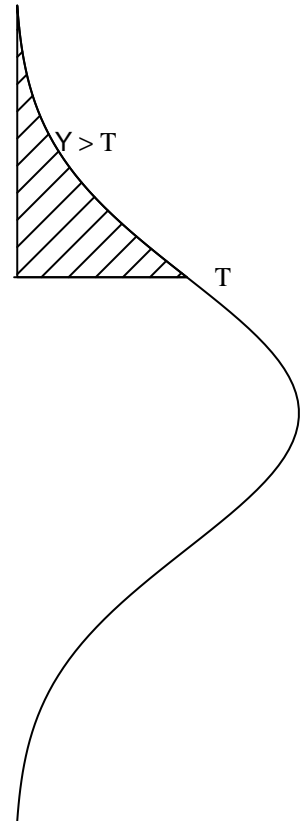
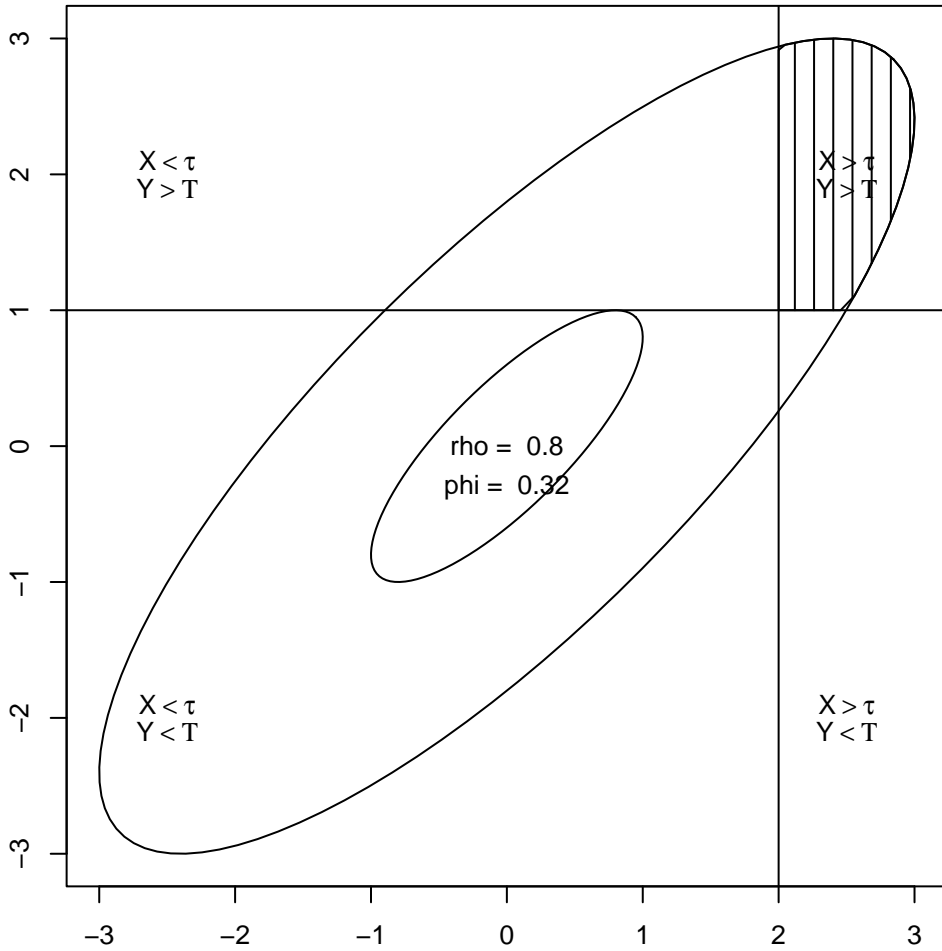
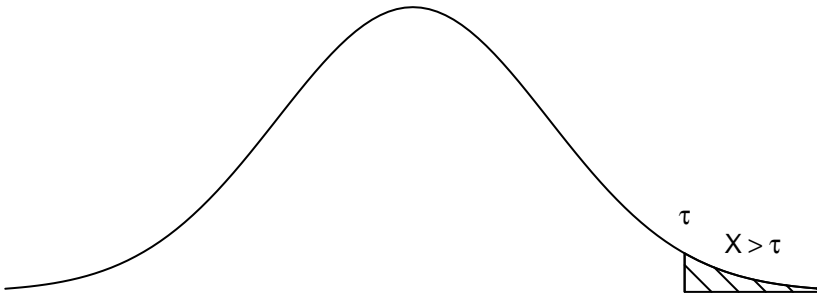
Demonstration of diagram functions



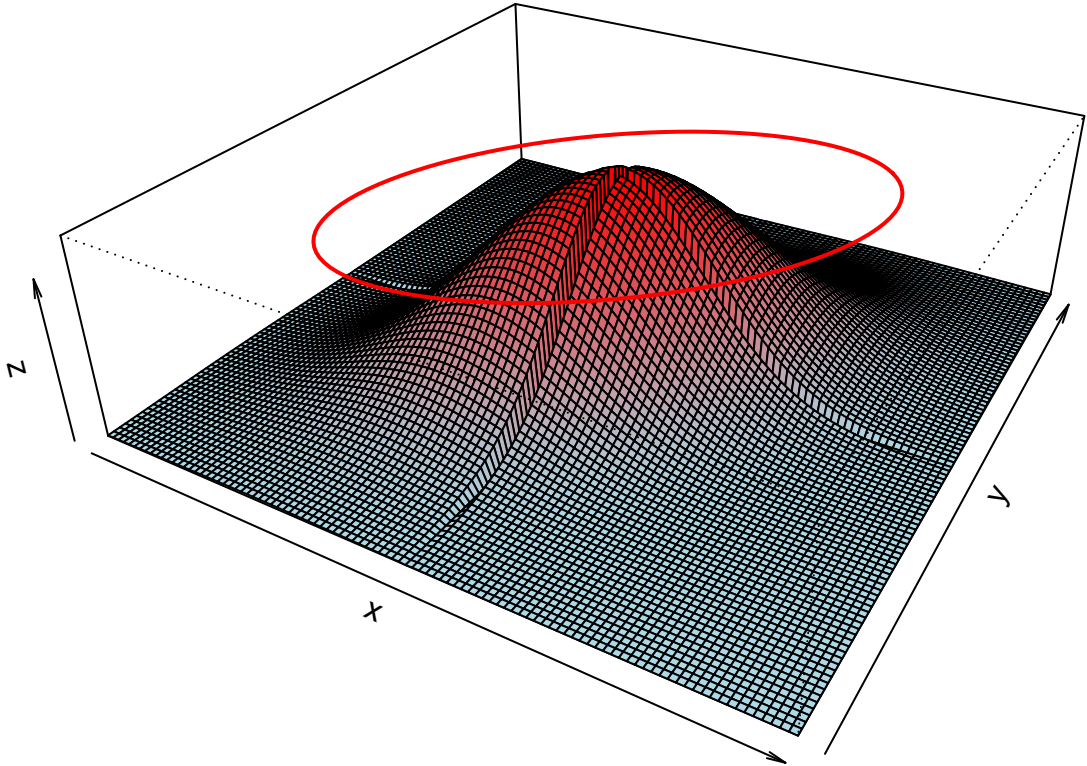
Factor Analysis



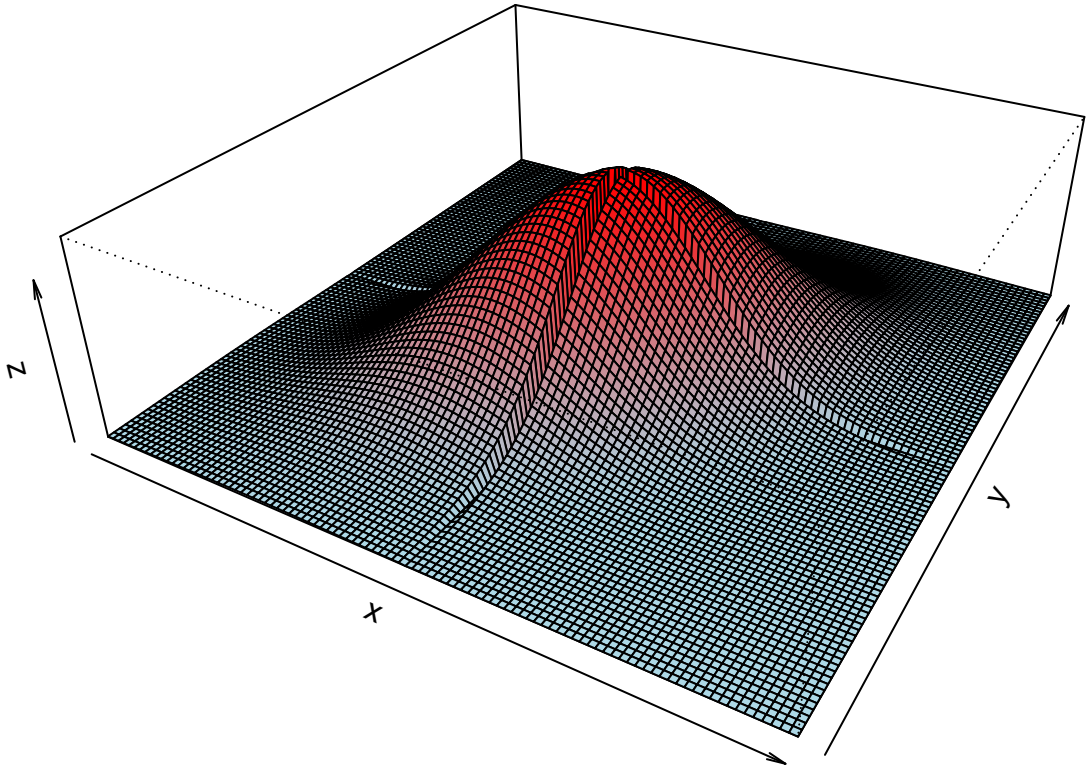


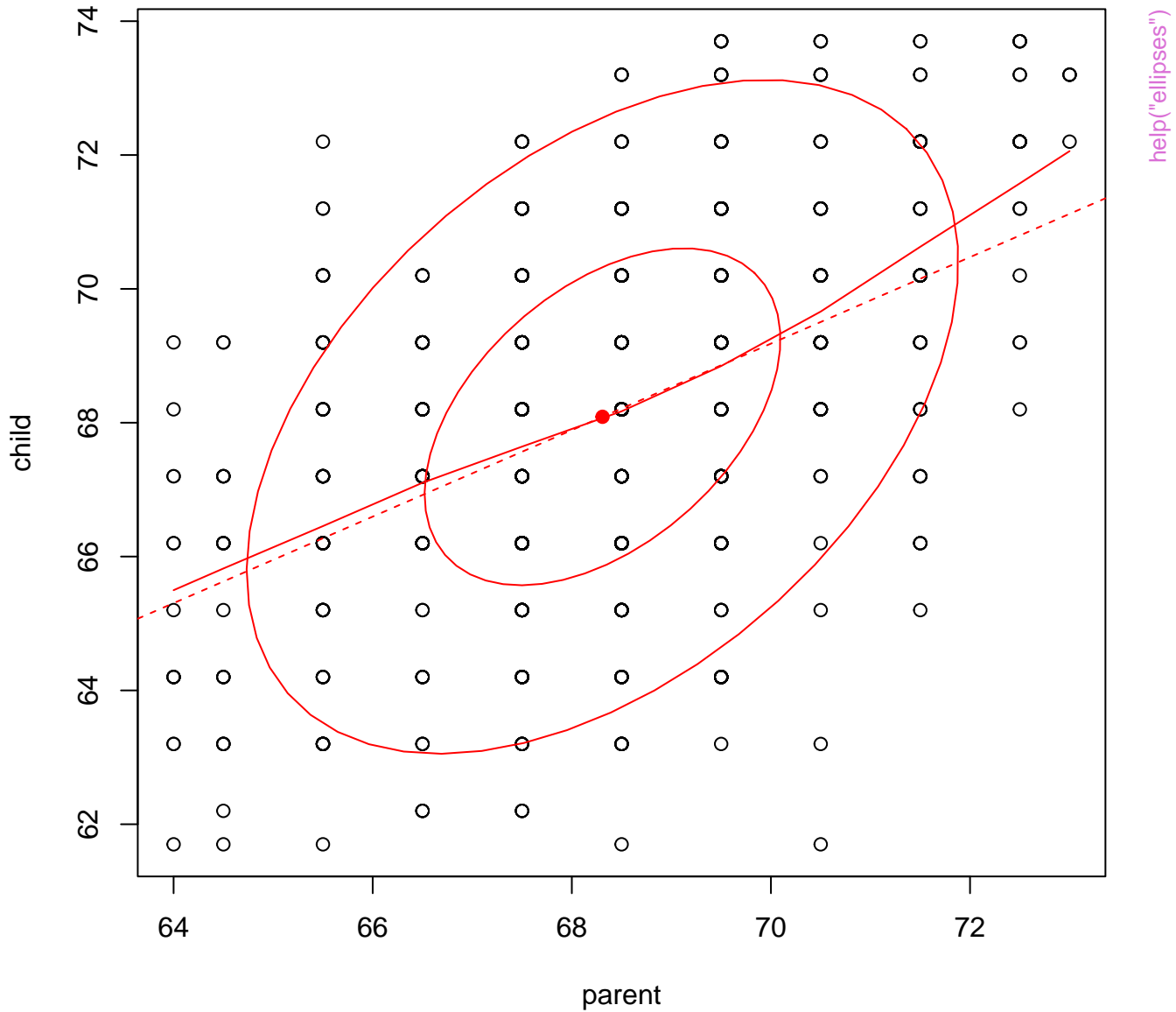


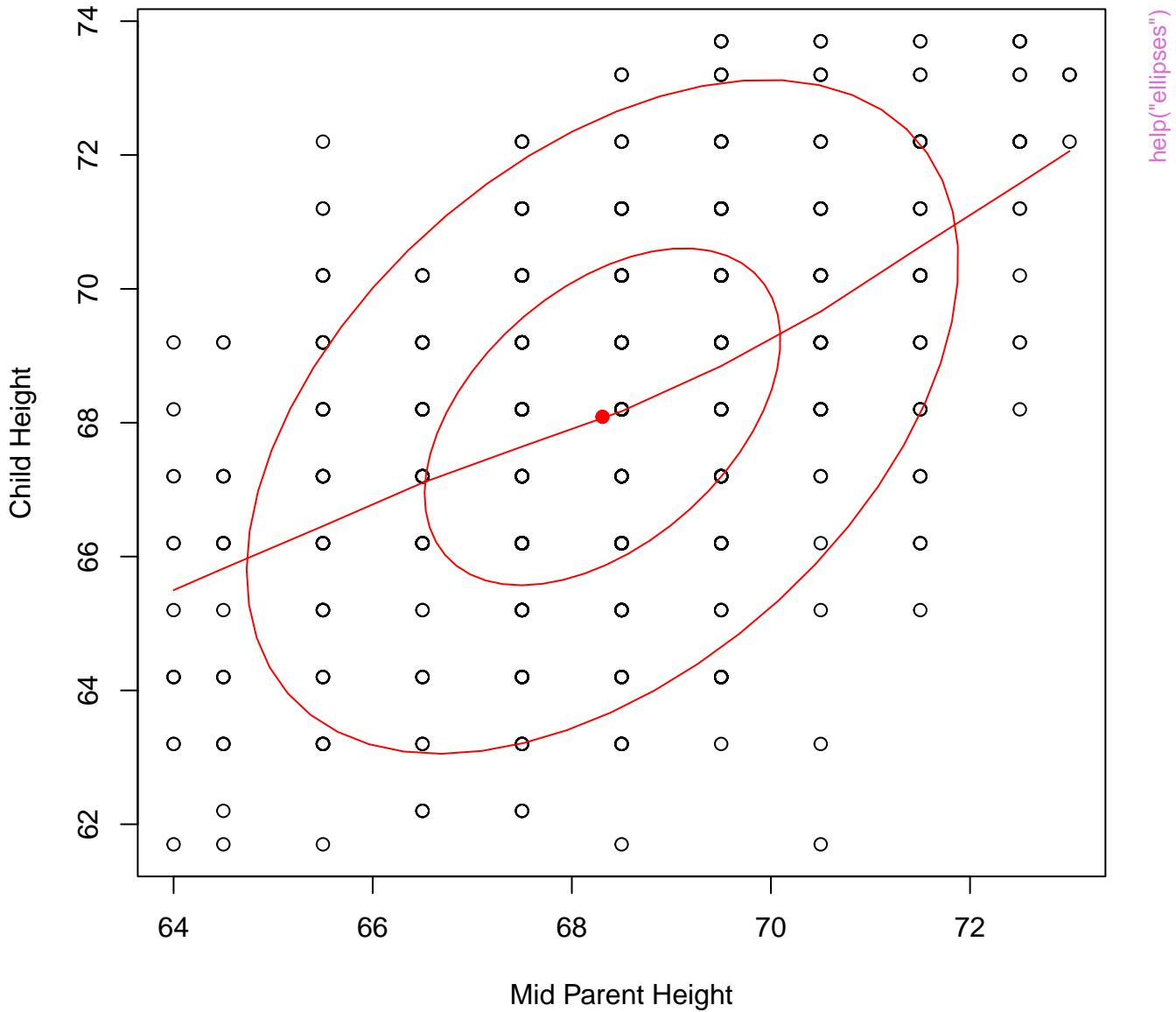
Bivariate density $\rho = 0.5$

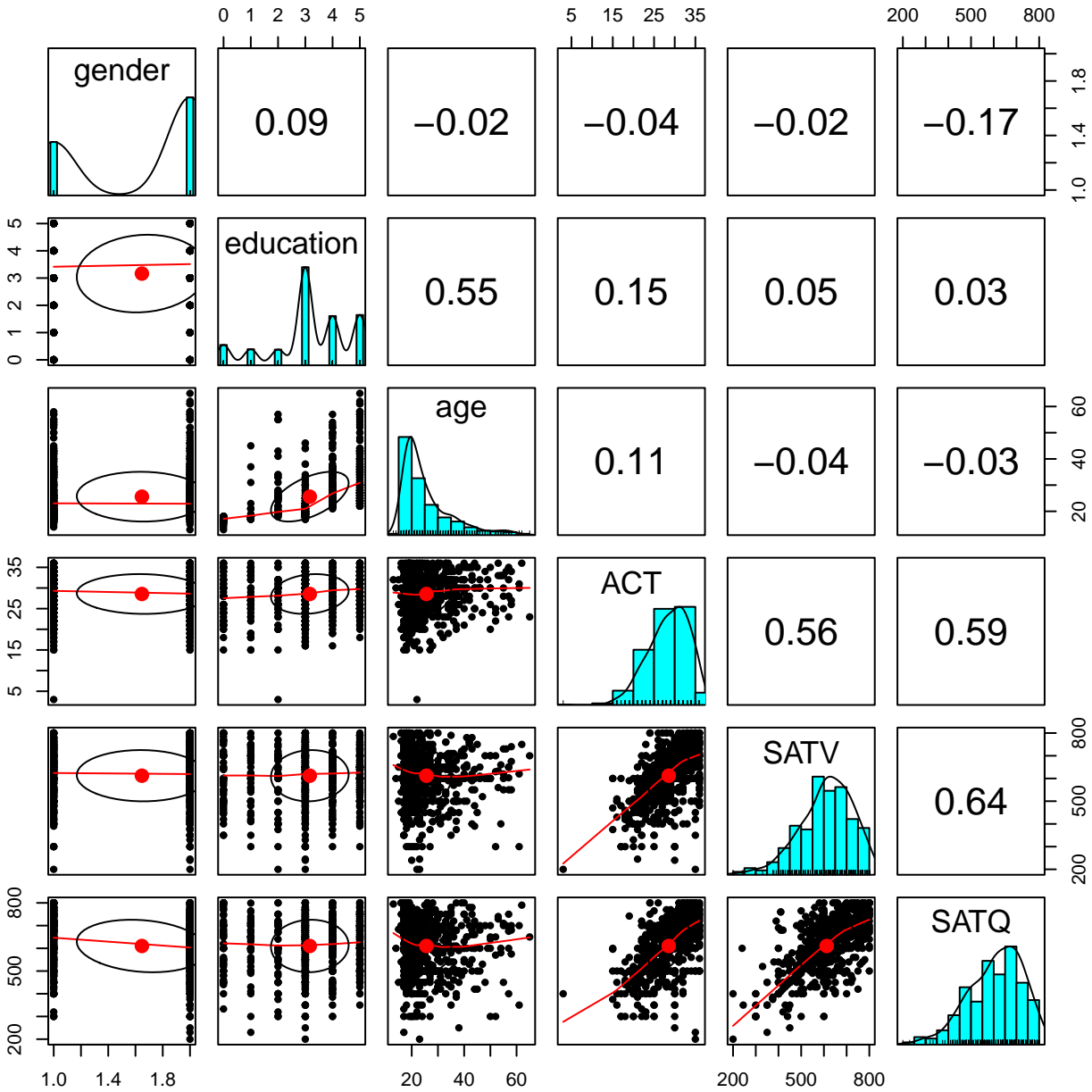


Bivariate density $\rho = 0.5$



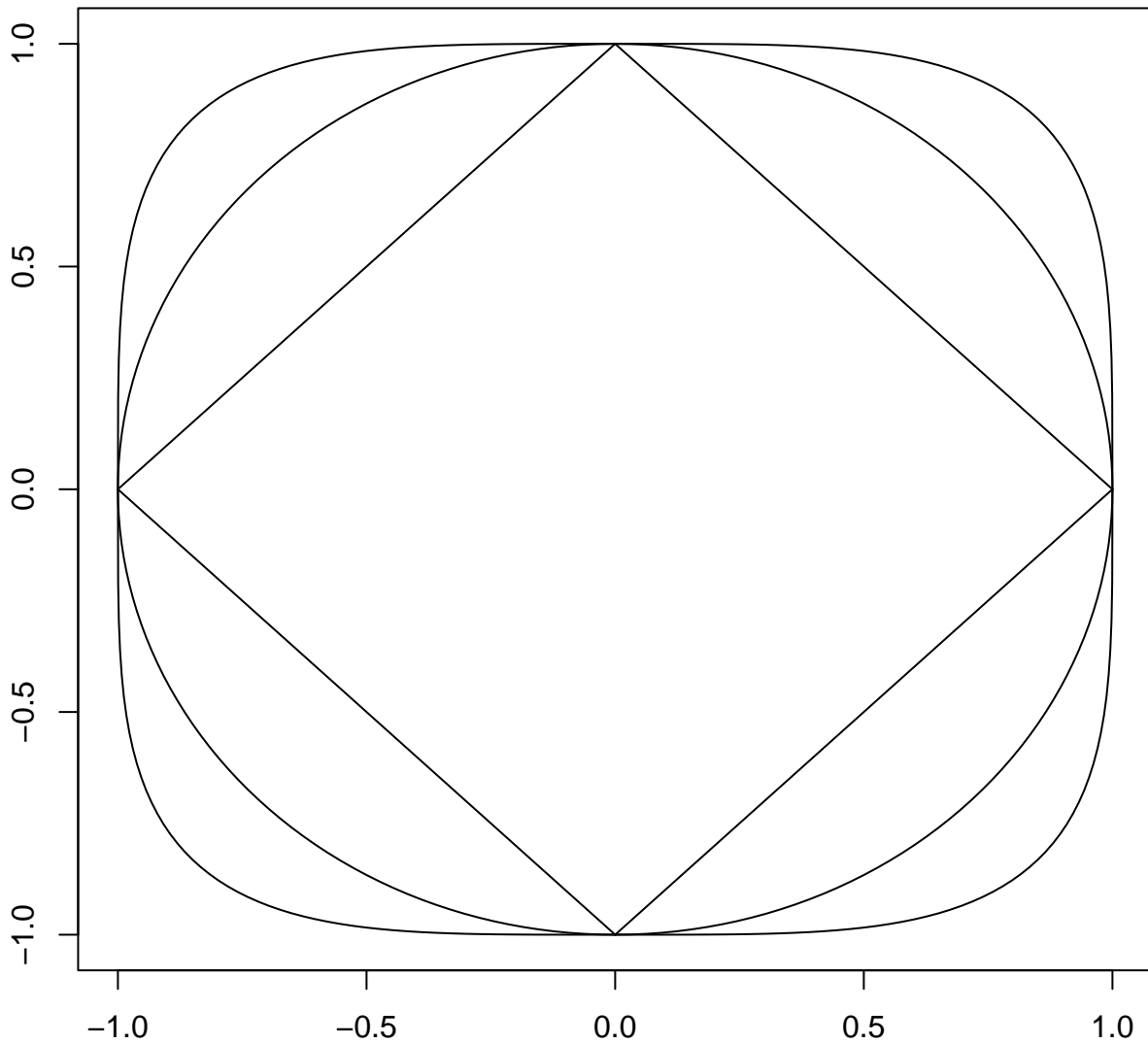




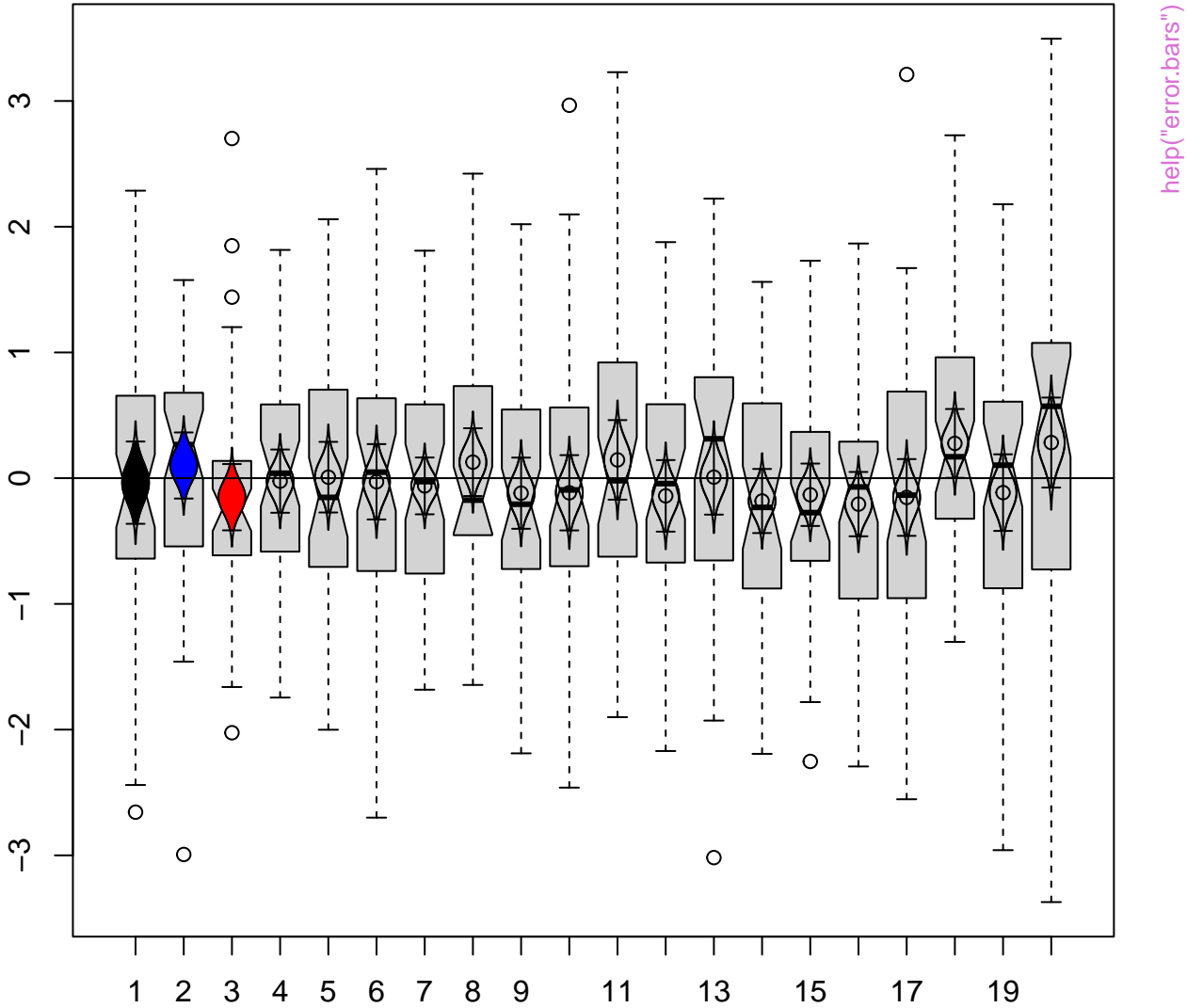


help("ellipses")

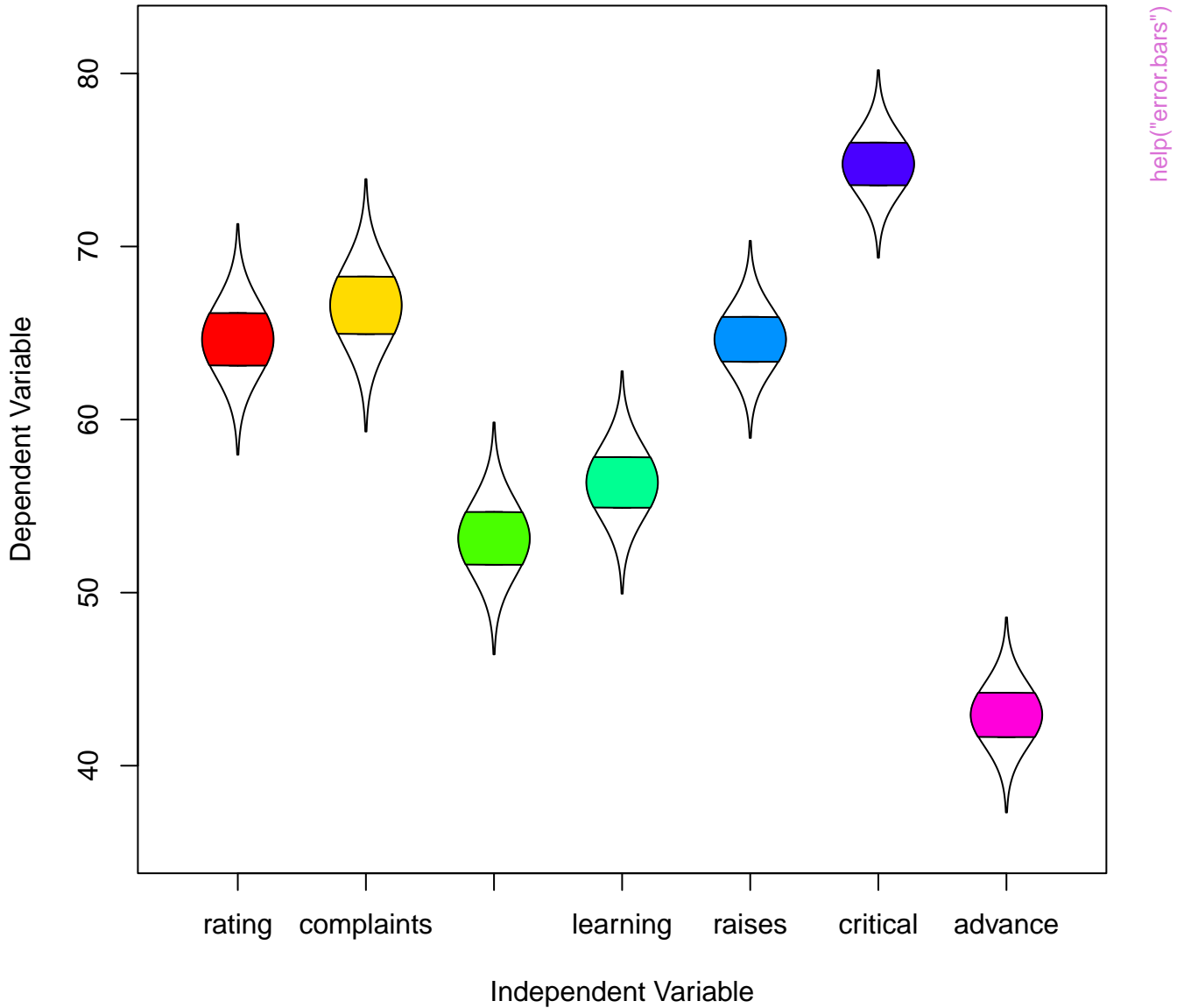
Minkowski circles



Notched boxplot with error bars

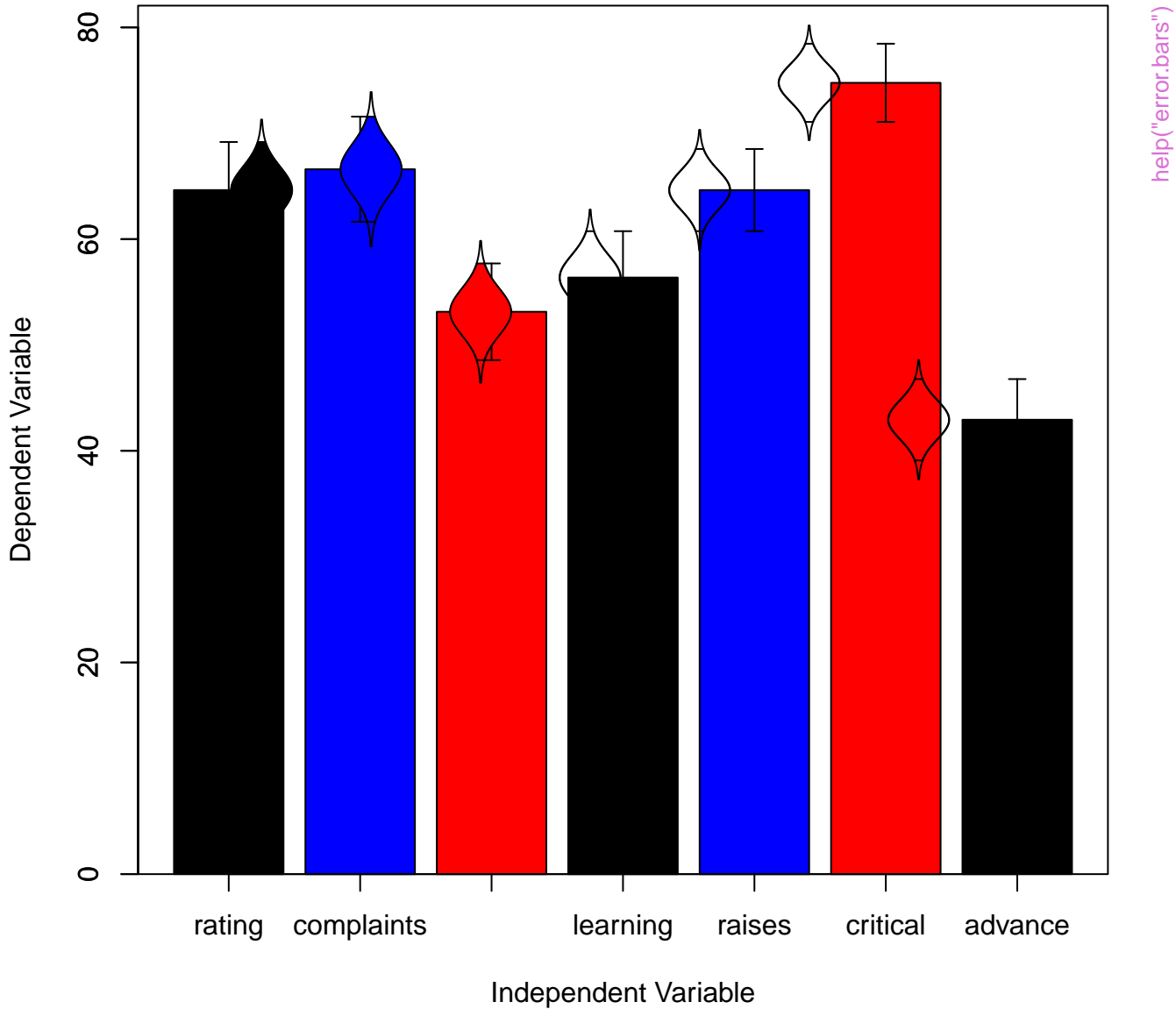


50 percent confidence limits

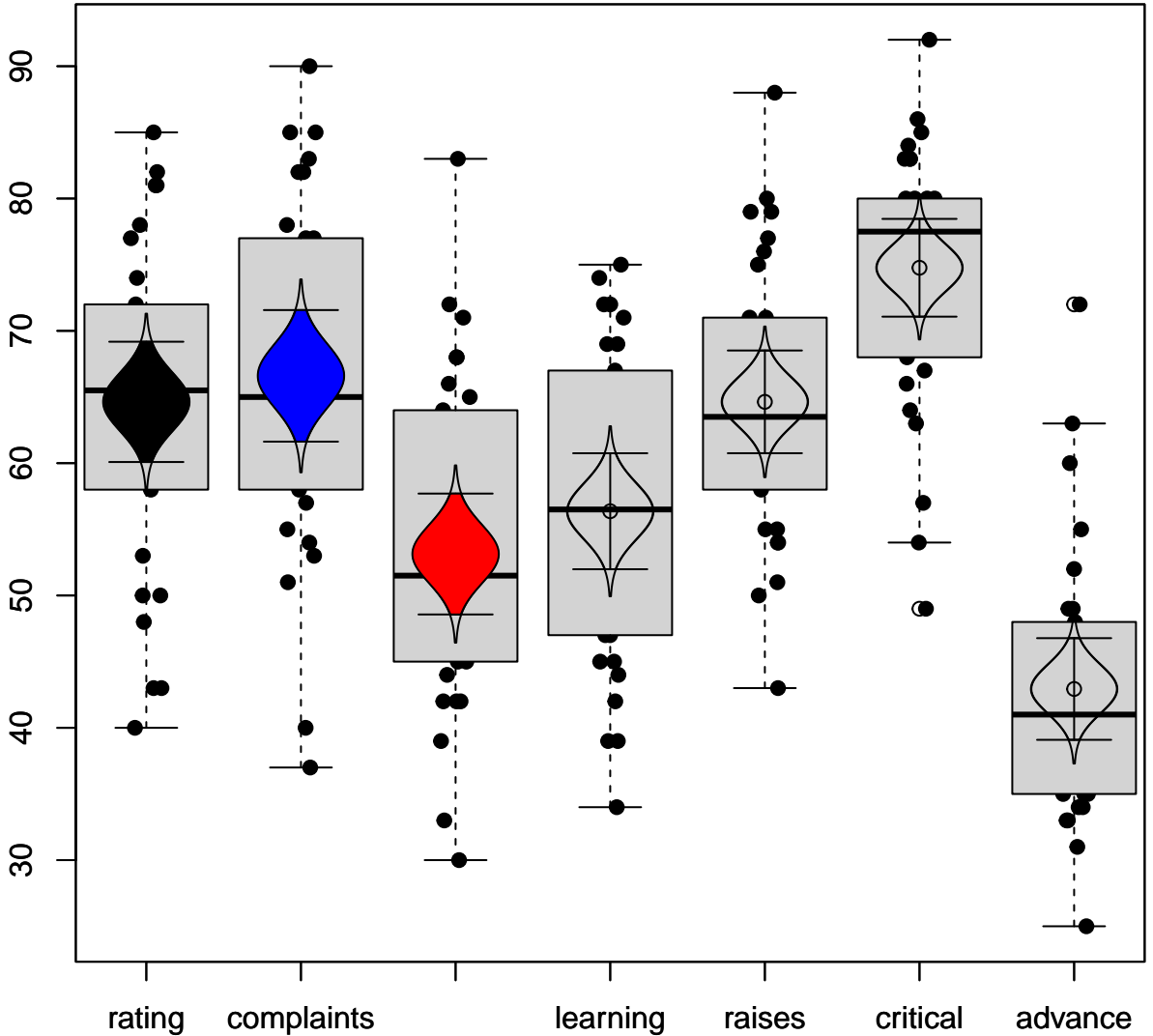


help("error bars")

95% confidence limits

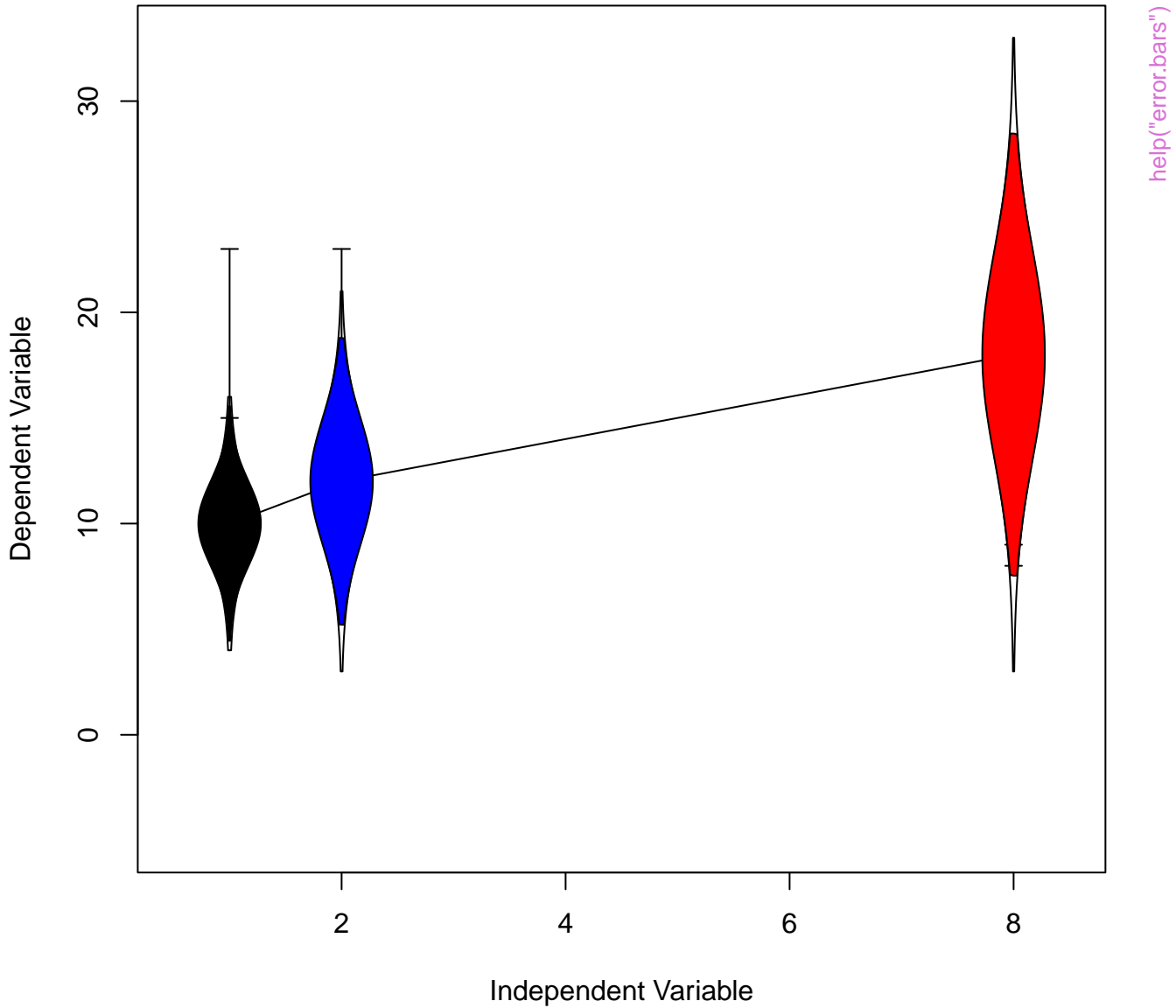


Stripchart with 95 percent confidence limits

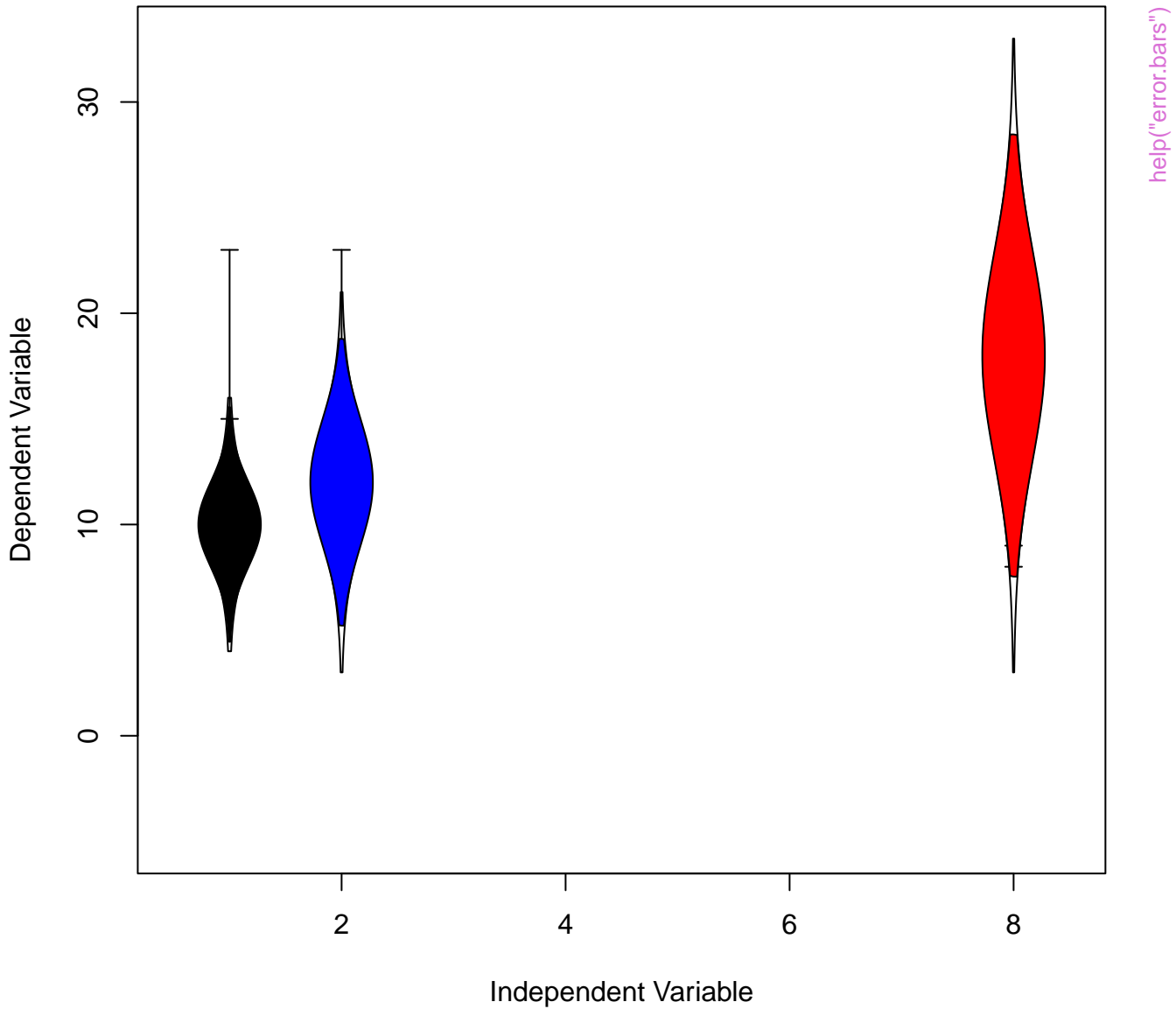


help("error bars")

data with confidence intervals

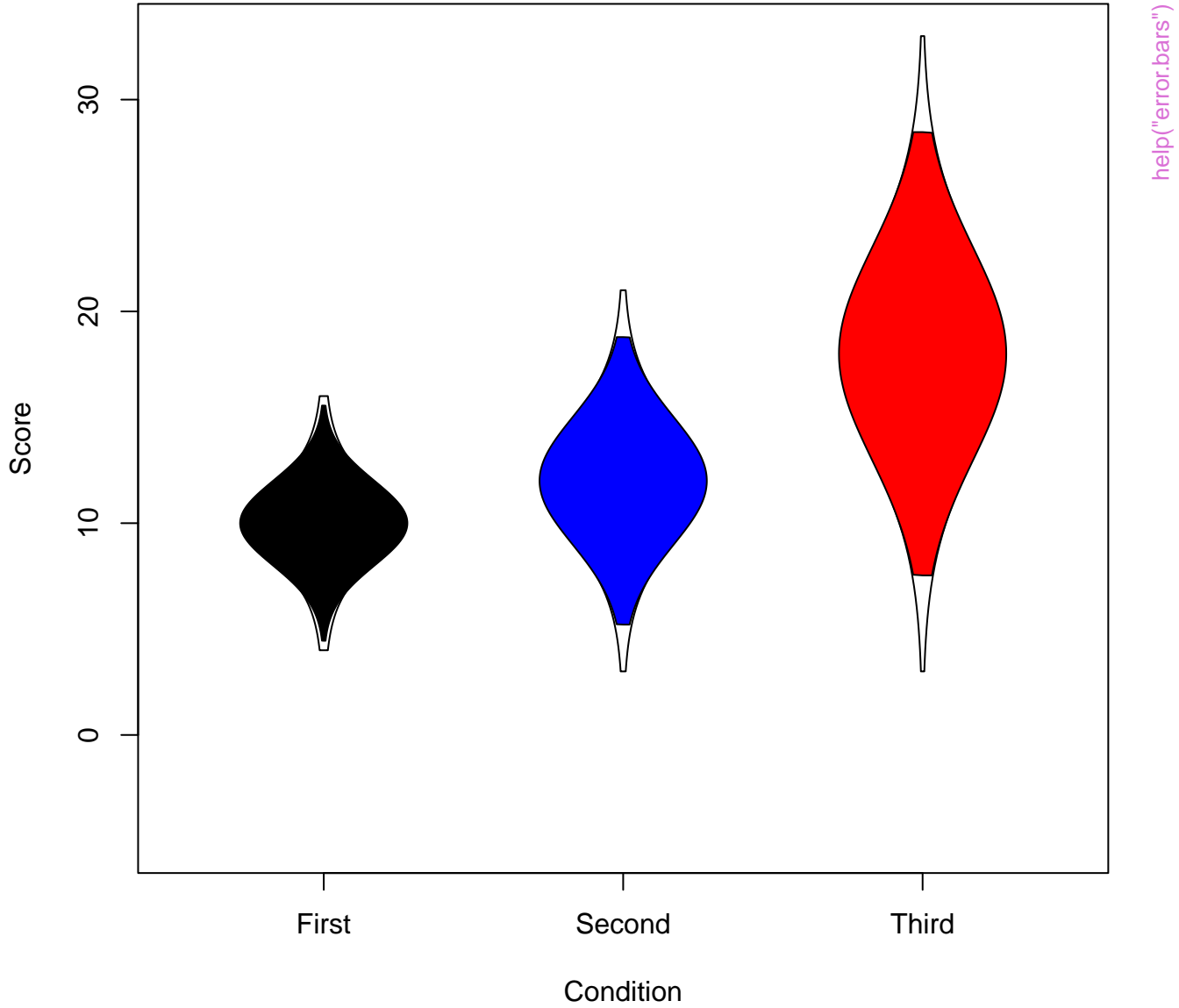


data with confidence intervals

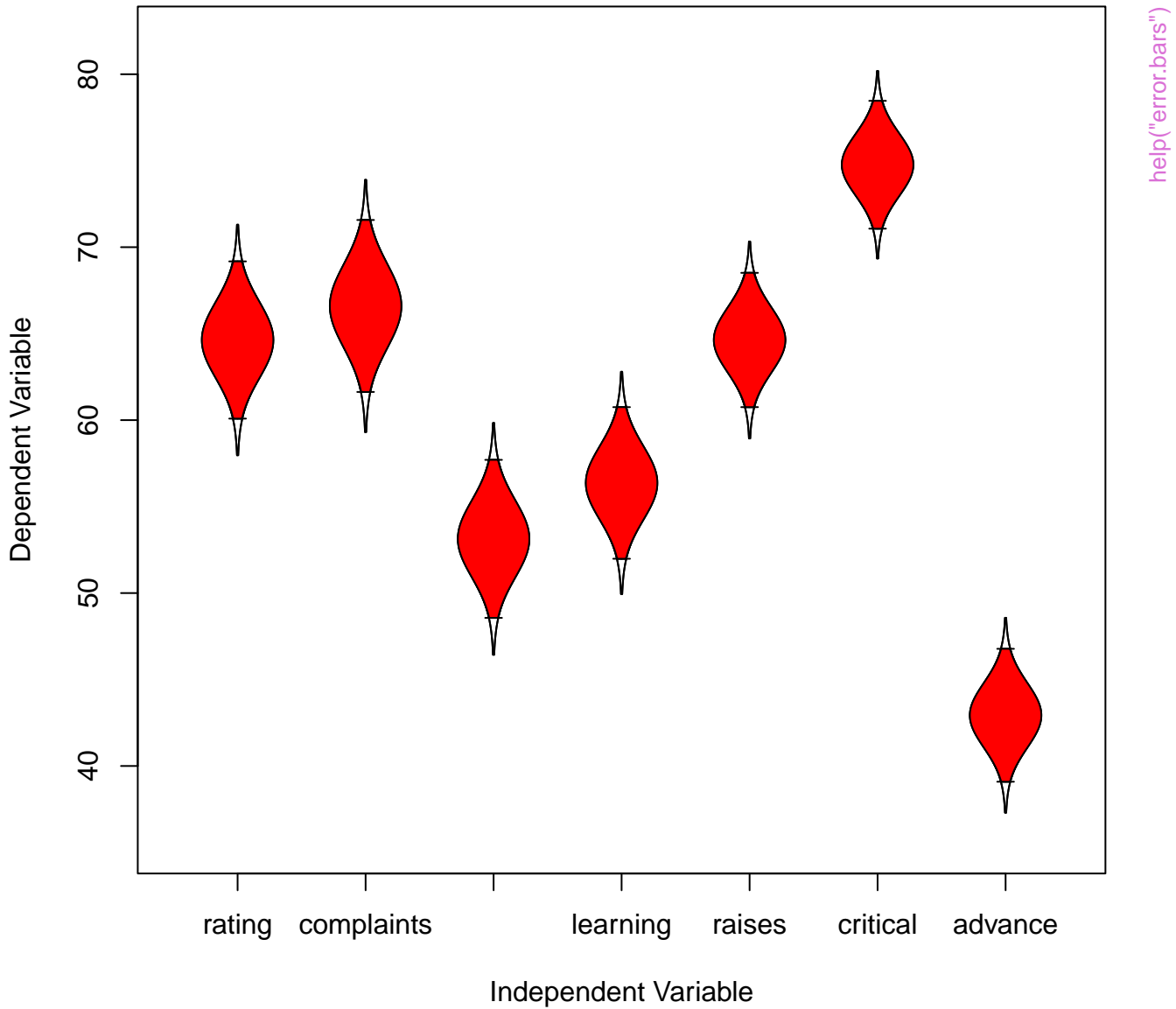


help("error bars")

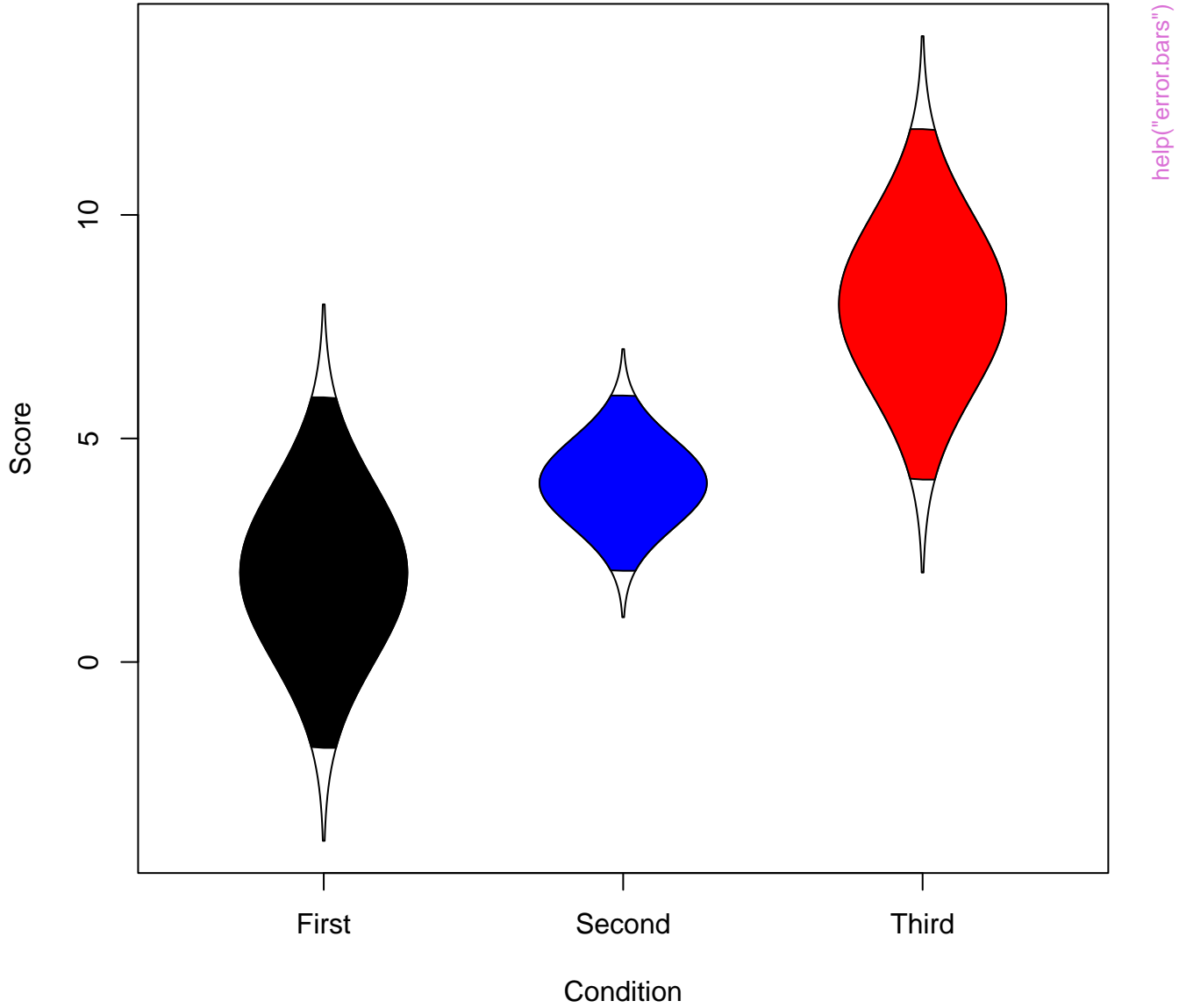
95% confidence limits



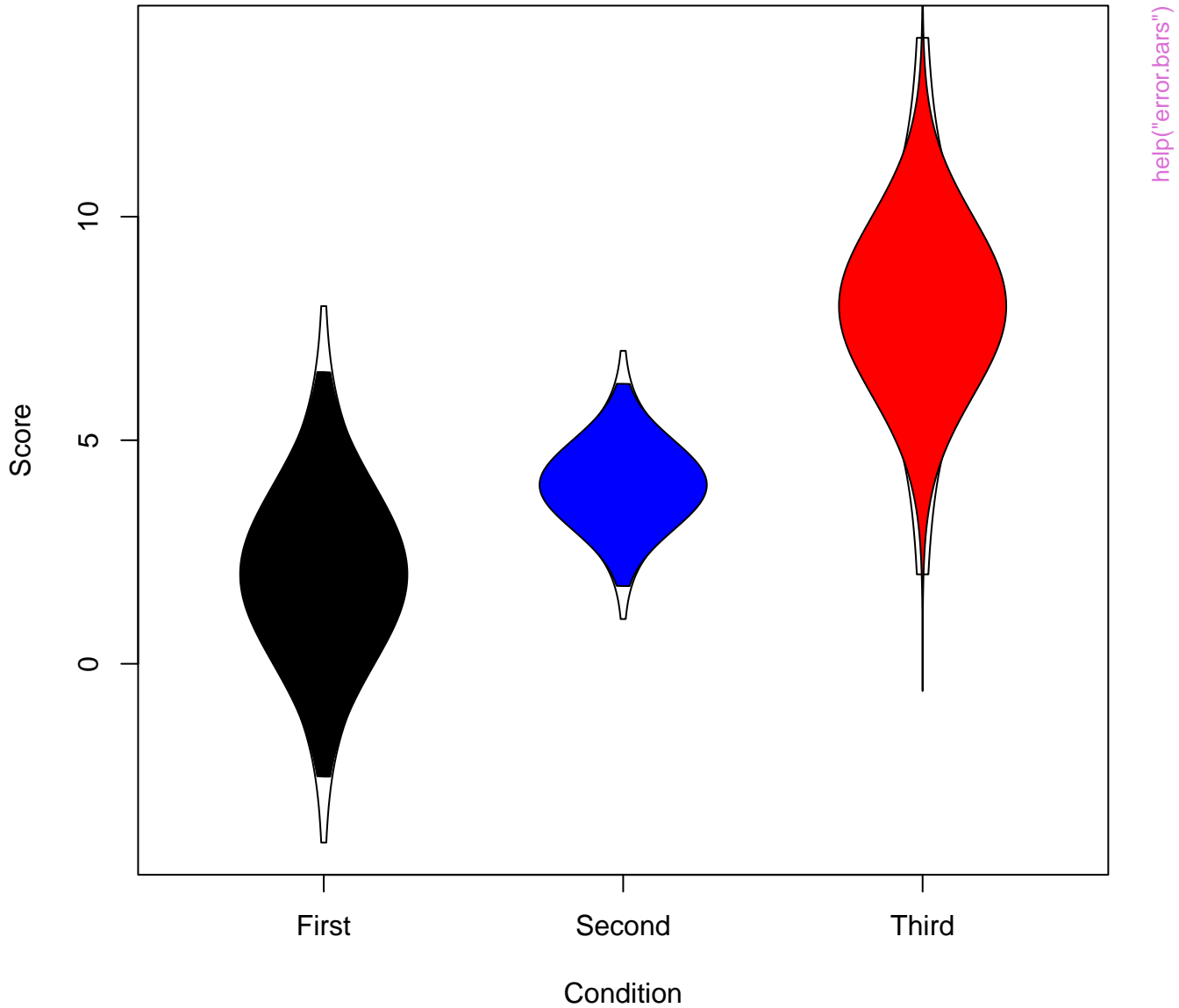
95% confidence limits



95% confidence limits

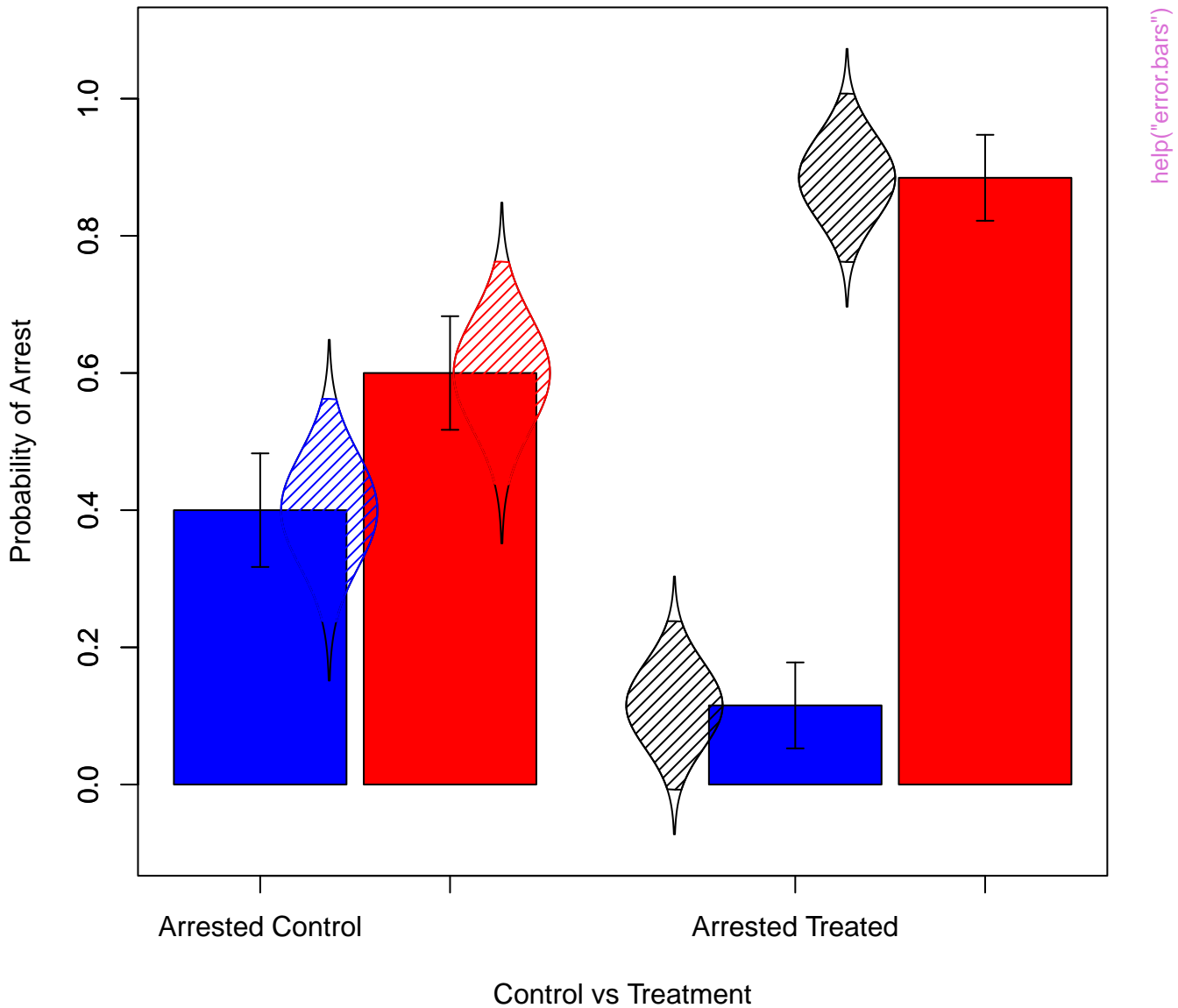


95% confidence limits

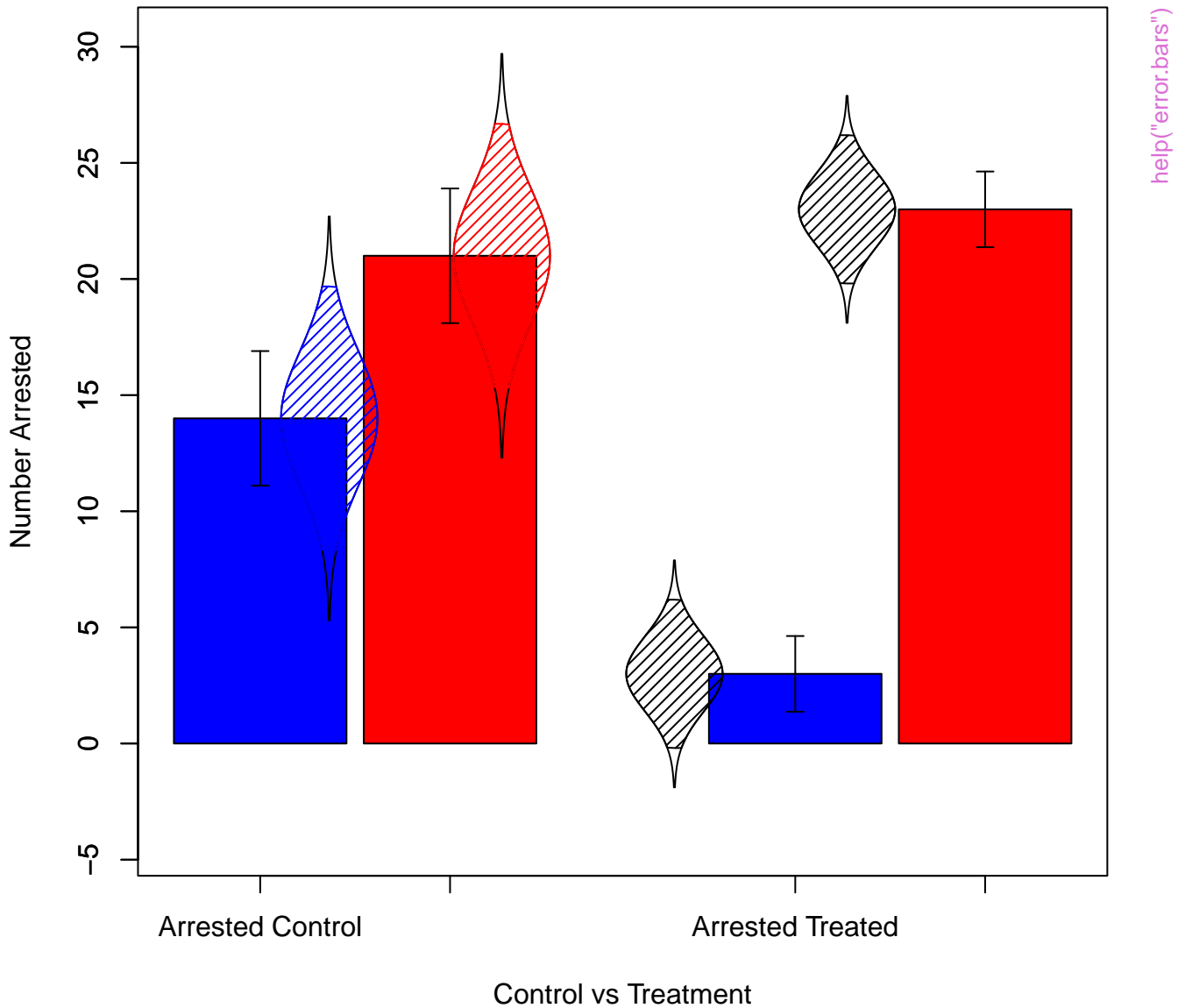


help("error bars")

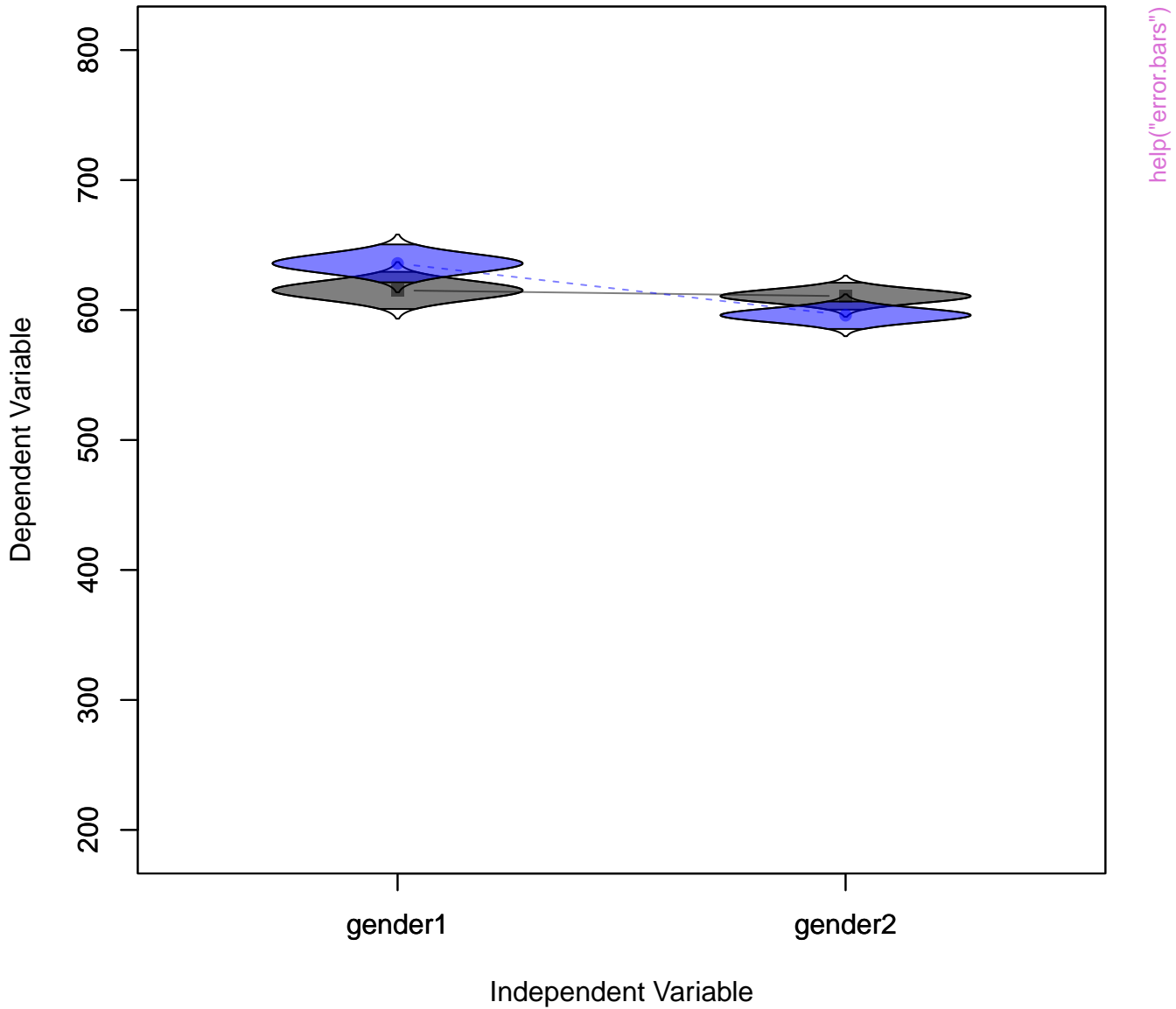
Probability of Arrest varies by treatment



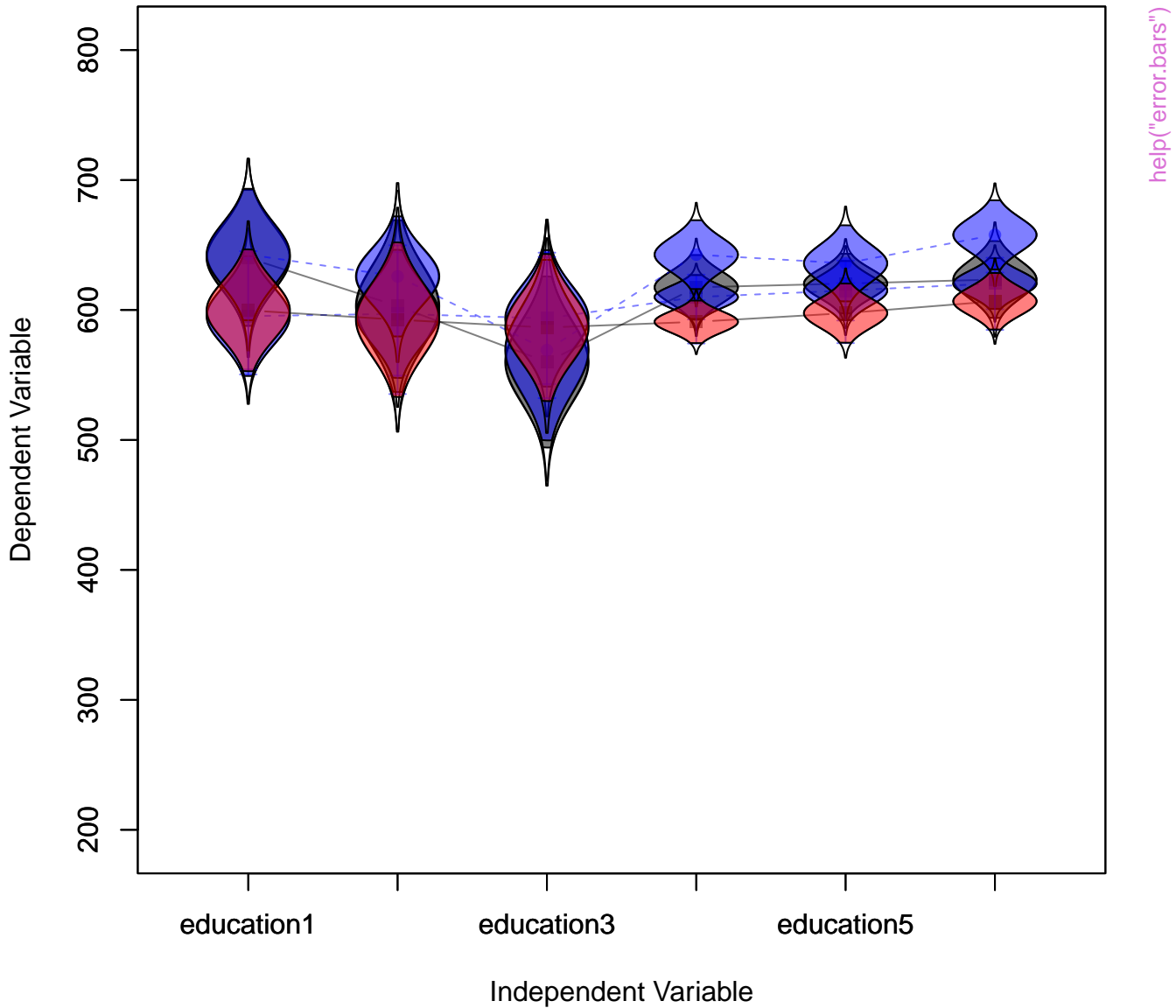
Count of Arrest varies by treatment



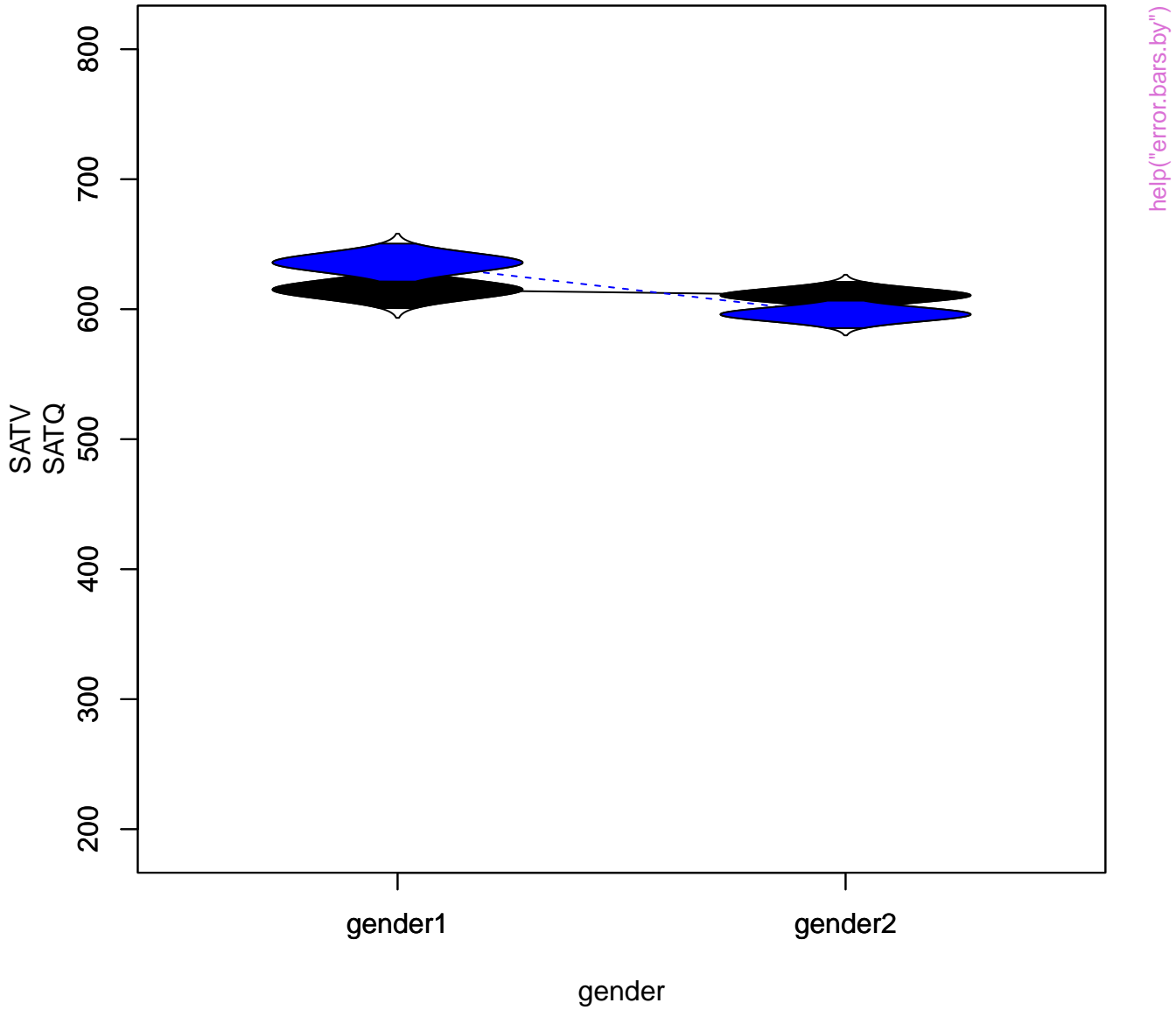
95% confidence limits



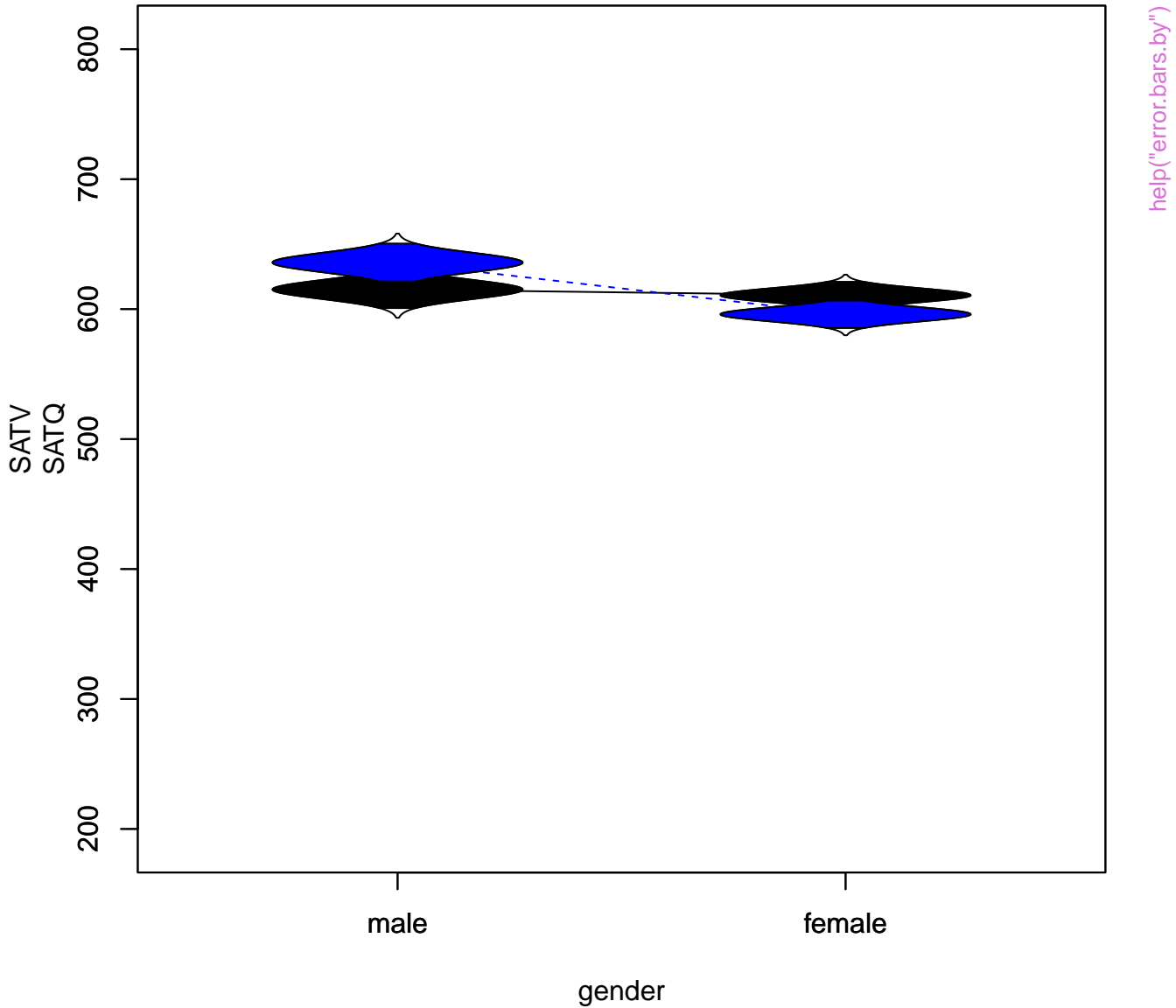
95% confidence limits



95% confidence limits

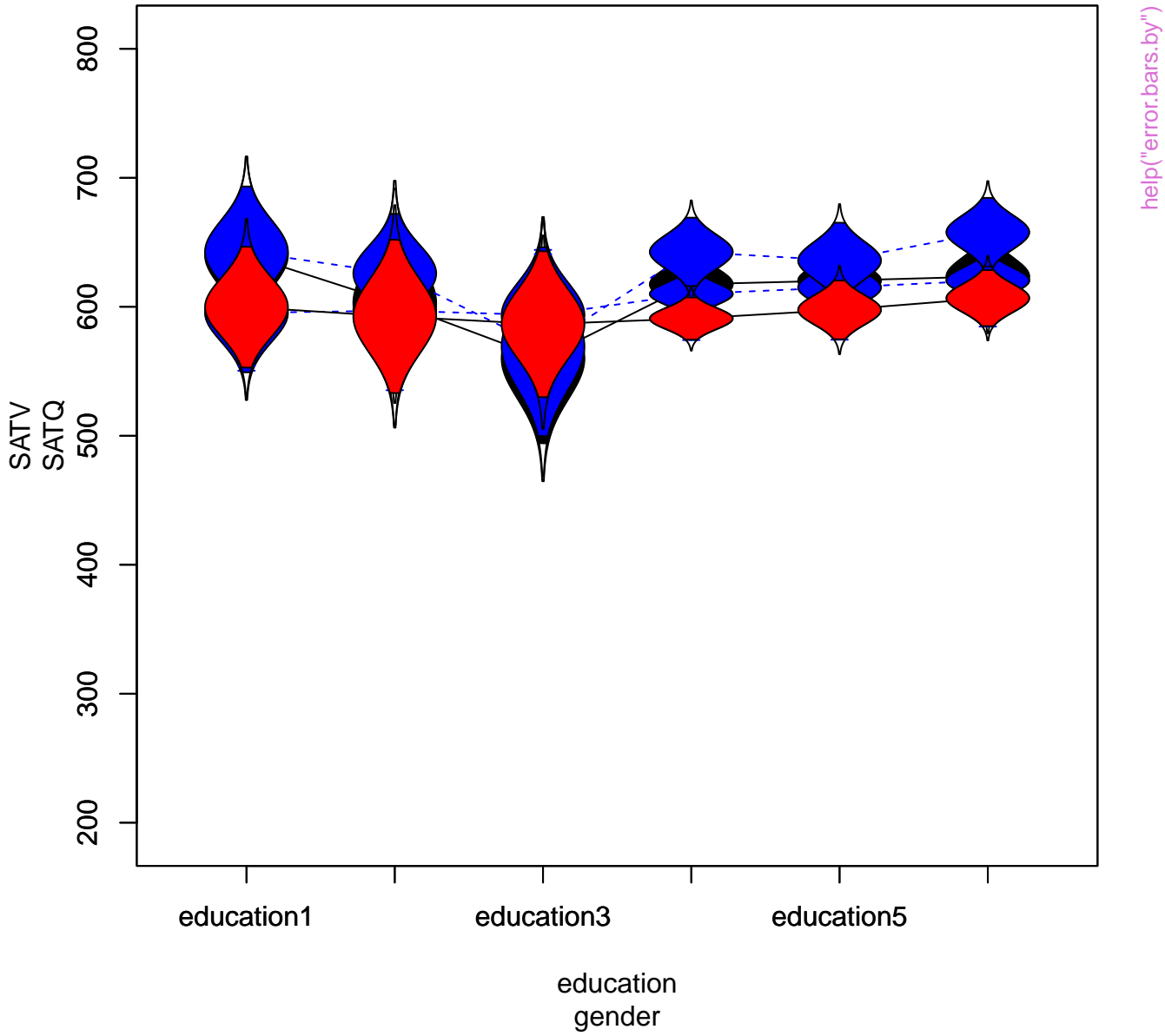


95% confidence limits



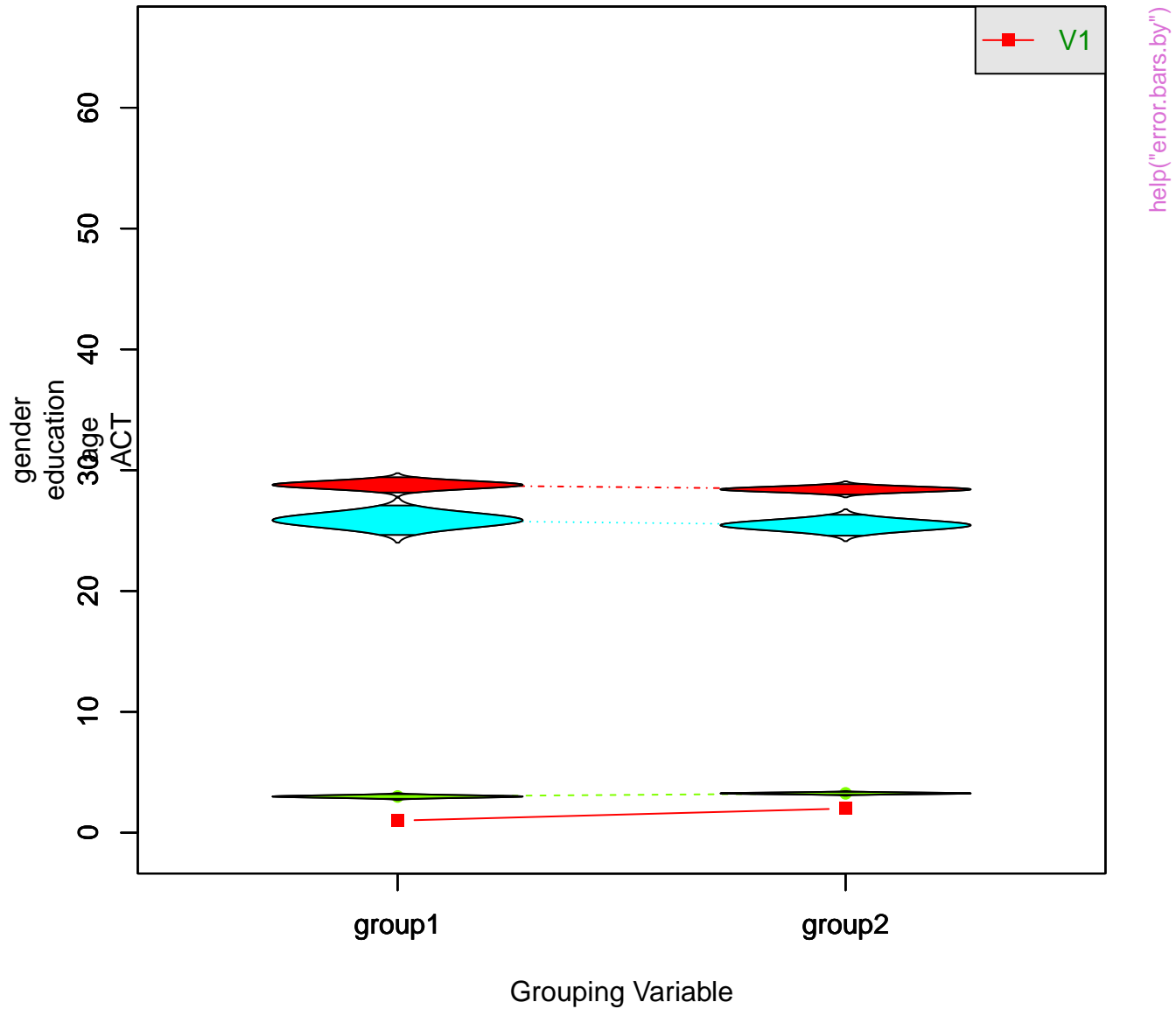
help("error.bars.by")

95% confidence limits

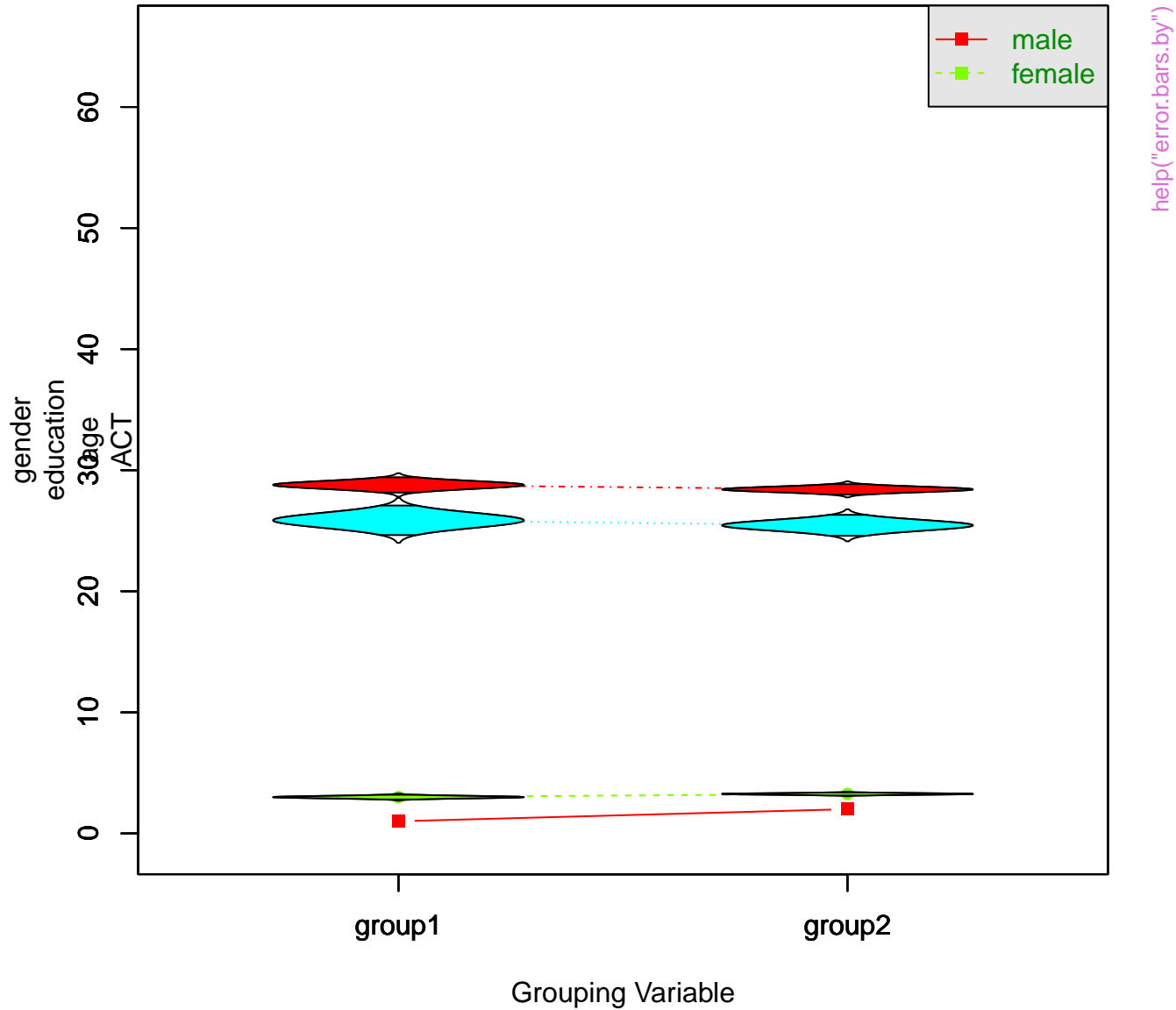


help("error.bars.by")

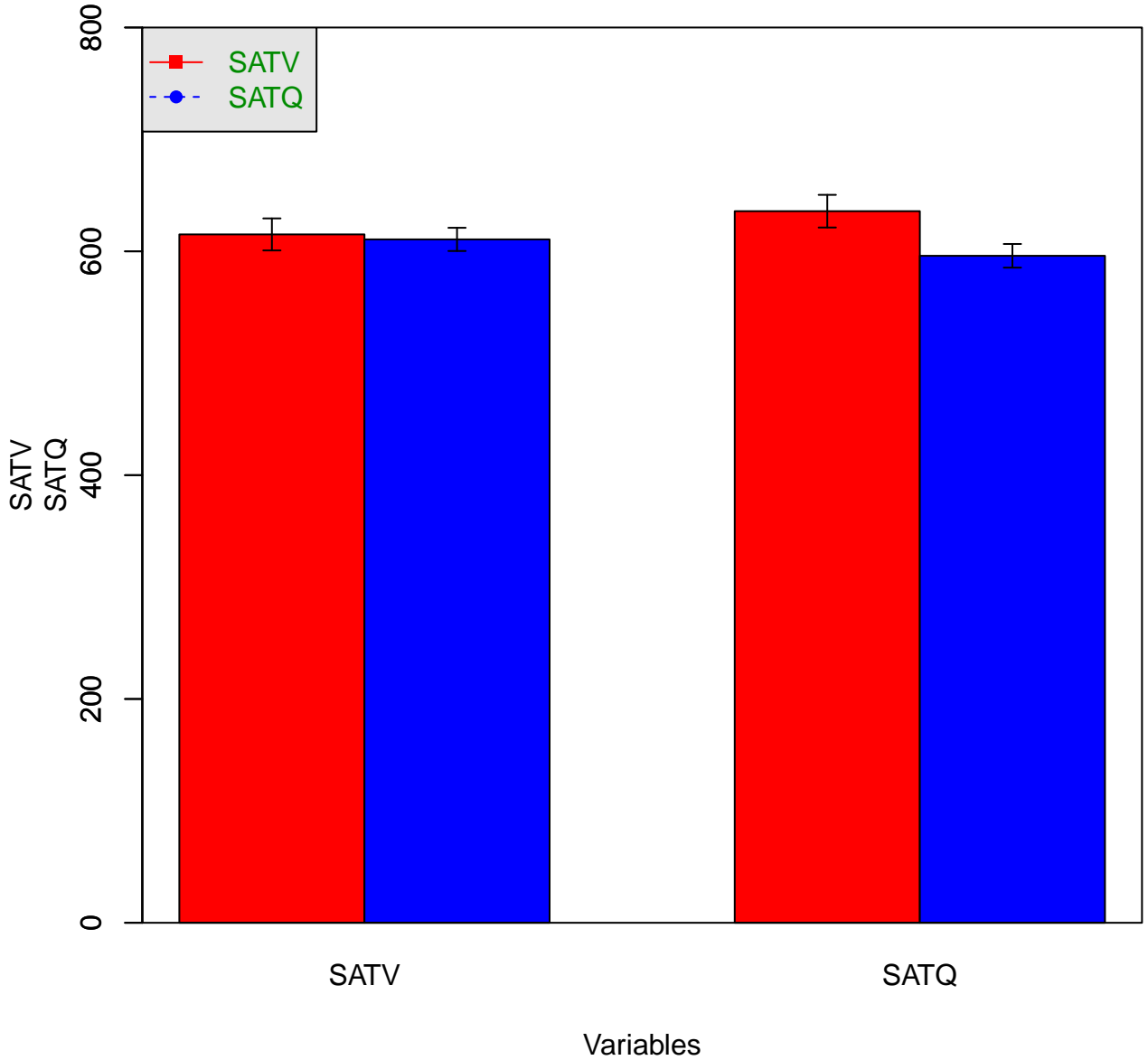
95% confidence limits



95% confidence limits

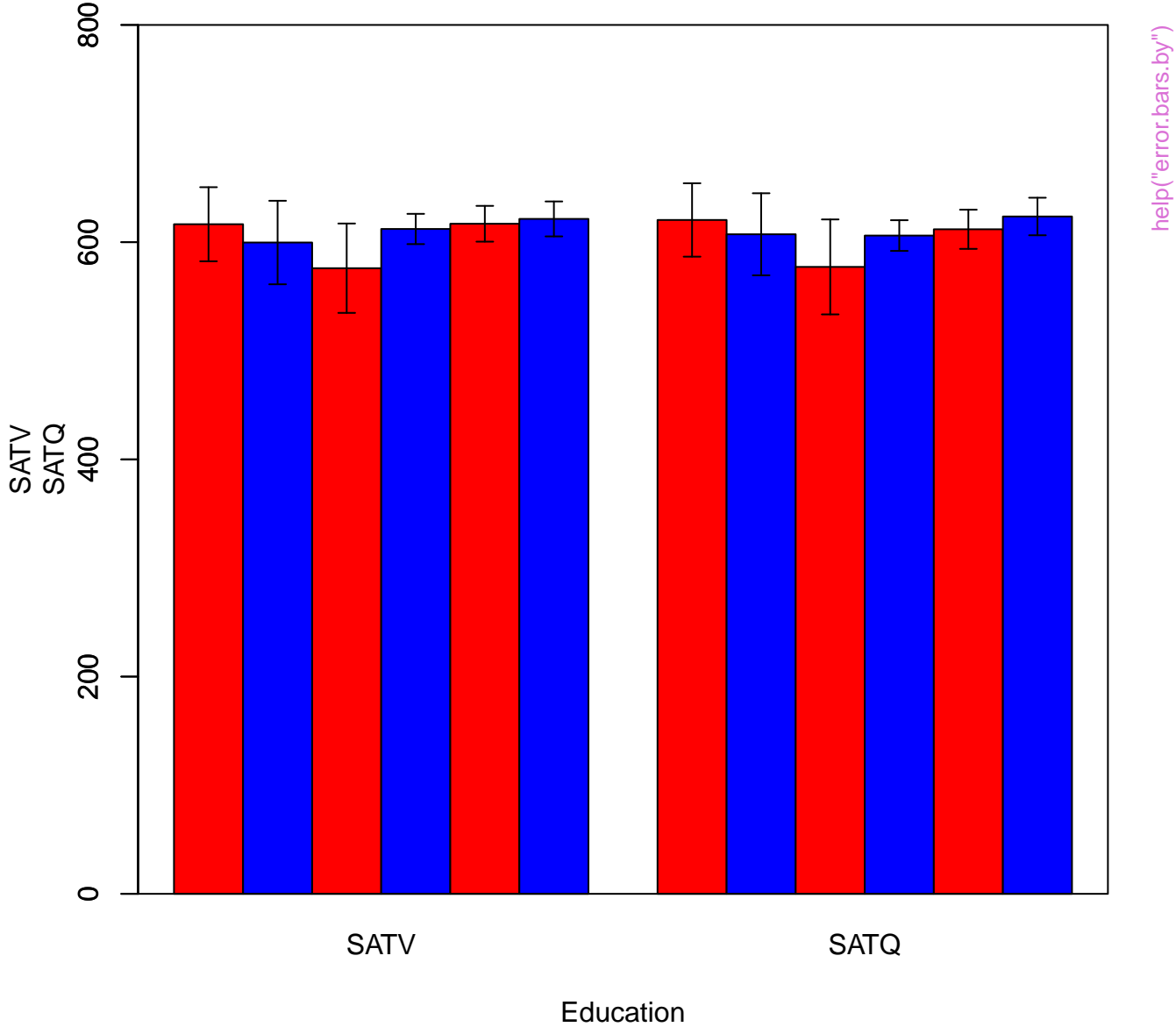


SAT V and SAT Q by gender

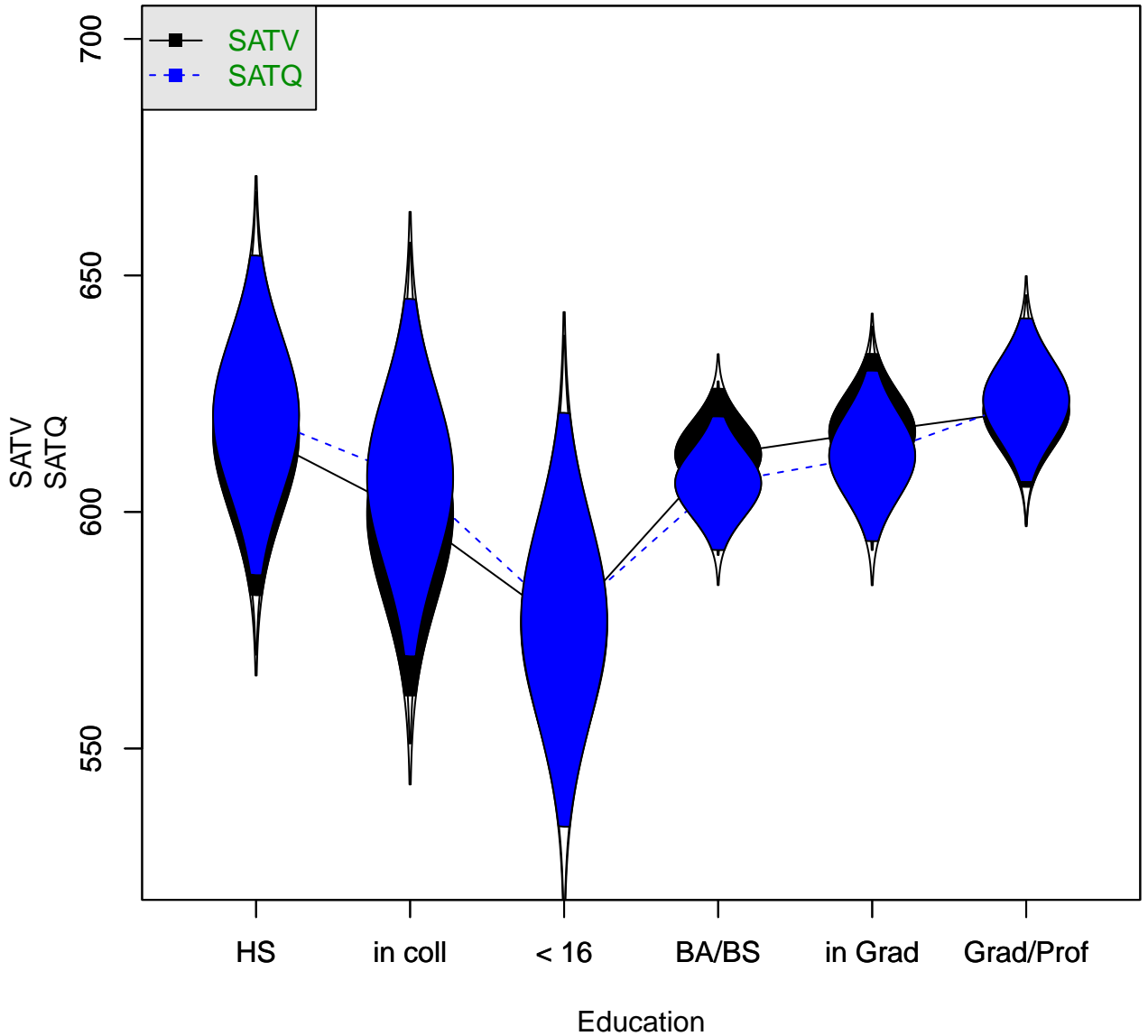


help("error.bars.by")

95 percent confidence limits of Sat V and Sat Q

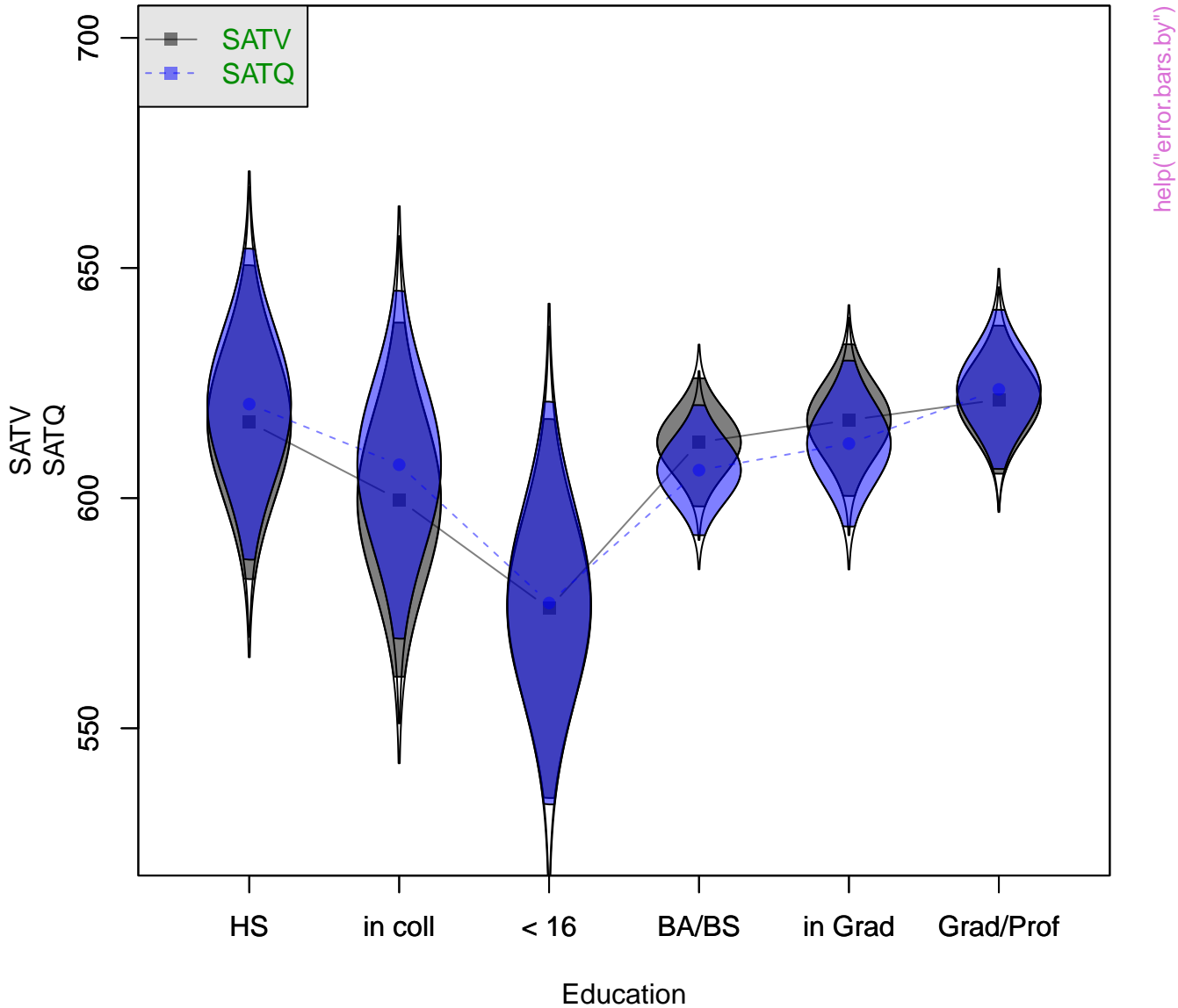


self reported SAT scores by education



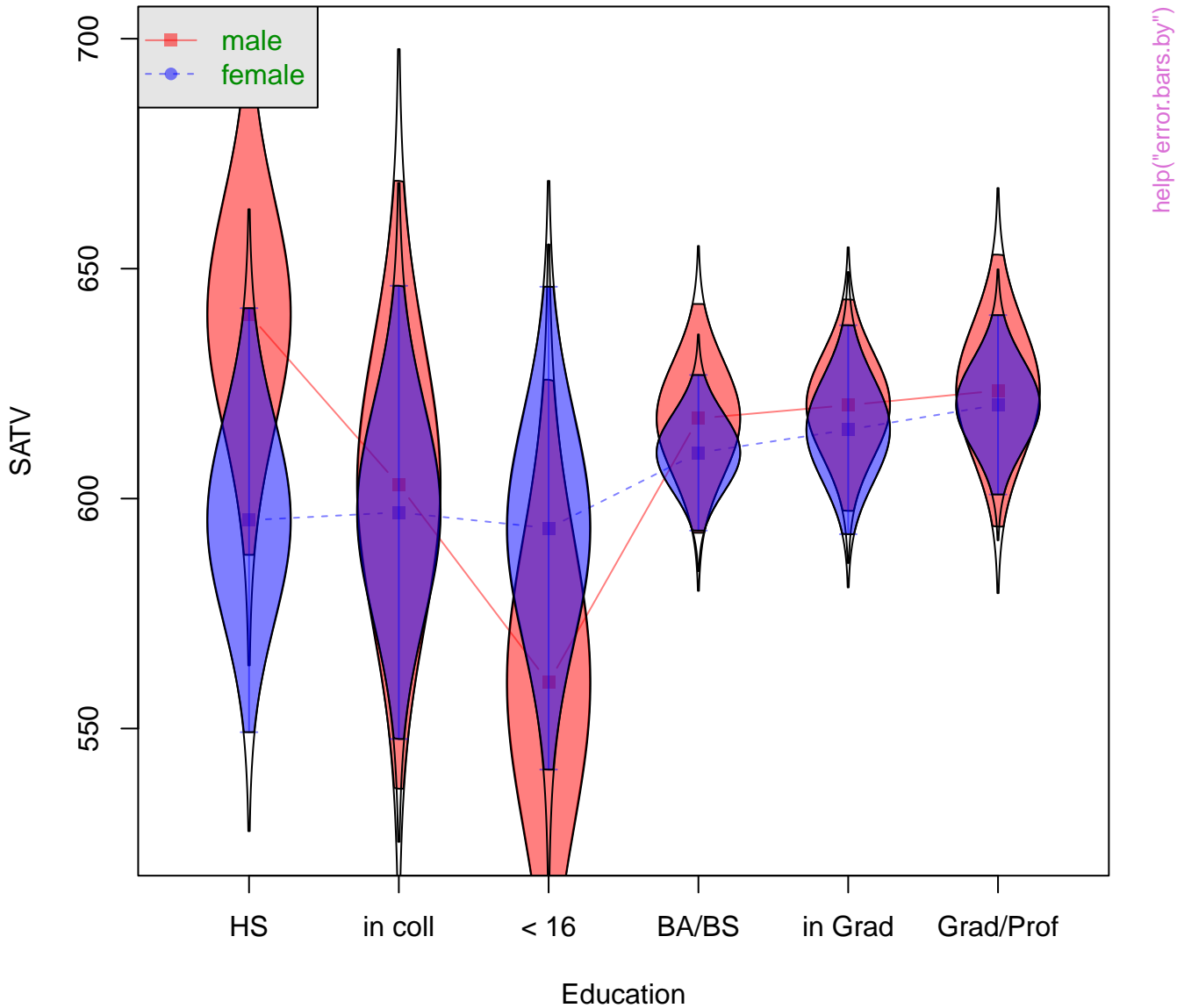
help("error.bars.by")

self reported SAT scores by education



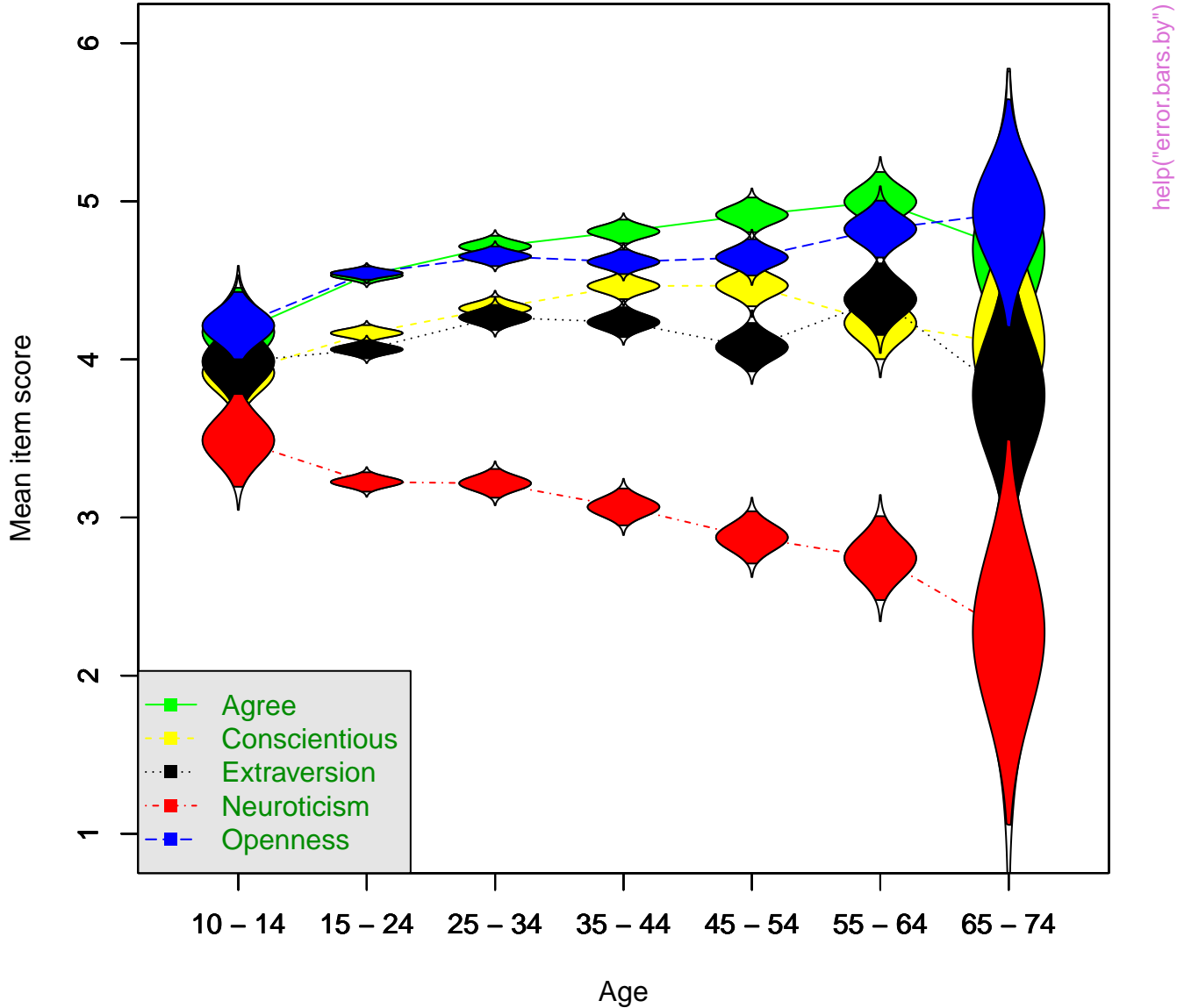
help("error.bars.by")

self reported SAT scores by education



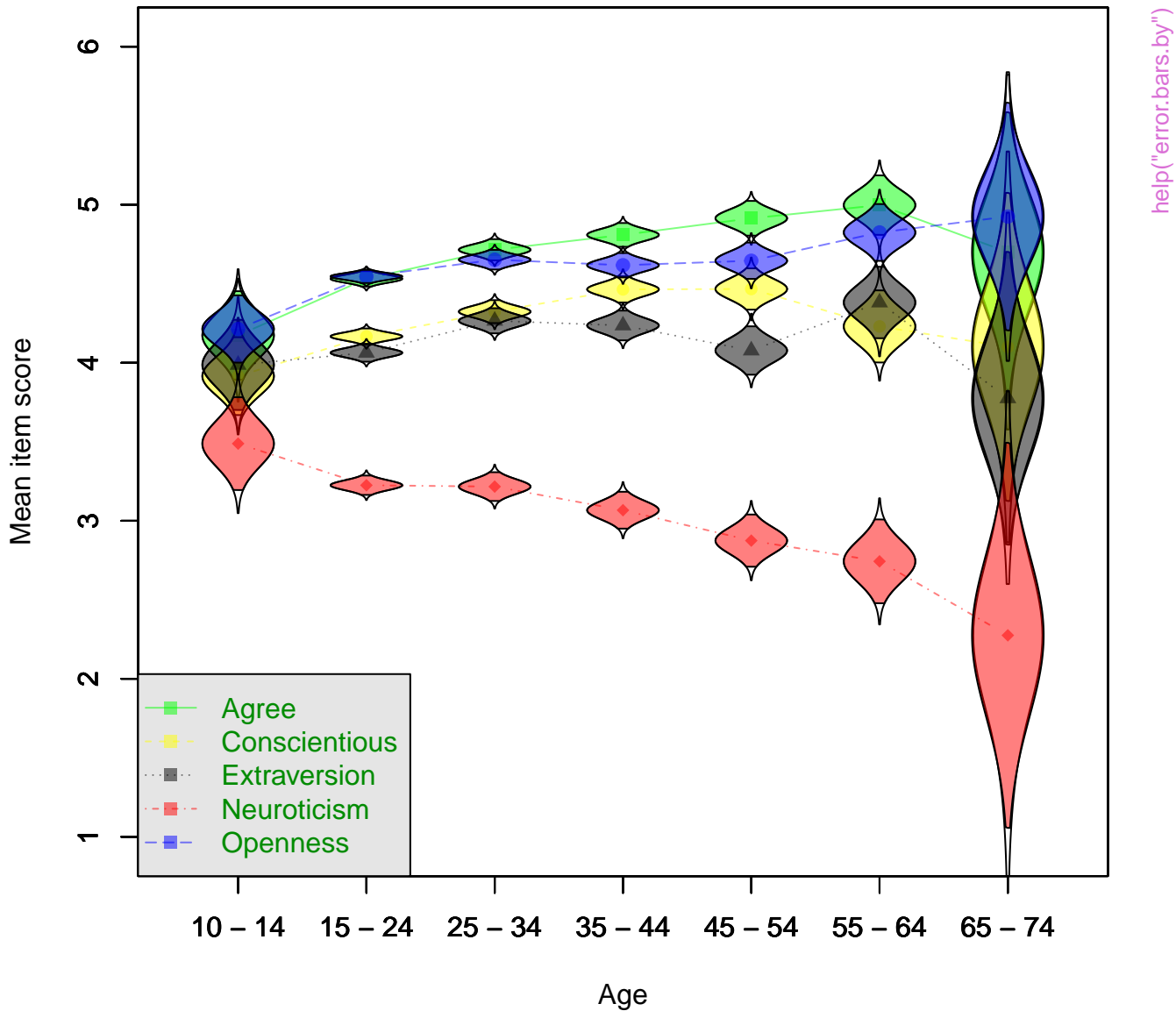
help("error.bars.by")

BFI age trends

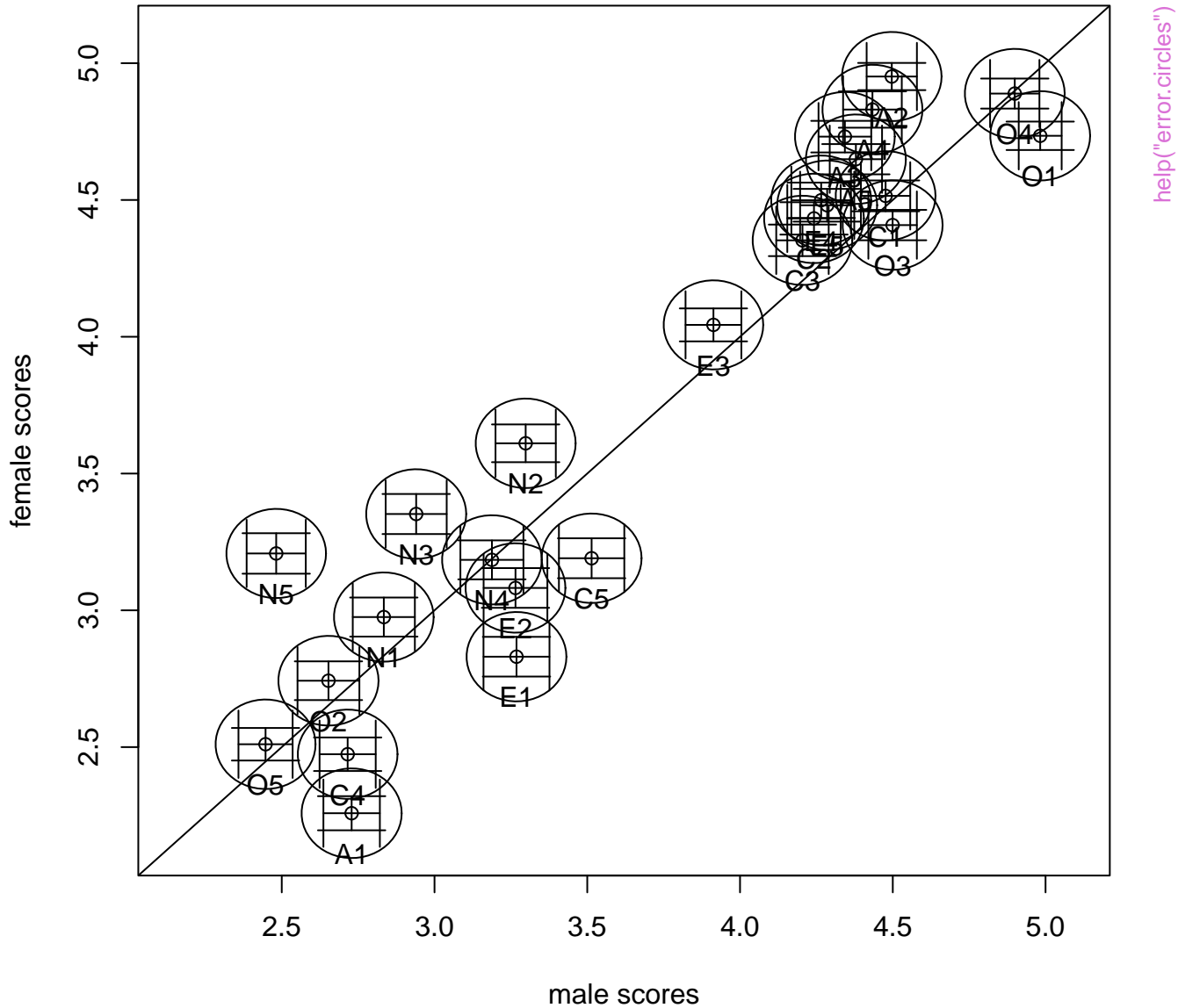


help("error.bars.by")

BFI age trends

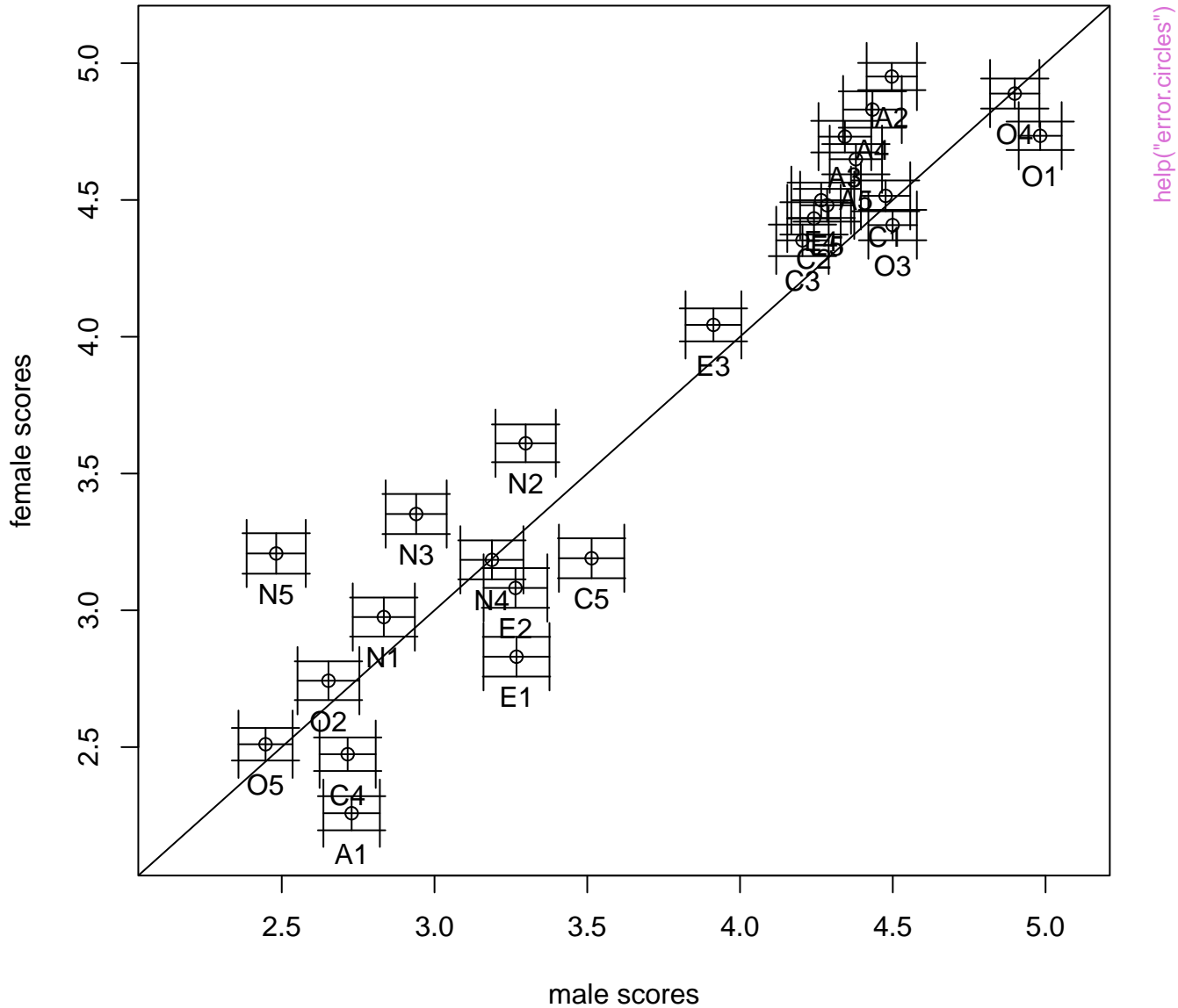


BFI scores by gender



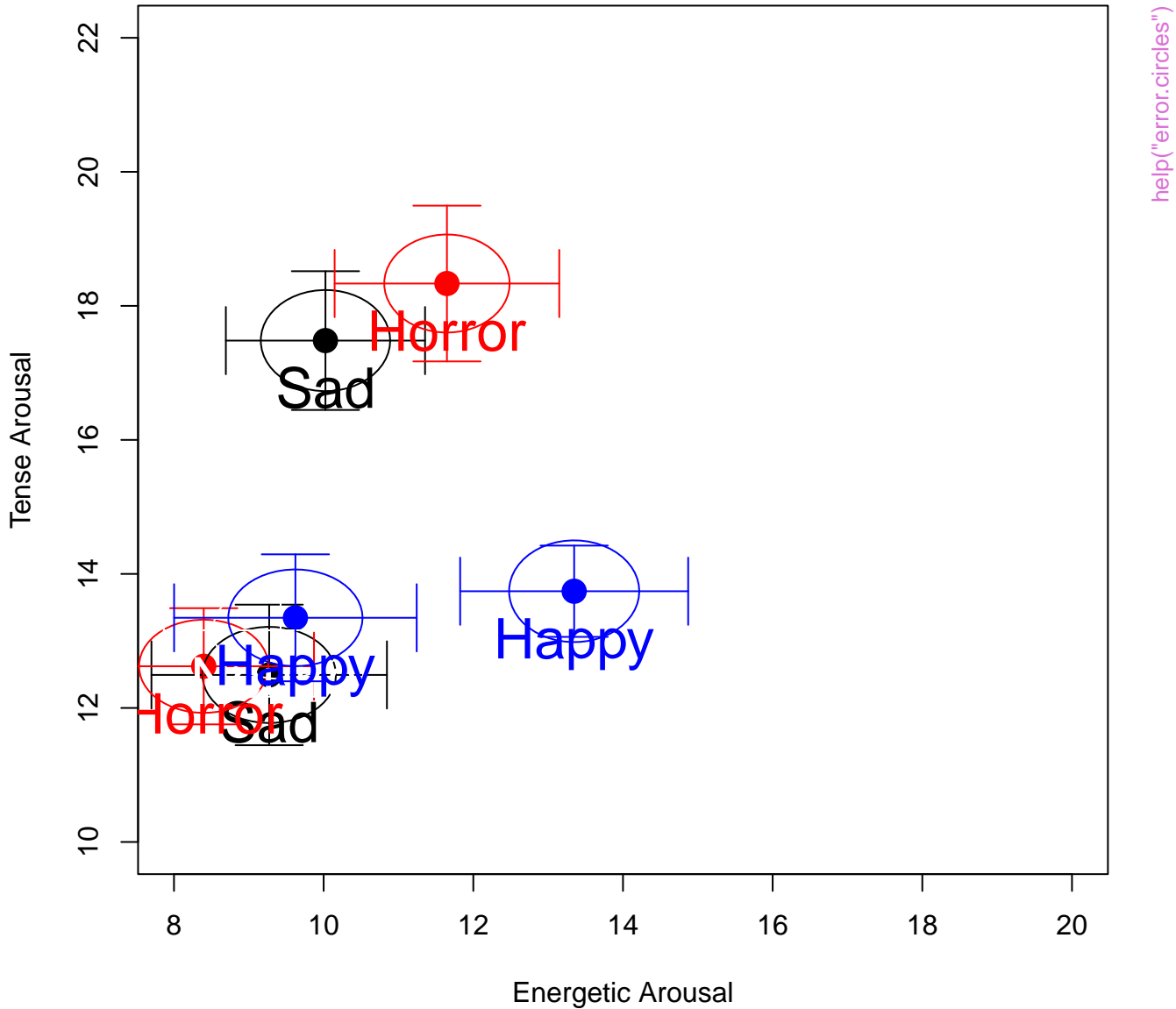
help("error.circles")

BFI scores by gender

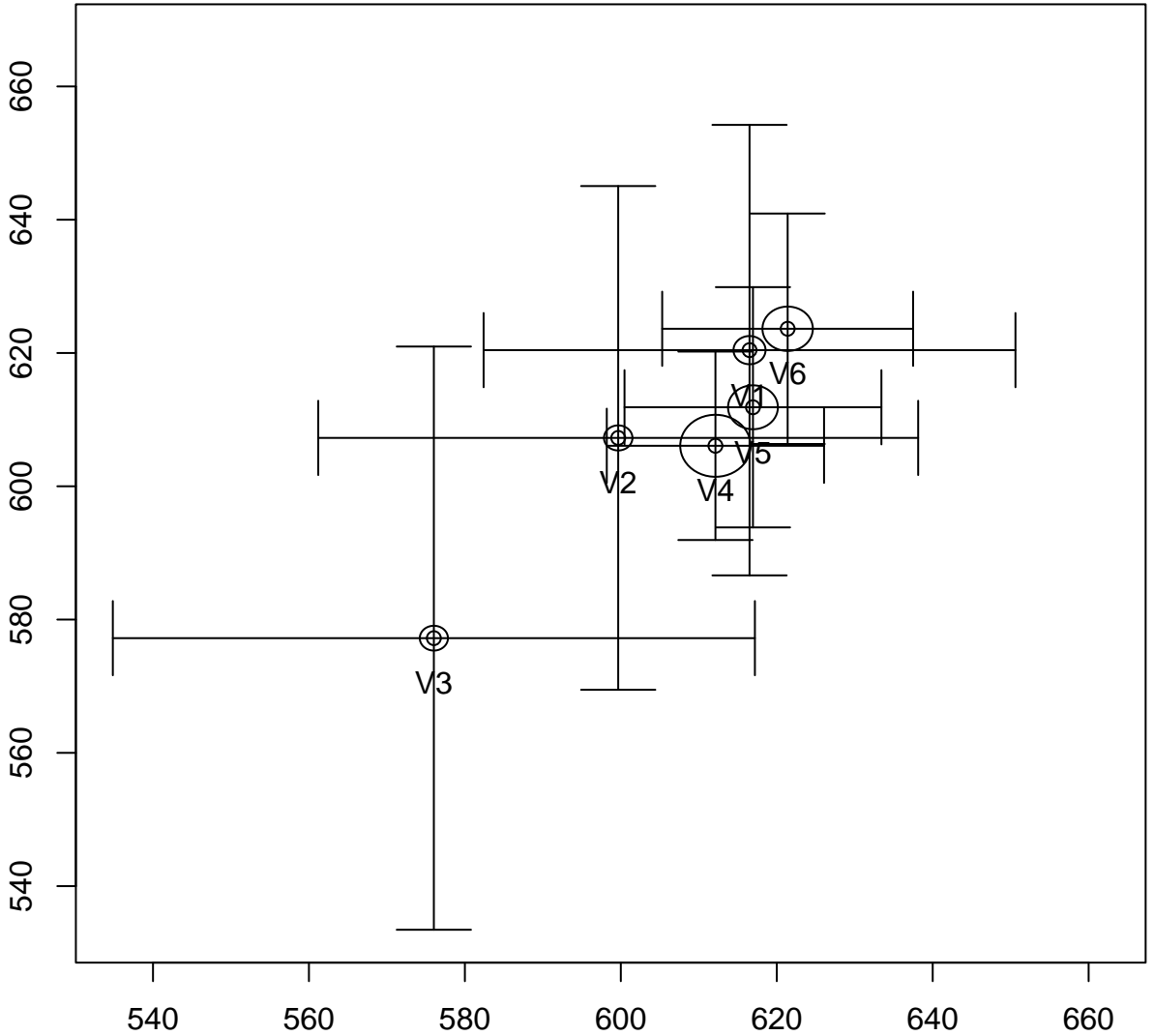


help("error.circles")

EA and TA pre and post affective movies

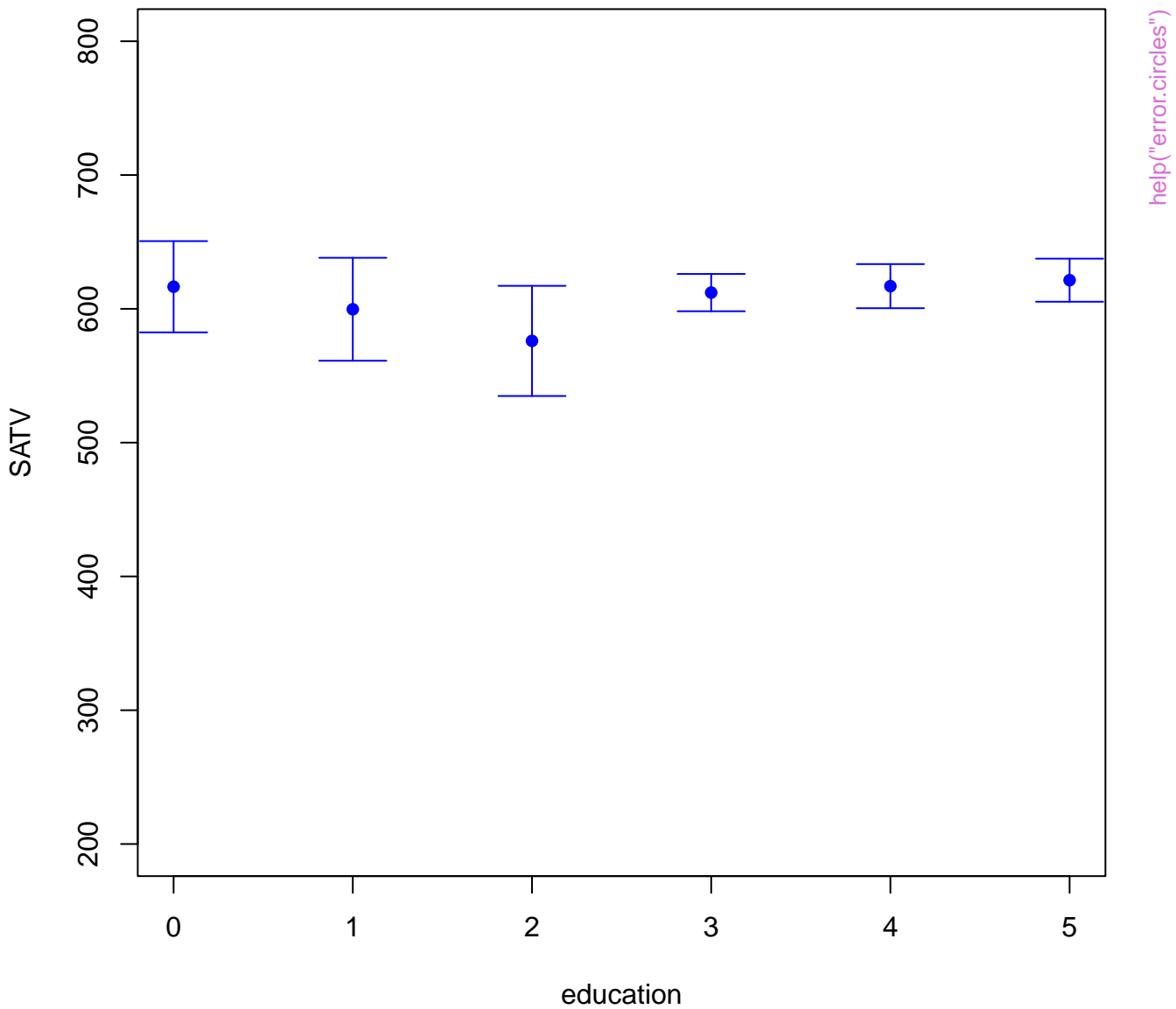


95% confidence limits

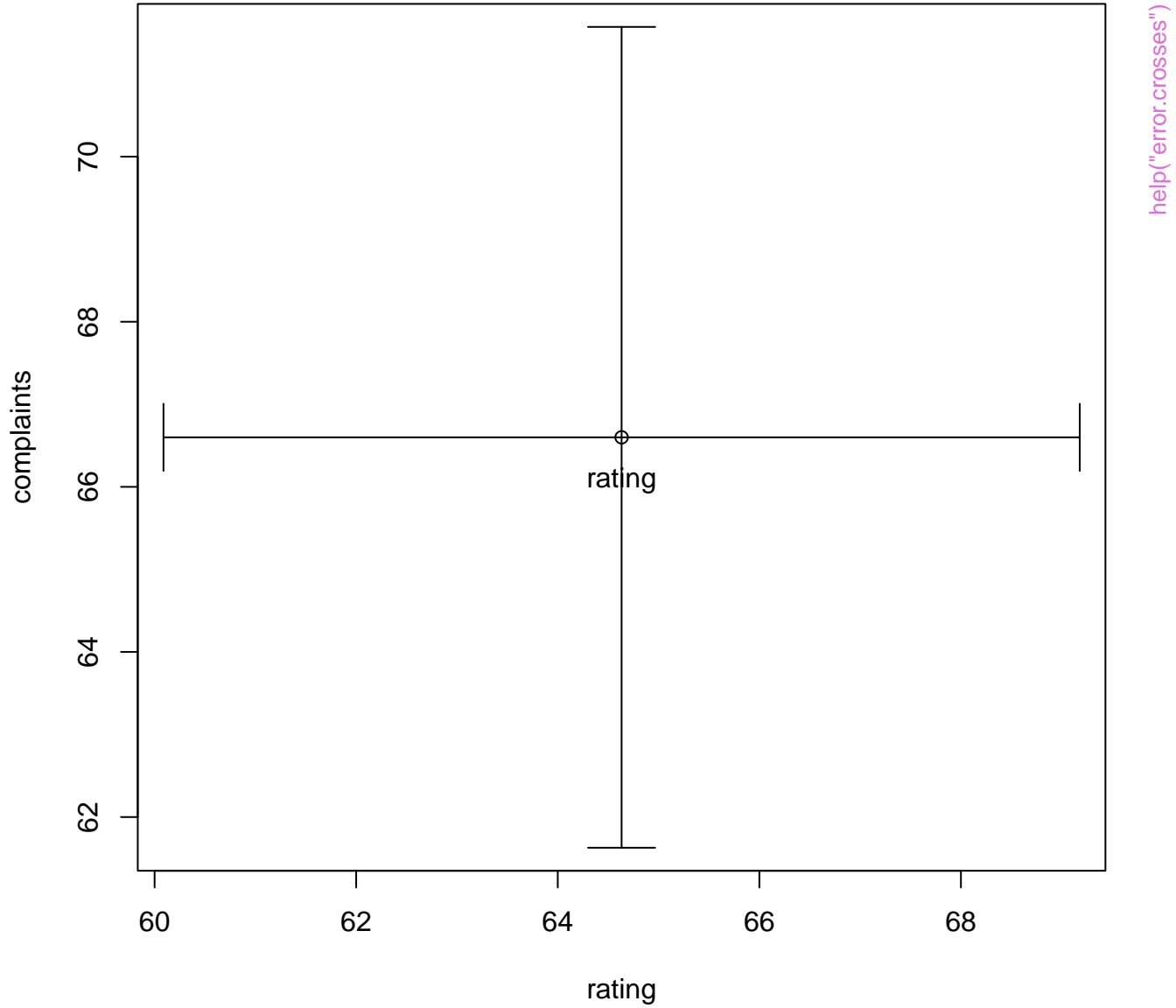


help("error.circles")

SATV by education

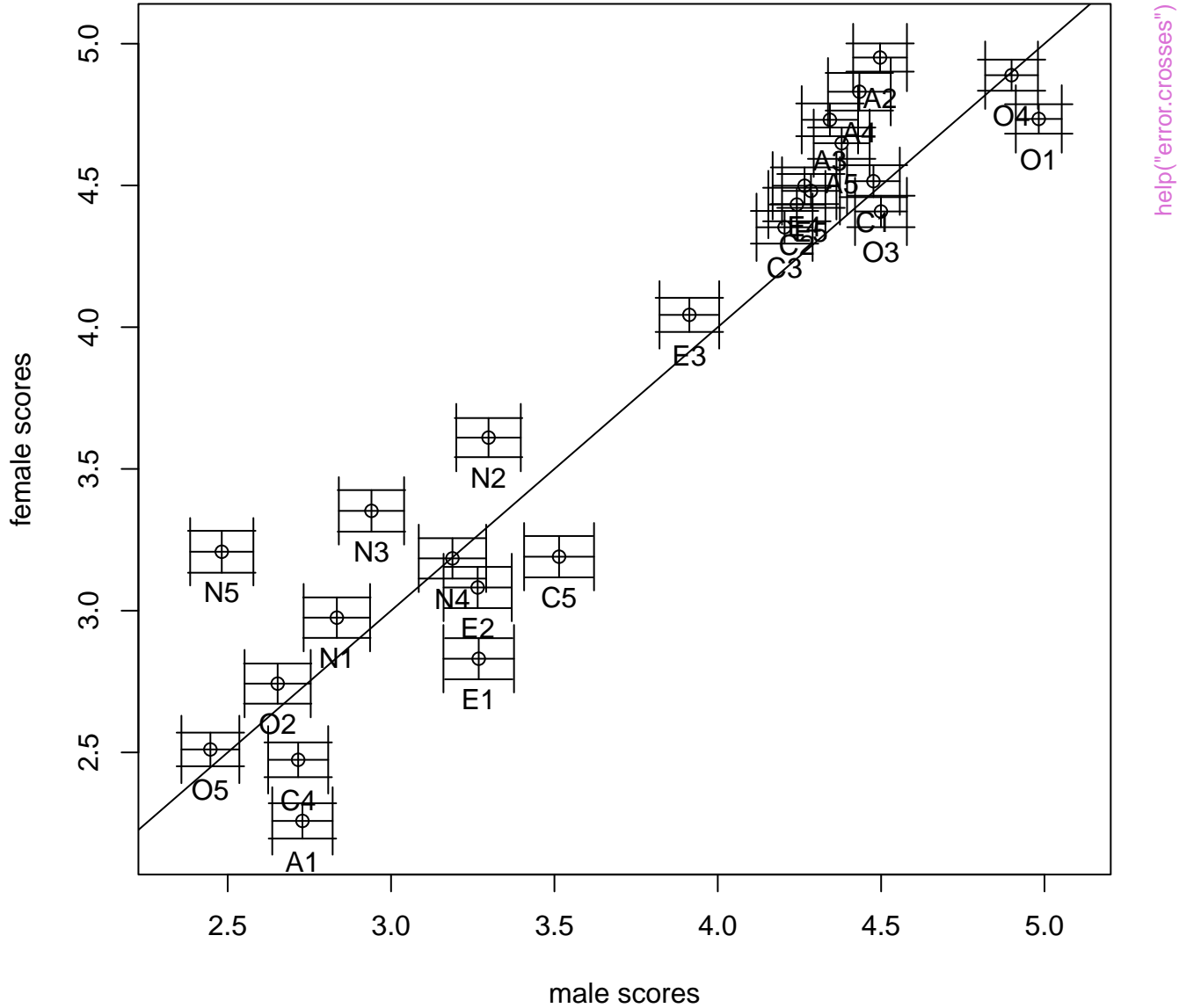


95% confidence limits



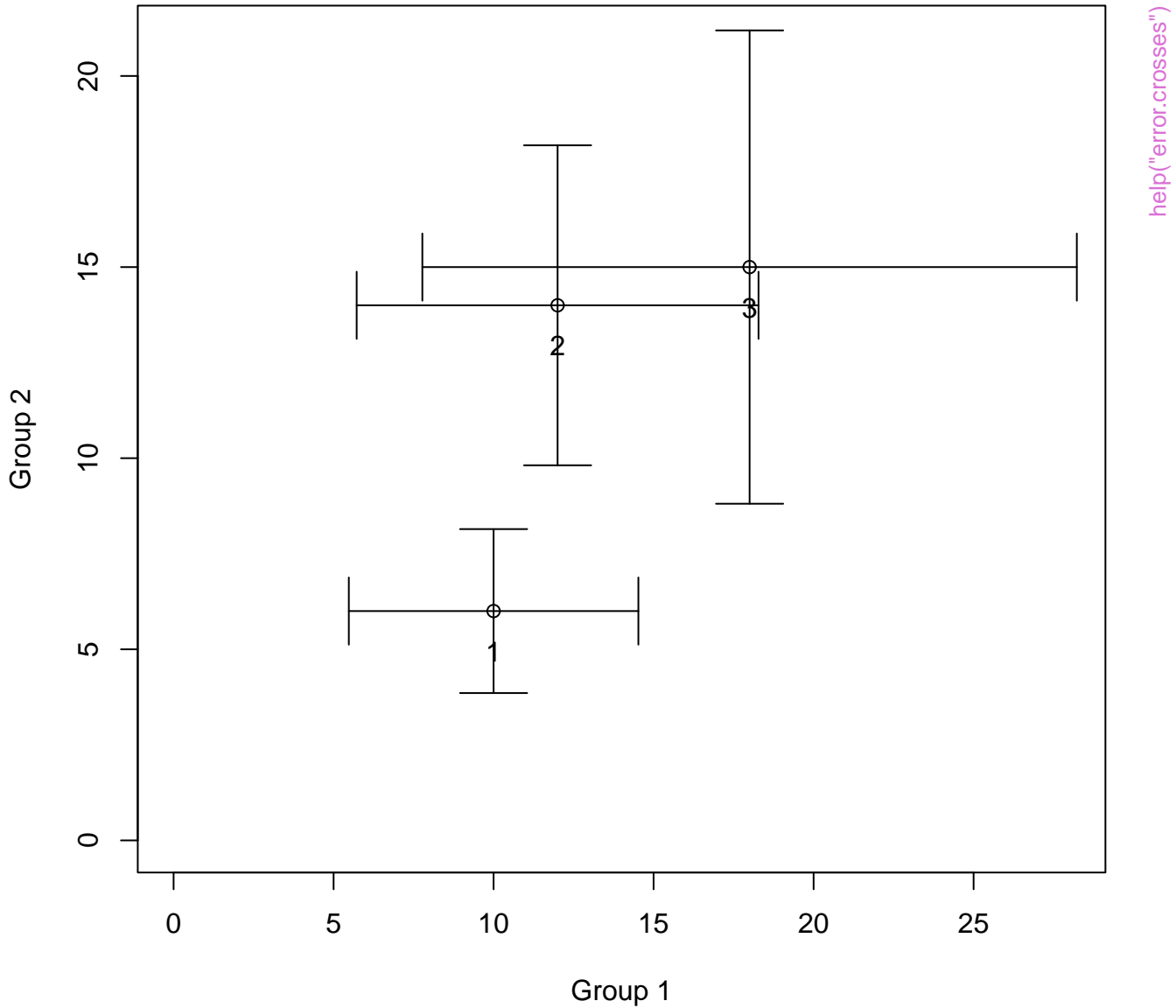
help("error.crosses")

BFI scores by gender



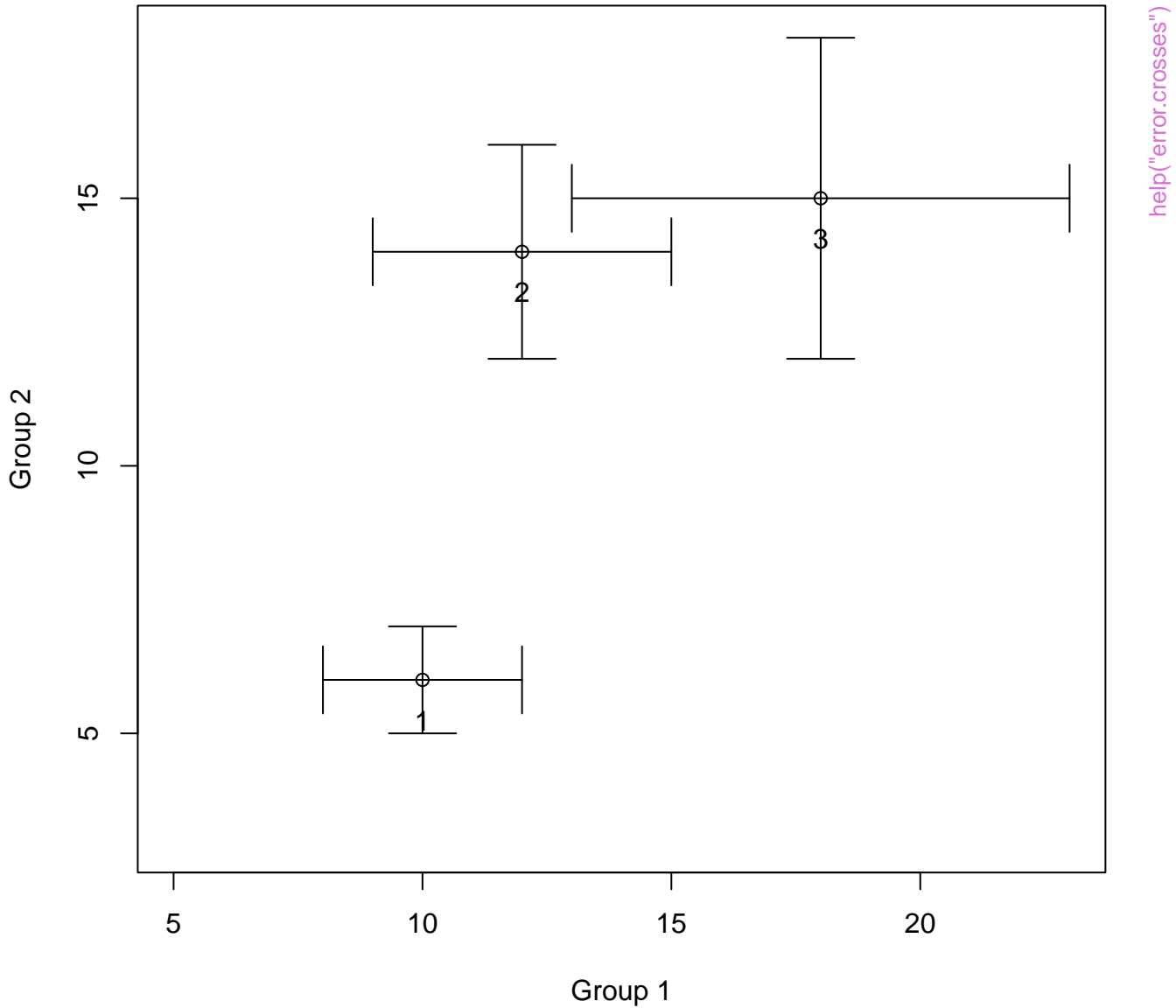
help("error.crosses")

95% confidence limits



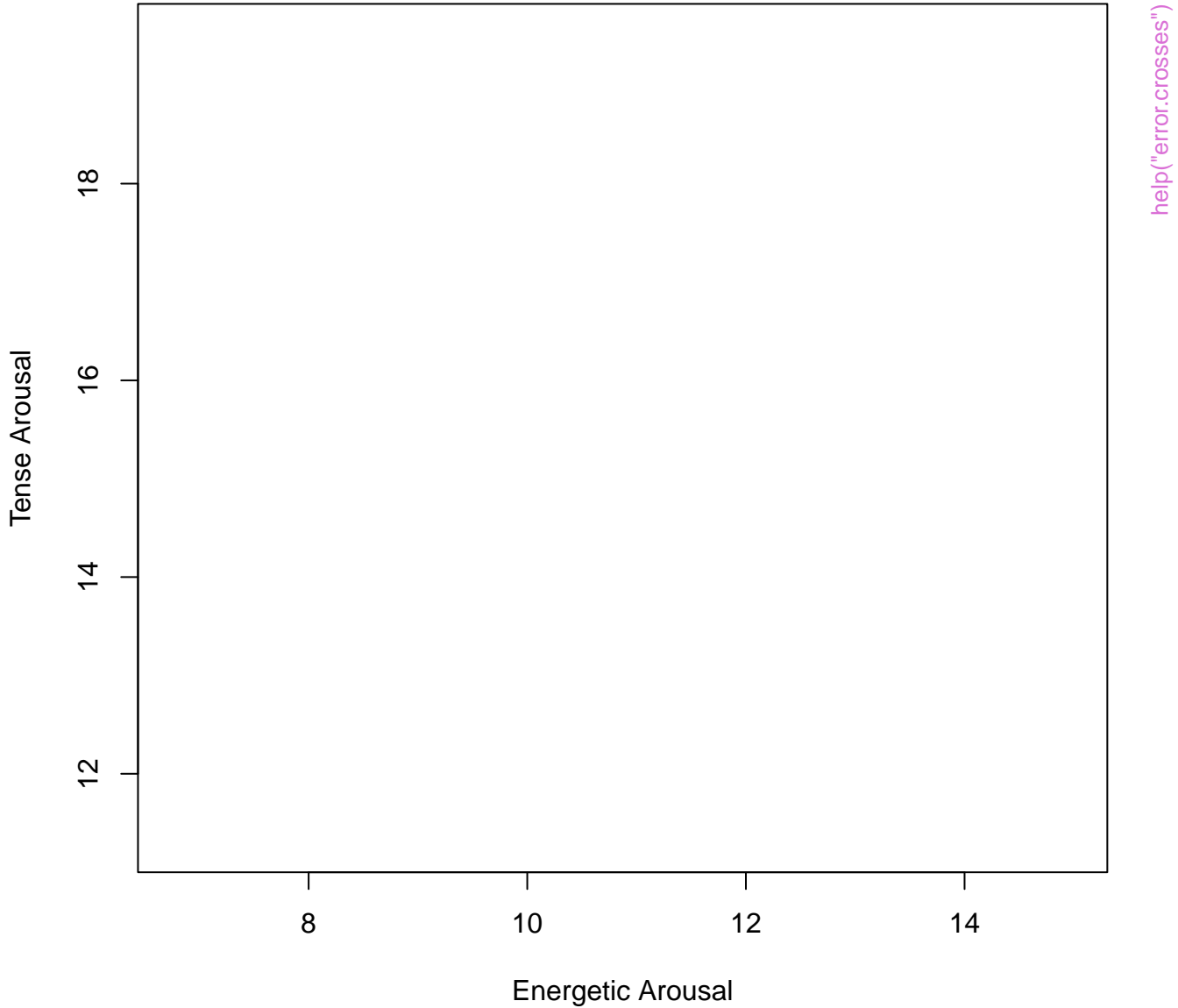
help("error.crosses")

Means and standard deviations



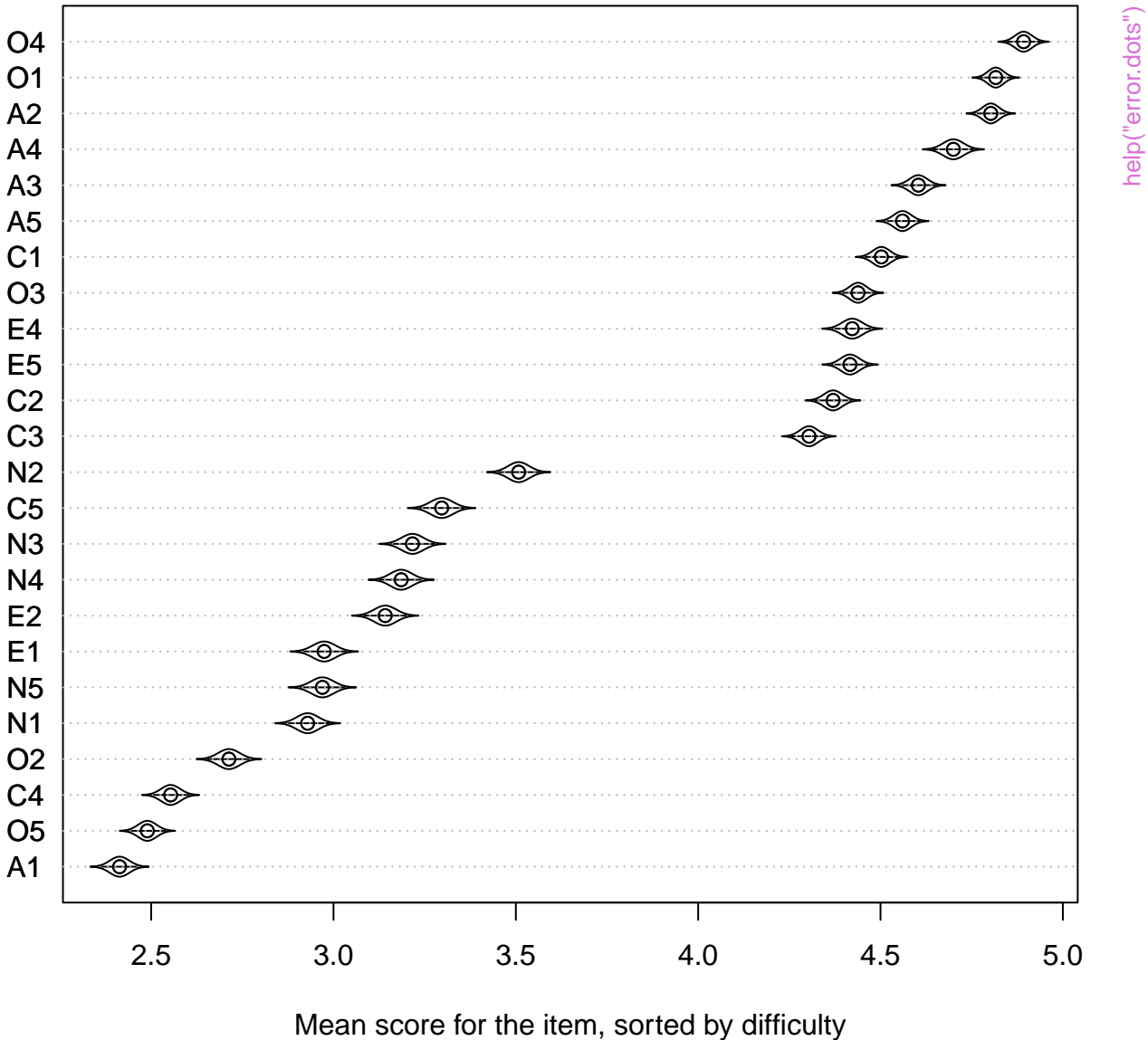
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95% confidence limits

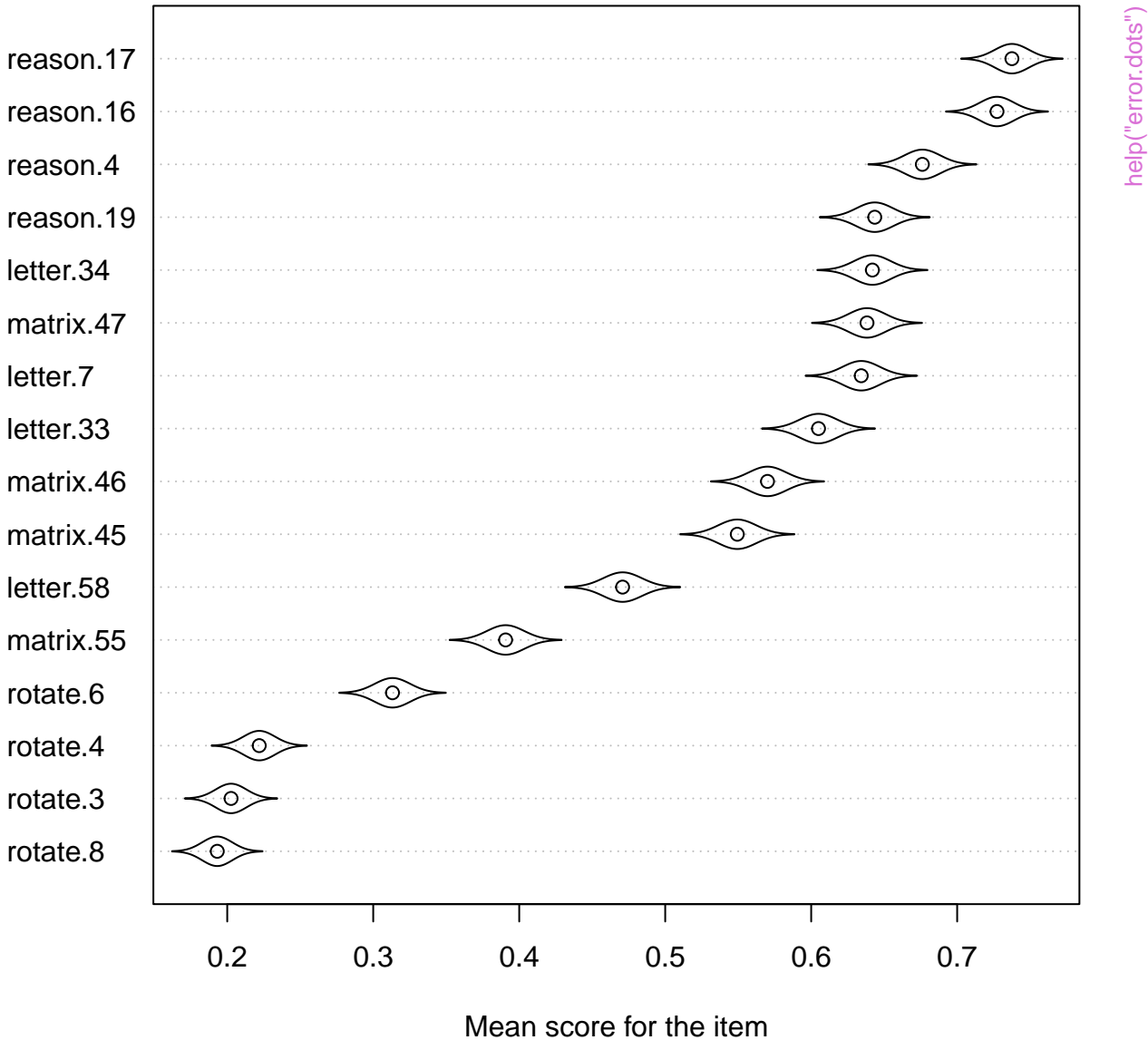


help("error.crosses")

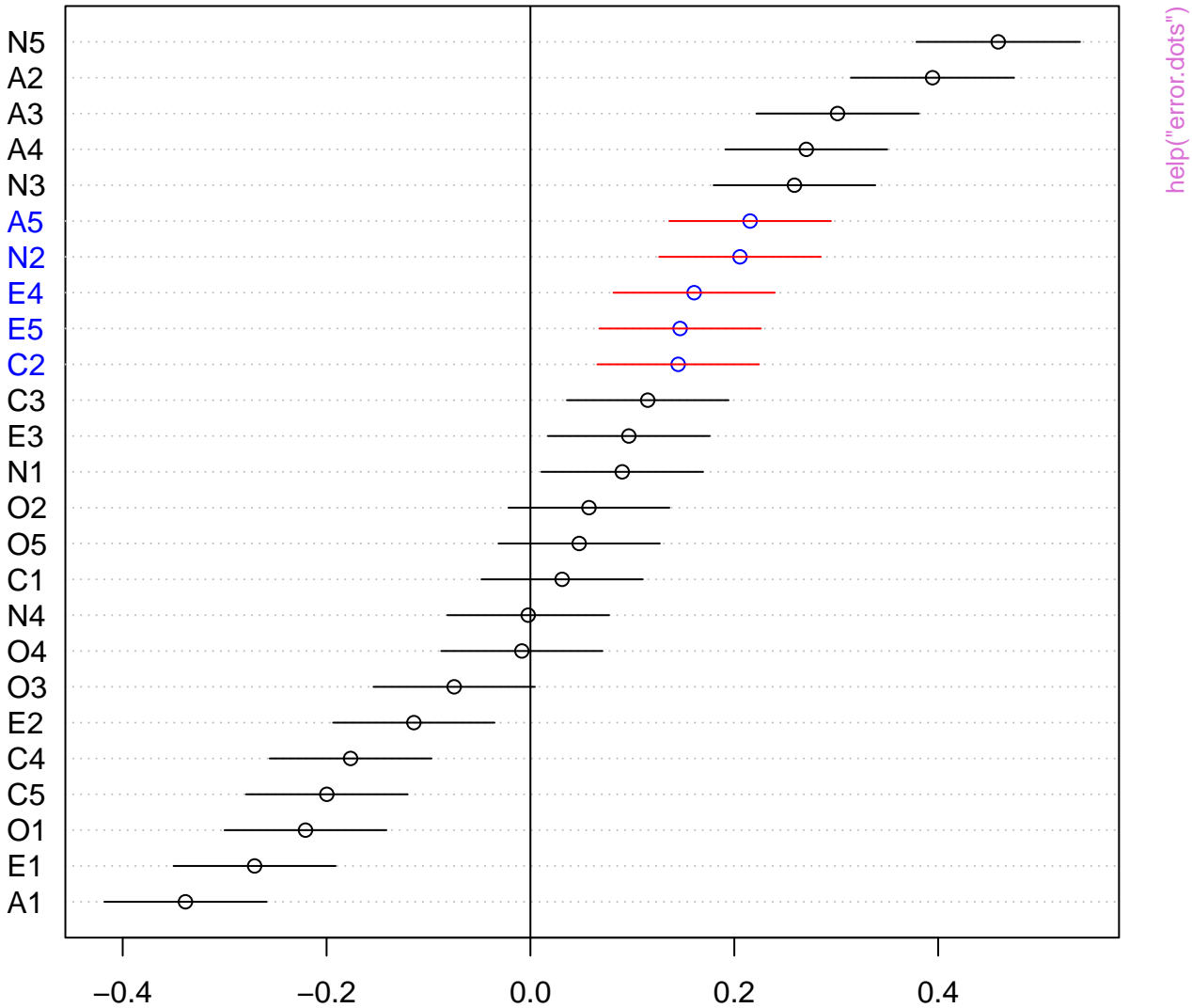
Confidence Intervals around the mean



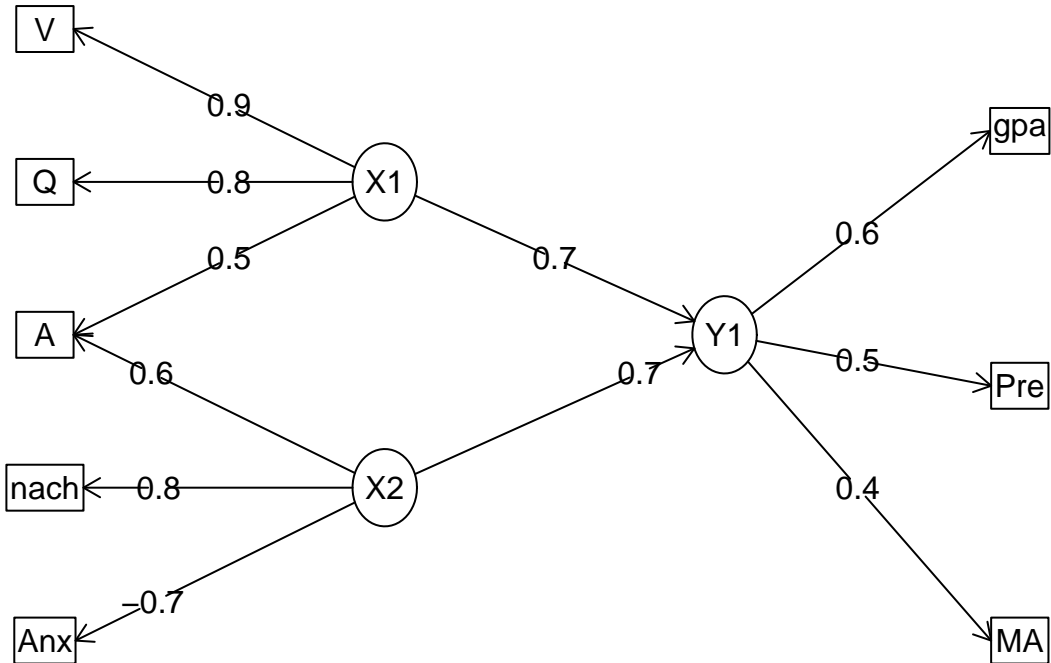
Confidence Intervals around the mean



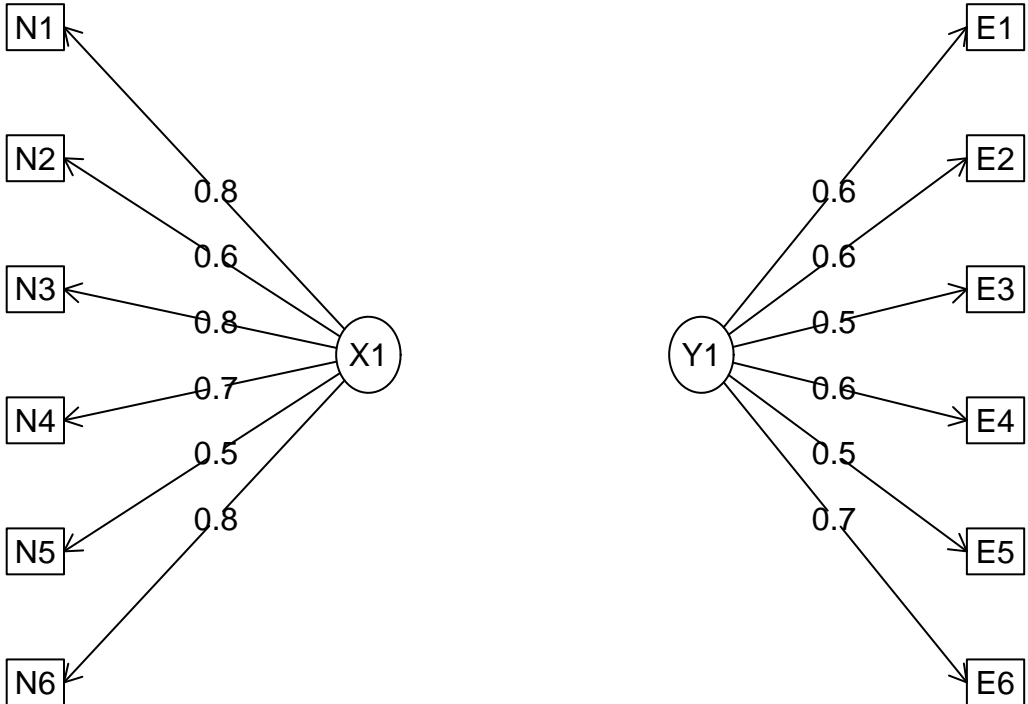
Cohen d and confidence intervals of BFI by gender



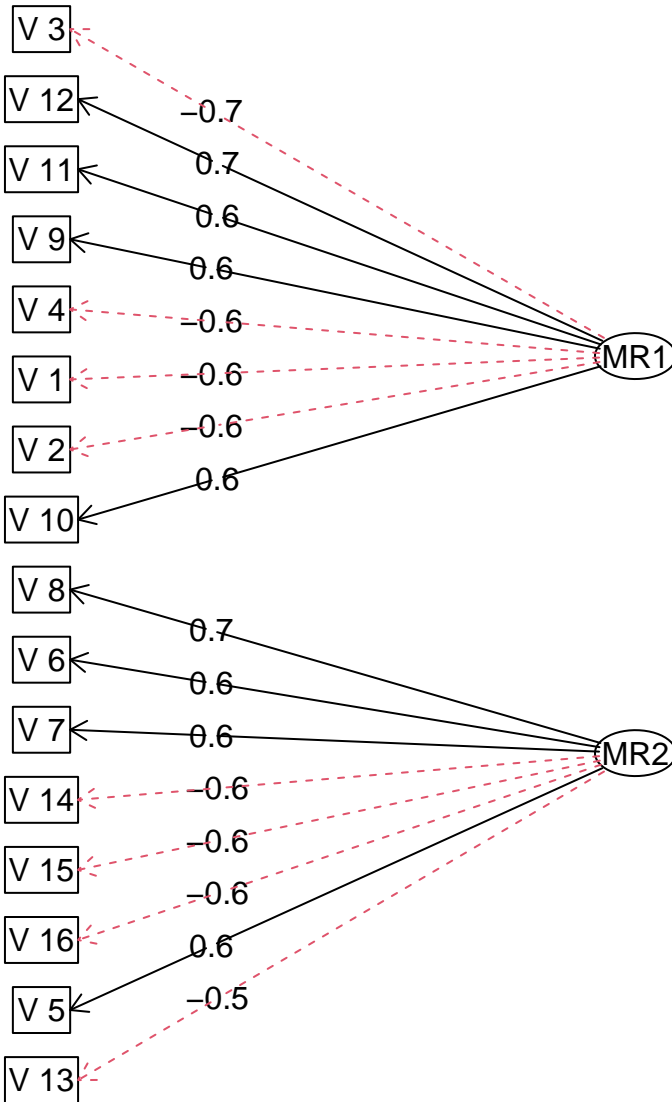
Exploratory Structural Model



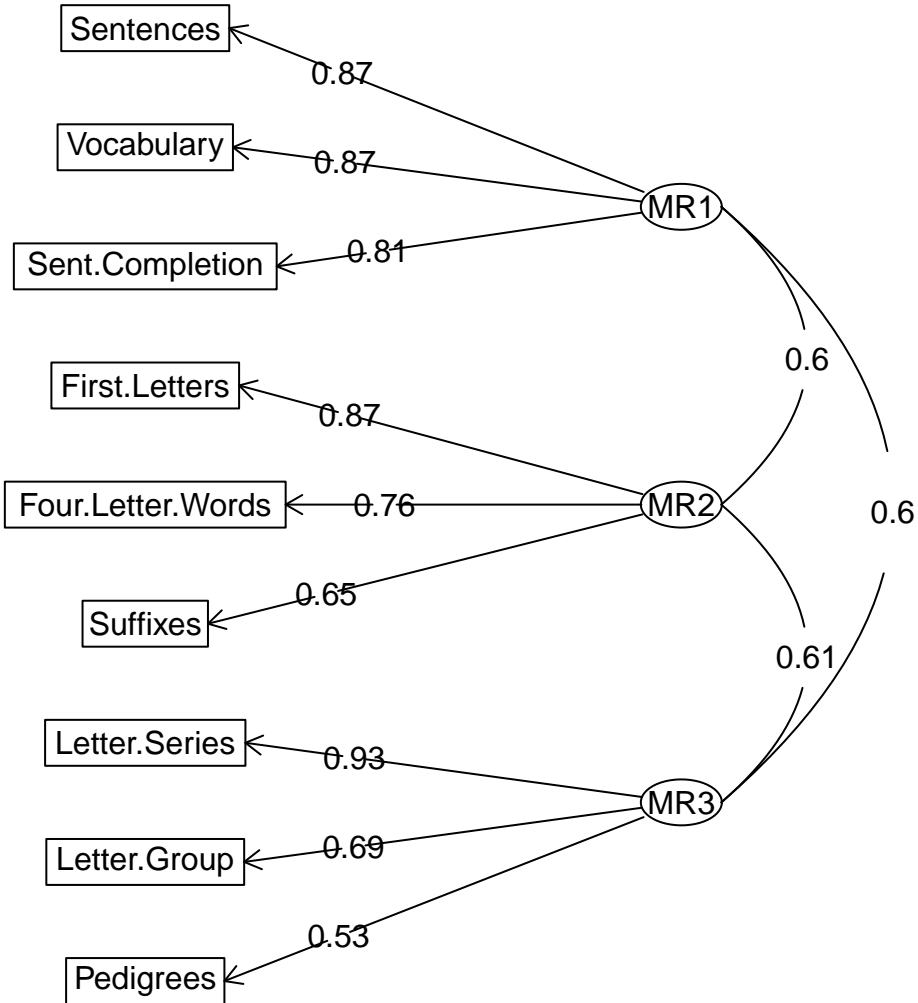
Exploratory Structural Model



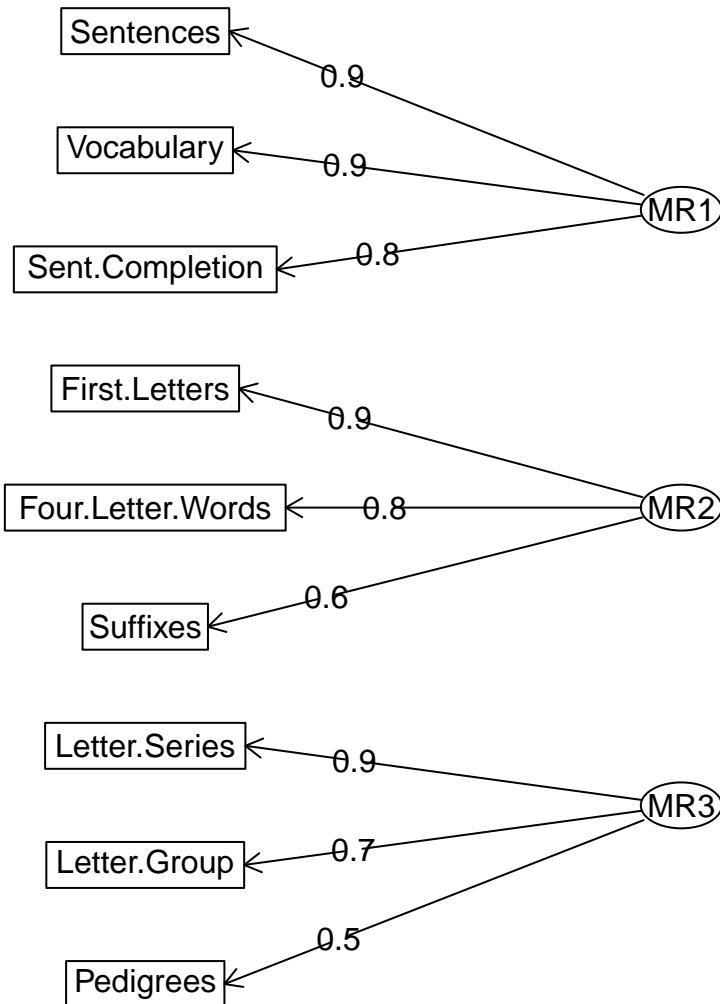
Factor Analysis



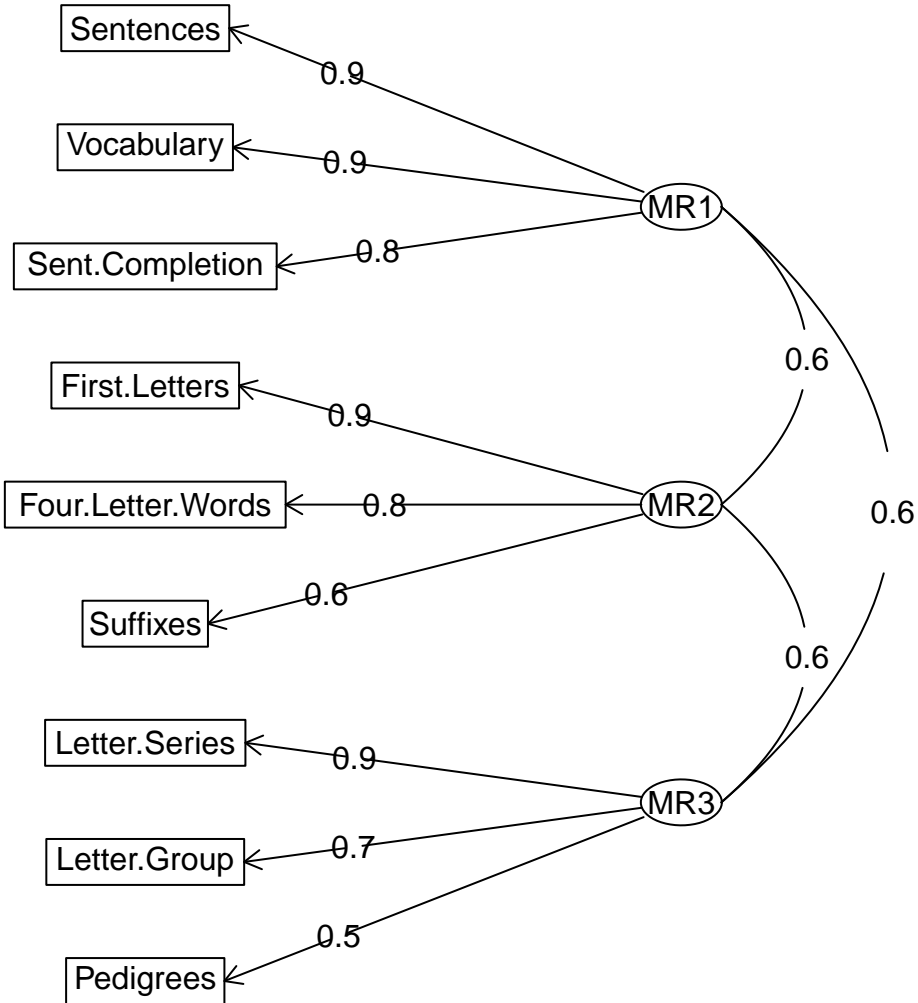
Factor Analysis



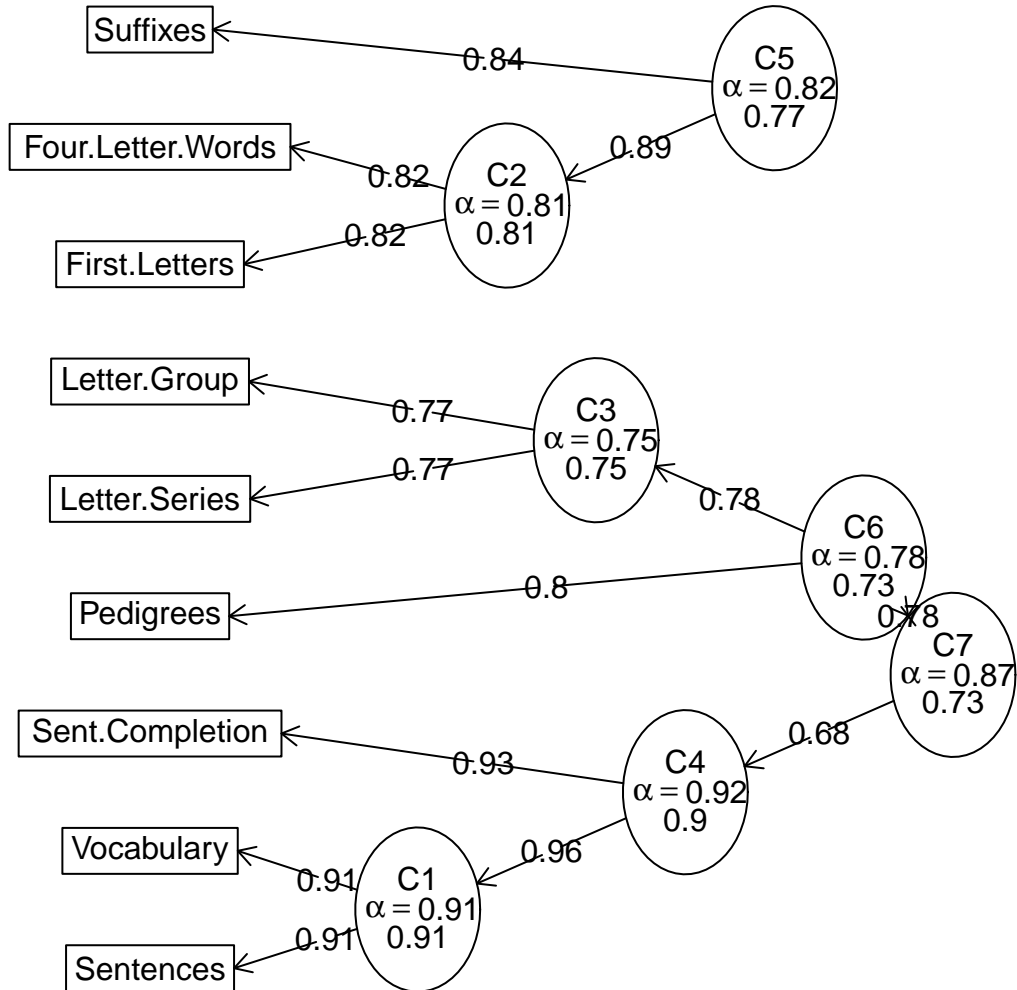
input from a matrix



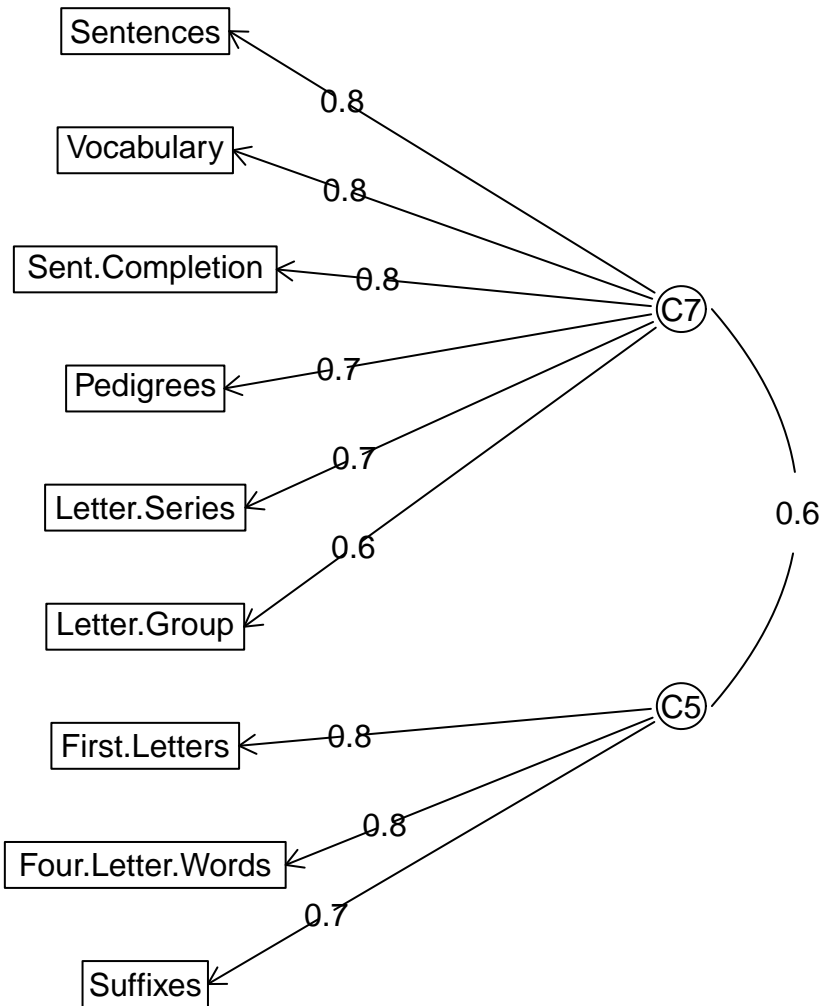
Input from a matrix



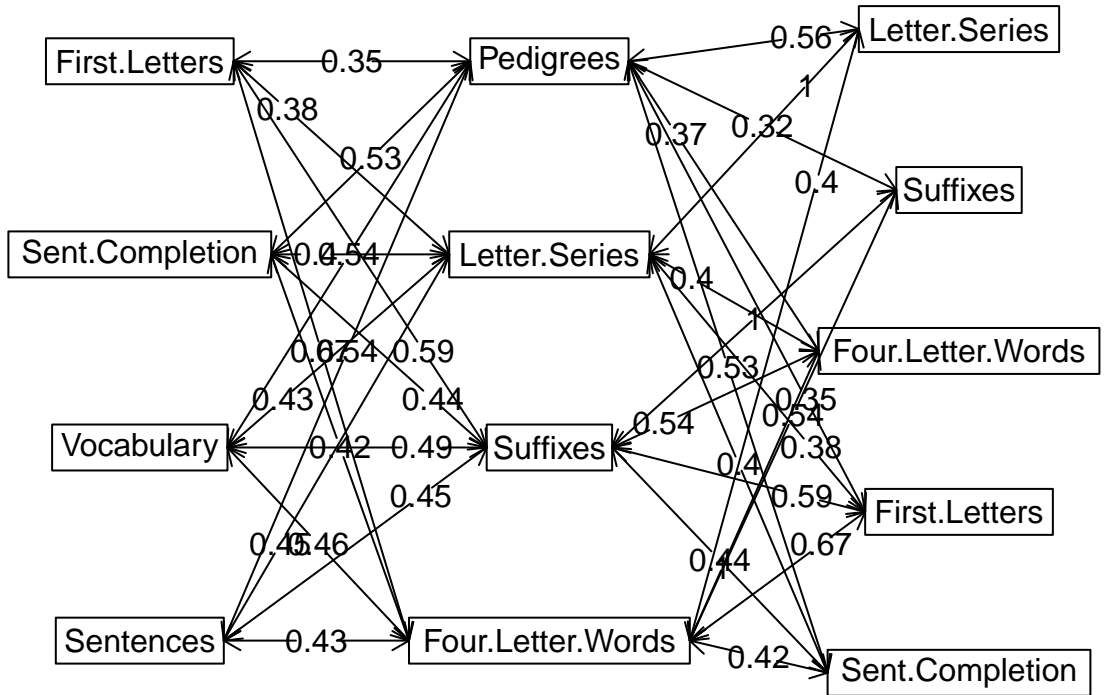
Two cluster solution of Thurstone



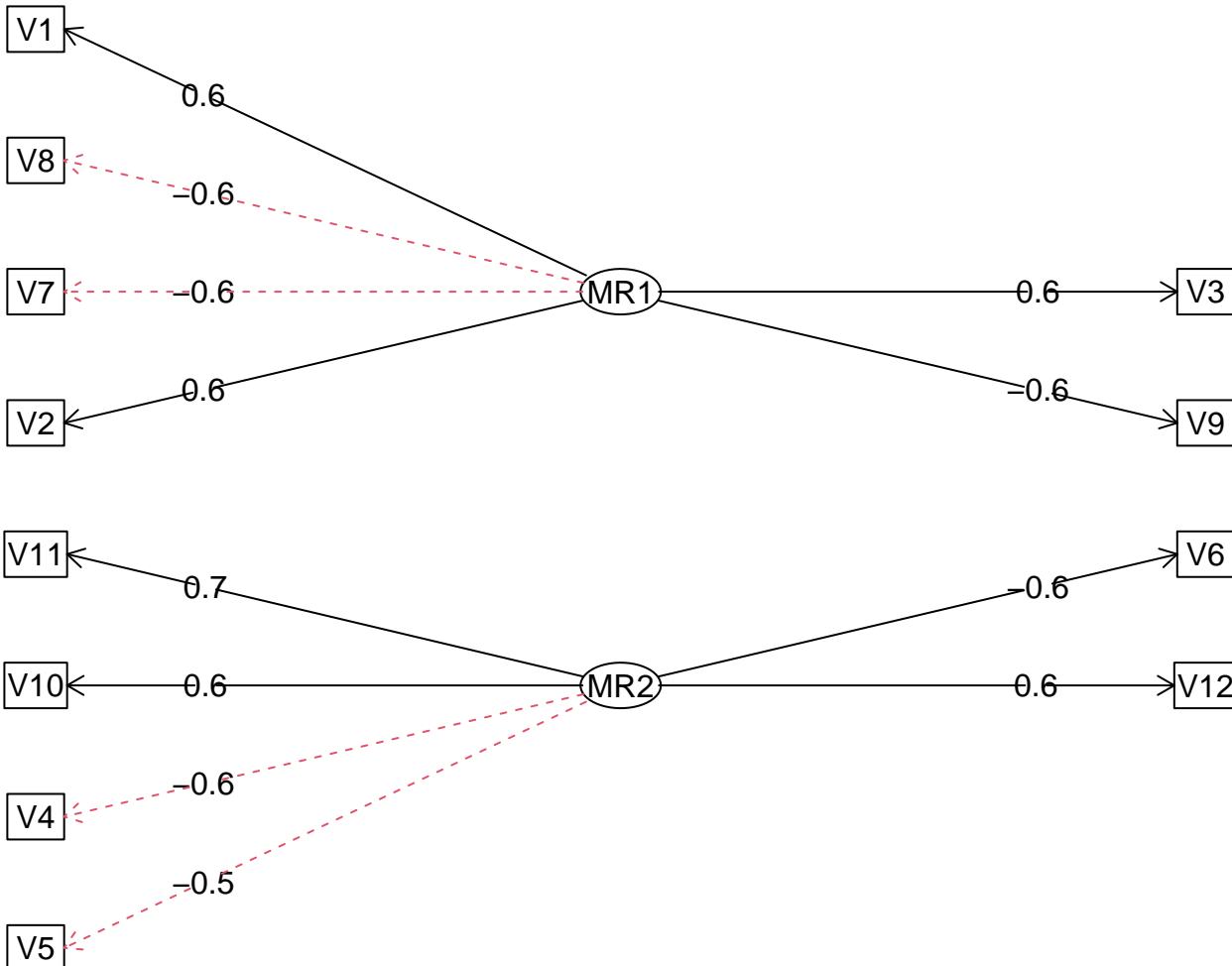
Input from ICLUST



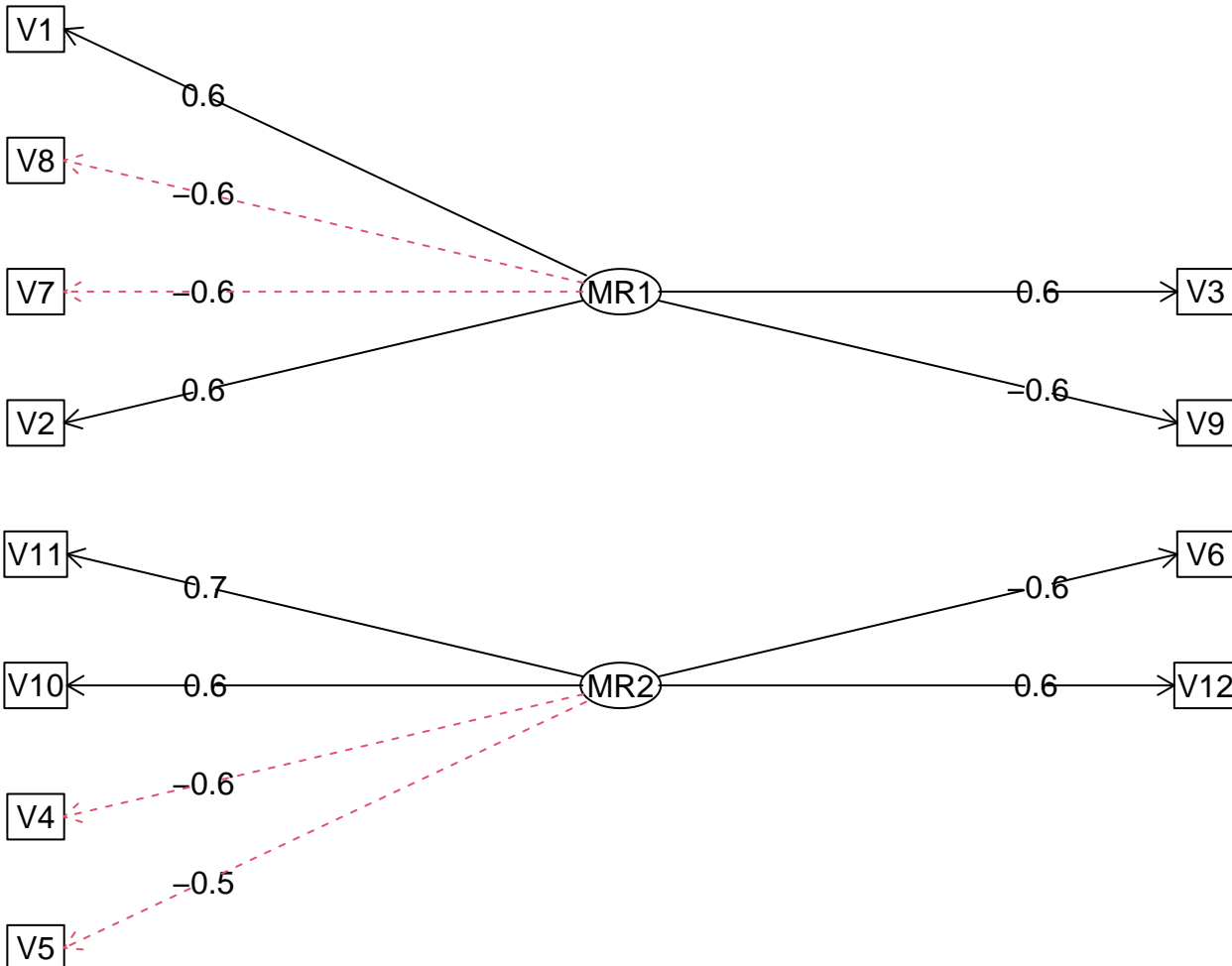
Heterarchy diagram



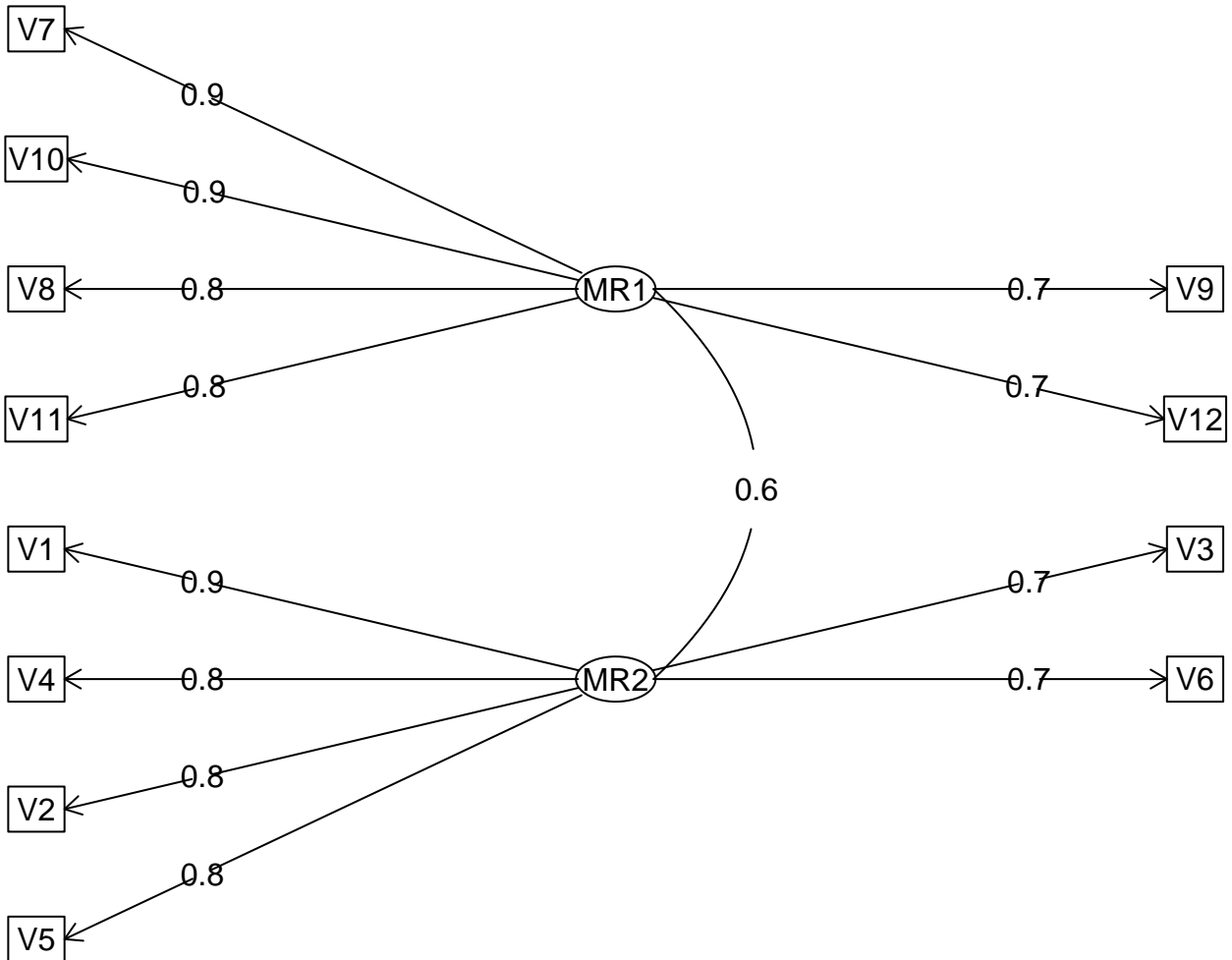
Factor analysis and extension



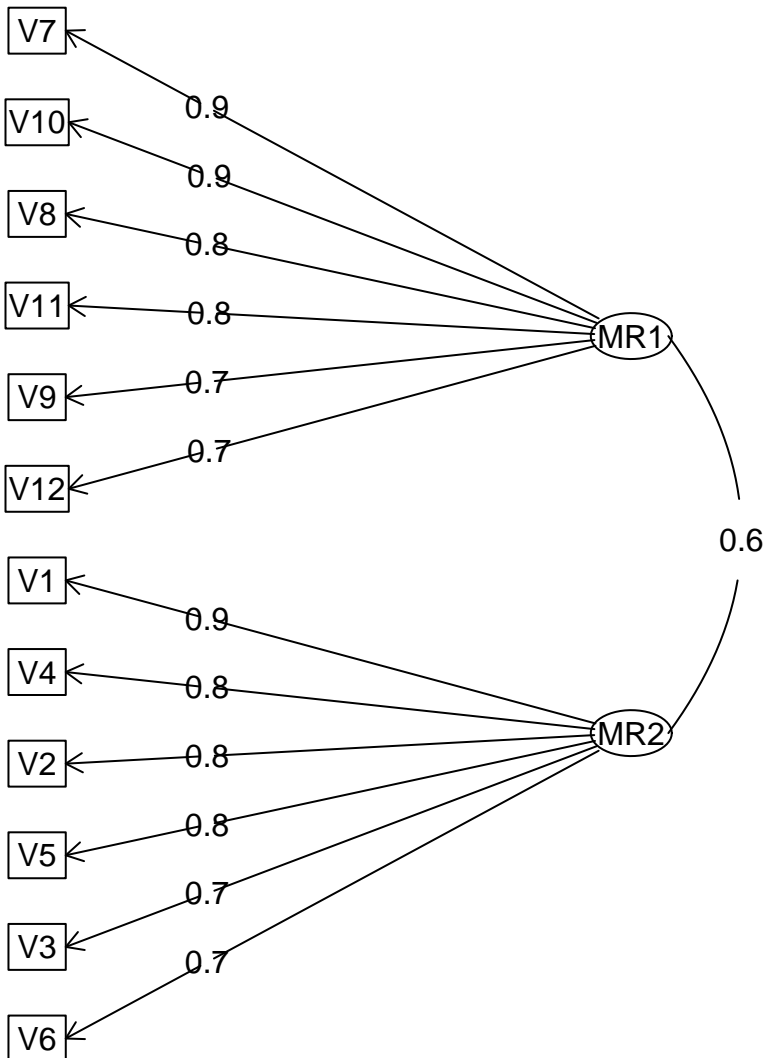
Factor analysis and extension



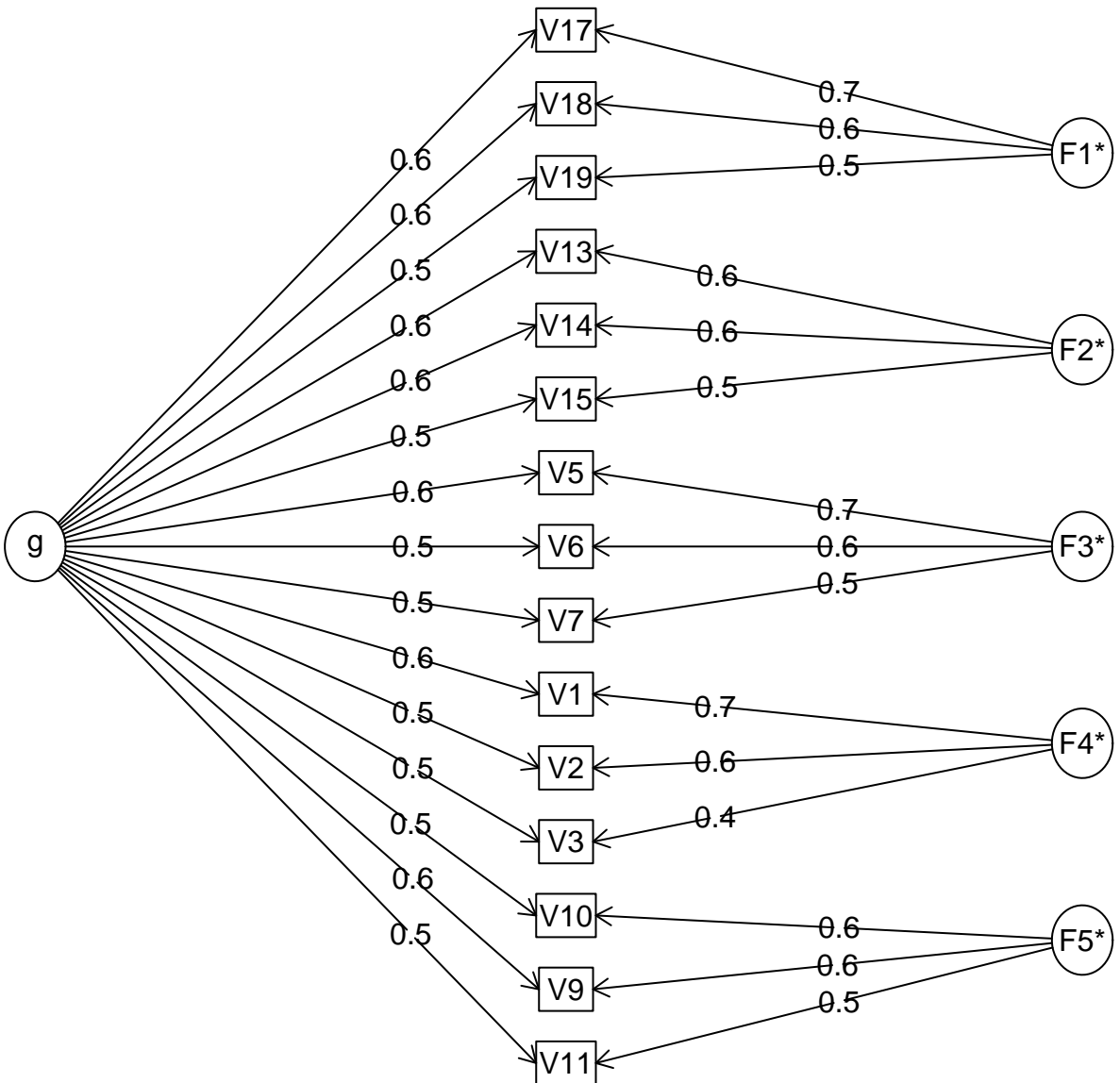
Factor analysis and extension



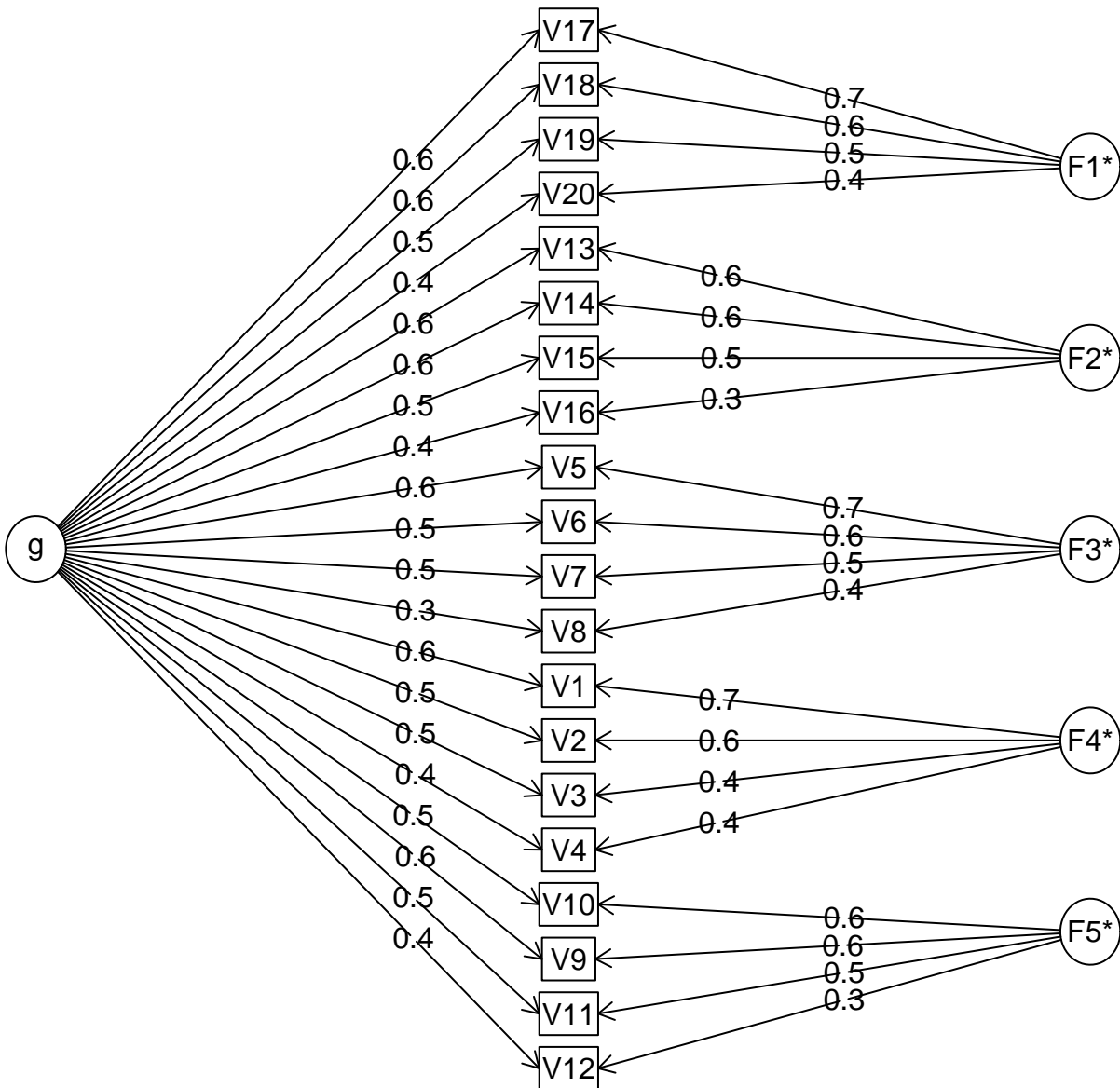
factor analysis with extension variables



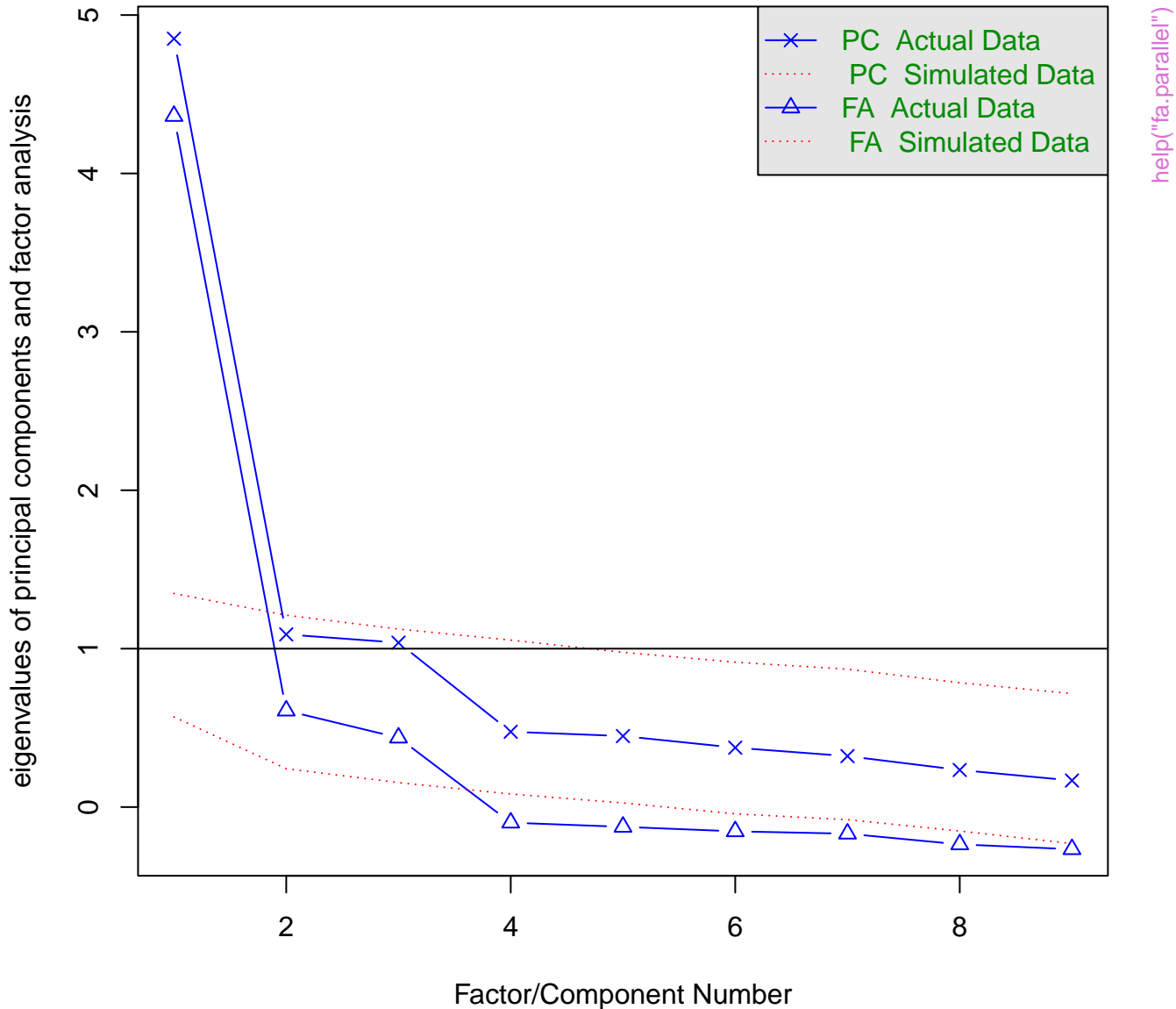
Omega



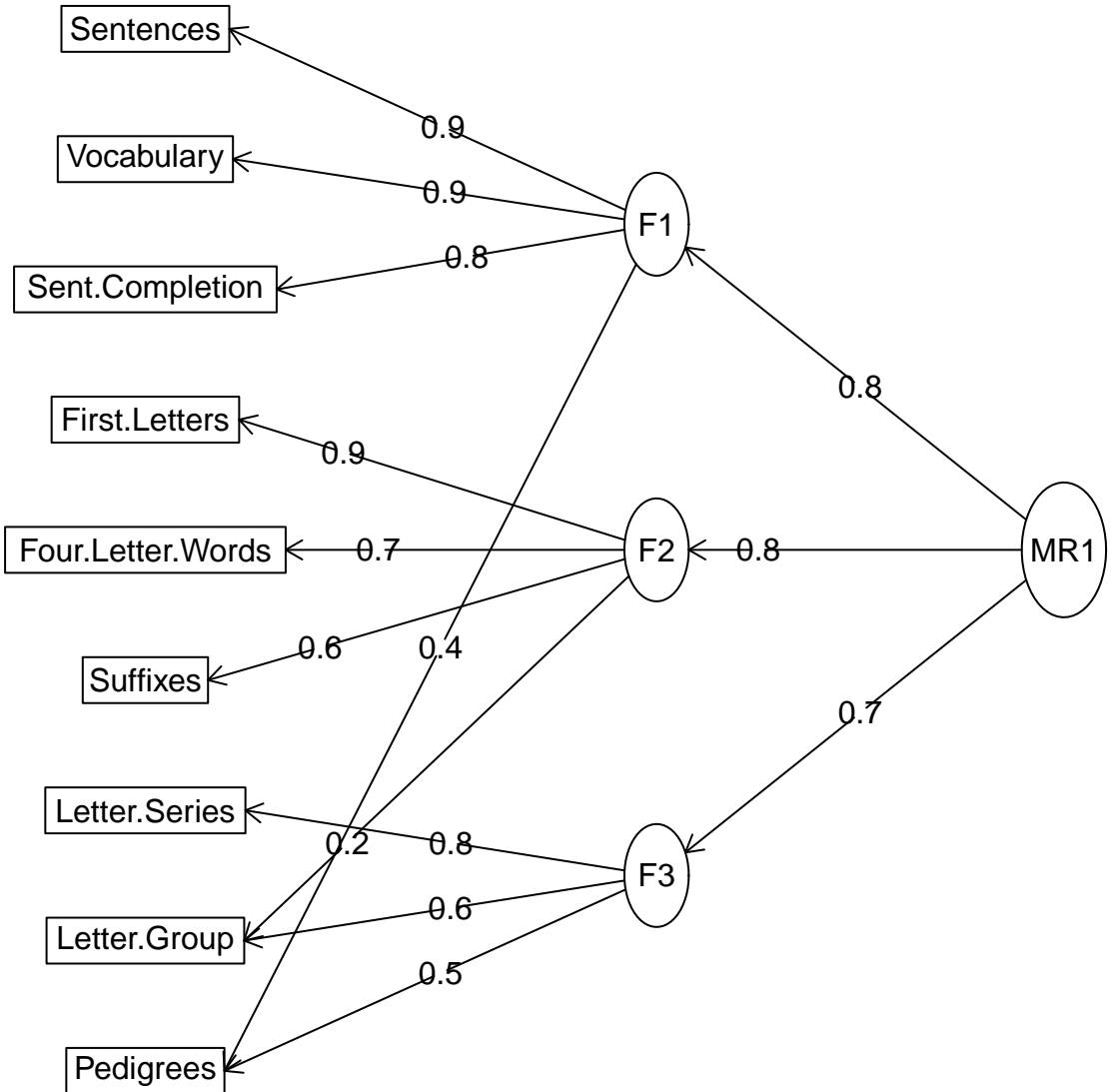
Extended Omega



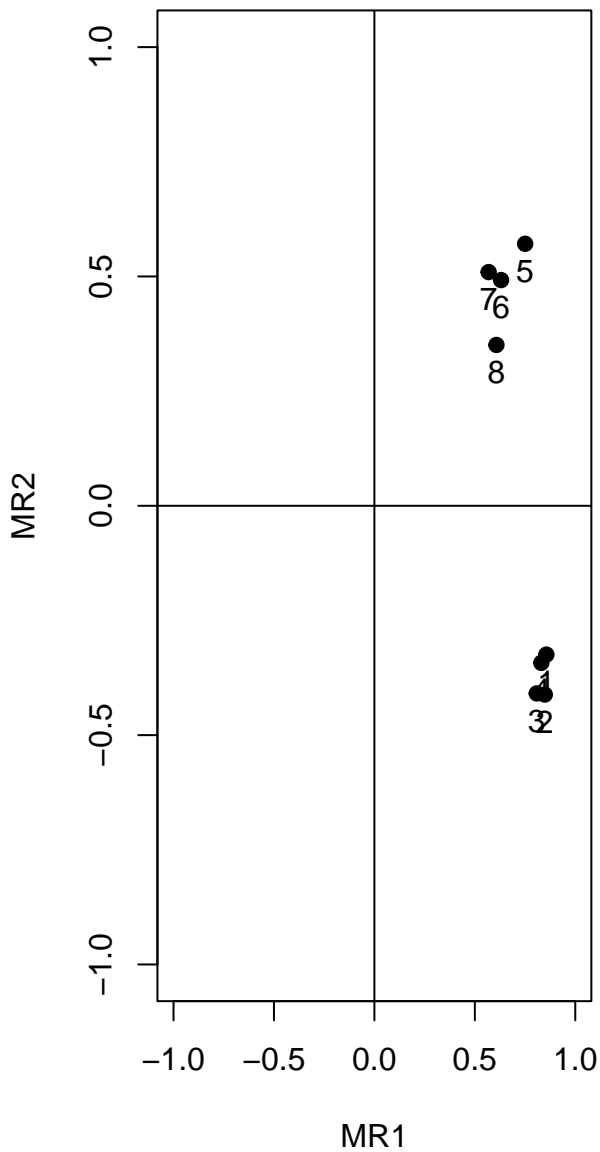
Parallel Analysis Scree Plots



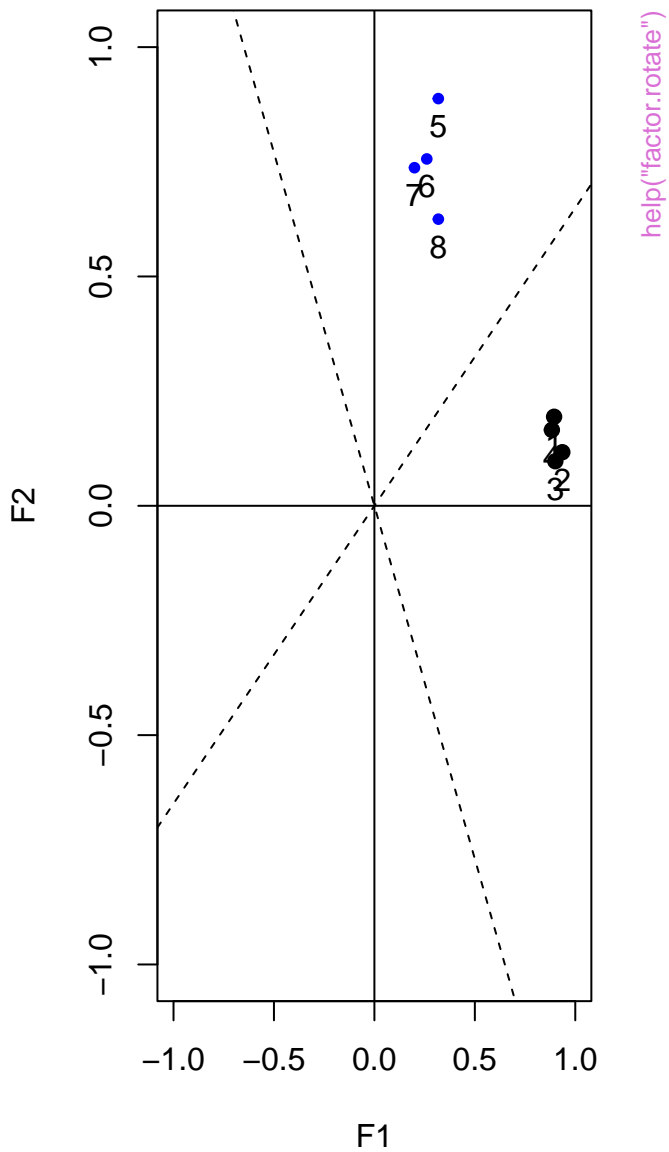
Hierarchical (multilevel) Structure



Unrotated

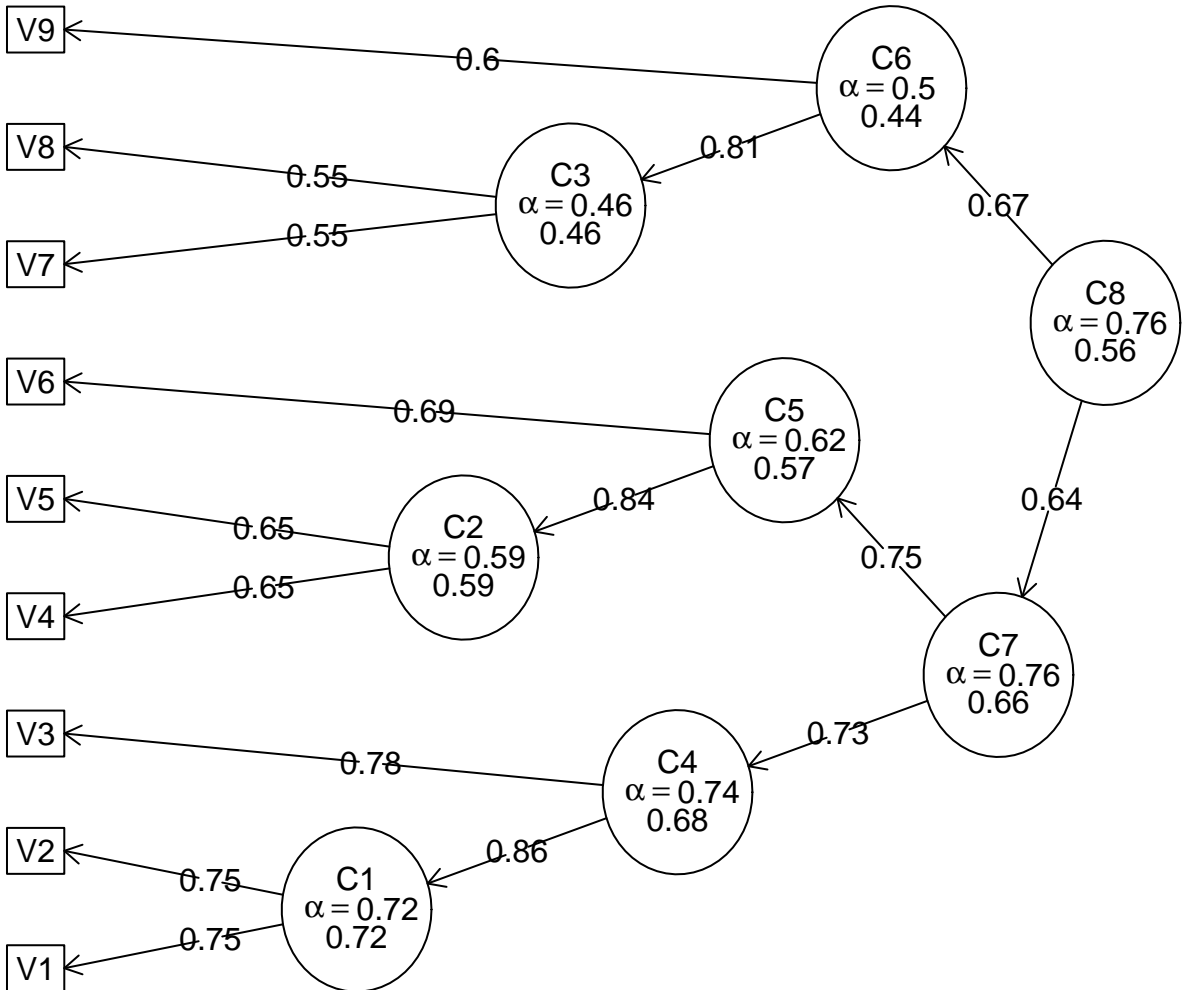


rotated -33 degrees

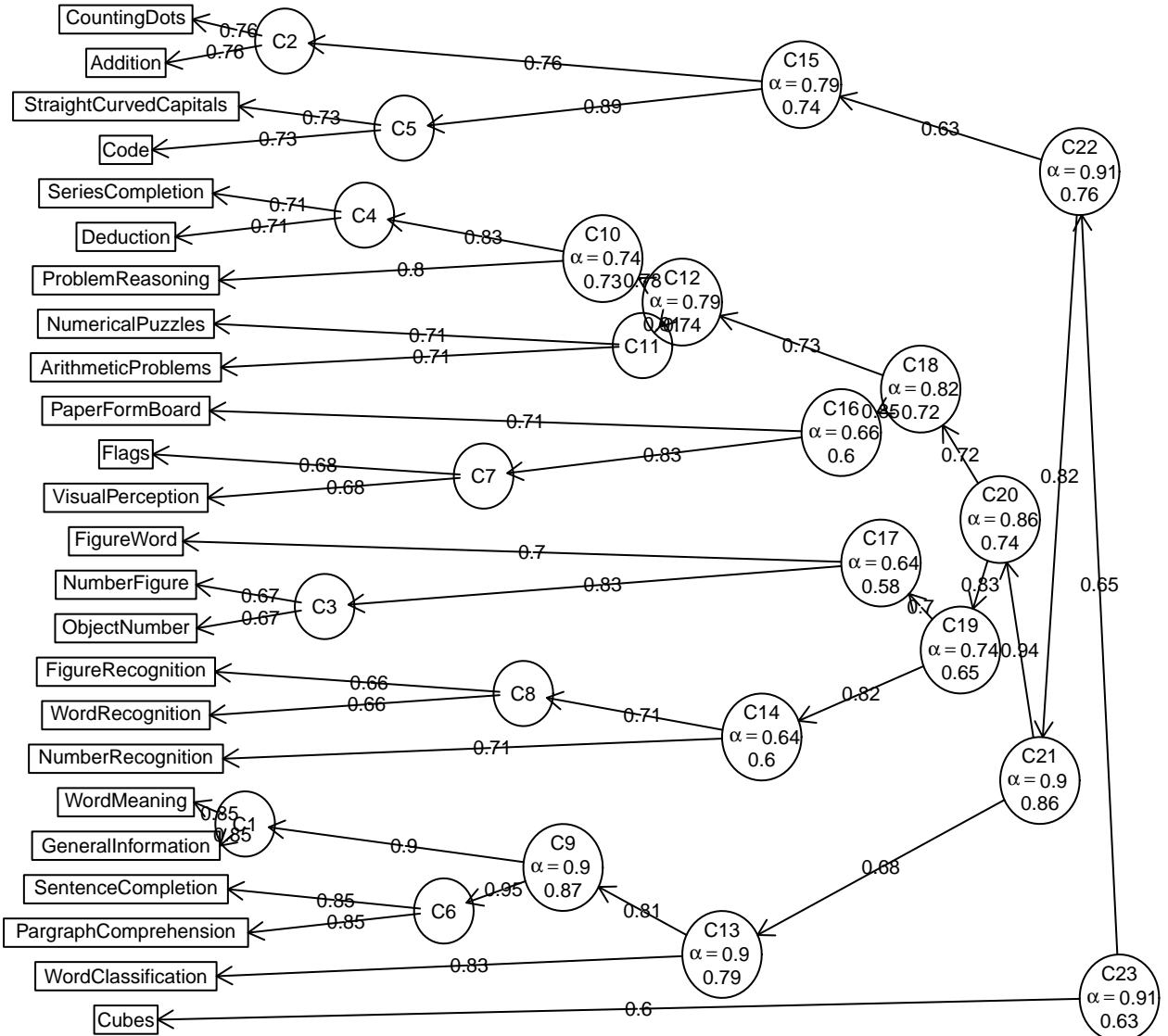


help("factor.rotate")

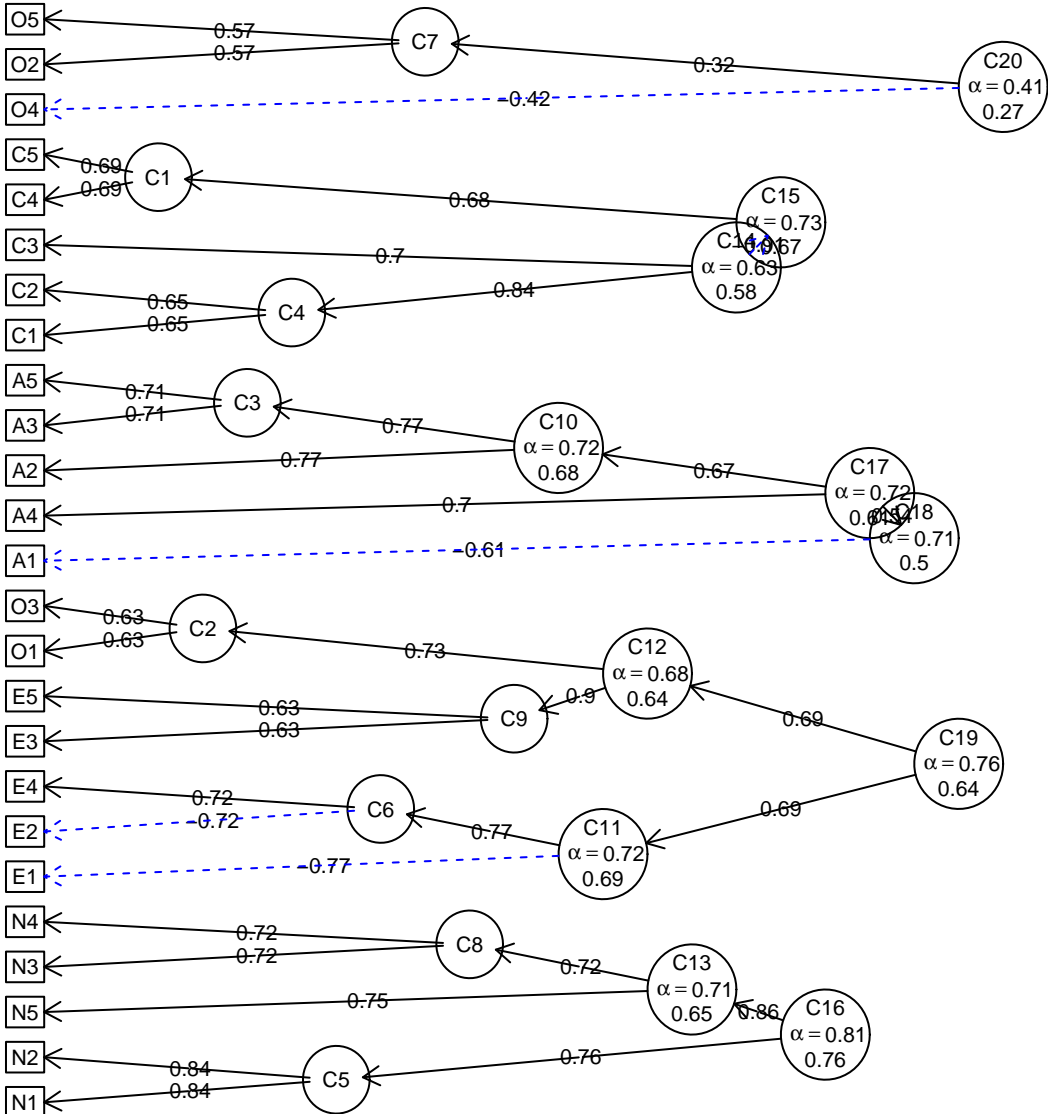
ICLUST



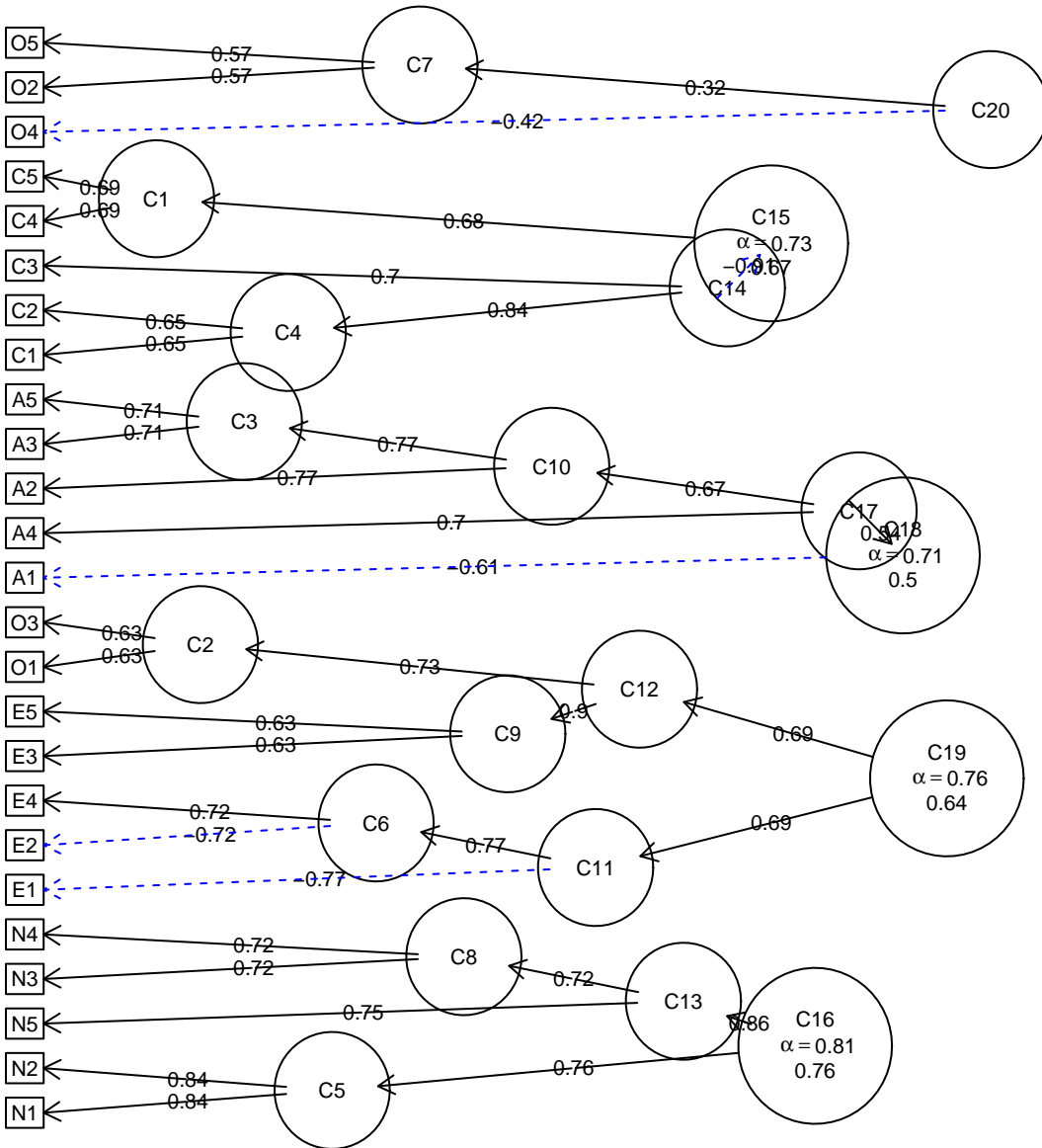
ICLUST

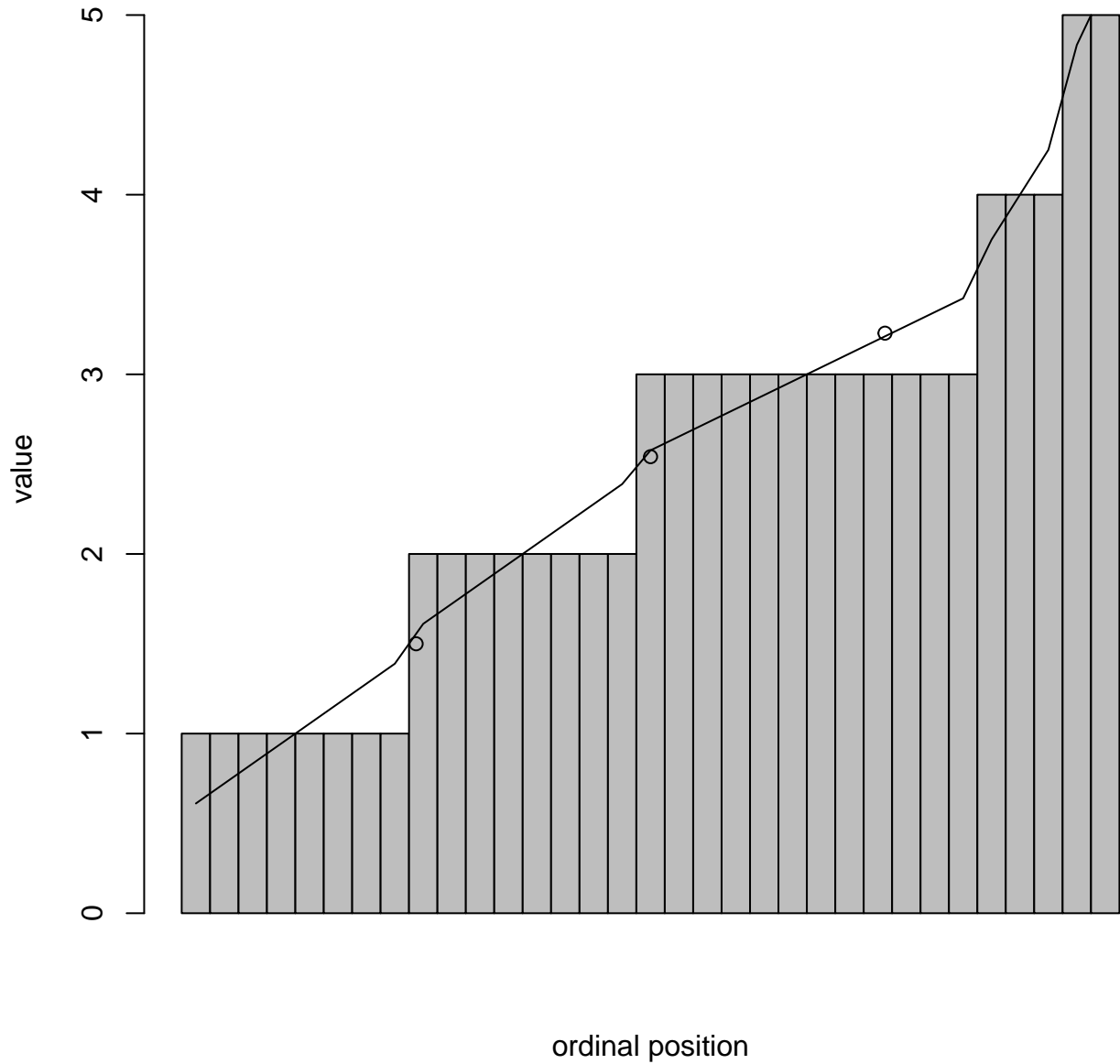


ICLUST

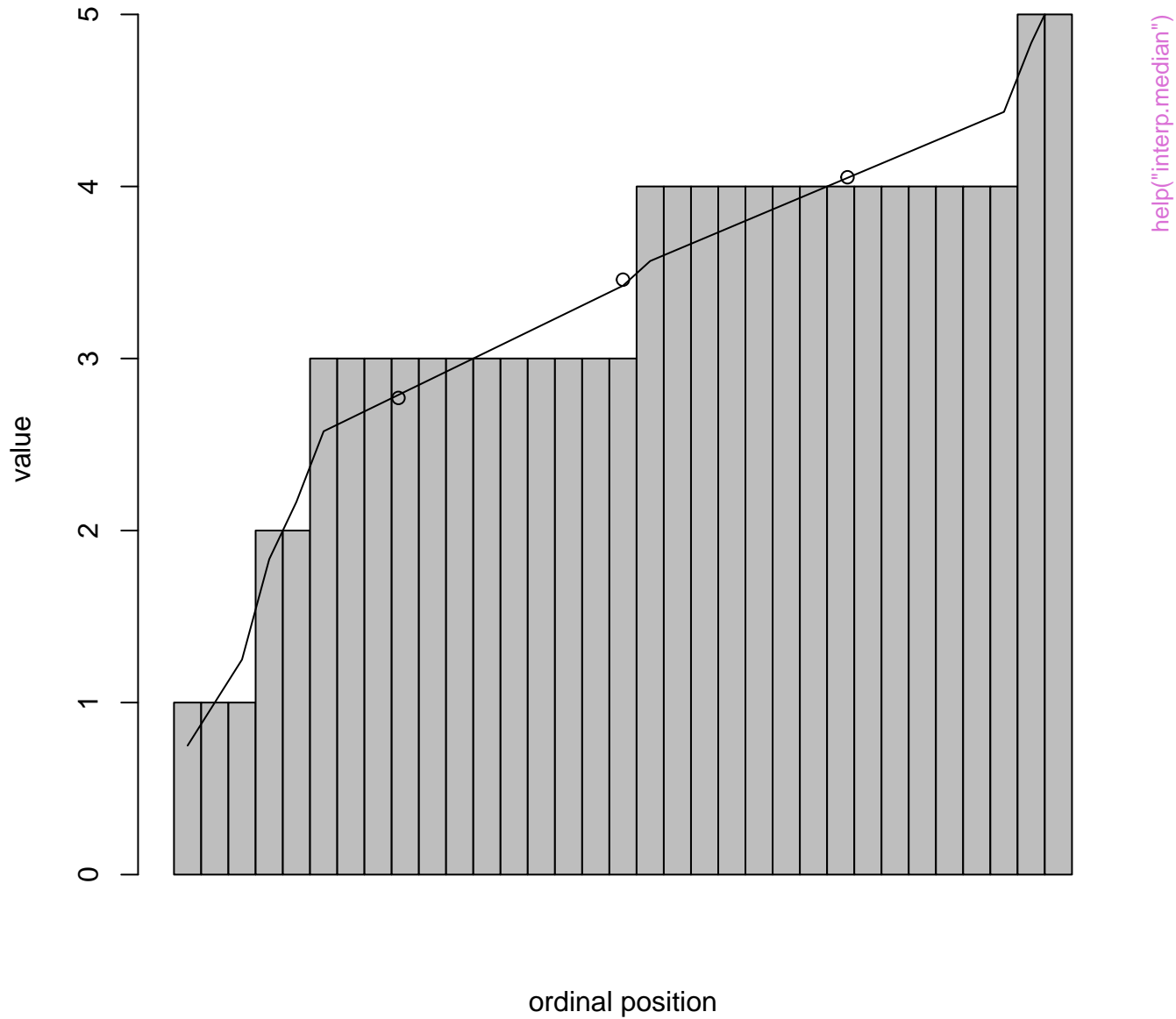


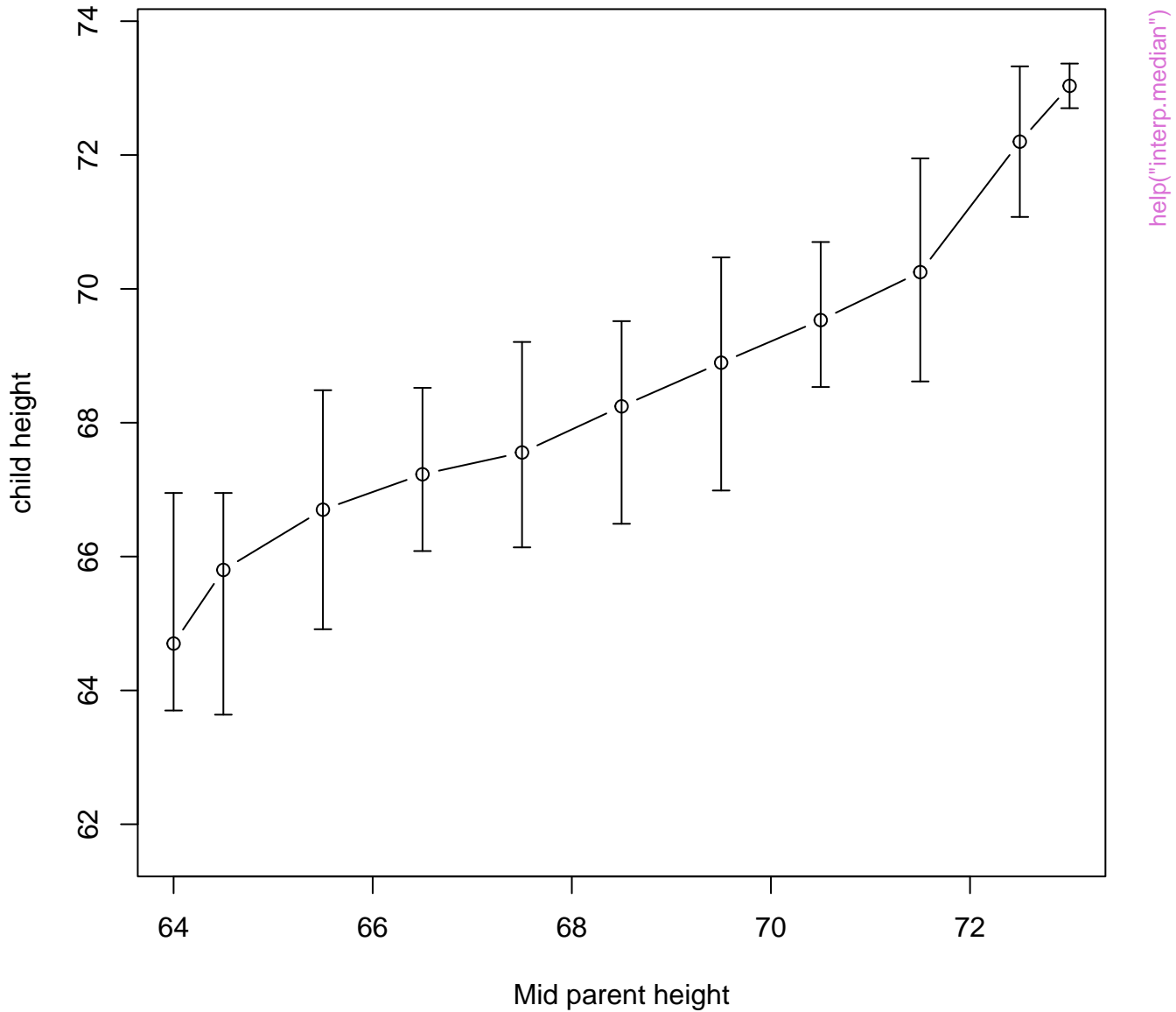
ICLUST diagram



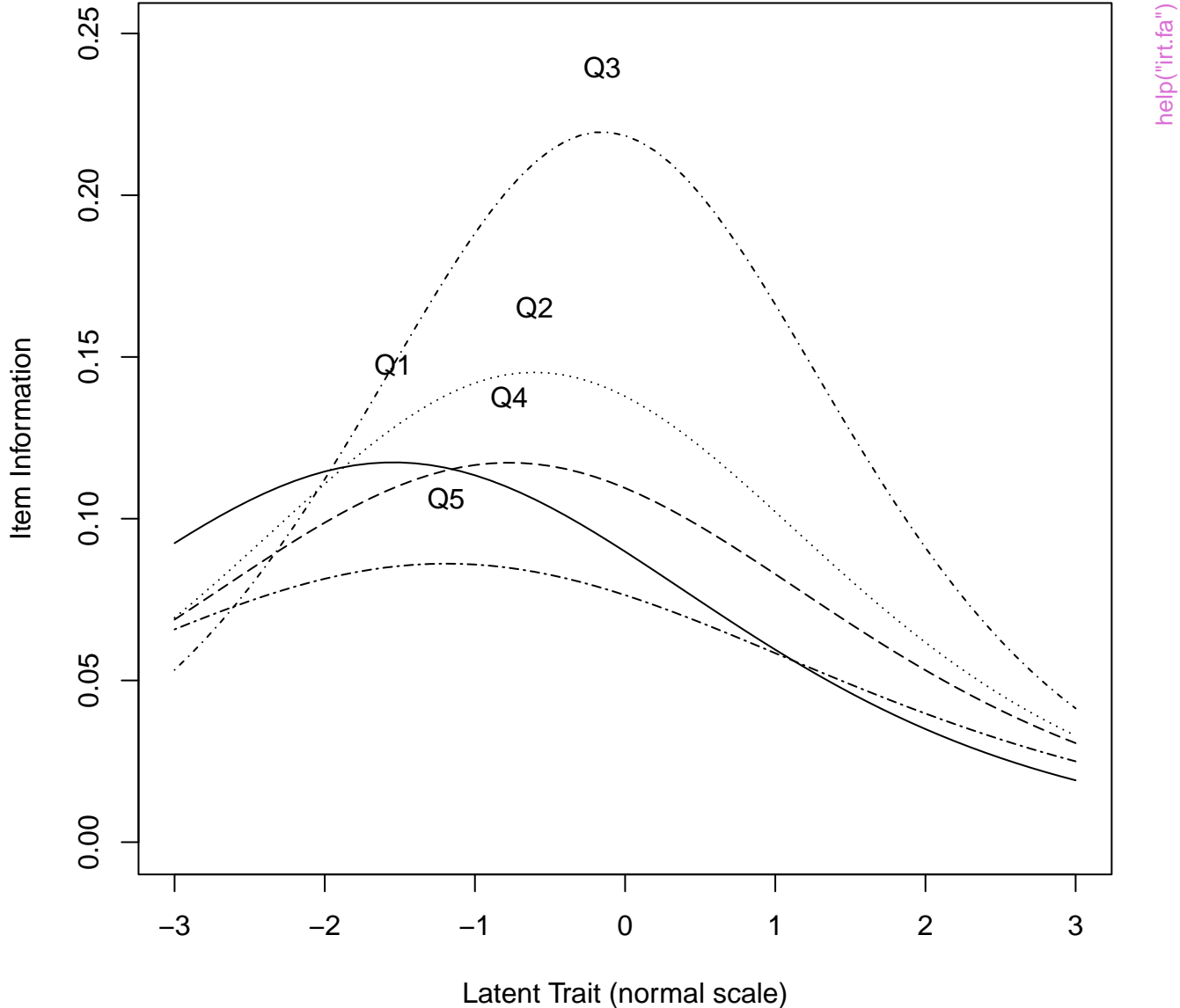


help("interp.median")



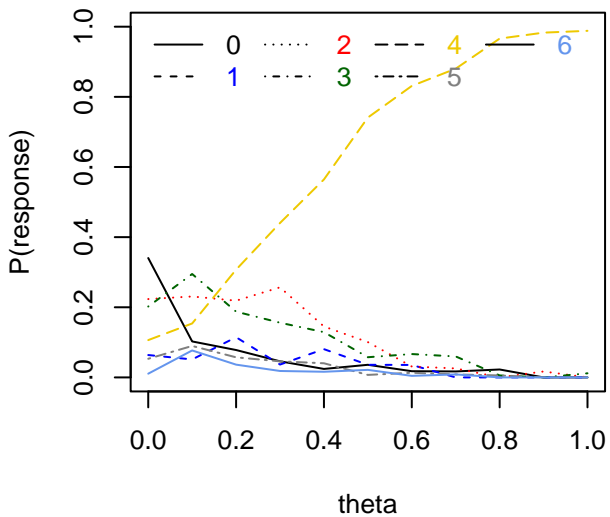


Item information from factor analysis

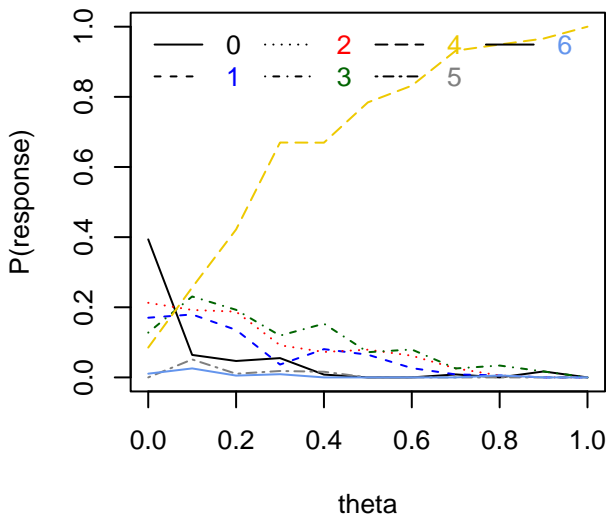


help("irt.fa")

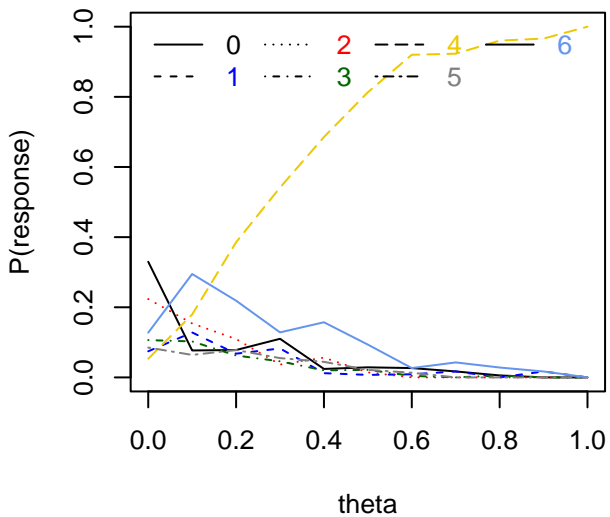
reason.4



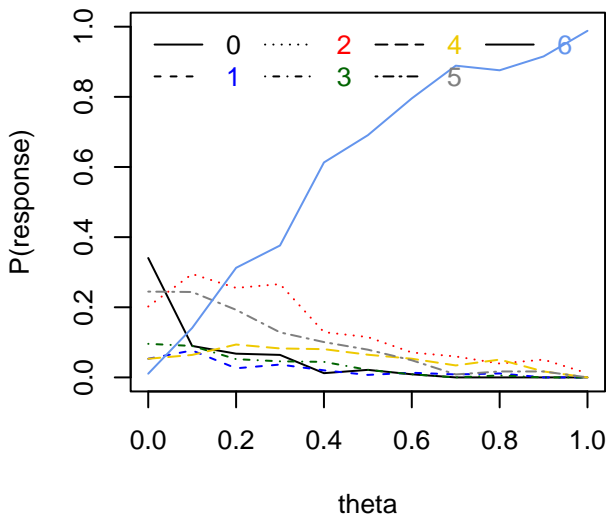
reason.16



reason.17

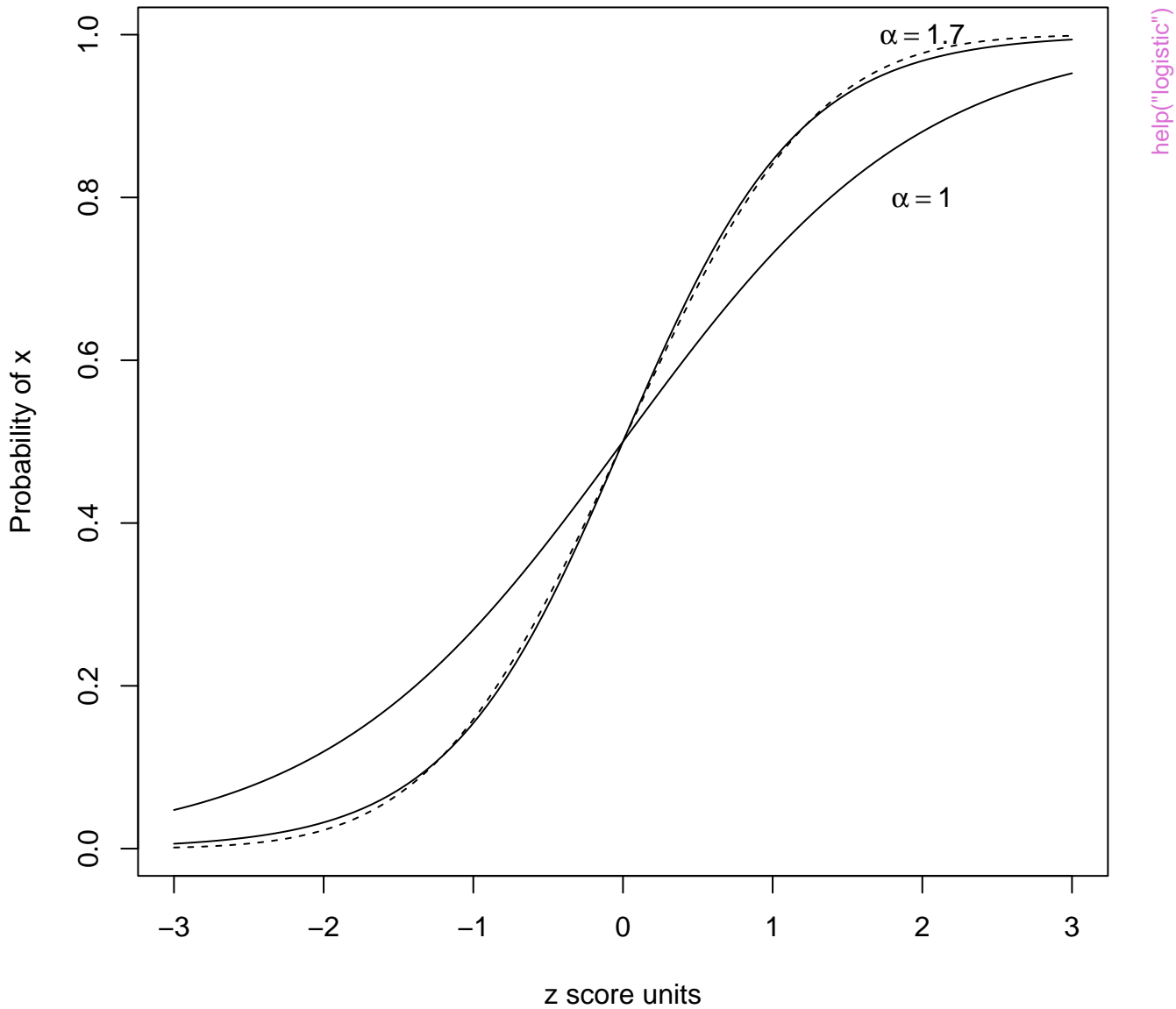


reason.19



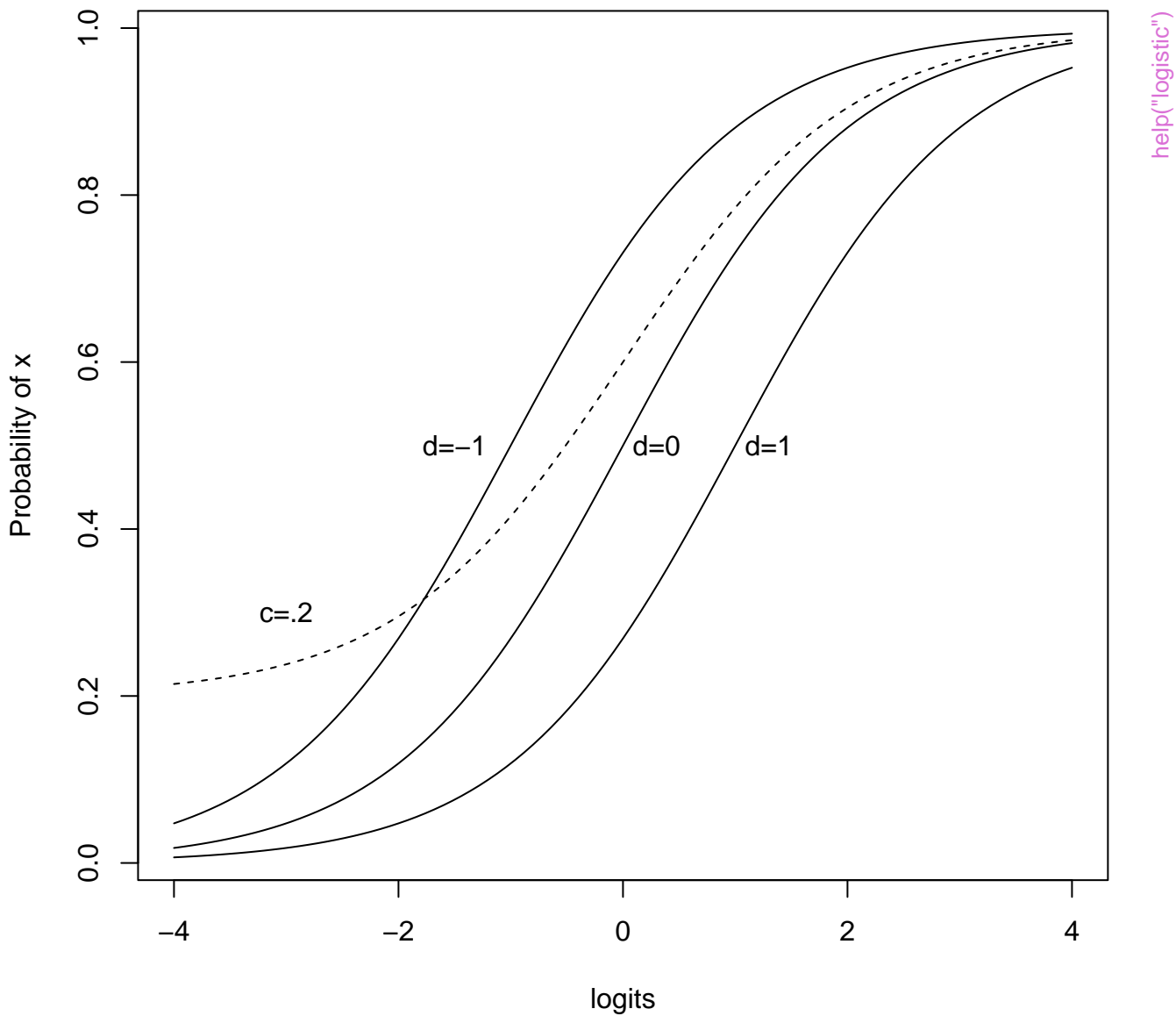
help("irt.responses")

Logistic transform of x

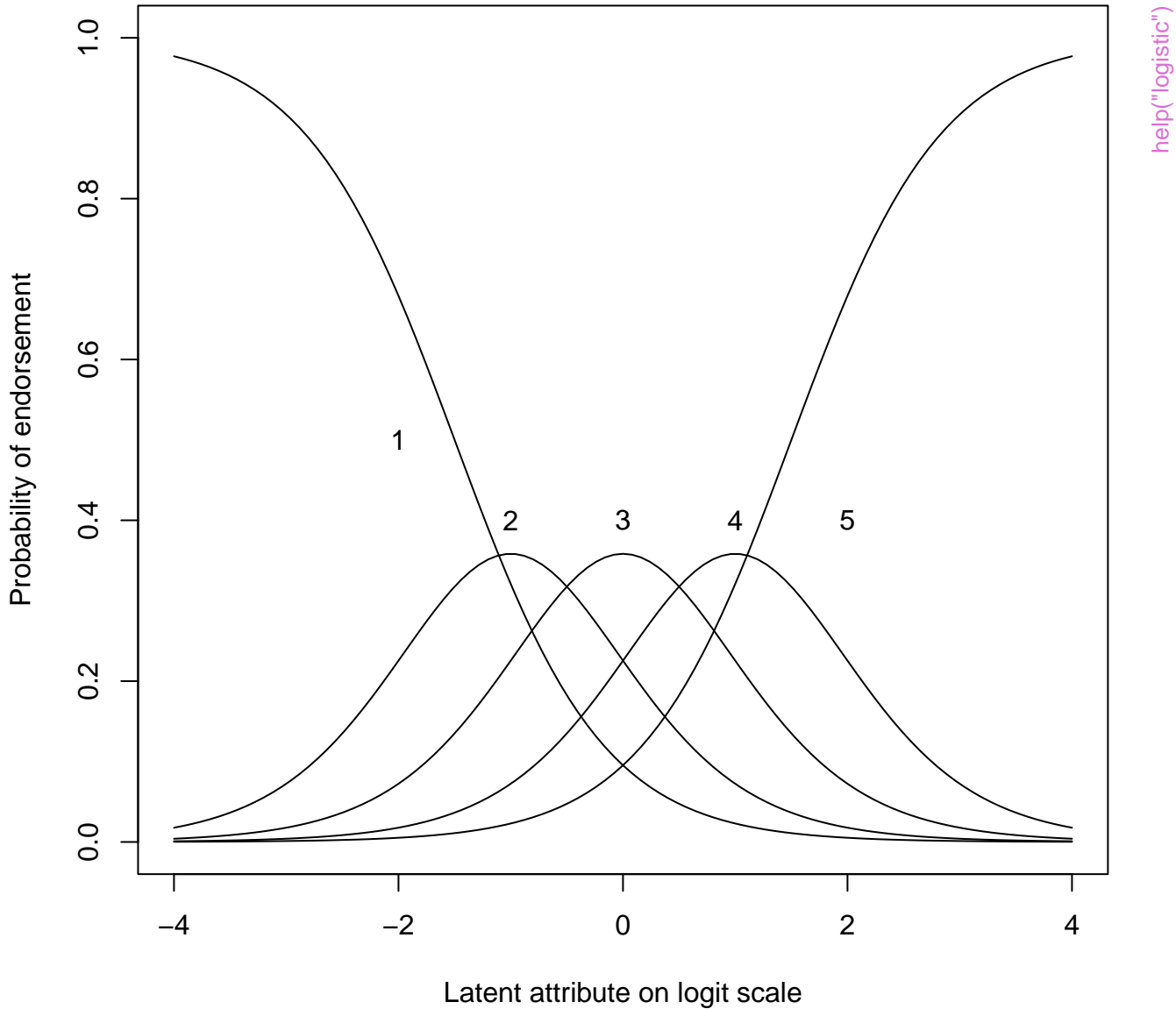


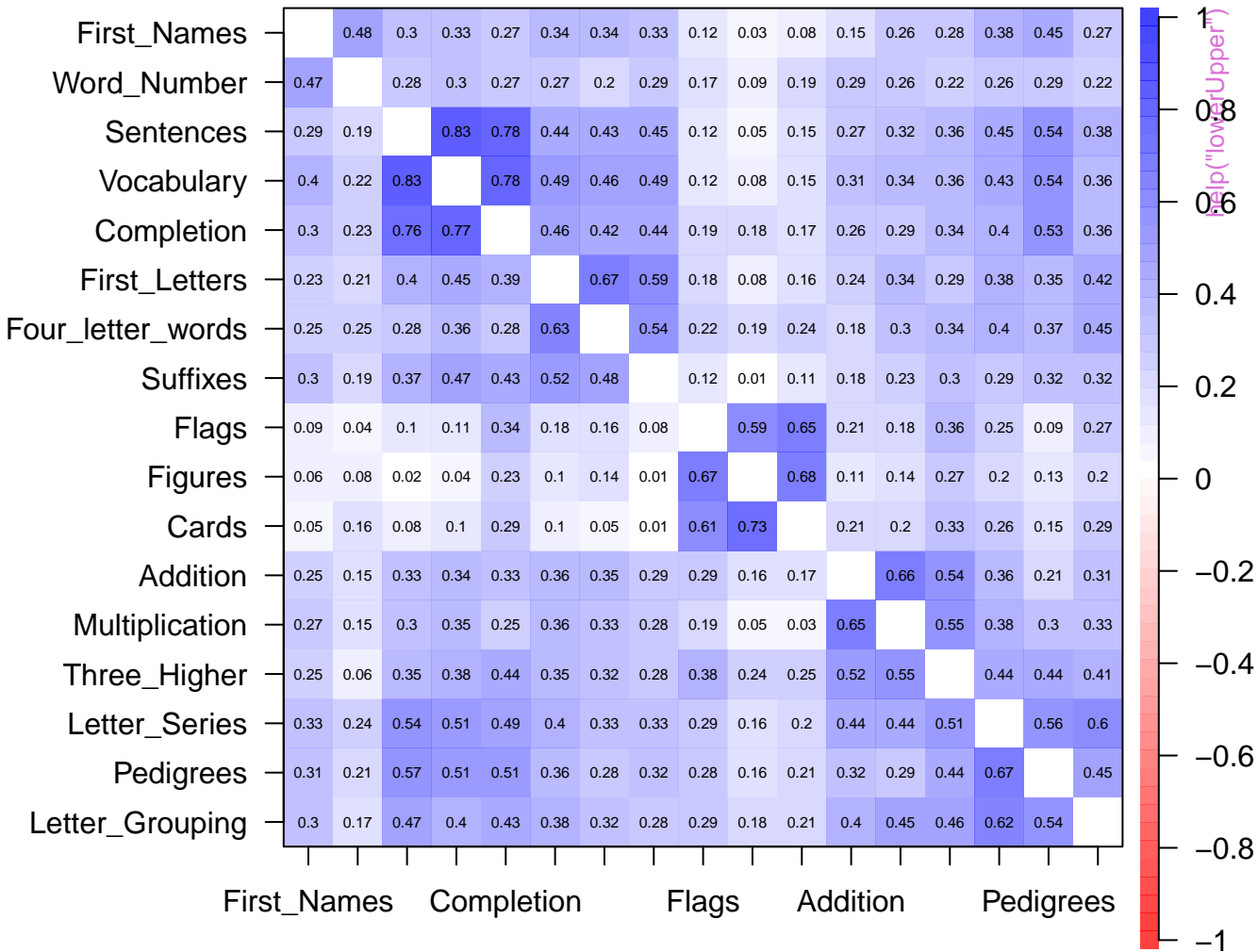
help("logistic")

Logistic transform of x in logit units

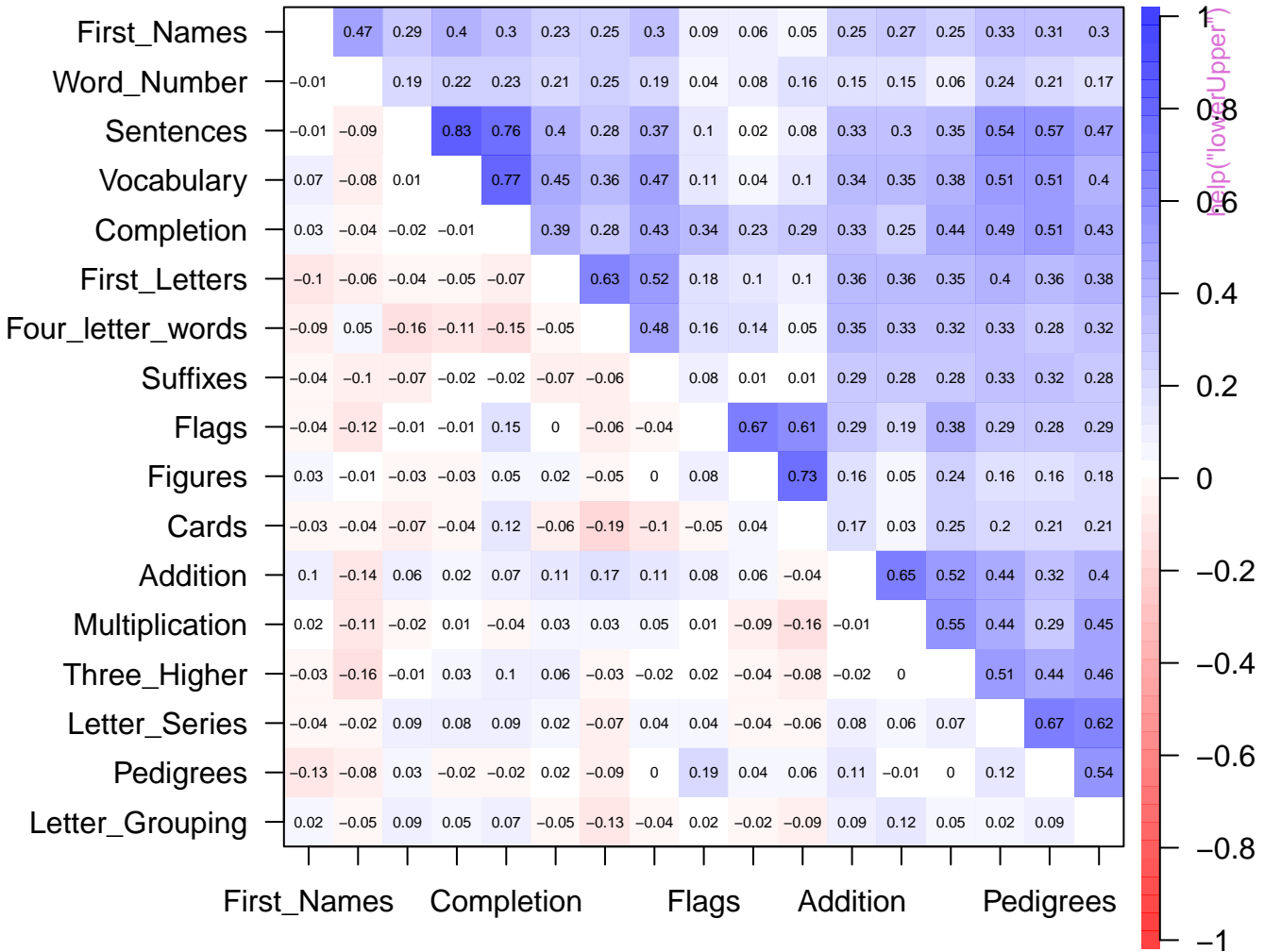


Five level response scale

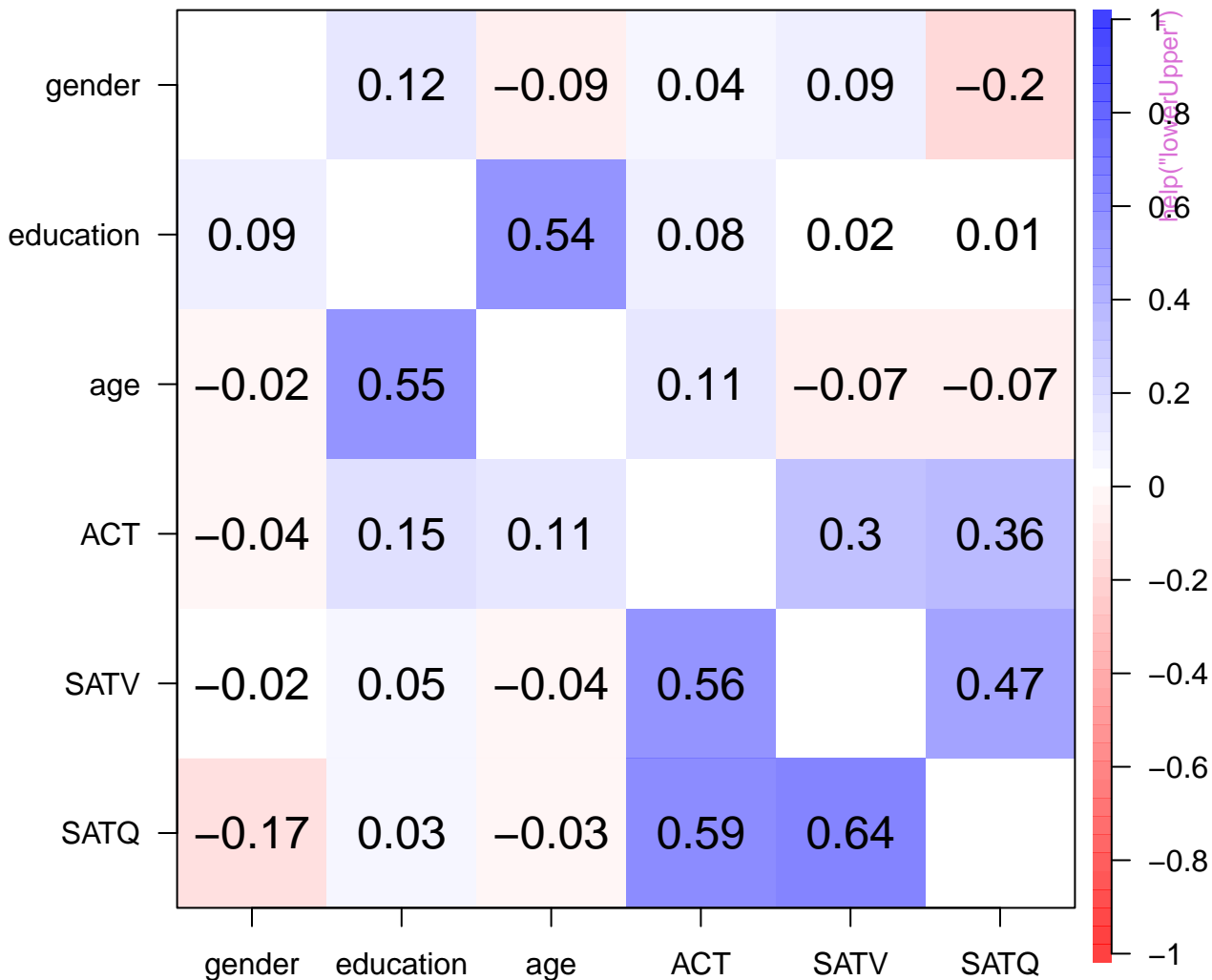




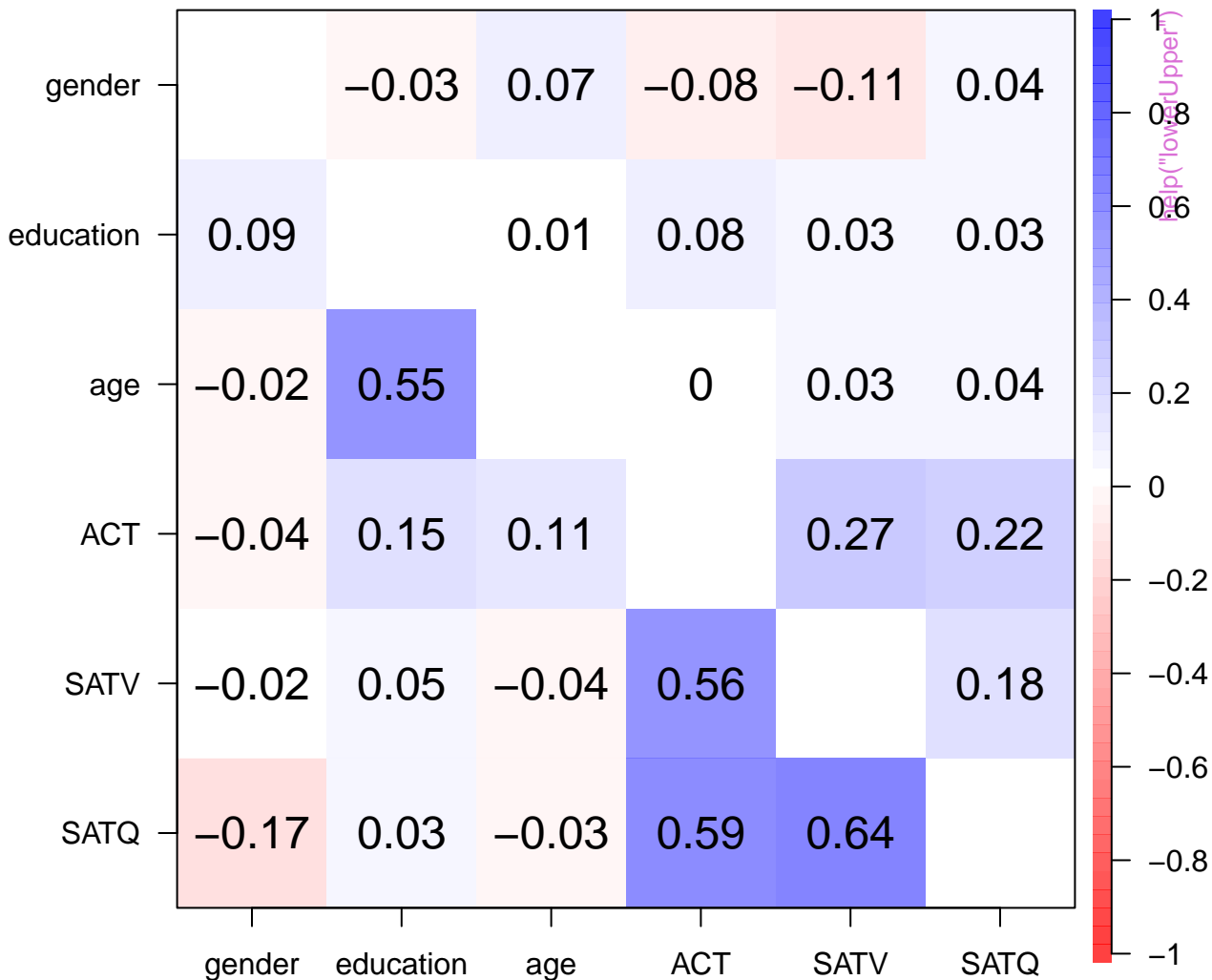
Bechtoldt1 and the differences from Bechtoldt2



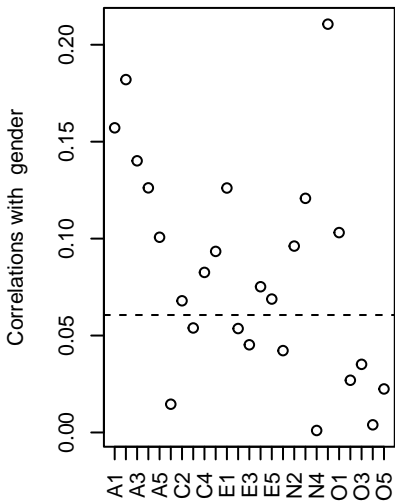
r and partial r for the sat.act data set



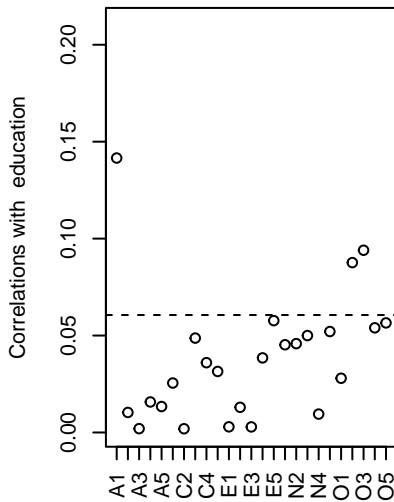
Differences between r and partial r for the sat.act data se



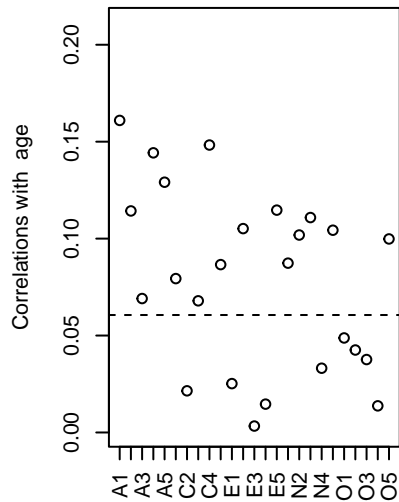
Manhattan Plot of gender



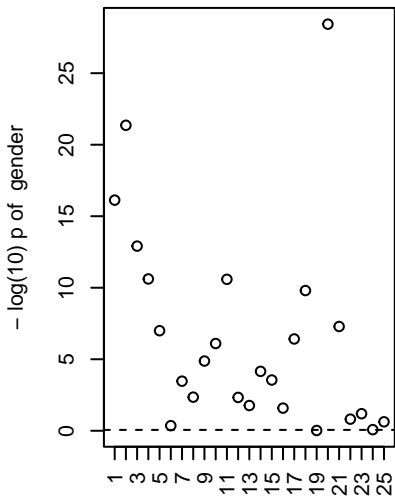
Manhattan Plot of education



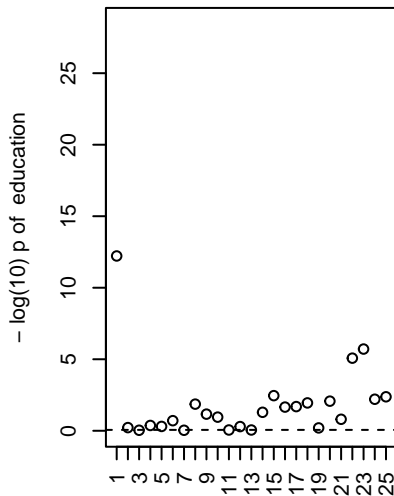
Manhattan Plot of age



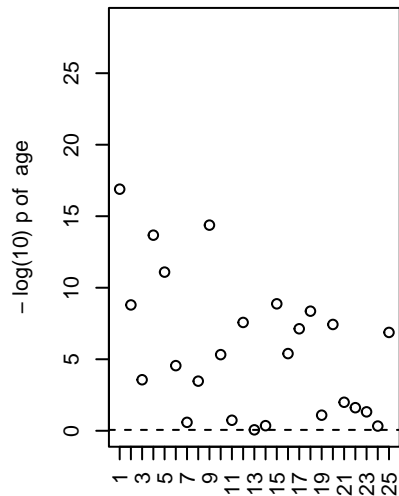
Manhattan Plot of gender



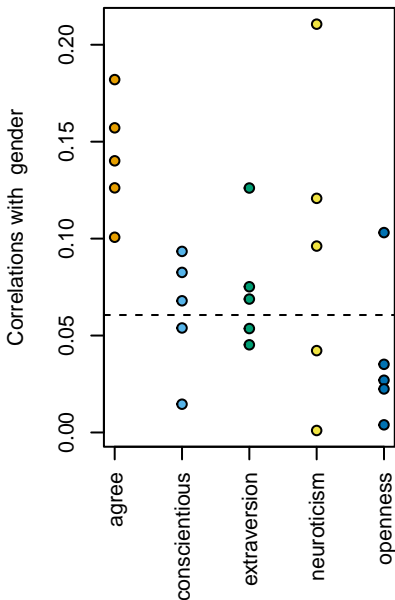
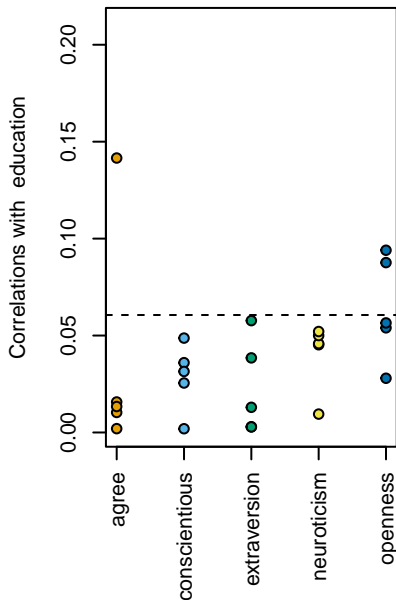
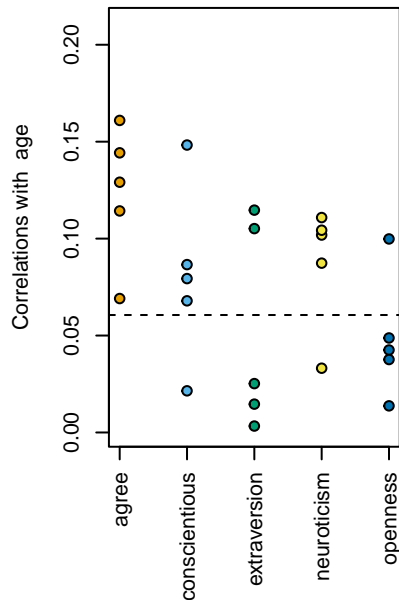
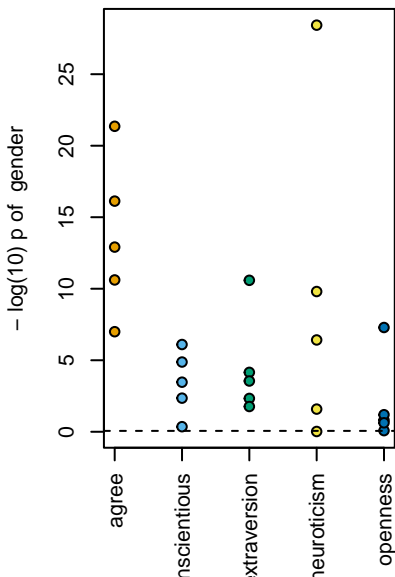
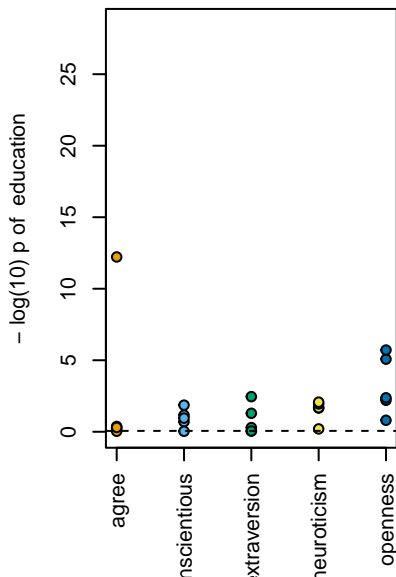
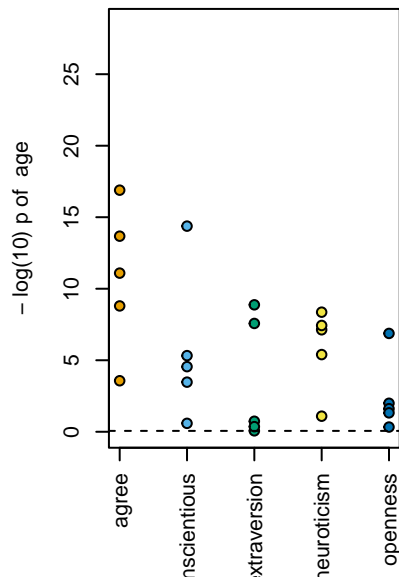
Manhattan Plot of education



Manhattan Plot of age

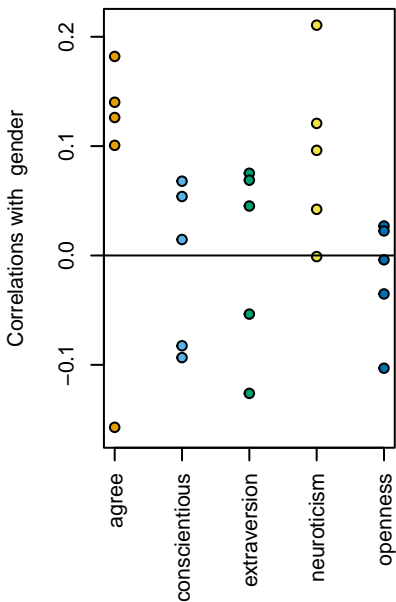


help("manhattan")

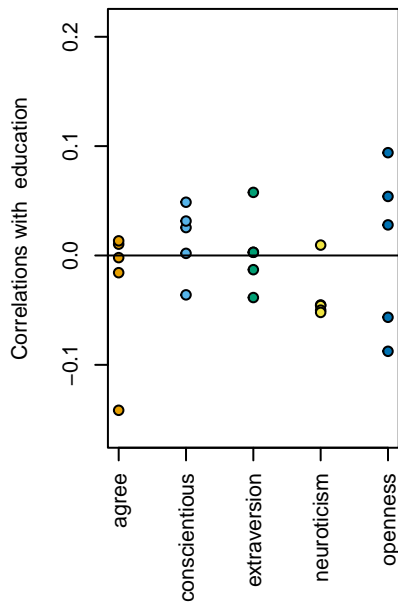
Manhattan Plot of gender**Manhattan Plot of education****Manhattan Plot of age****Manhattan Plot of gender****Manhattan Plot of education****Manhattan Plot of age**

help("manhattan")

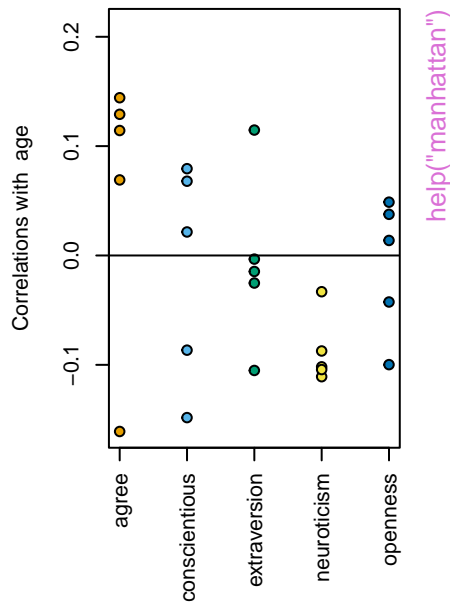
Manhattan Plot of gender



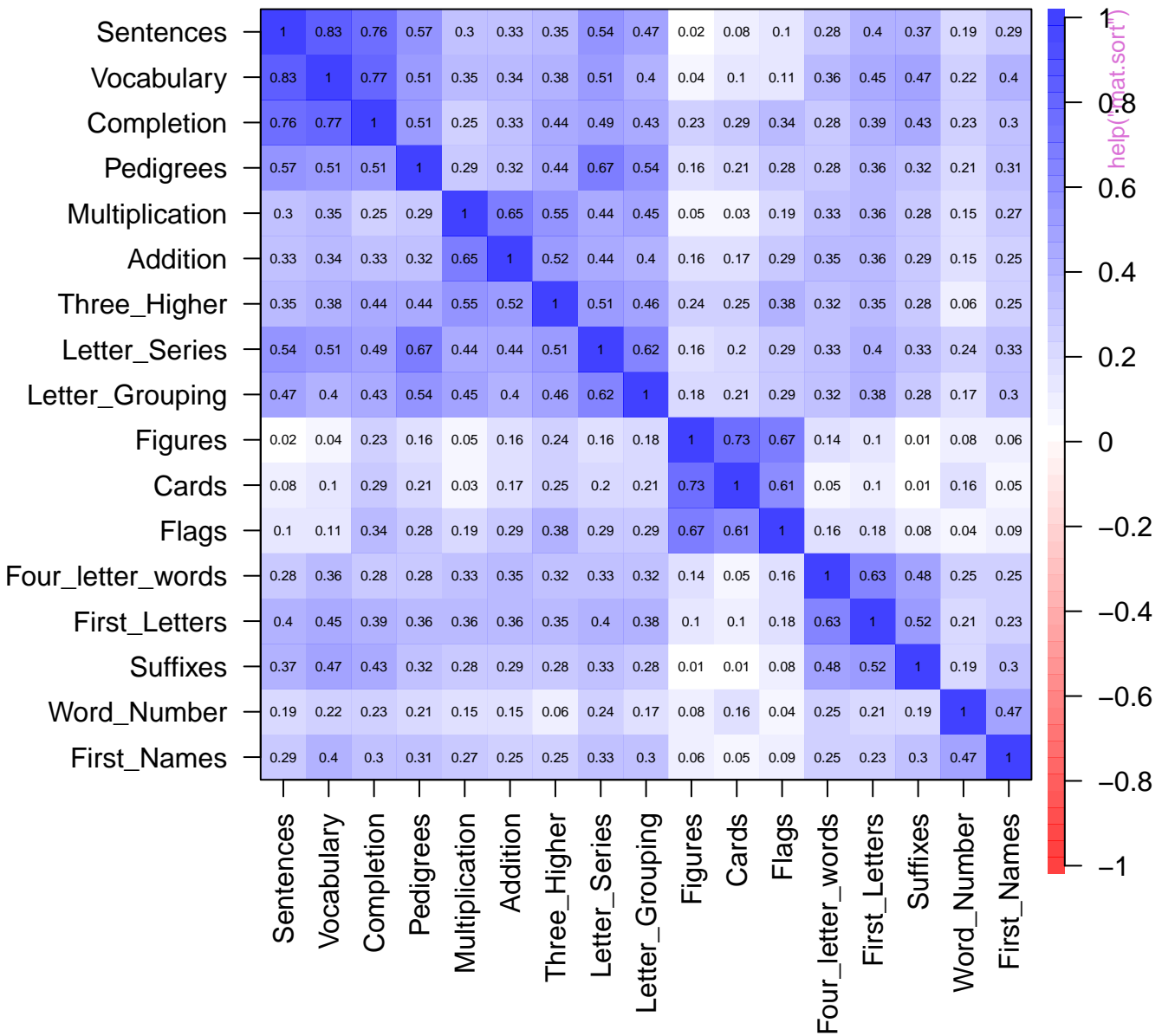
Manhattan Plot of education



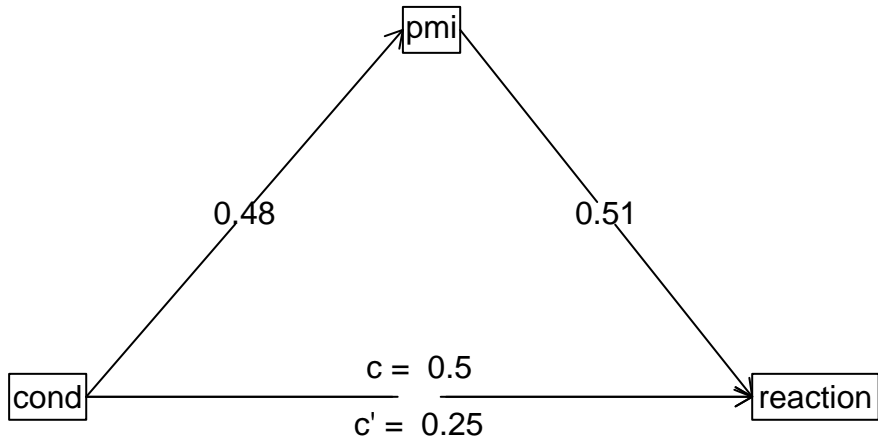
Manhattan Plot of age



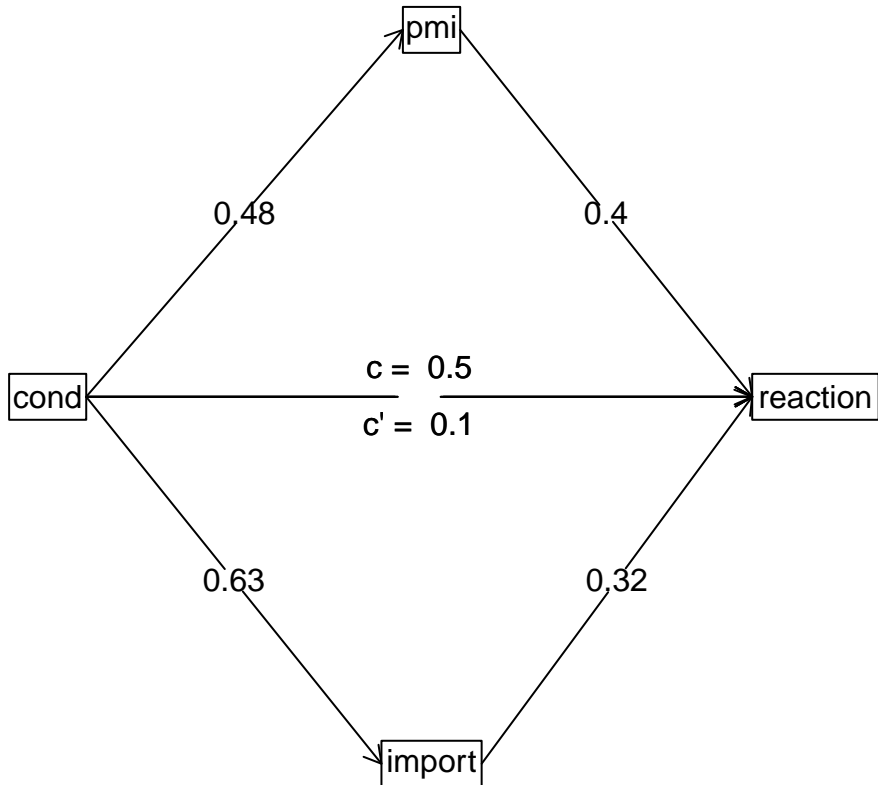
help("manhattan")



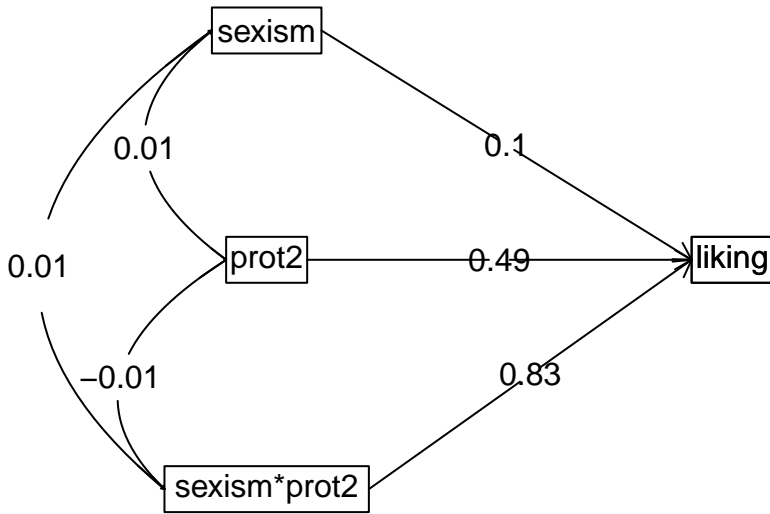
Mediation



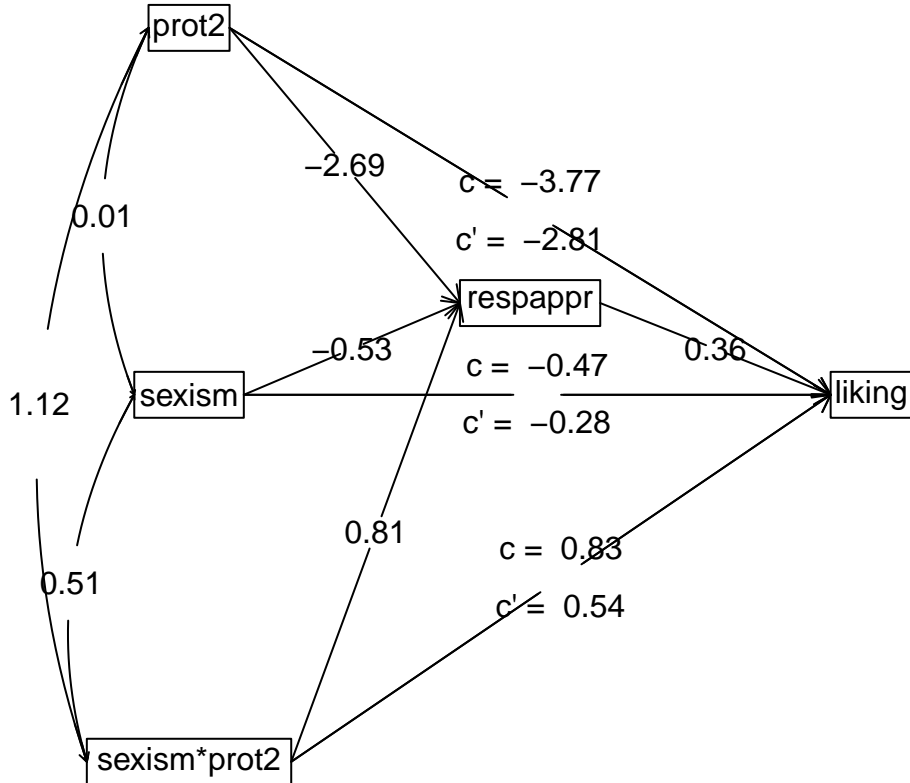
Mediation



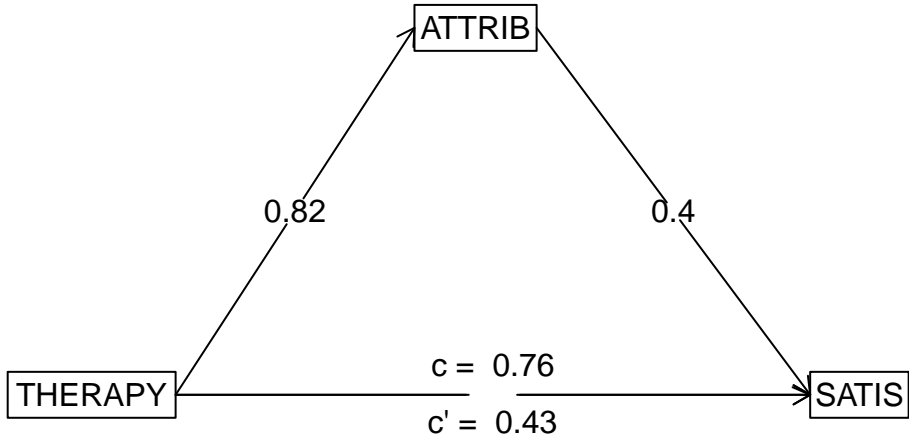
Moderation model



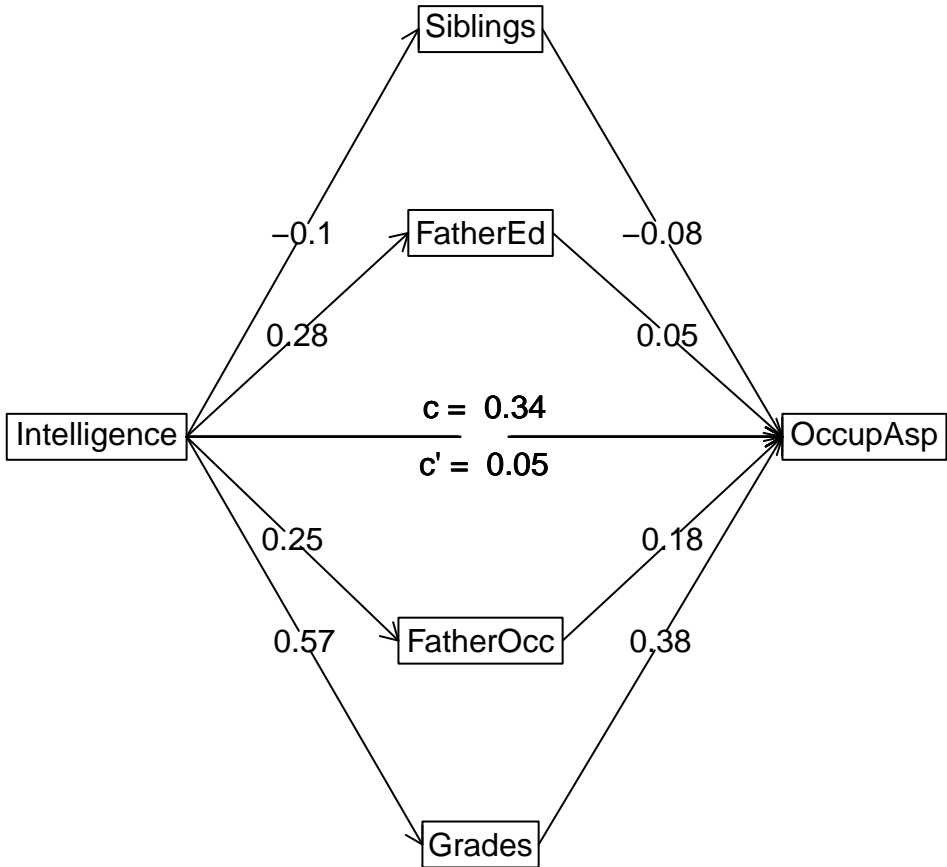
Mediation



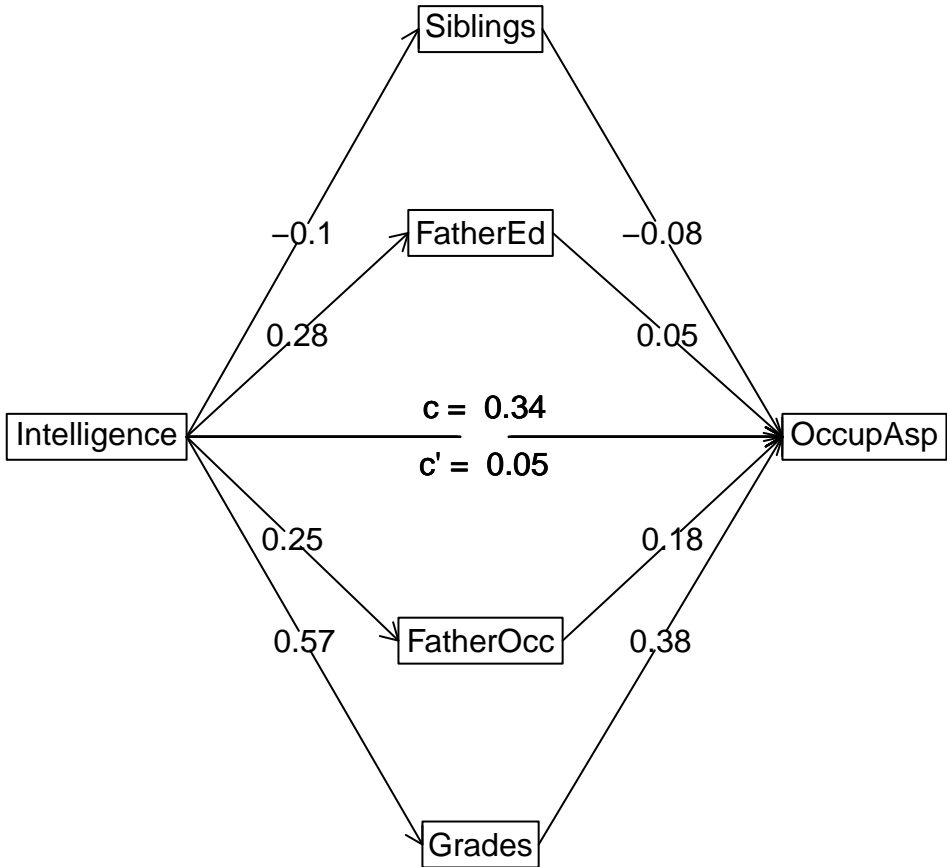
Mediation



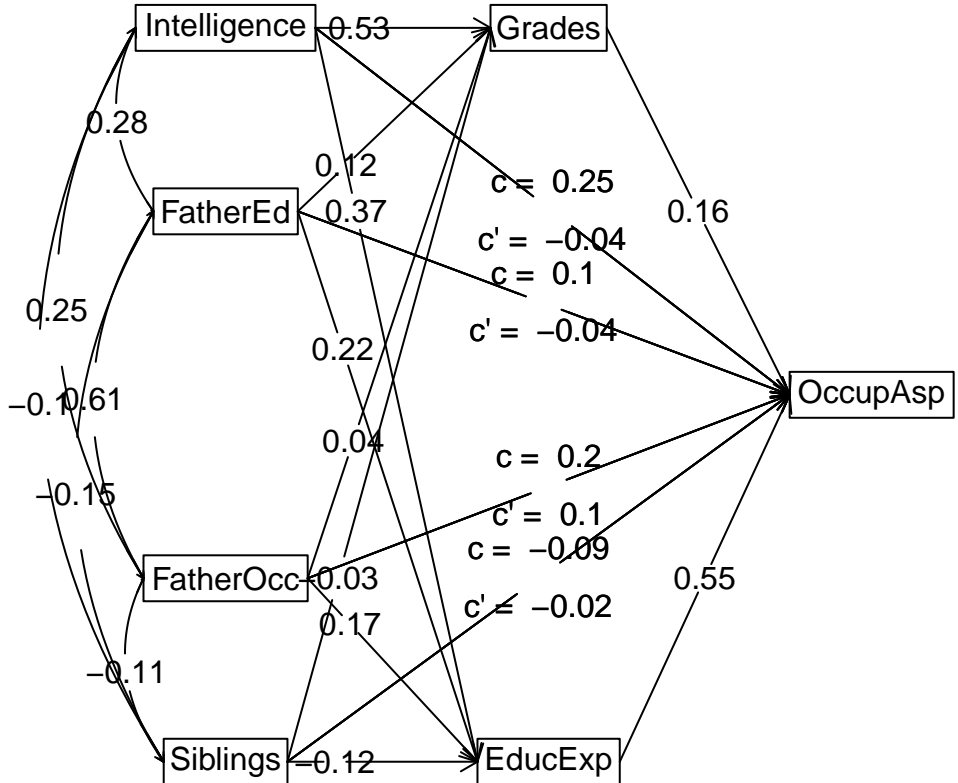
Mediation



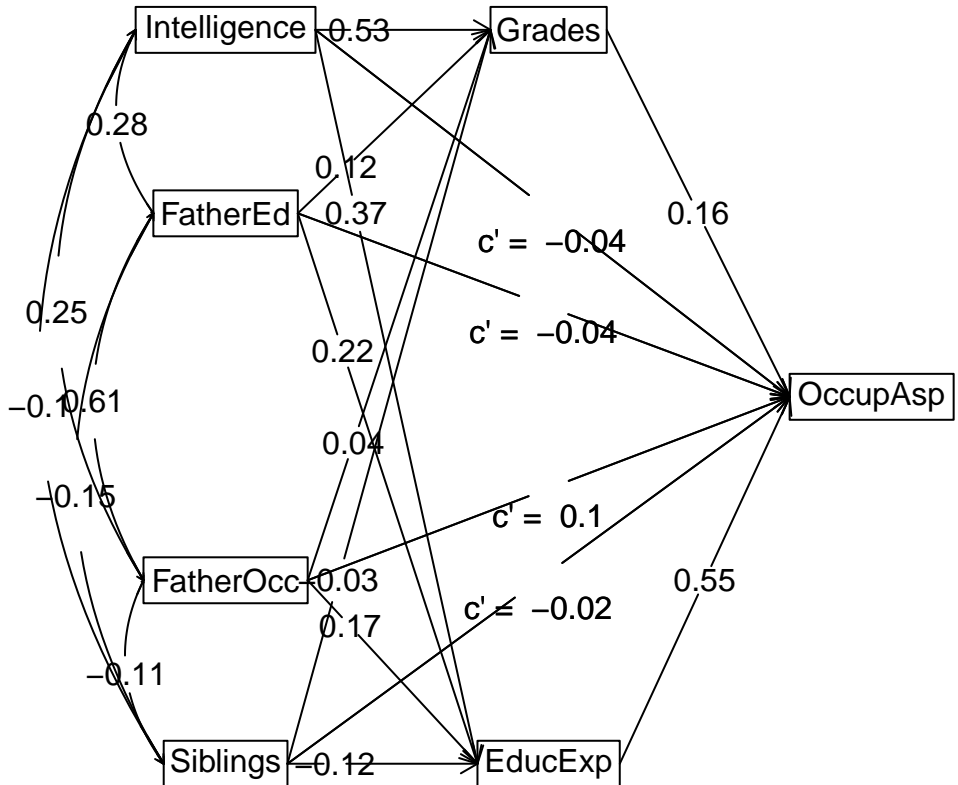
Mediation model



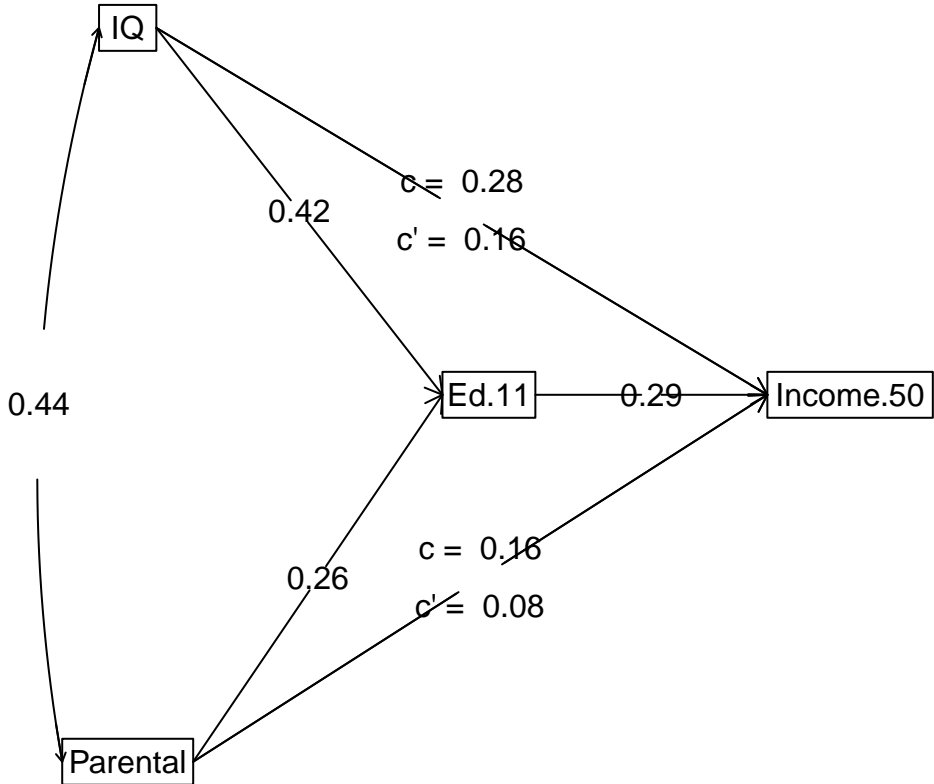
Mediation



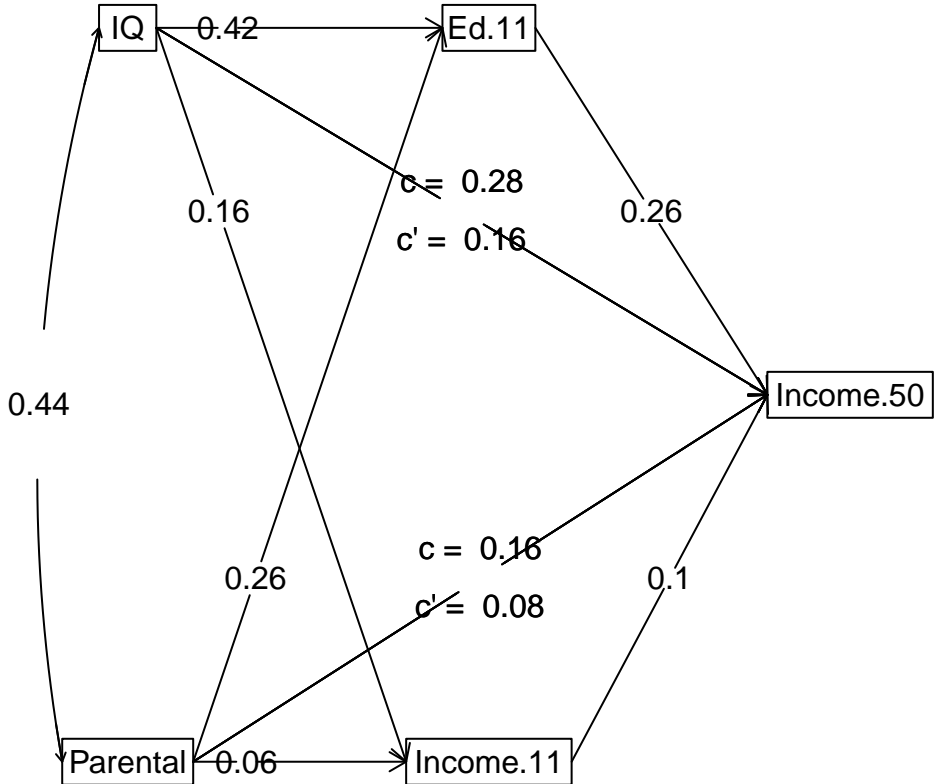
Mediation model



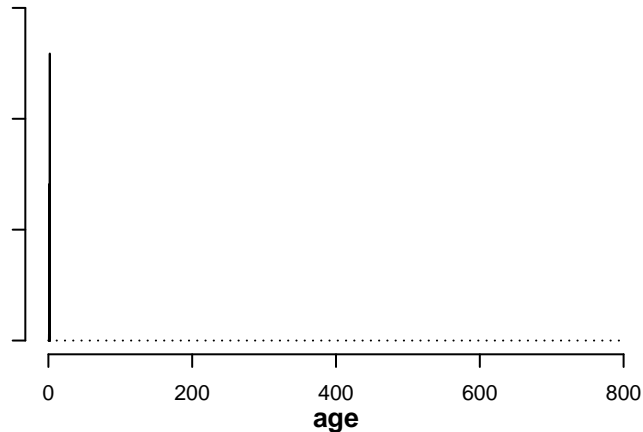
Mediation



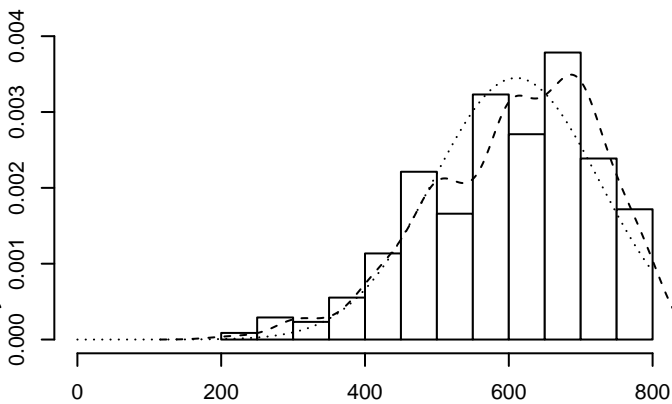
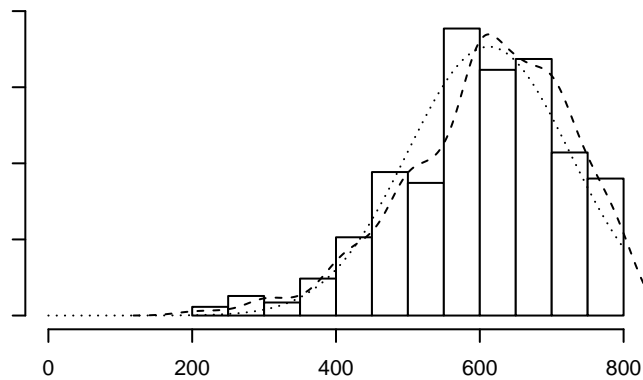
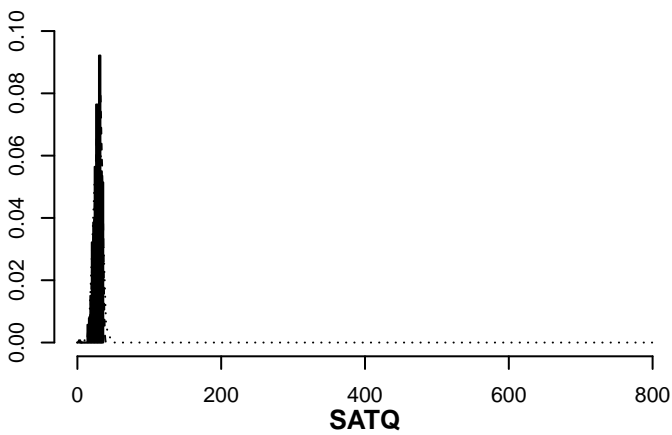
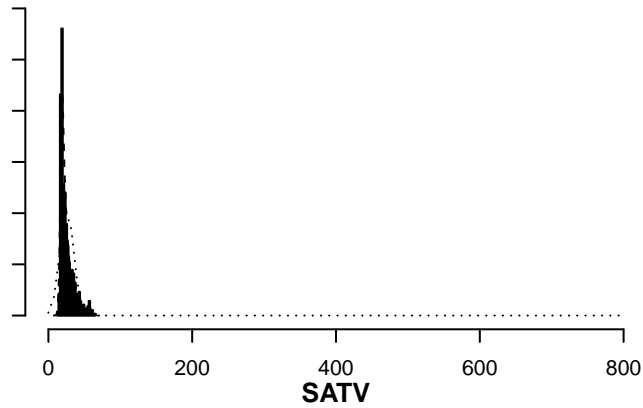
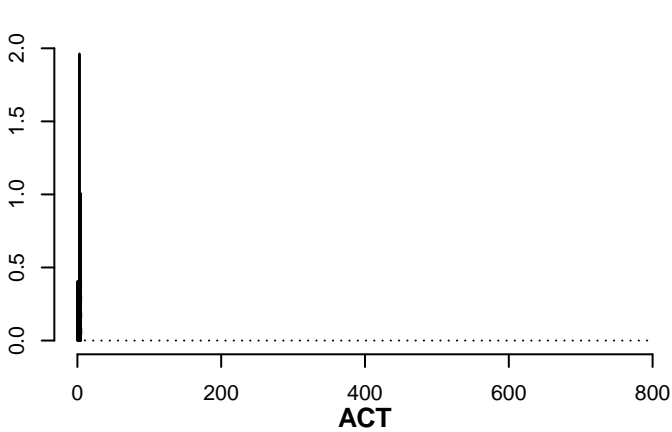
Mediation



gender

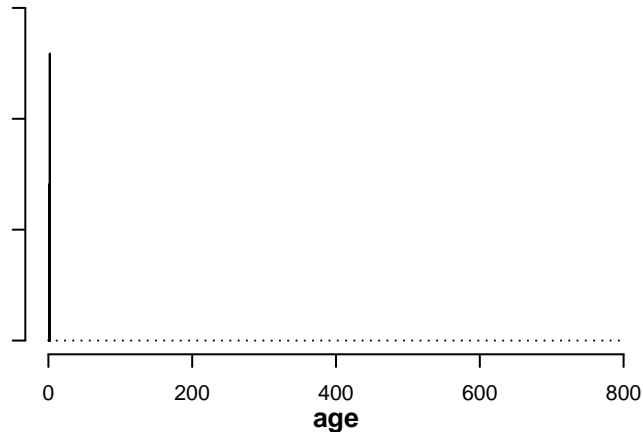


education

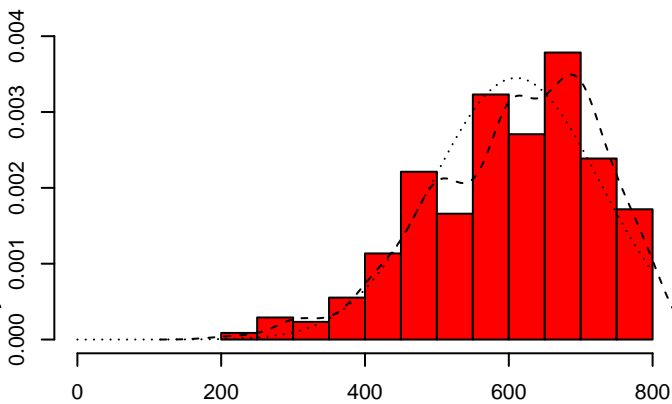
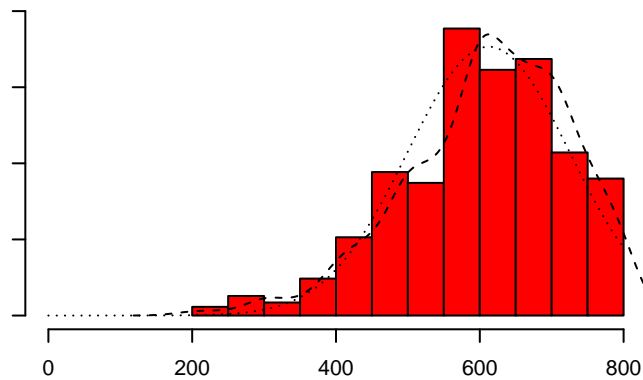
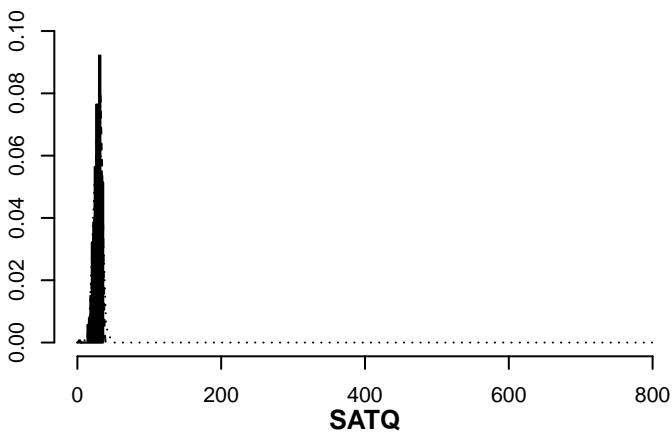
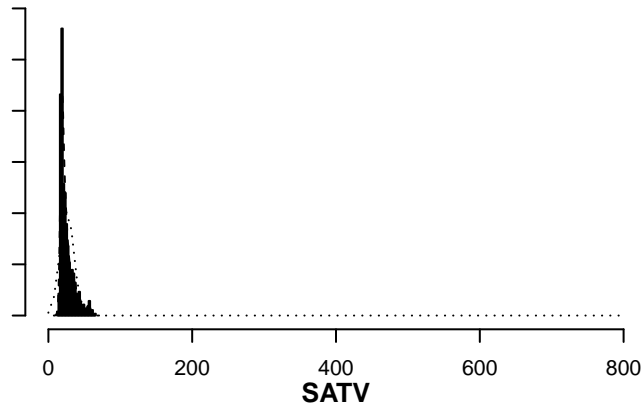
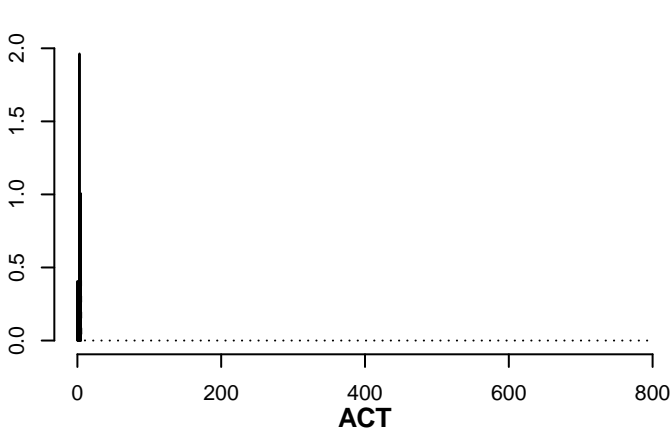


help("multi.hist")

gender

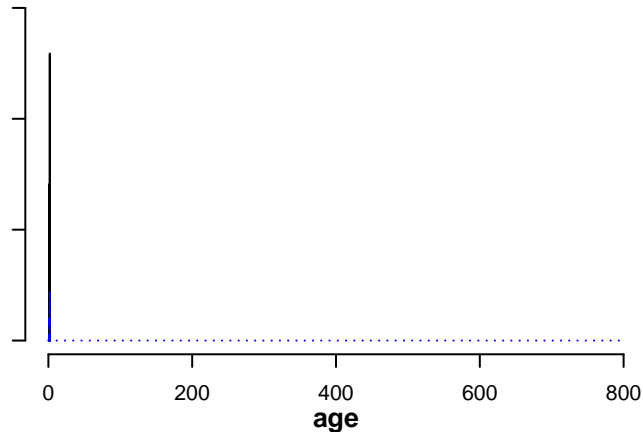


education

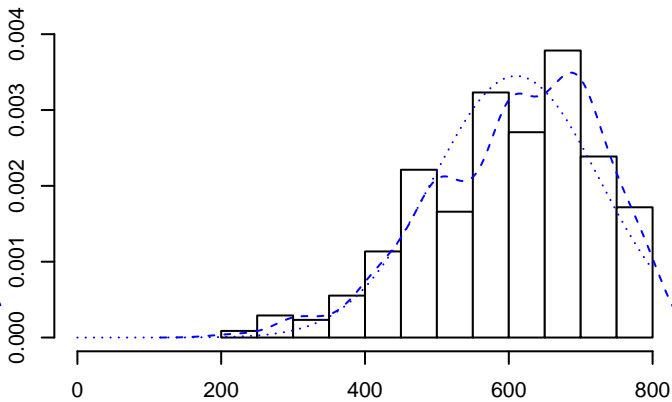
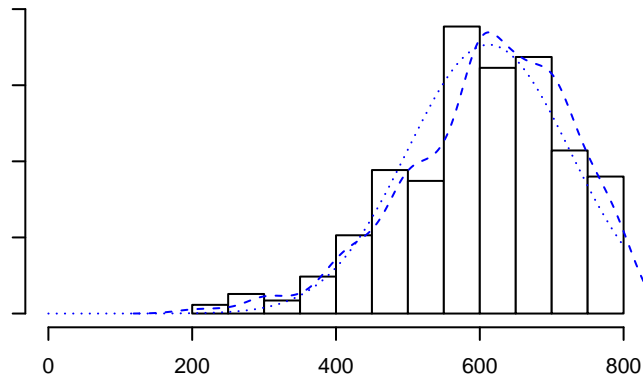
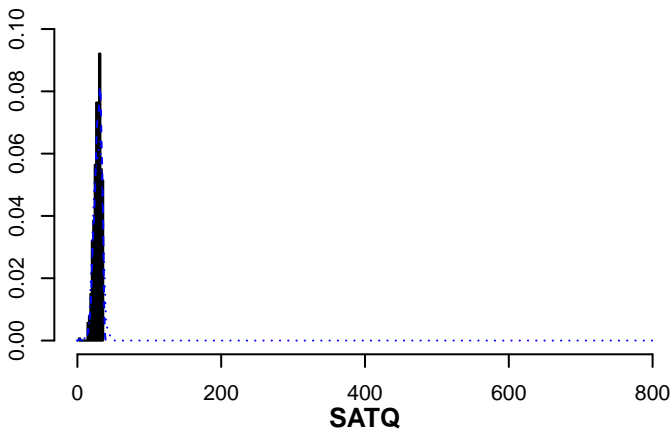
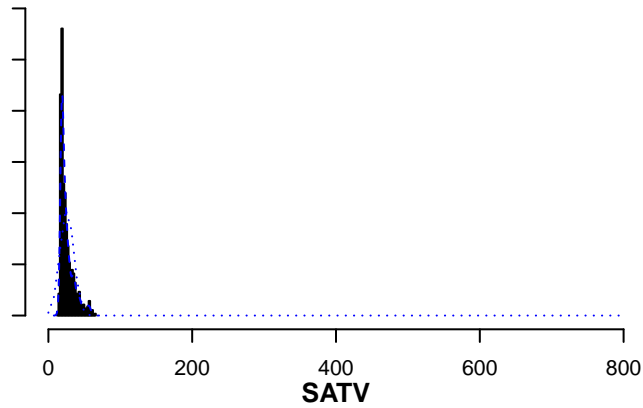
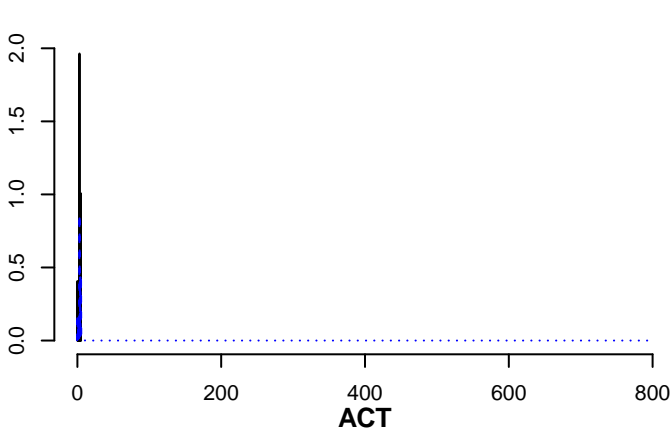


help("multi.hist")

gender

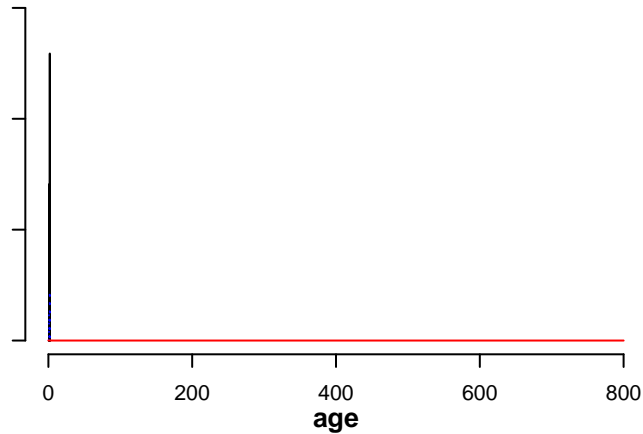


education

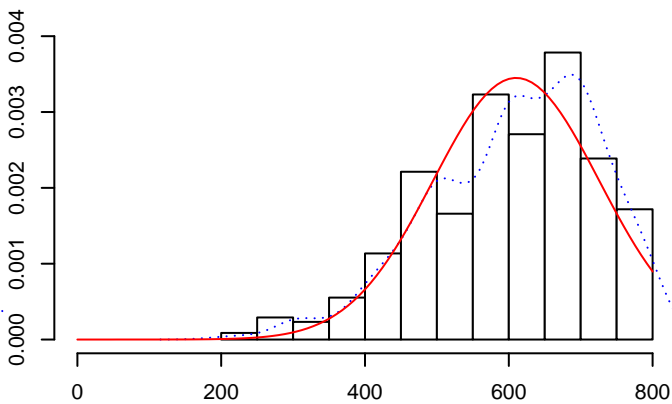
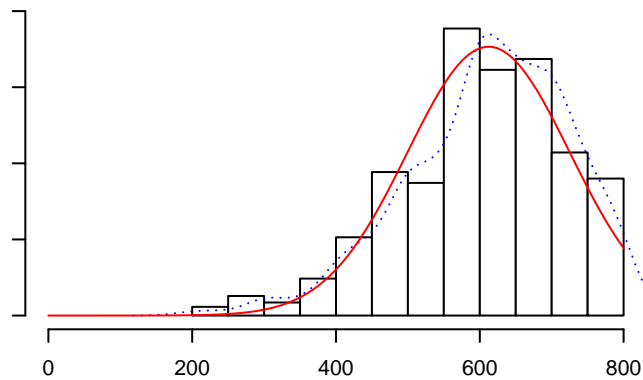
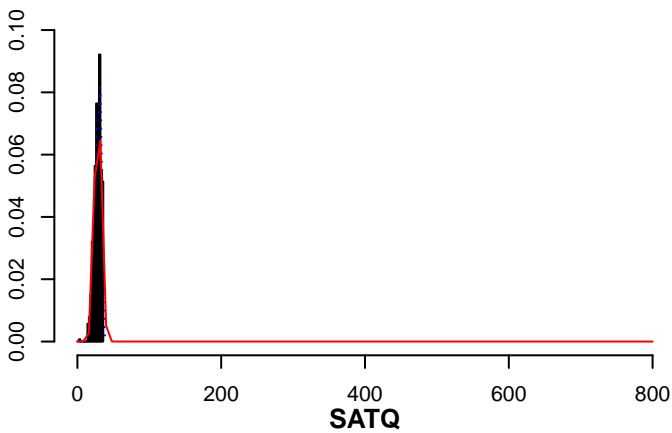
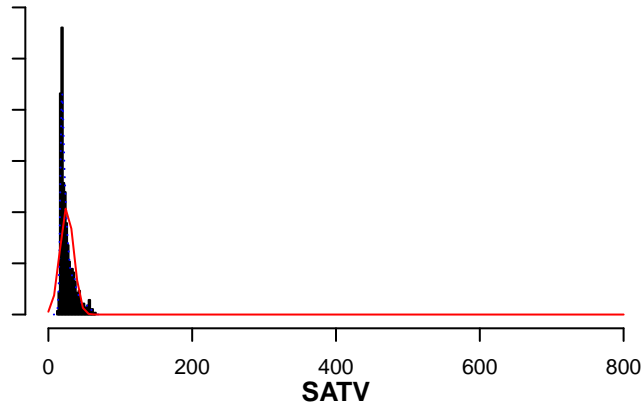
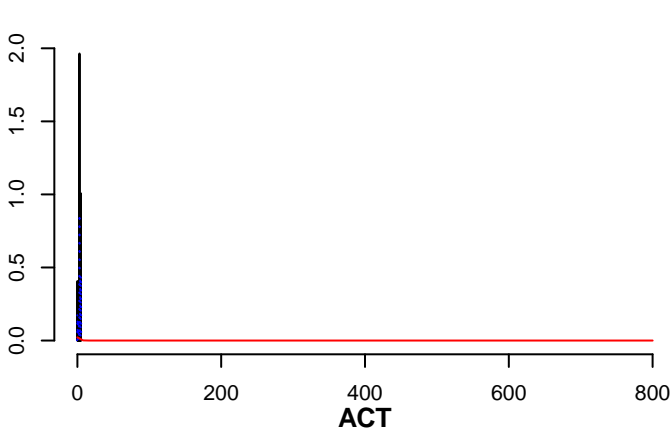


help("multi.hist")

gender

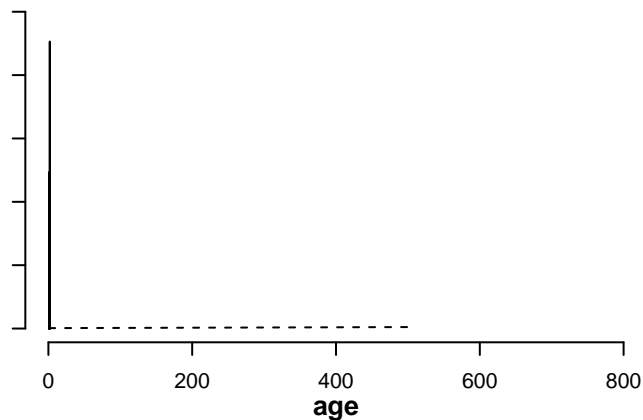


education

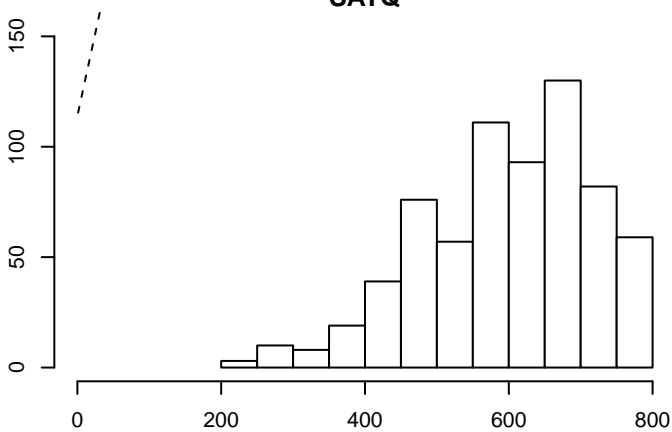
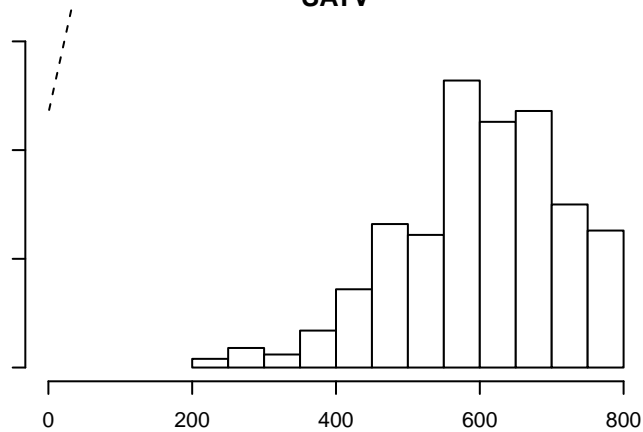
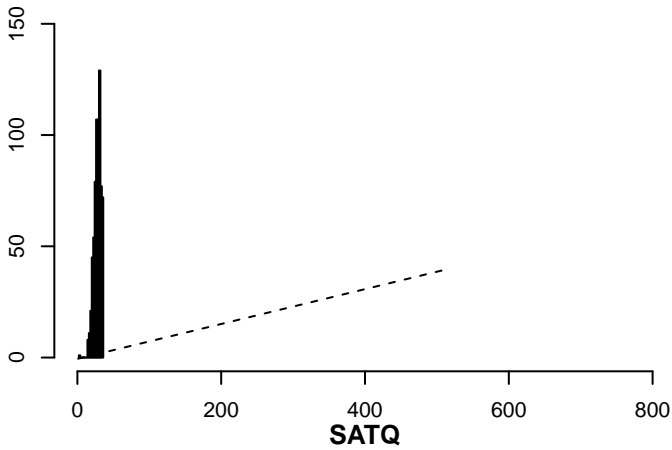
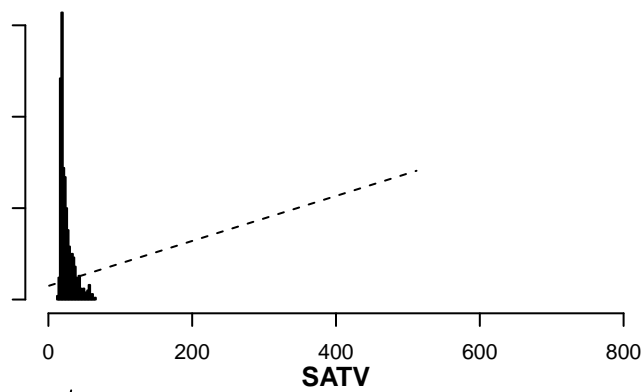
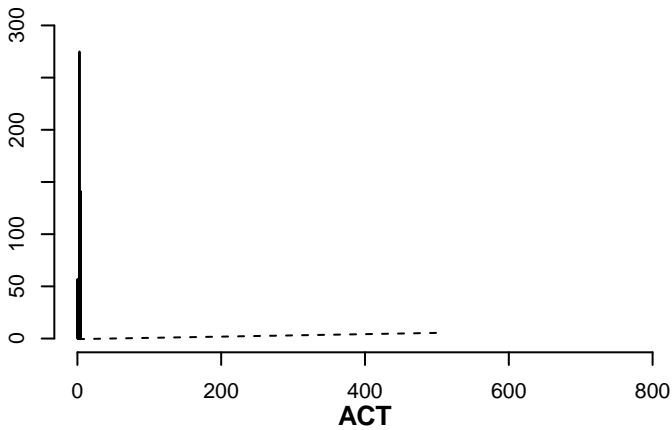


help("multi.hist")

gender



education

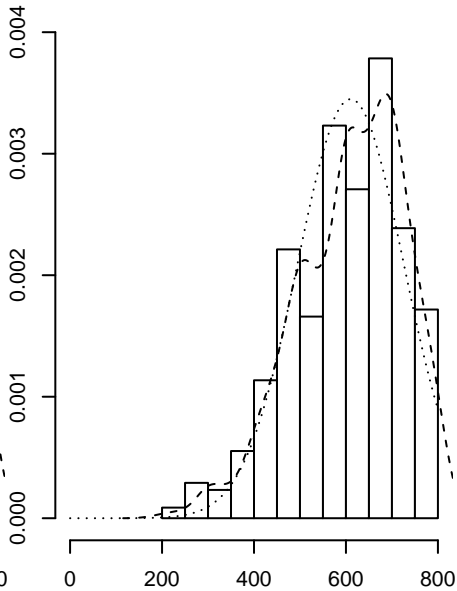
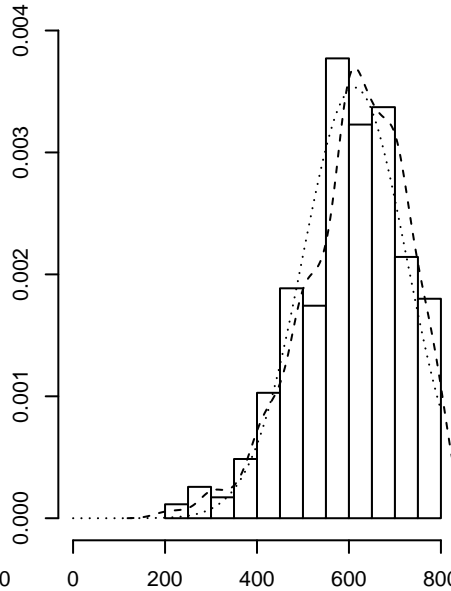
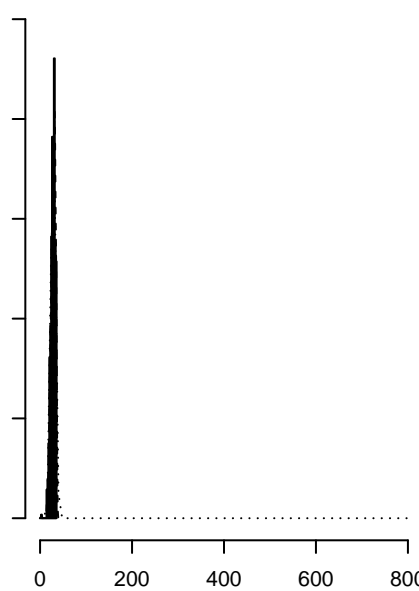
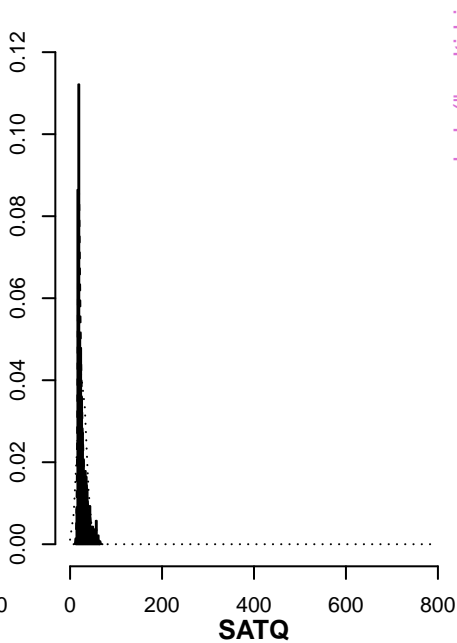
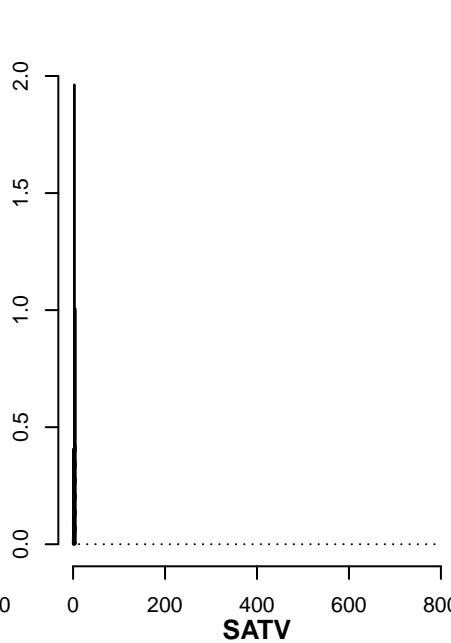
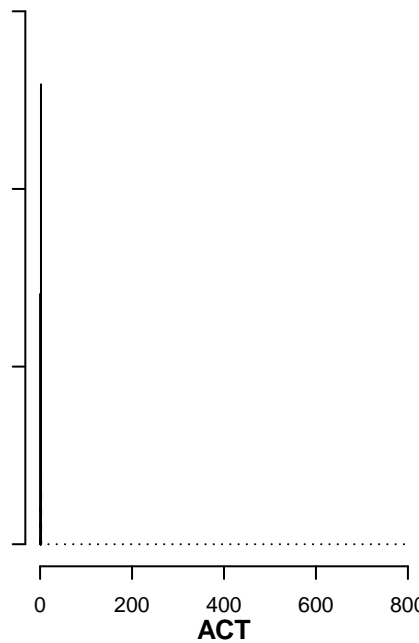


help("multi.hist")

gender

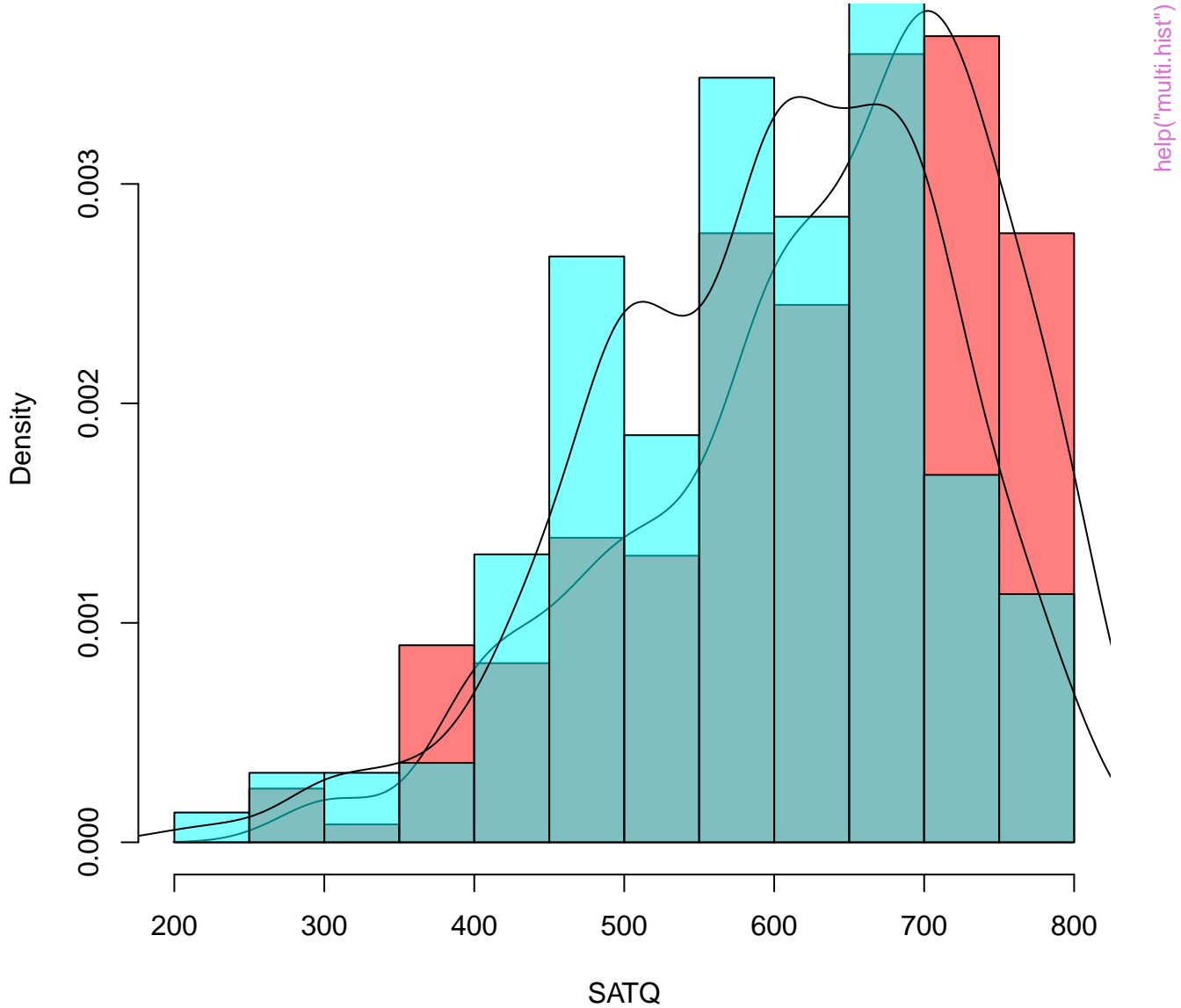
education

age

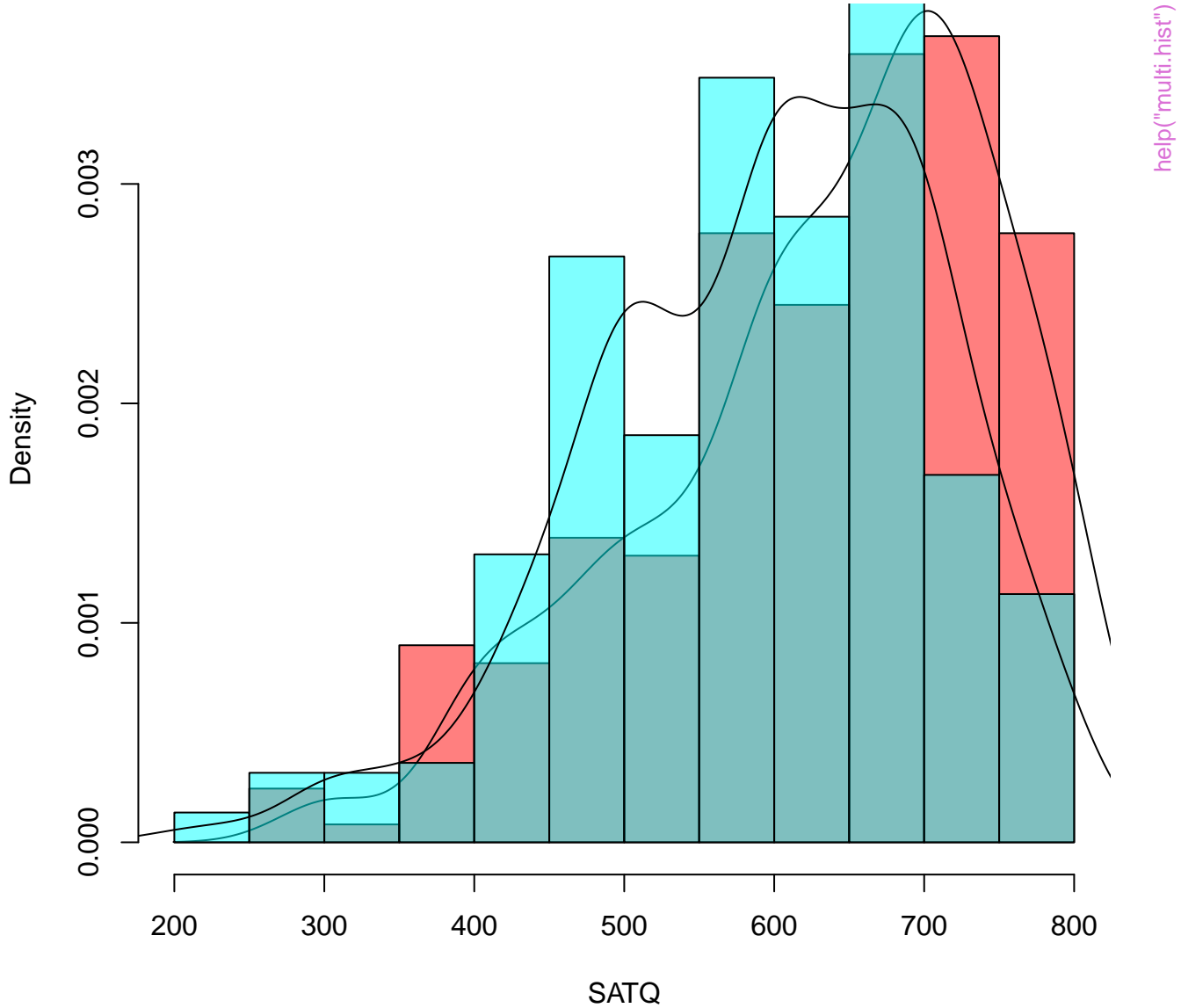


help("multi.hist")

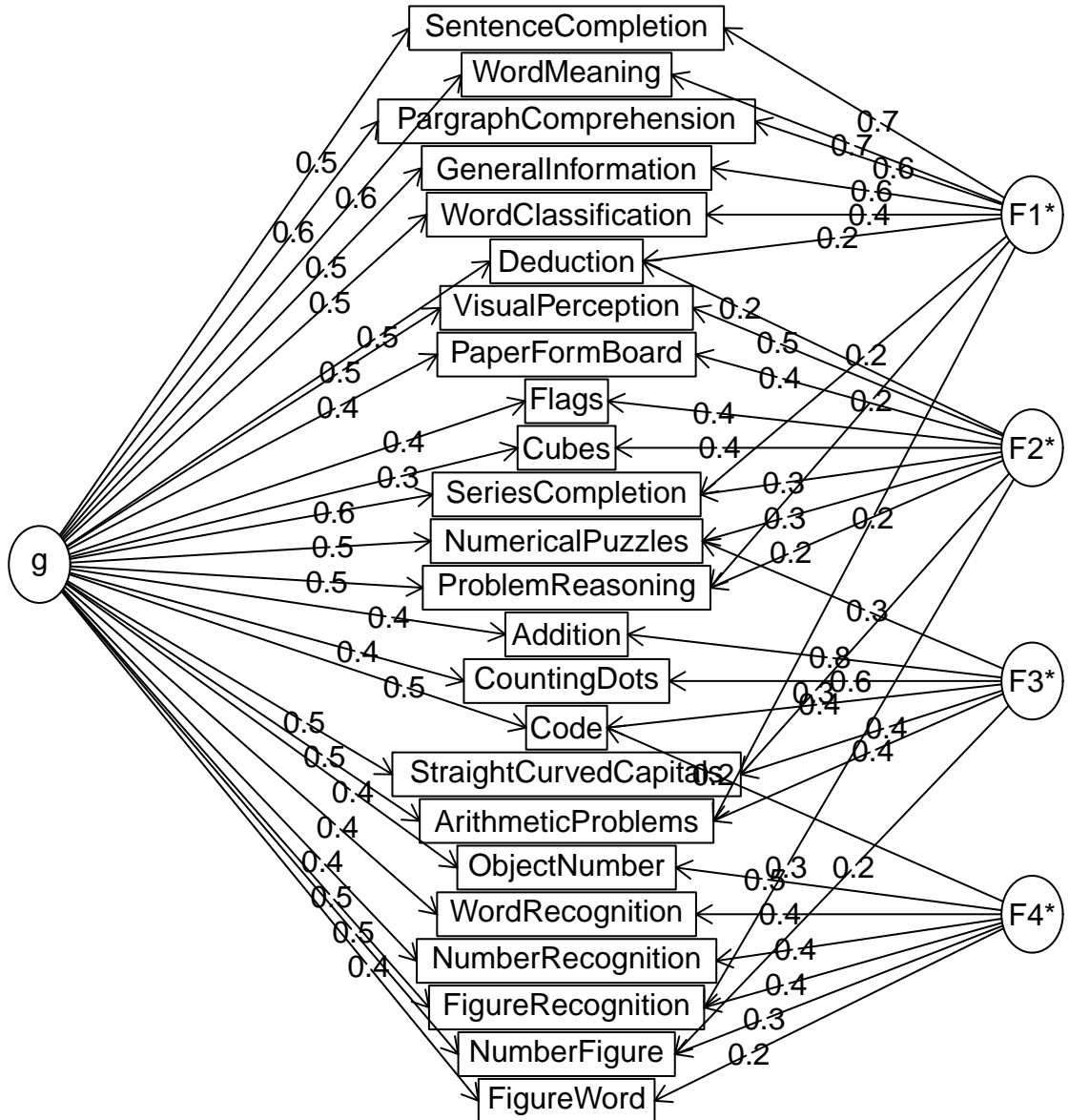
Histograms by group



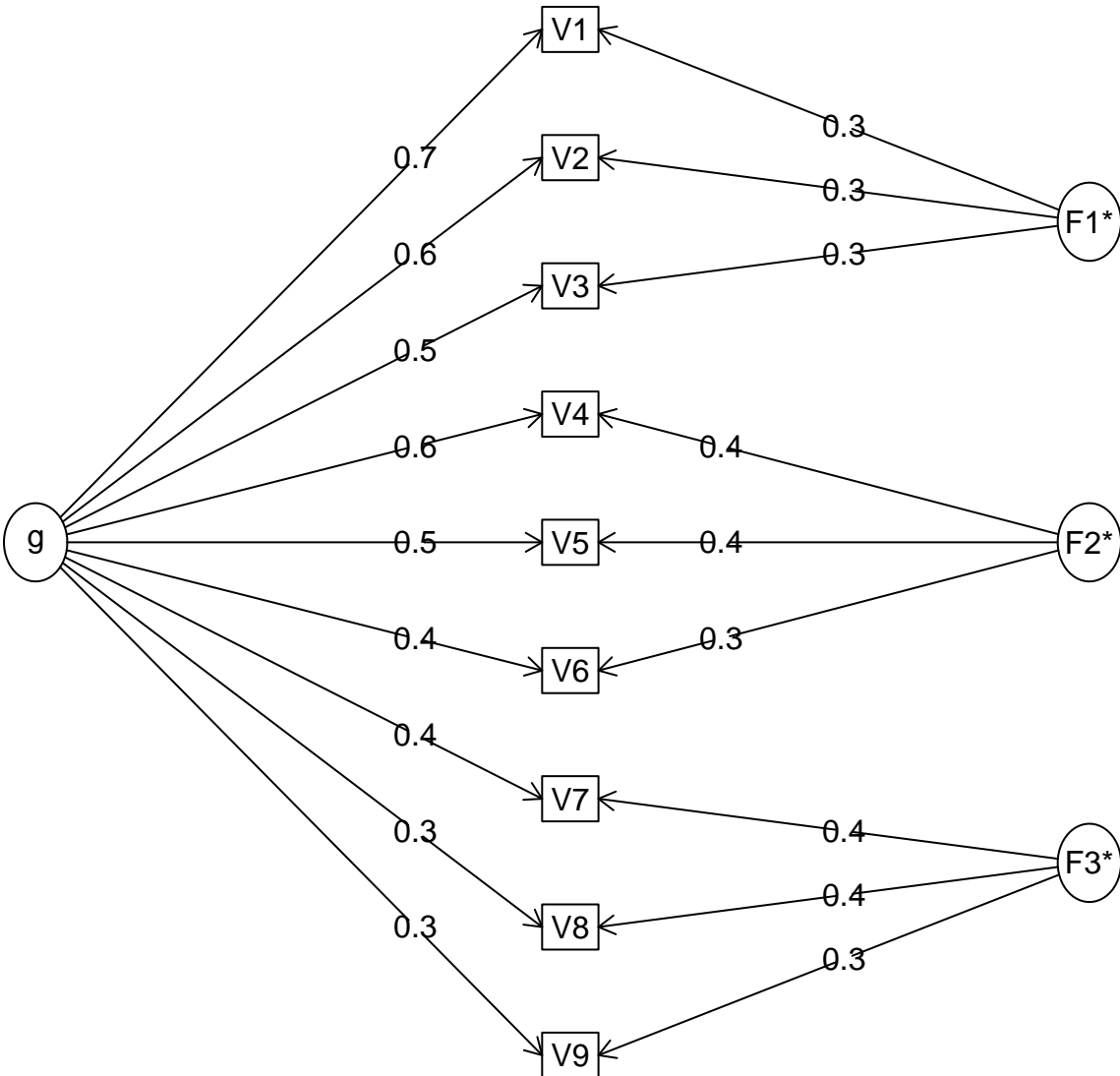
Histograms by group



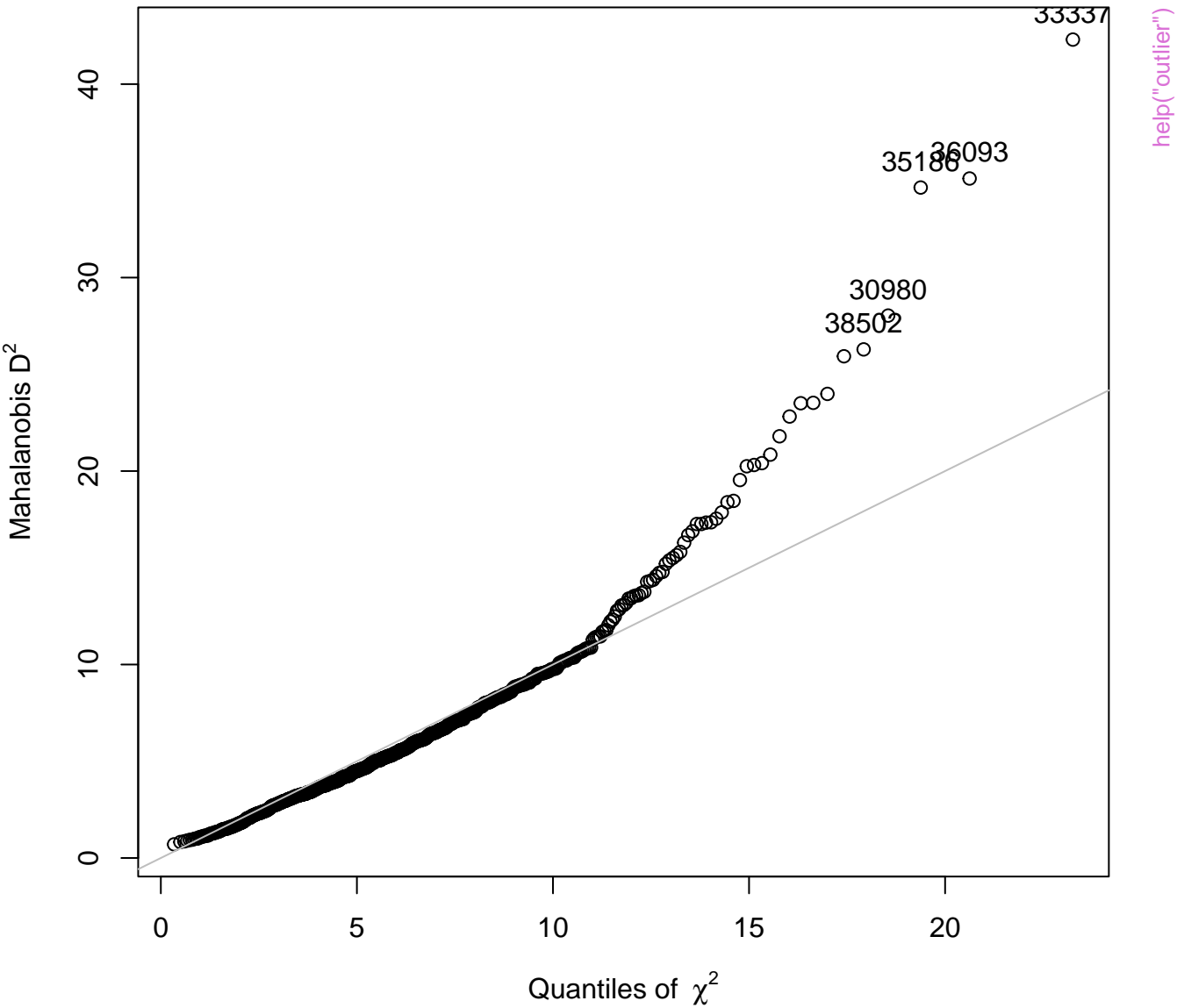
Omega

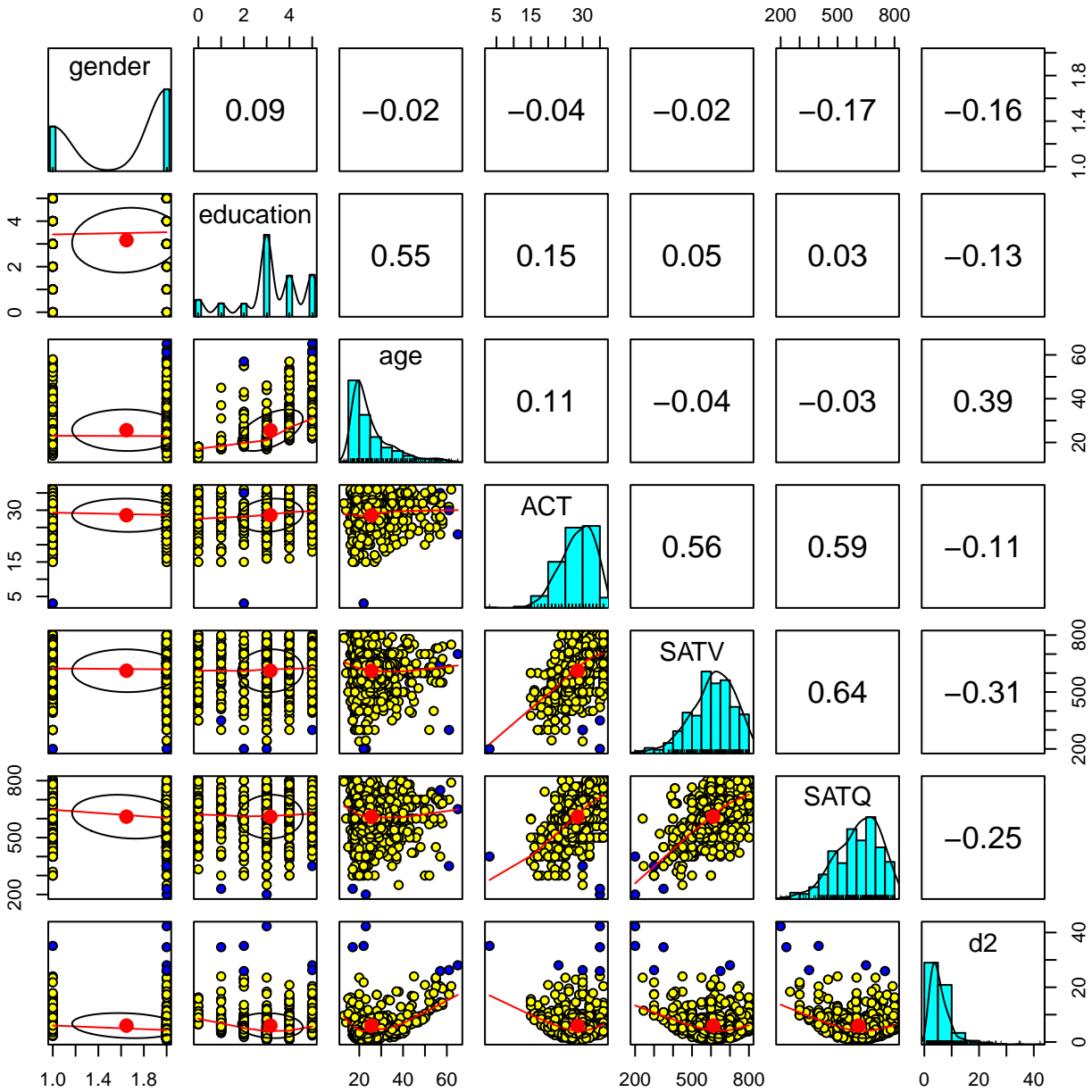


Omega

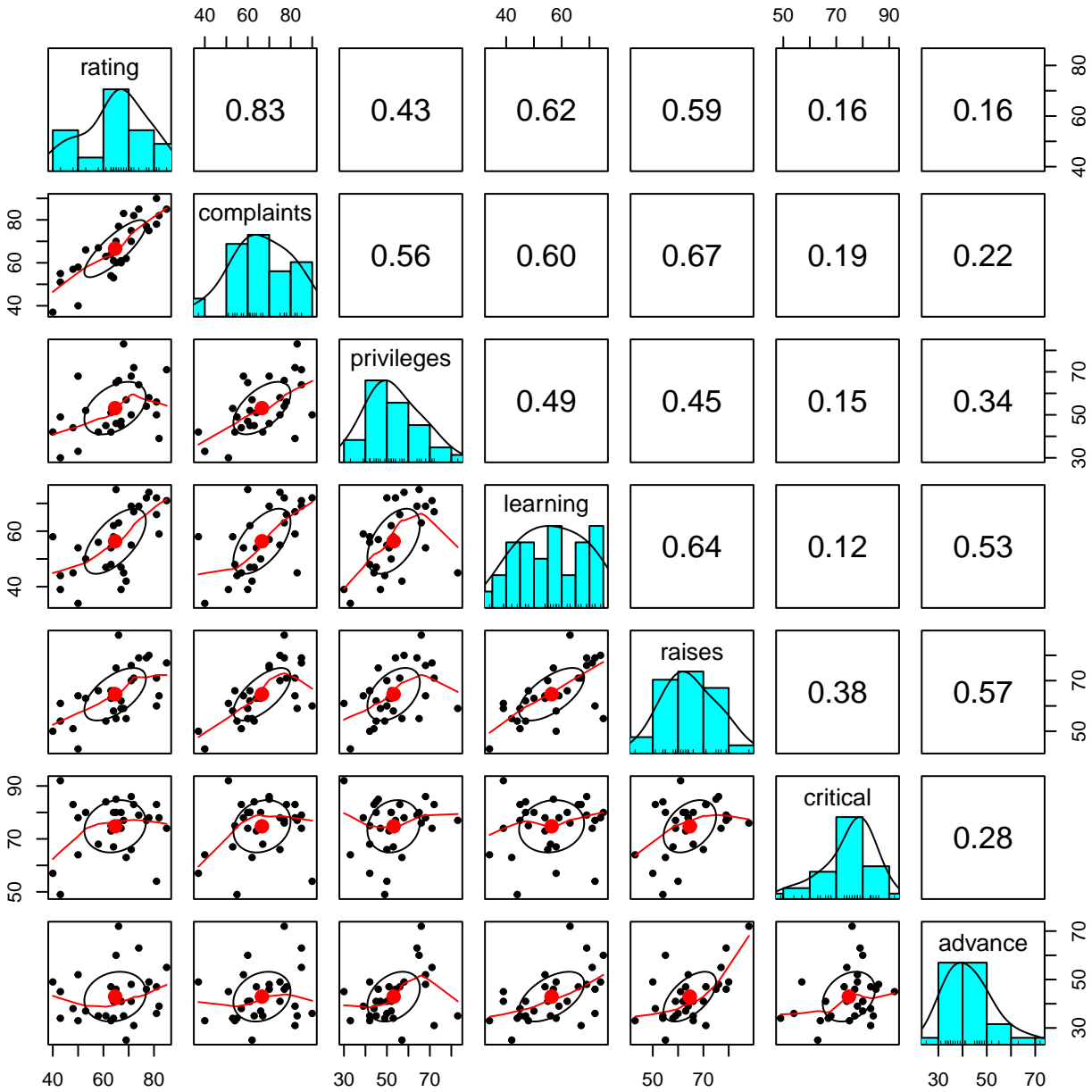


Q-Q plot of Mahalanobis D^2 vs. quantiles of χ^2_{nvar}



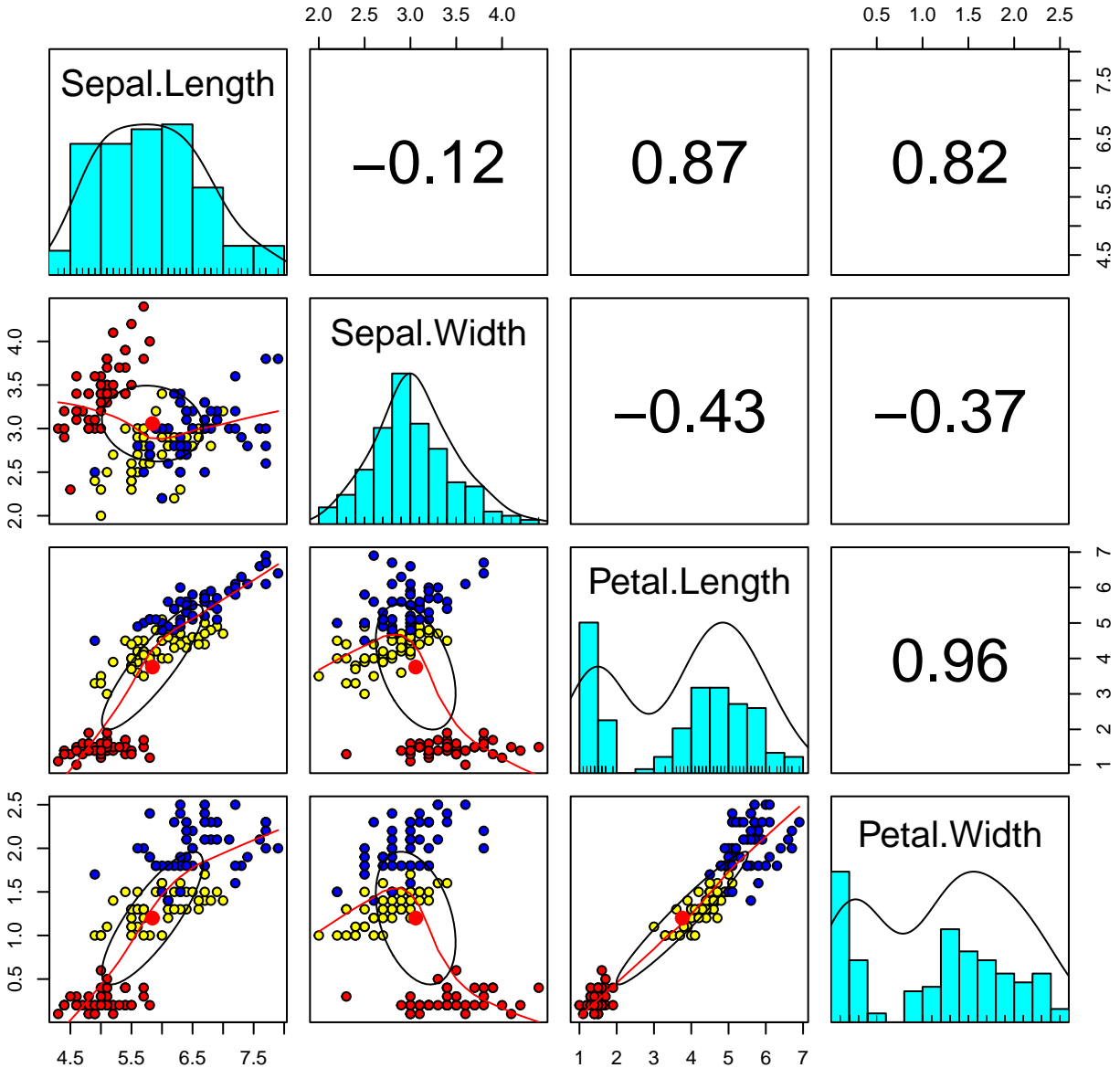


help("outlier")



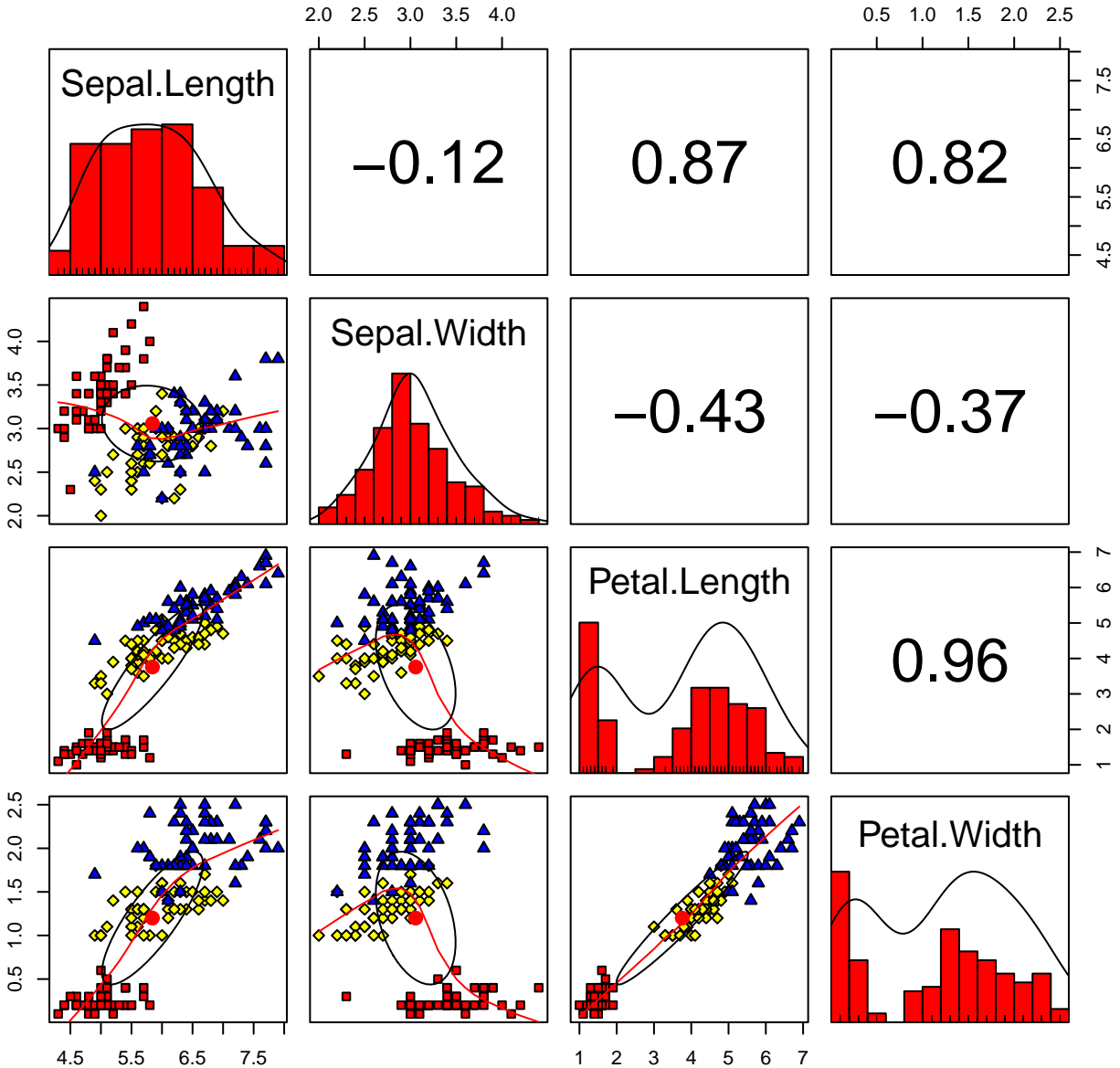
help("pairs.panels")

Fisher Iris data by Species



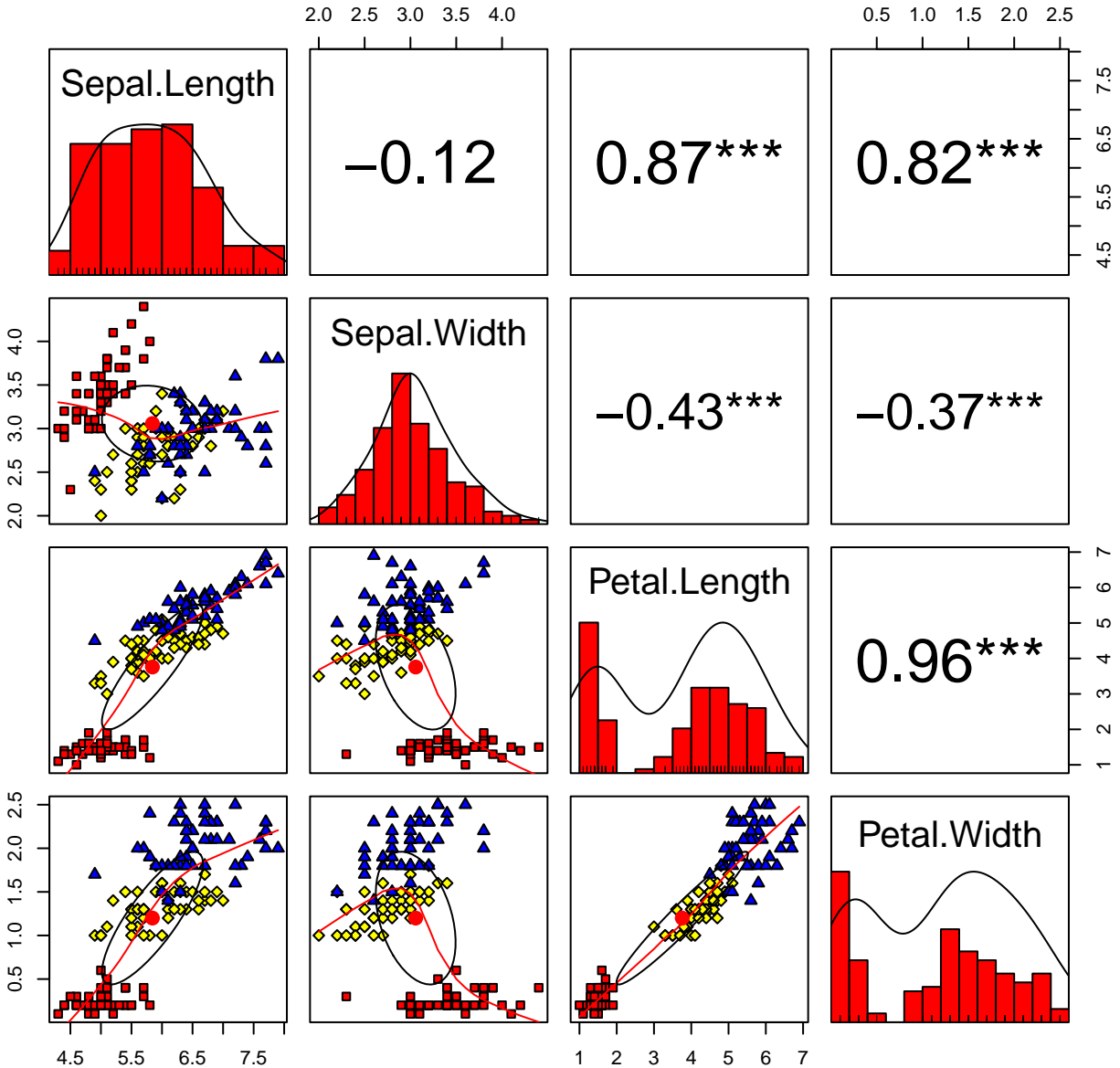
help("pairs.panels")

Fisher Iris data by Species

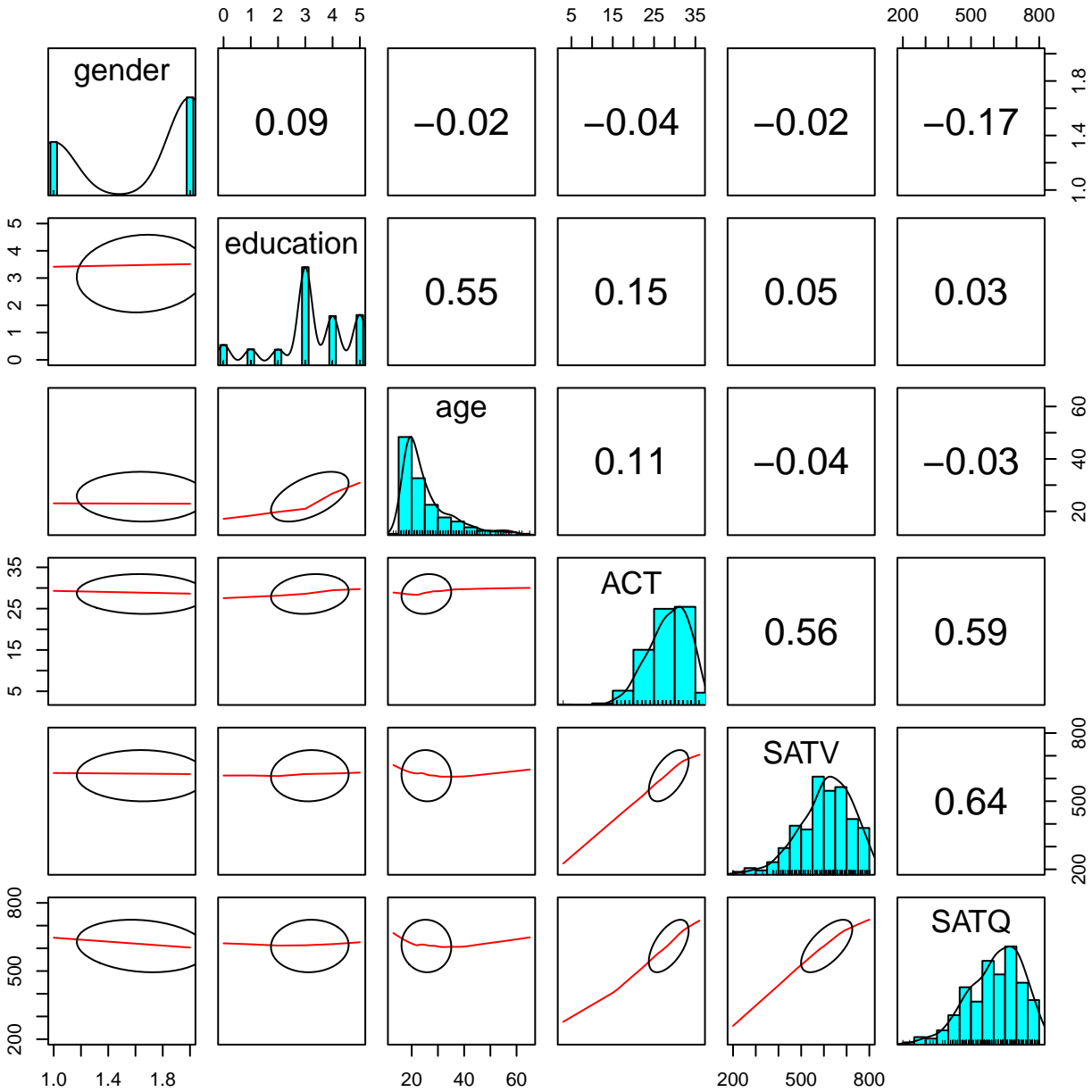


help("pairs.panels")

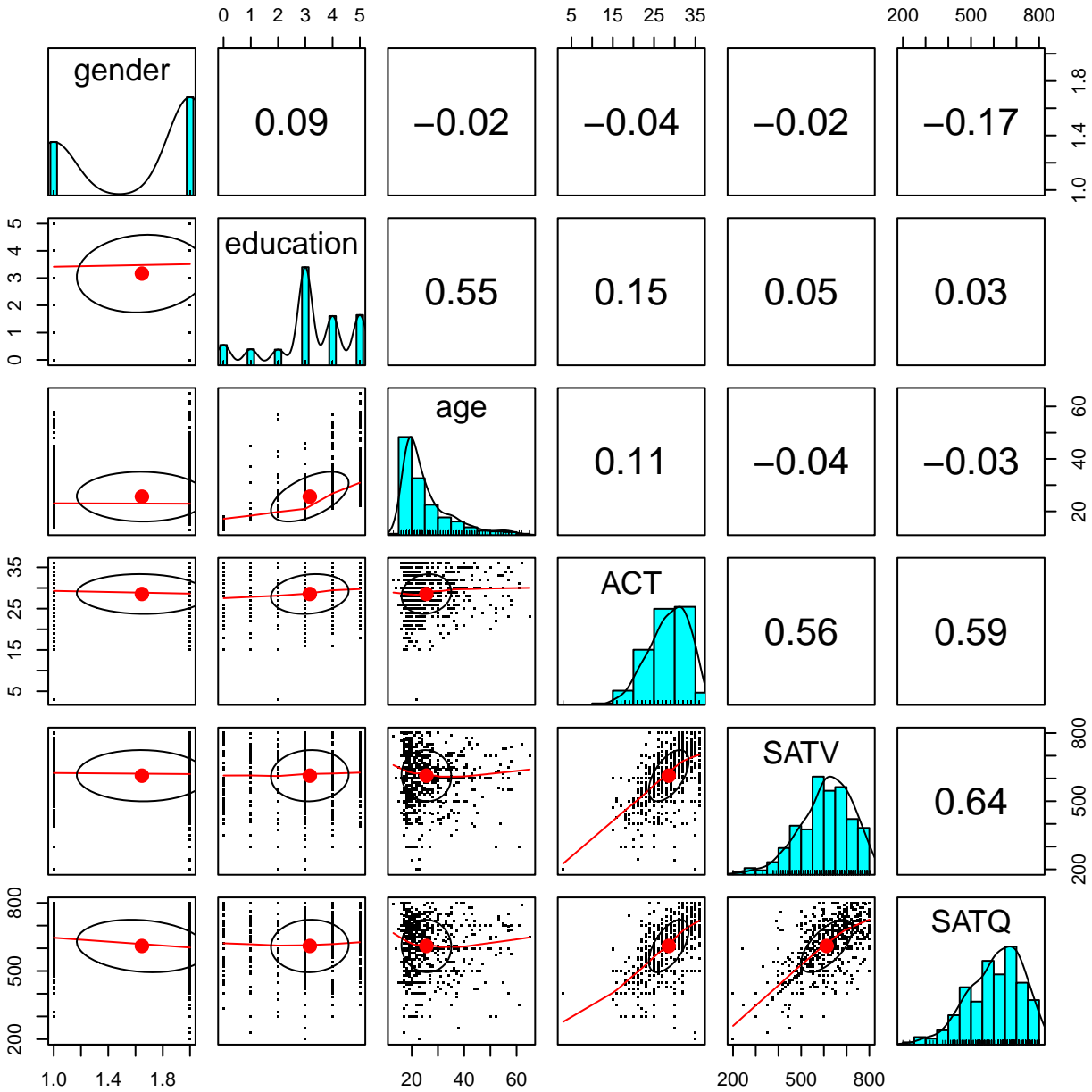
Fisher Iris data by Species



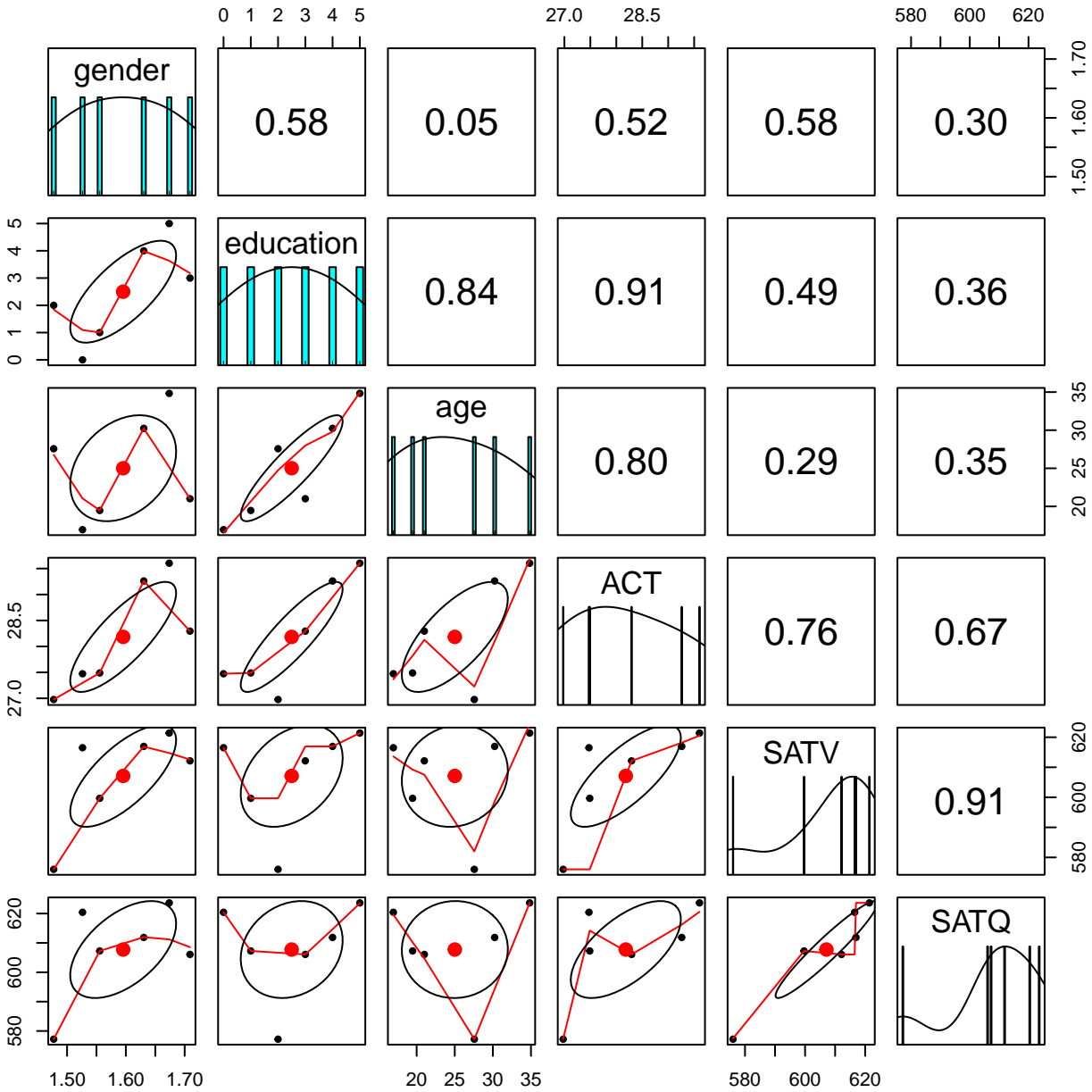
help("pairs:panels")



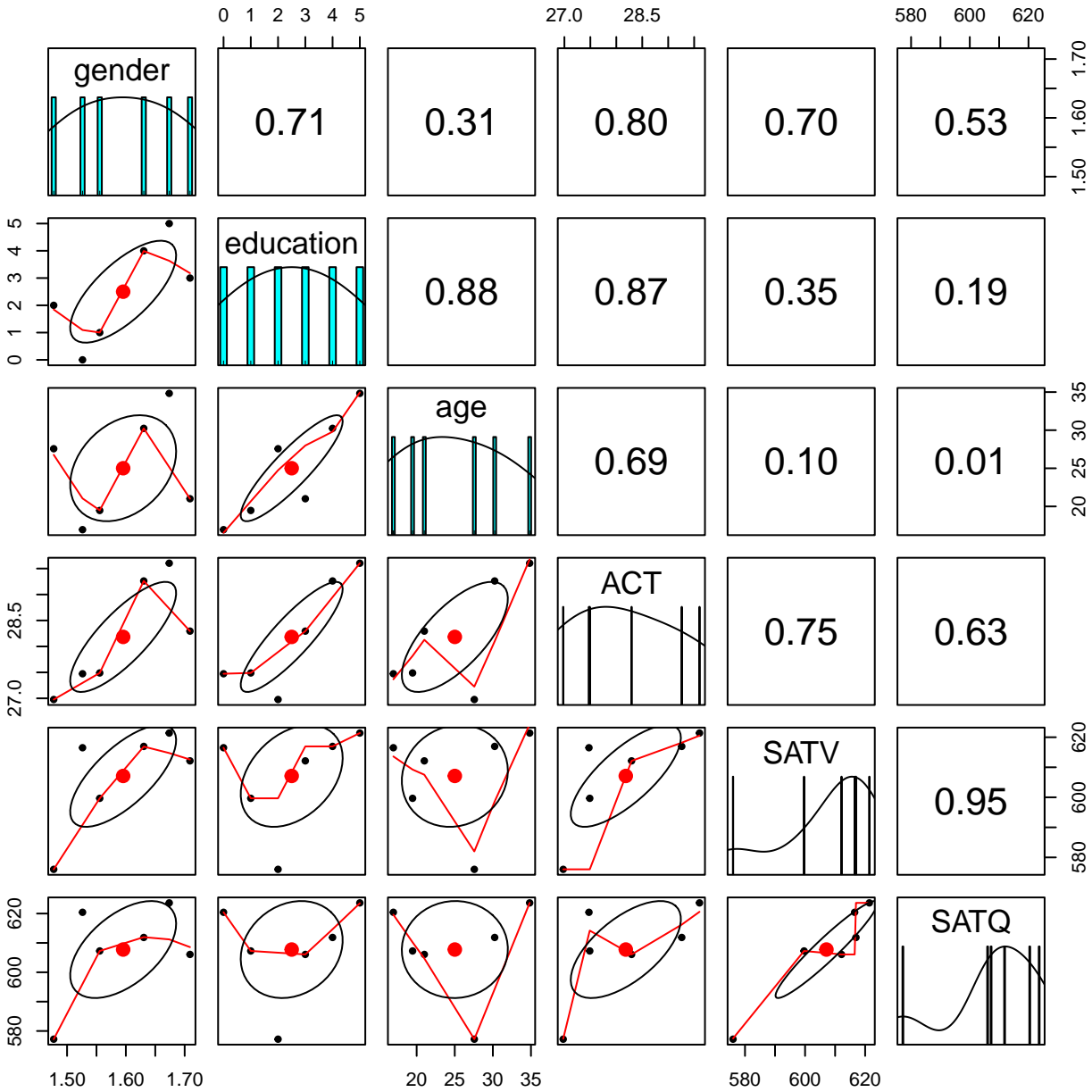
help("pairs.panels")



help("pairs.panels")

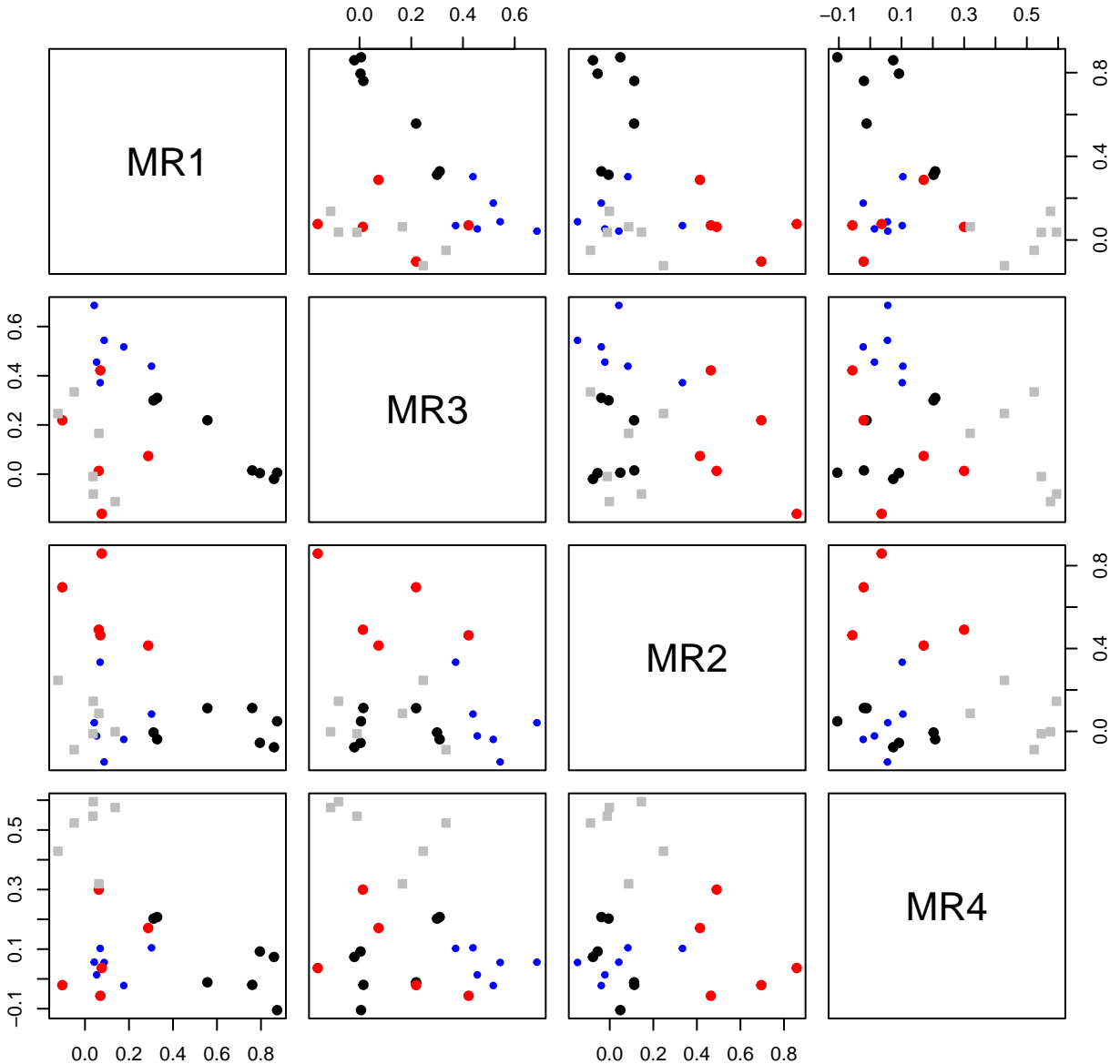


help("pairs.panels")



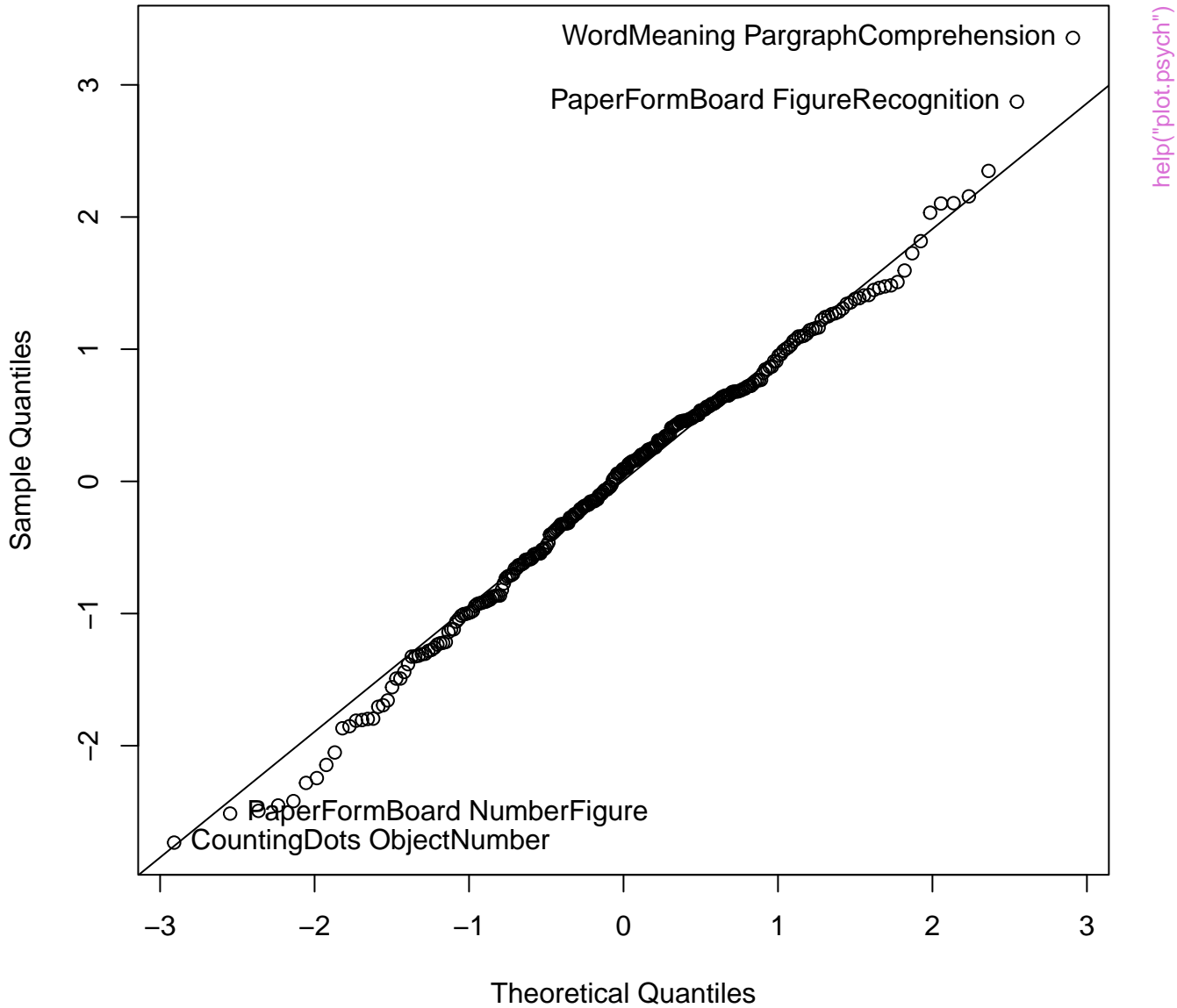
help("pairs.panels")

Factor Analysis

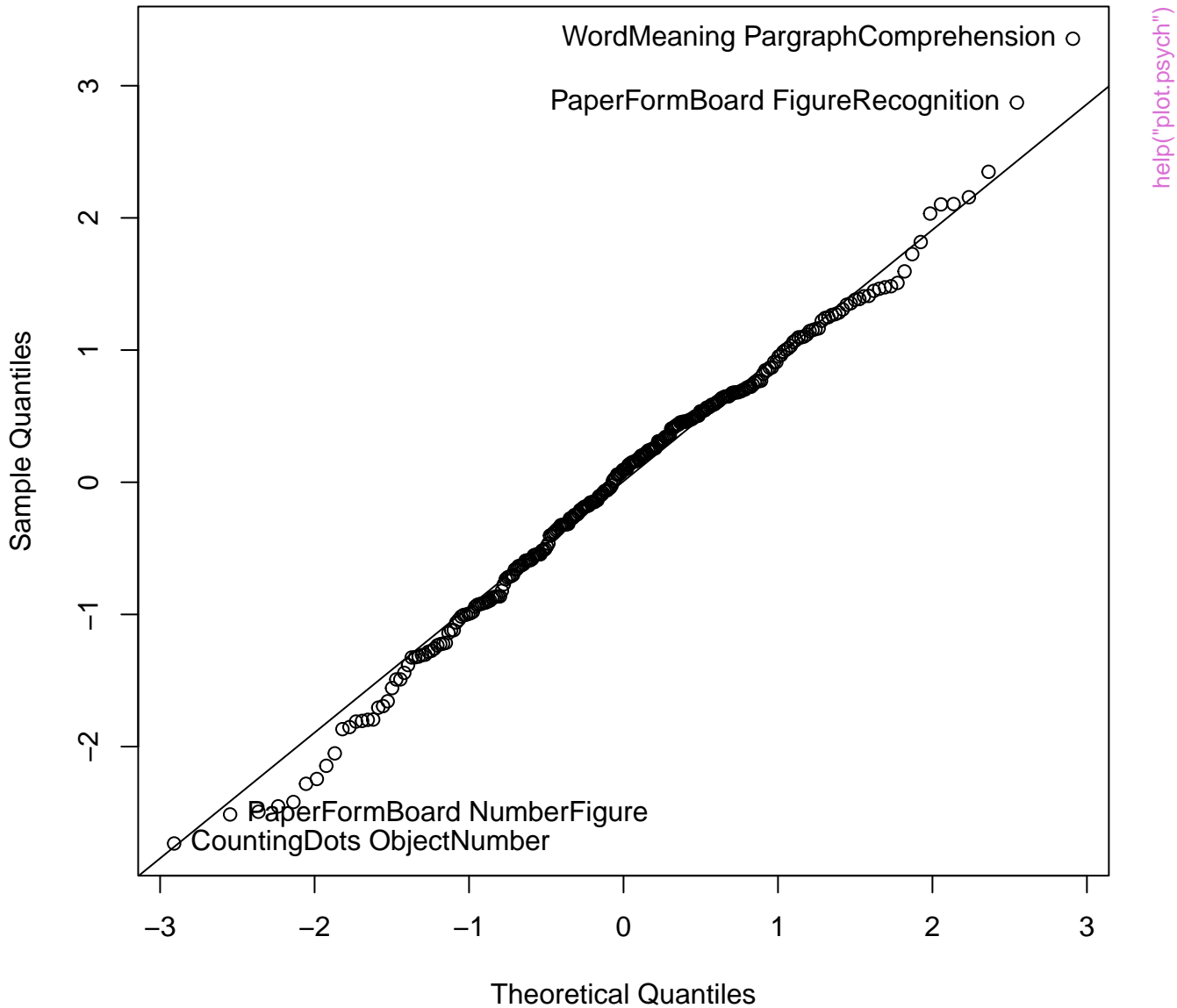


[help\("plot.psych"\)](#)

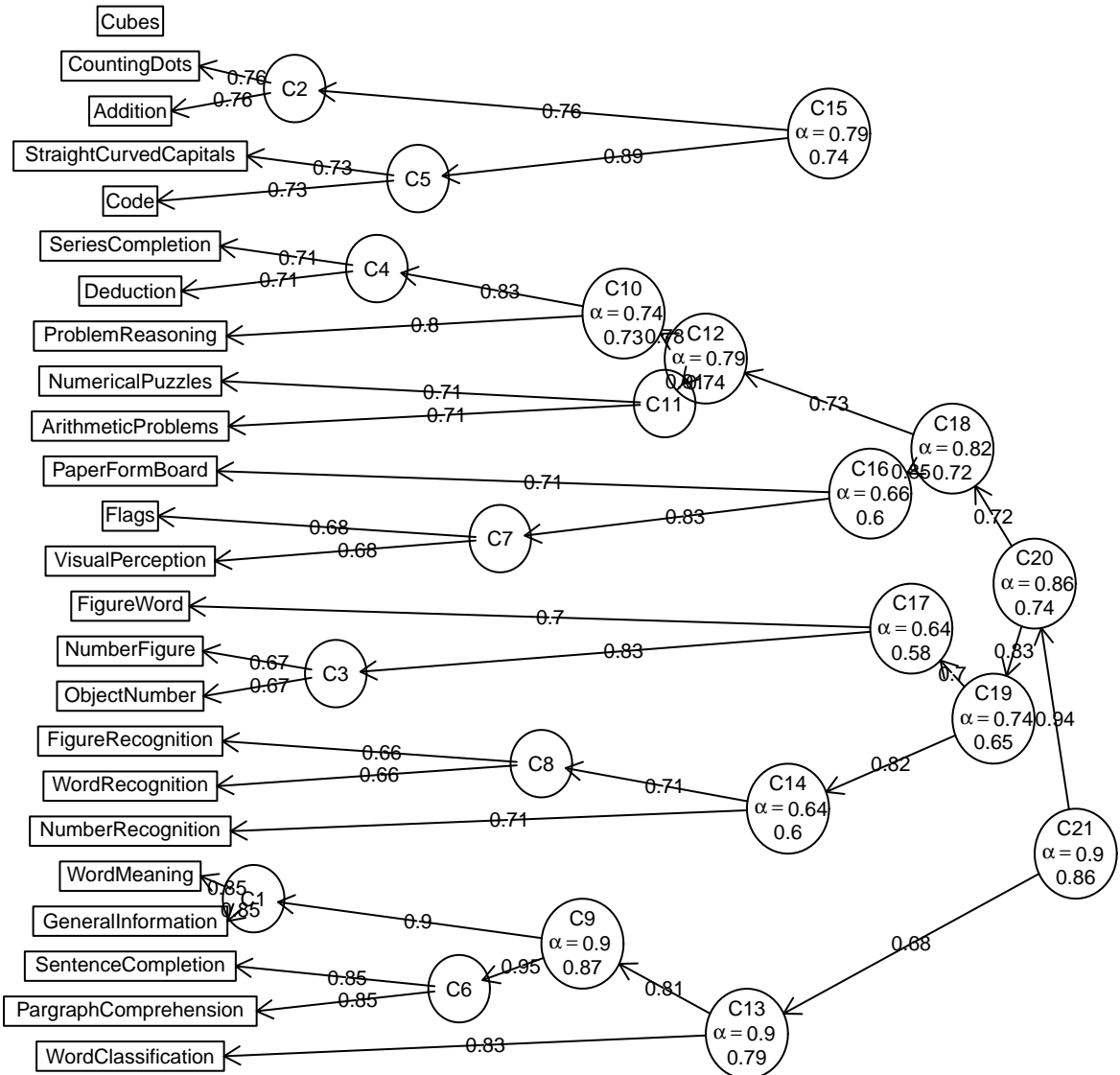
Plot of standardized residuals

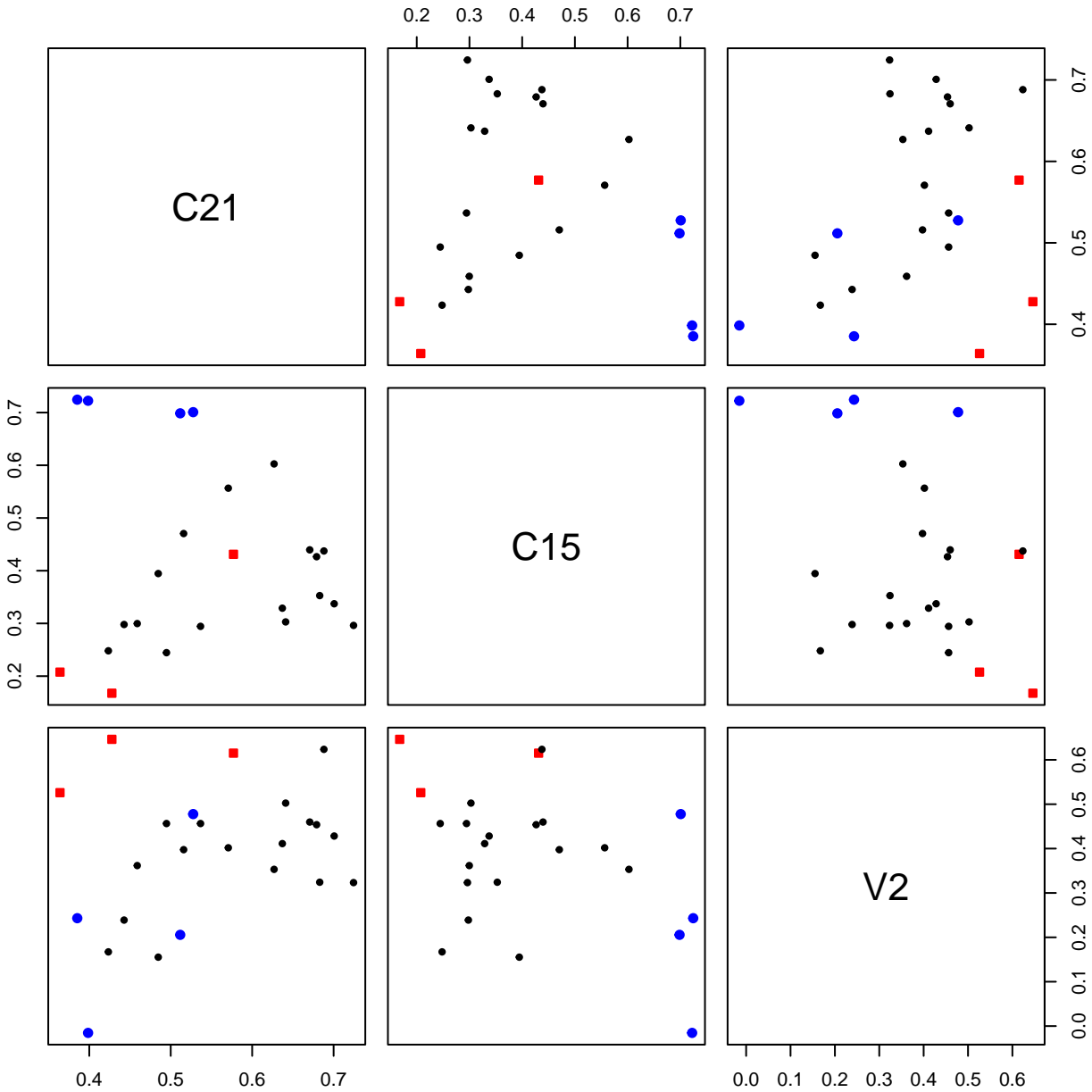


Residuals from a 4 factor solution



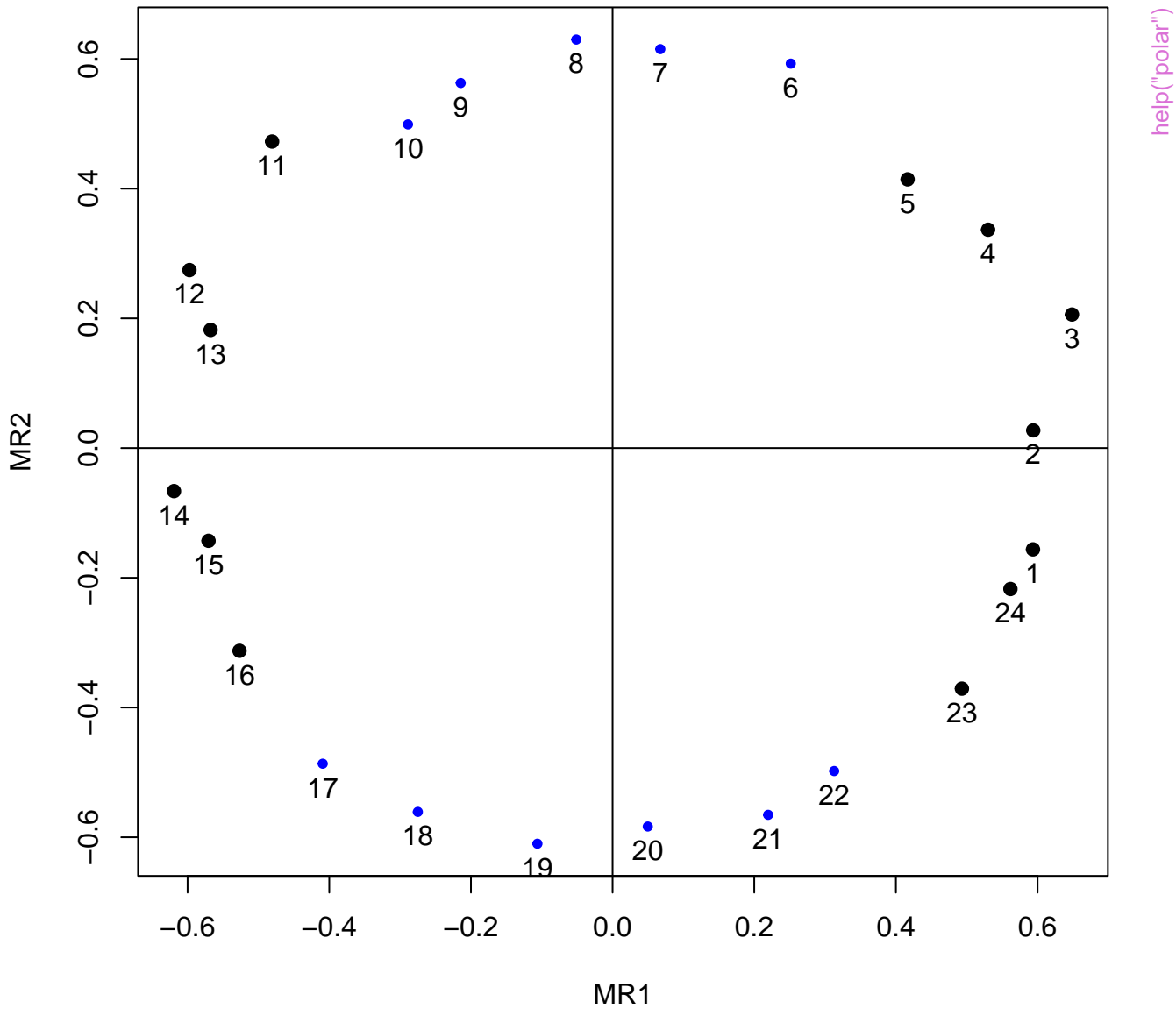
ICLUST



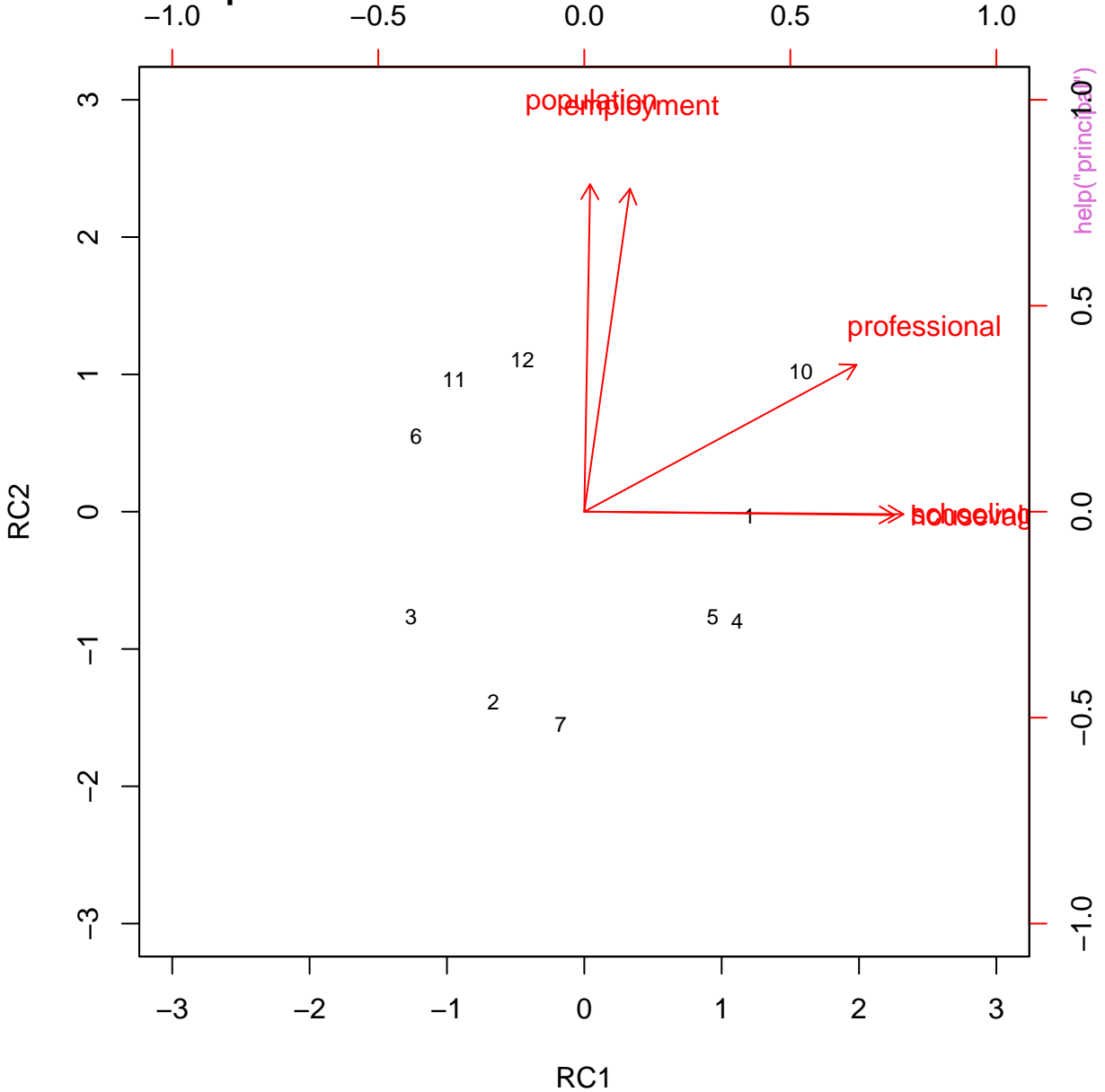


help("plot.psych")

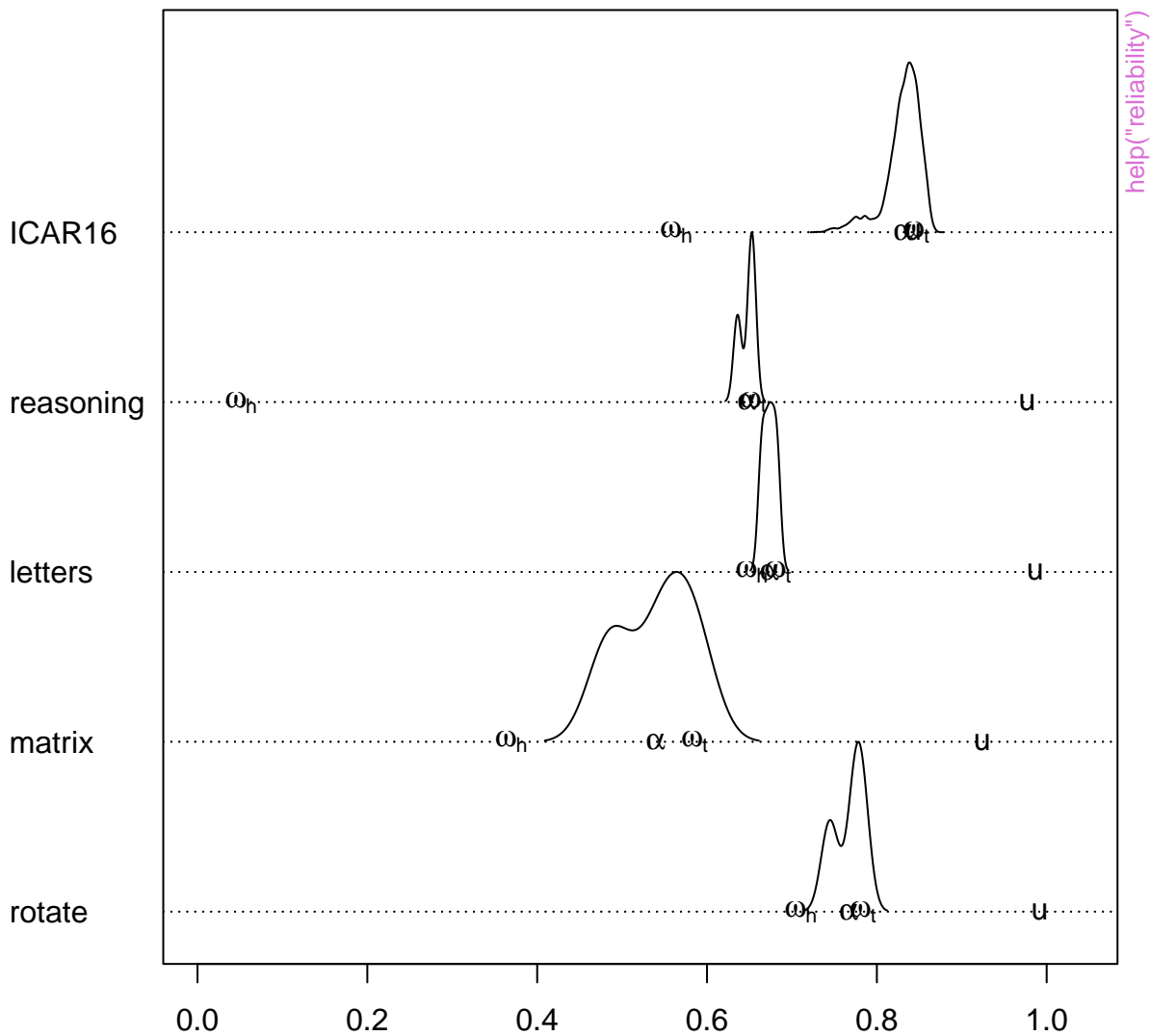
Cluster plot

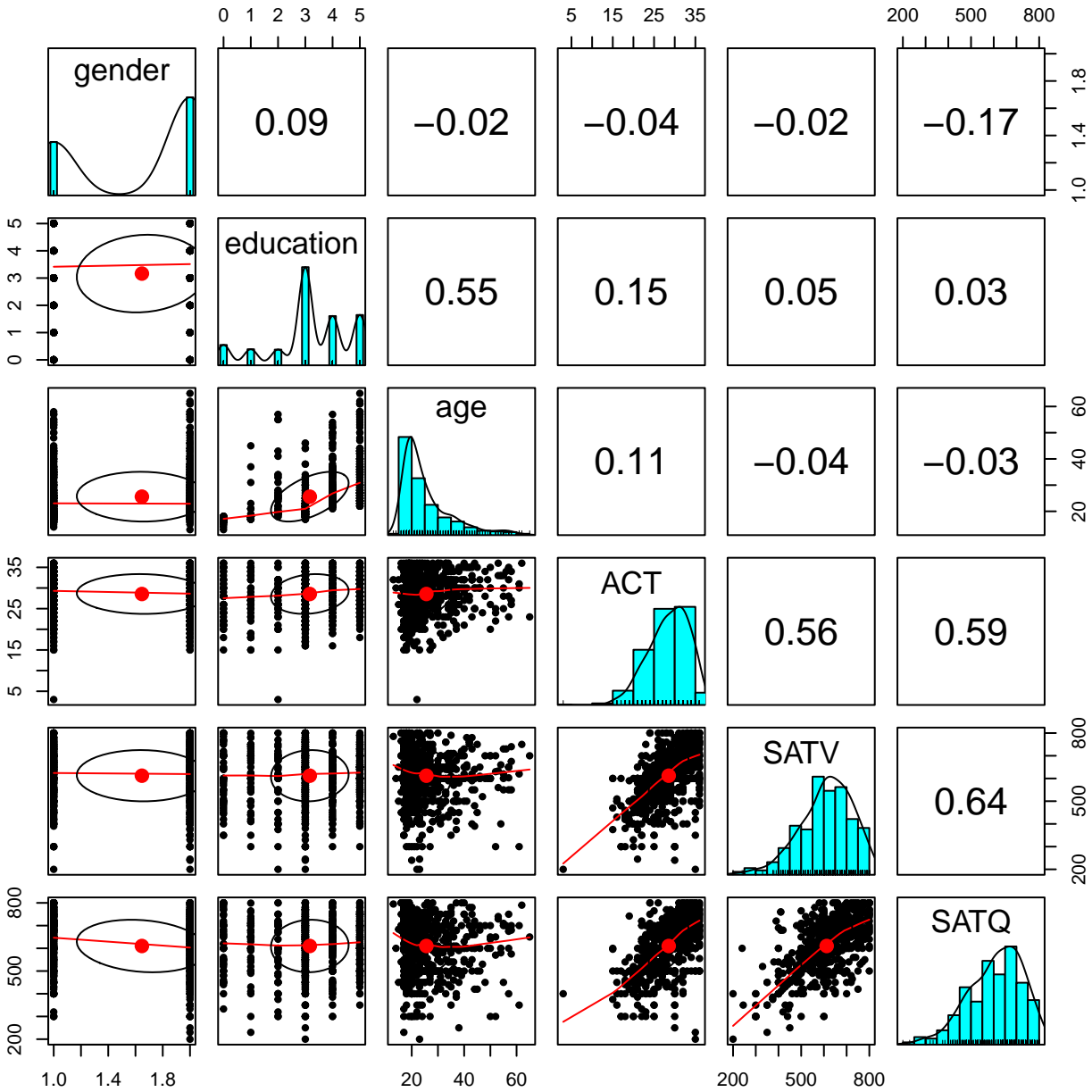


Biplot of the Harman.5 socio-economic variables



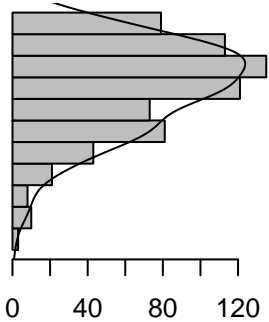
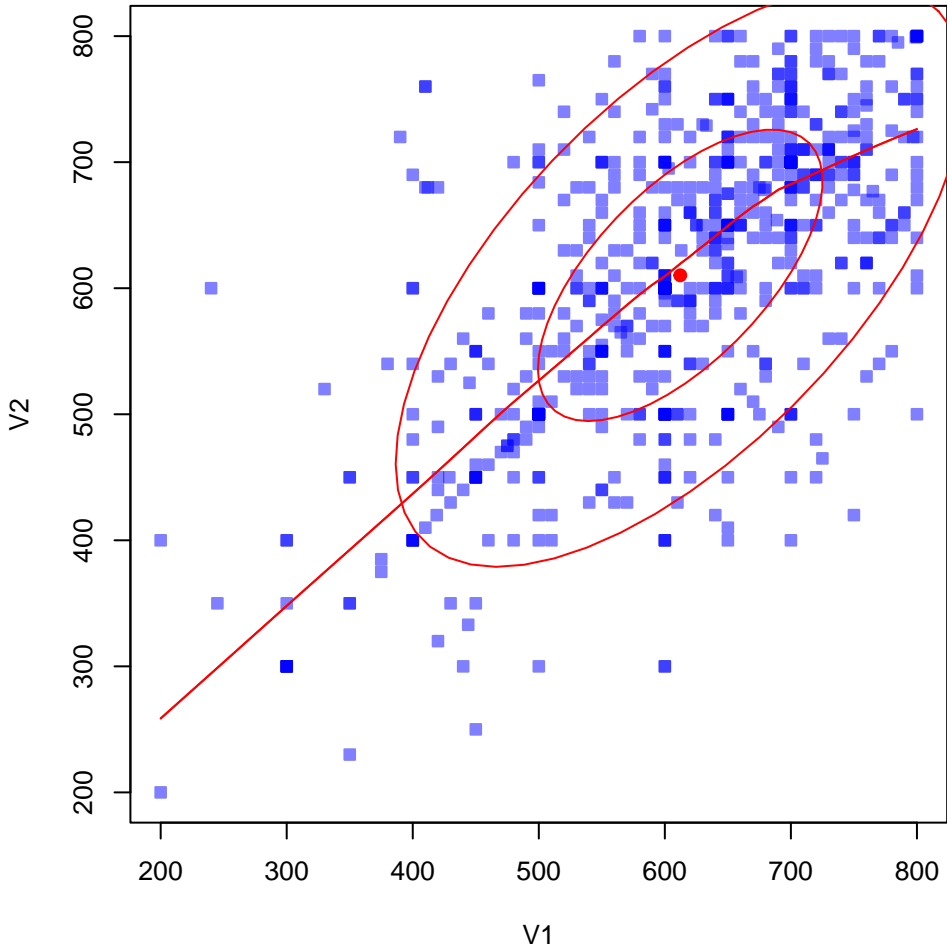
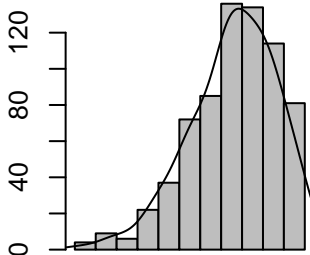
Split half distributions + ω_h α ω_t + unidim



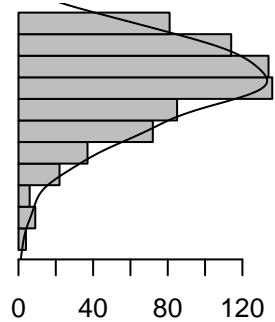
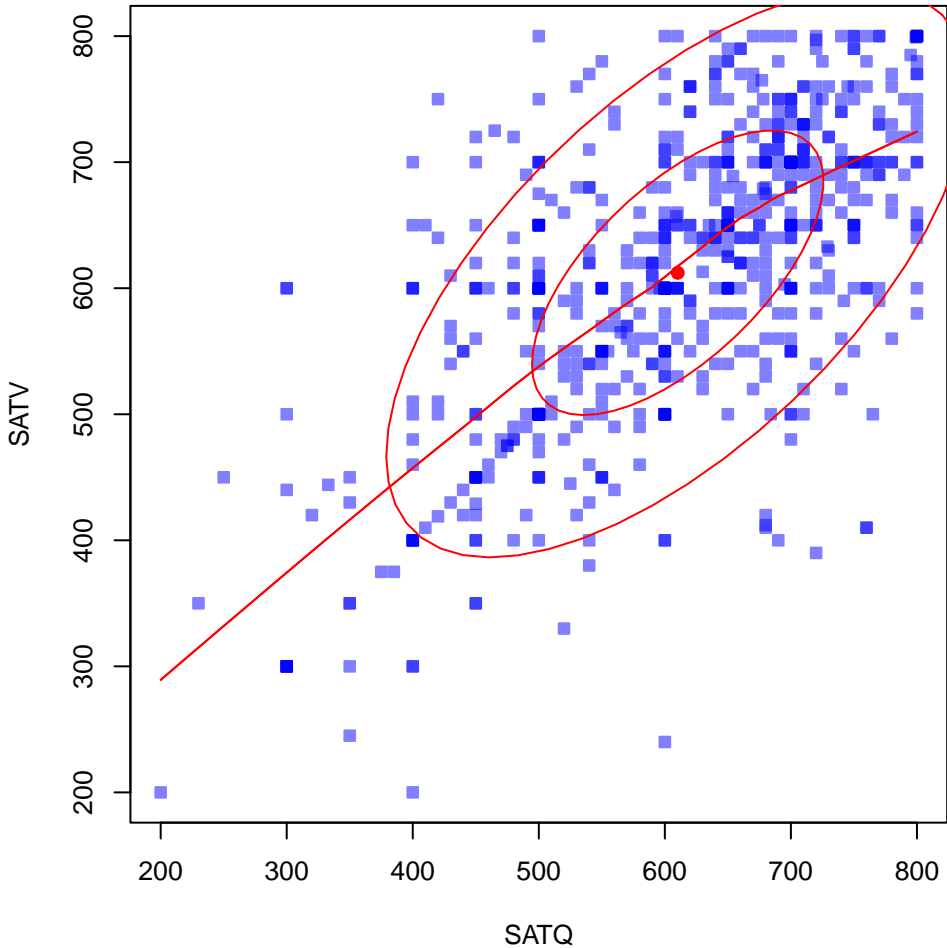
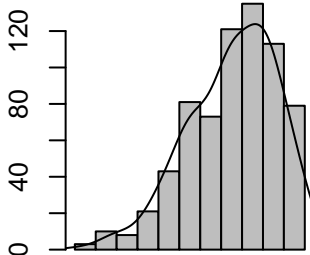


help("sat.act")

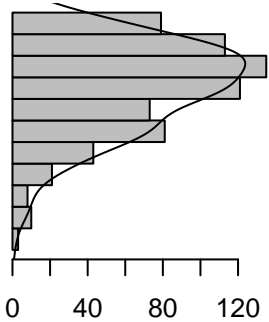
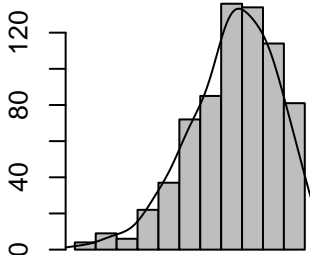
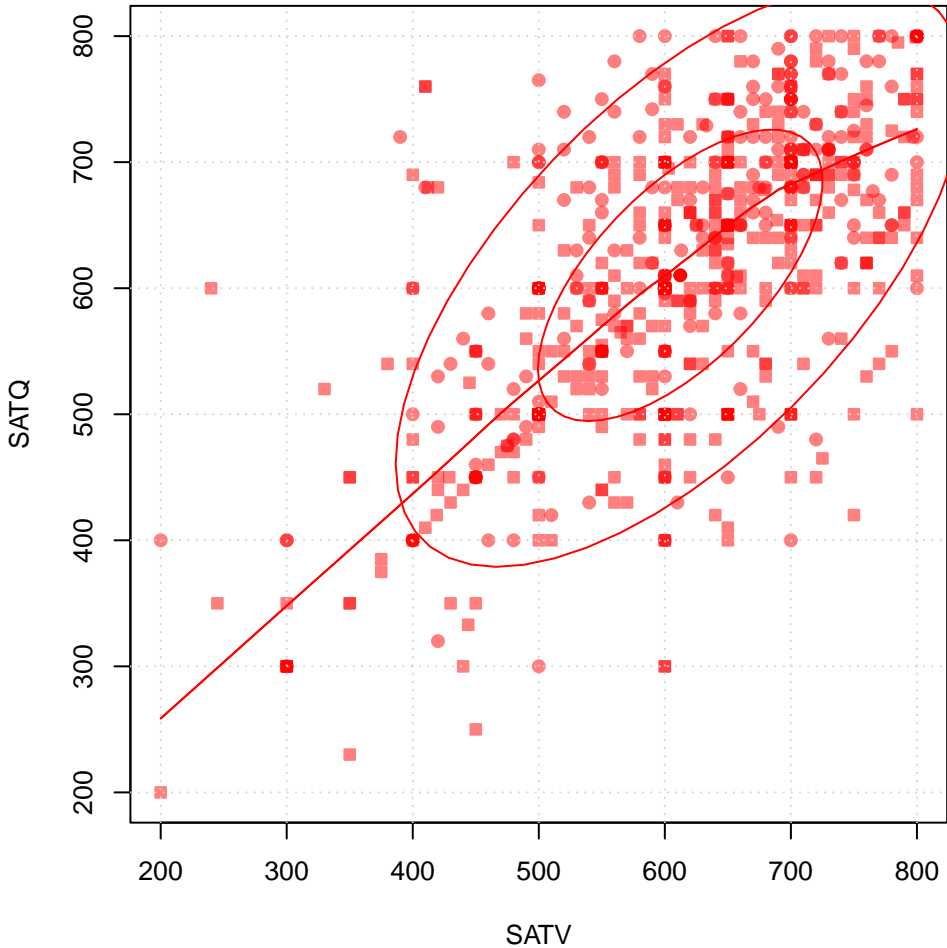
$r = 0.64$



$r = 0.64$

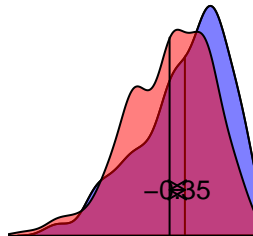


$r = 0.64$



Scatter plot + density

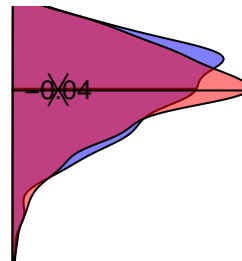
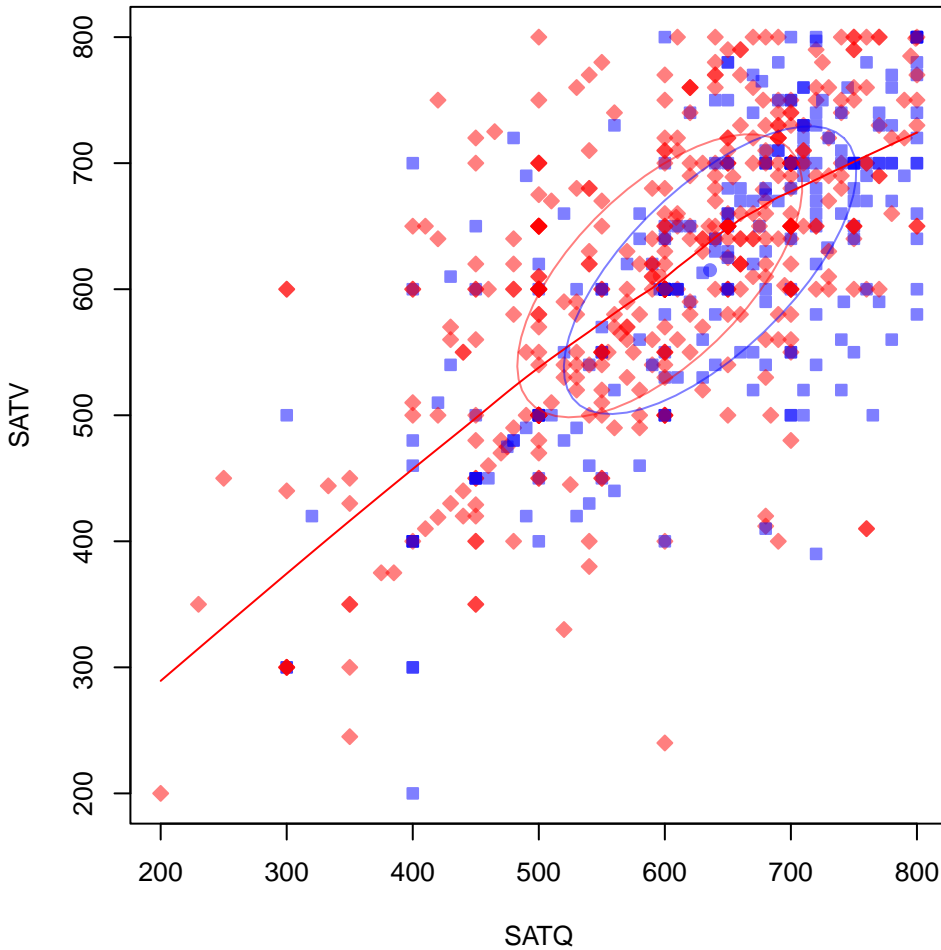
Density



$r = 0.64$

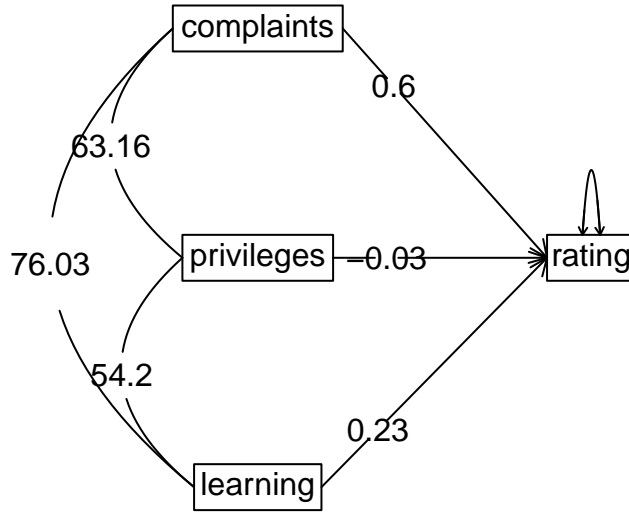
$r \text{ wg} = 0.65$

help("scatter.hist")



Density

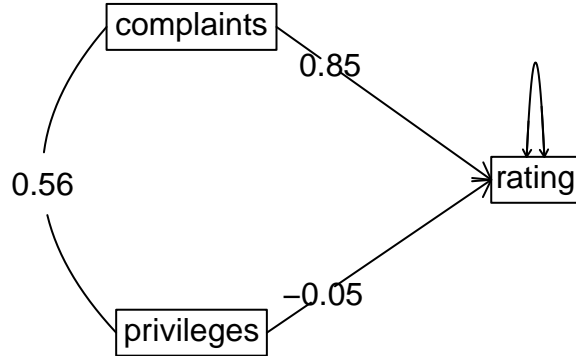
Regression Models



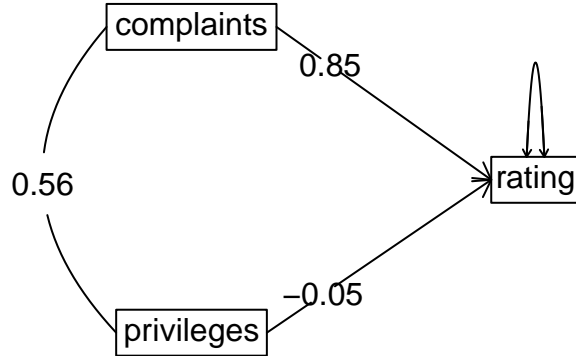
Regression Models



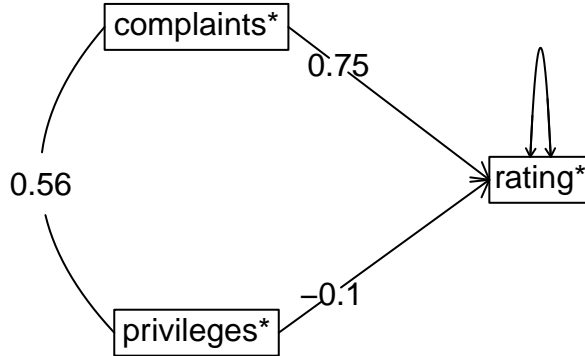
Regression Models



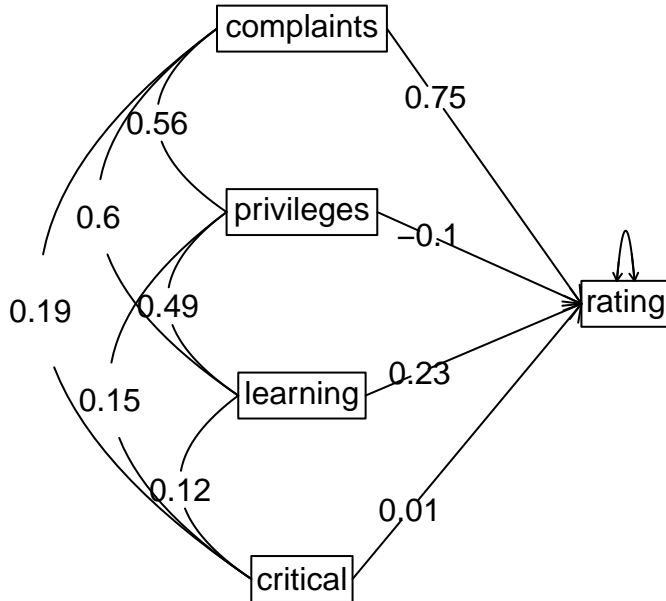
Regression Models



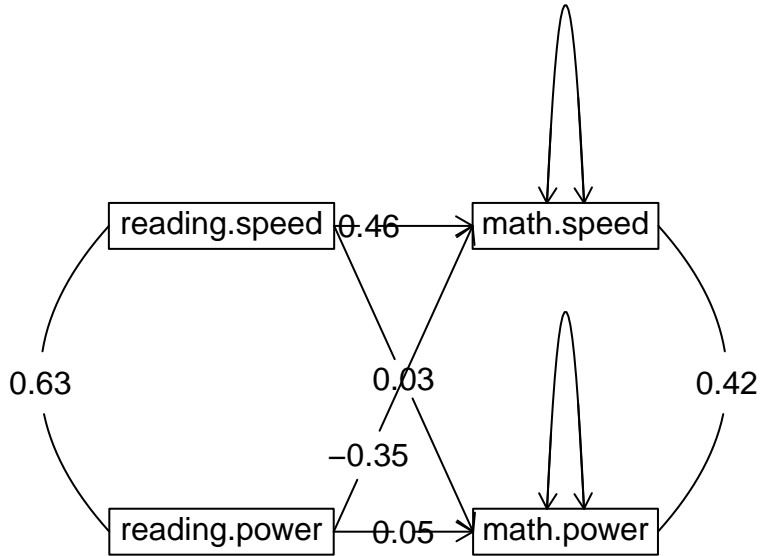
Regression Models



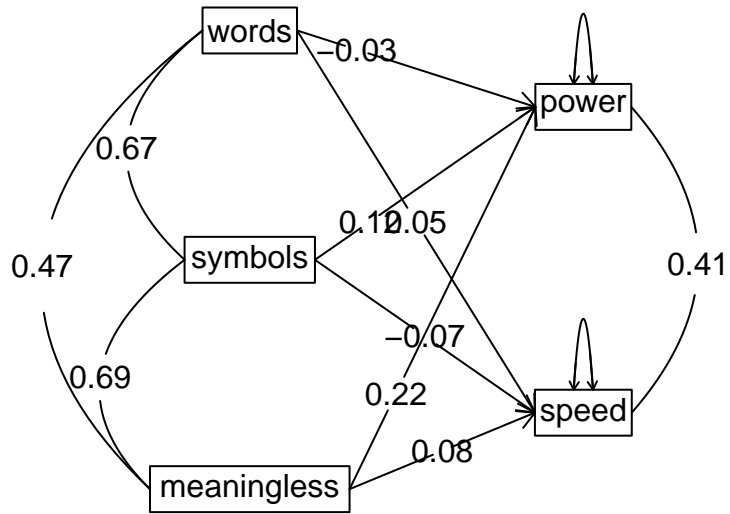
Regression Models



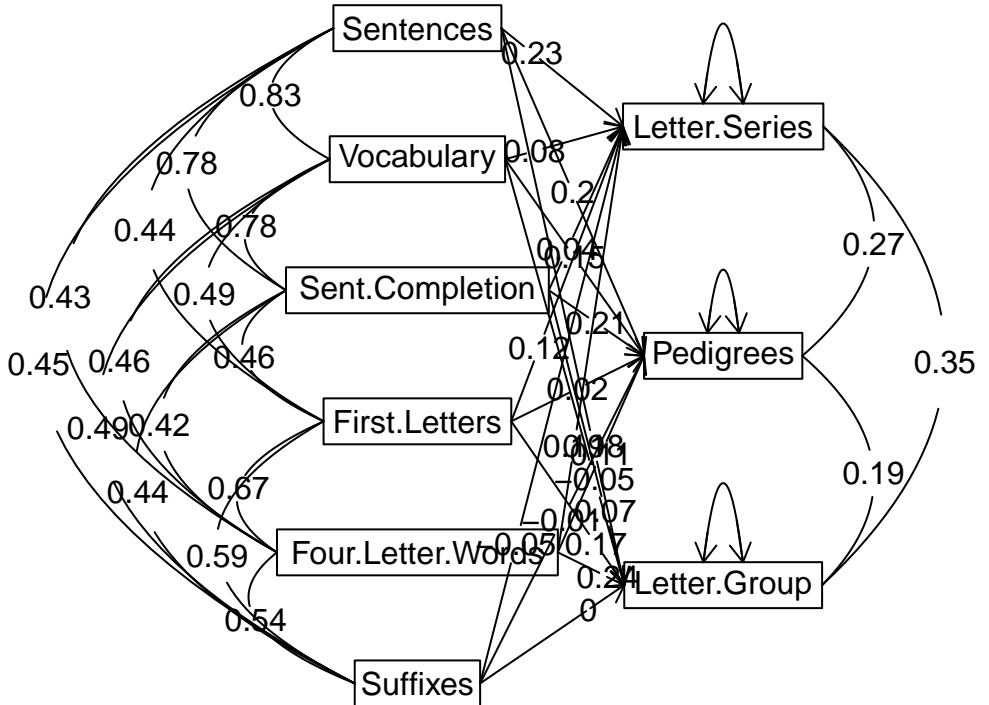
Regression Models



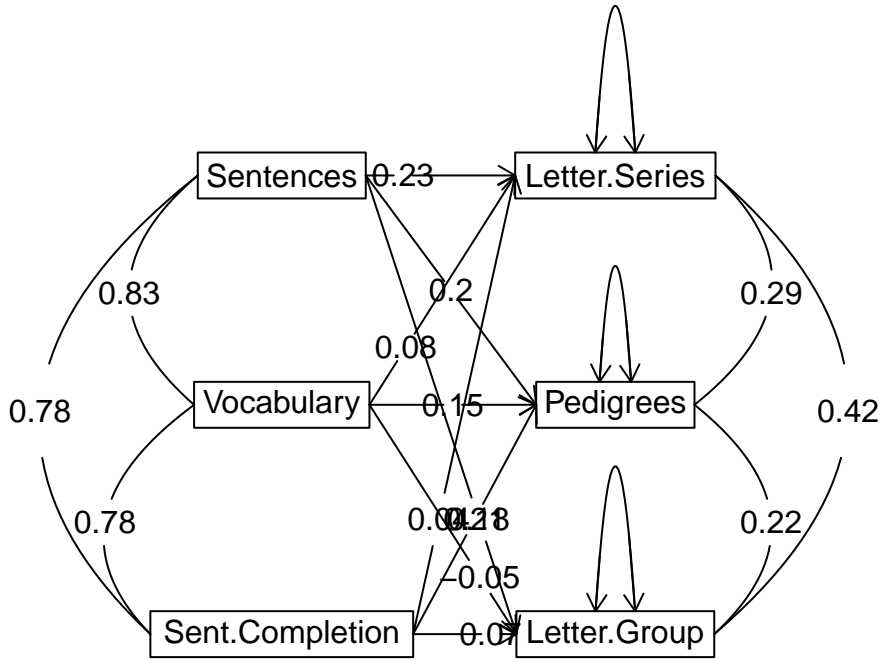
Regression Models



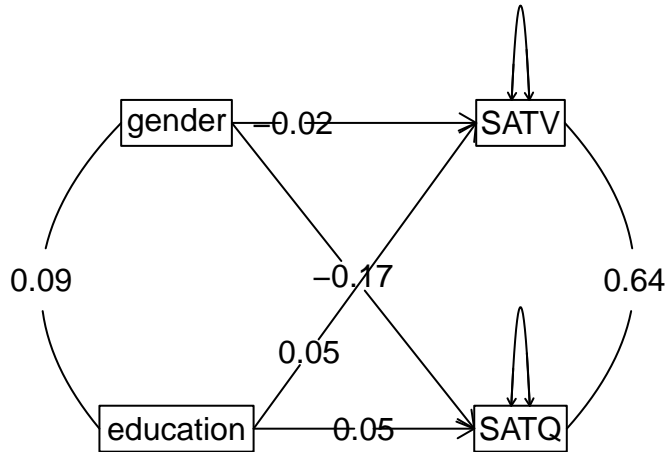
Regression Models



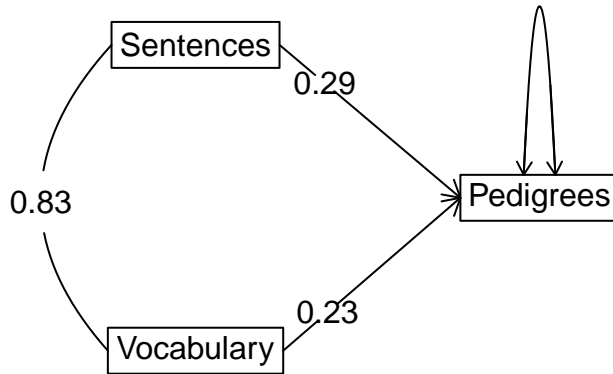
Regression Models



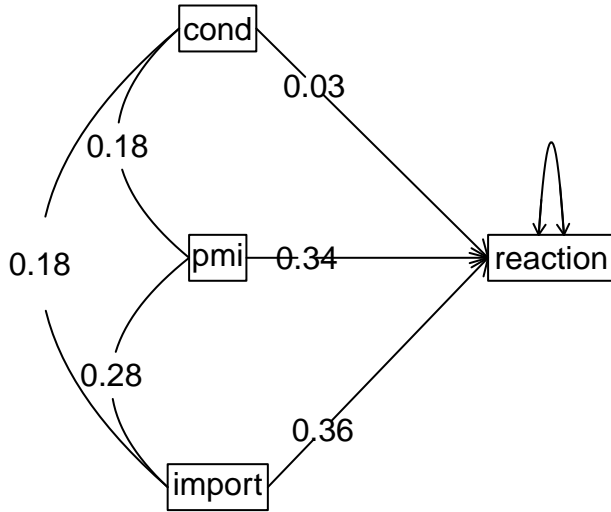
Regression Models



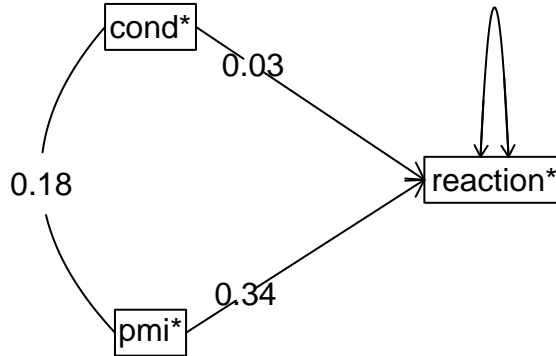
Regression Models



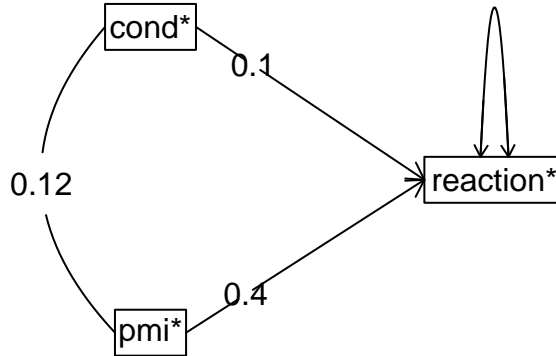
Regression Models



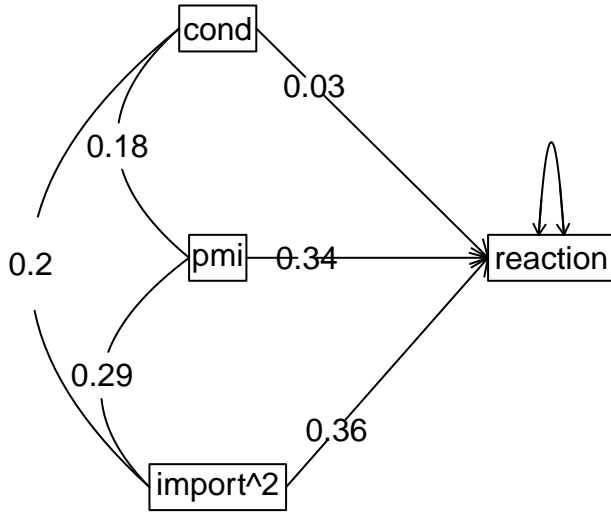
Partial out importance

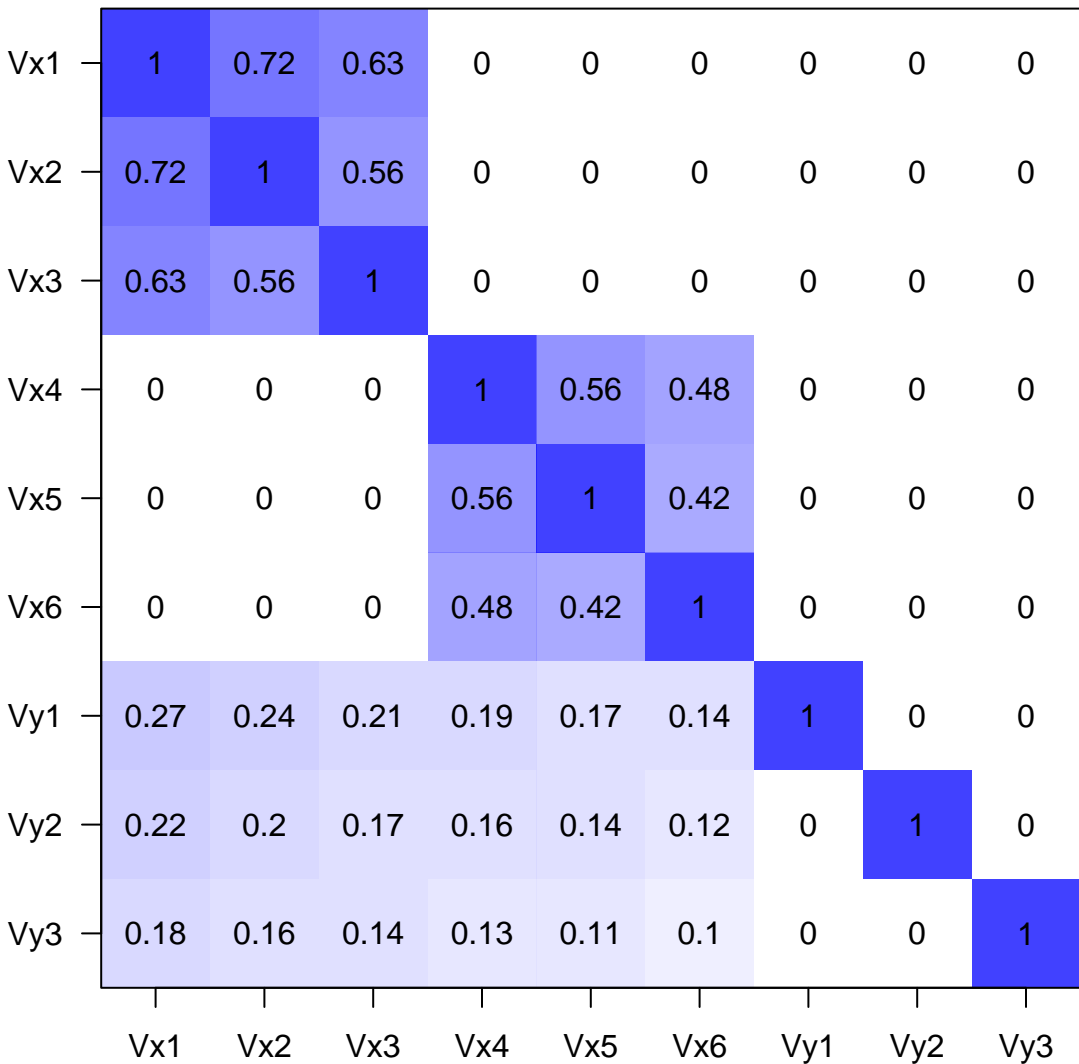


Partial out importance



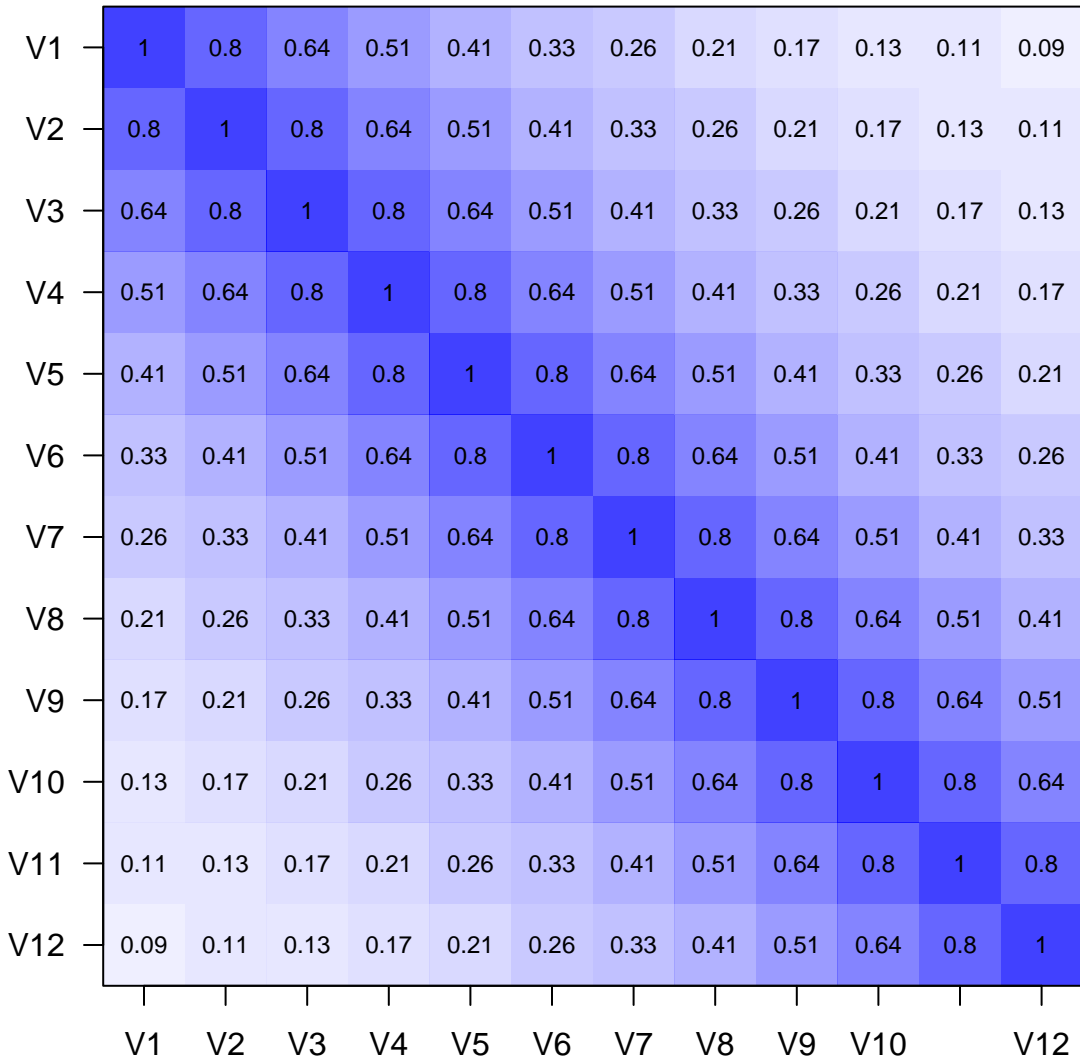
Regression Models





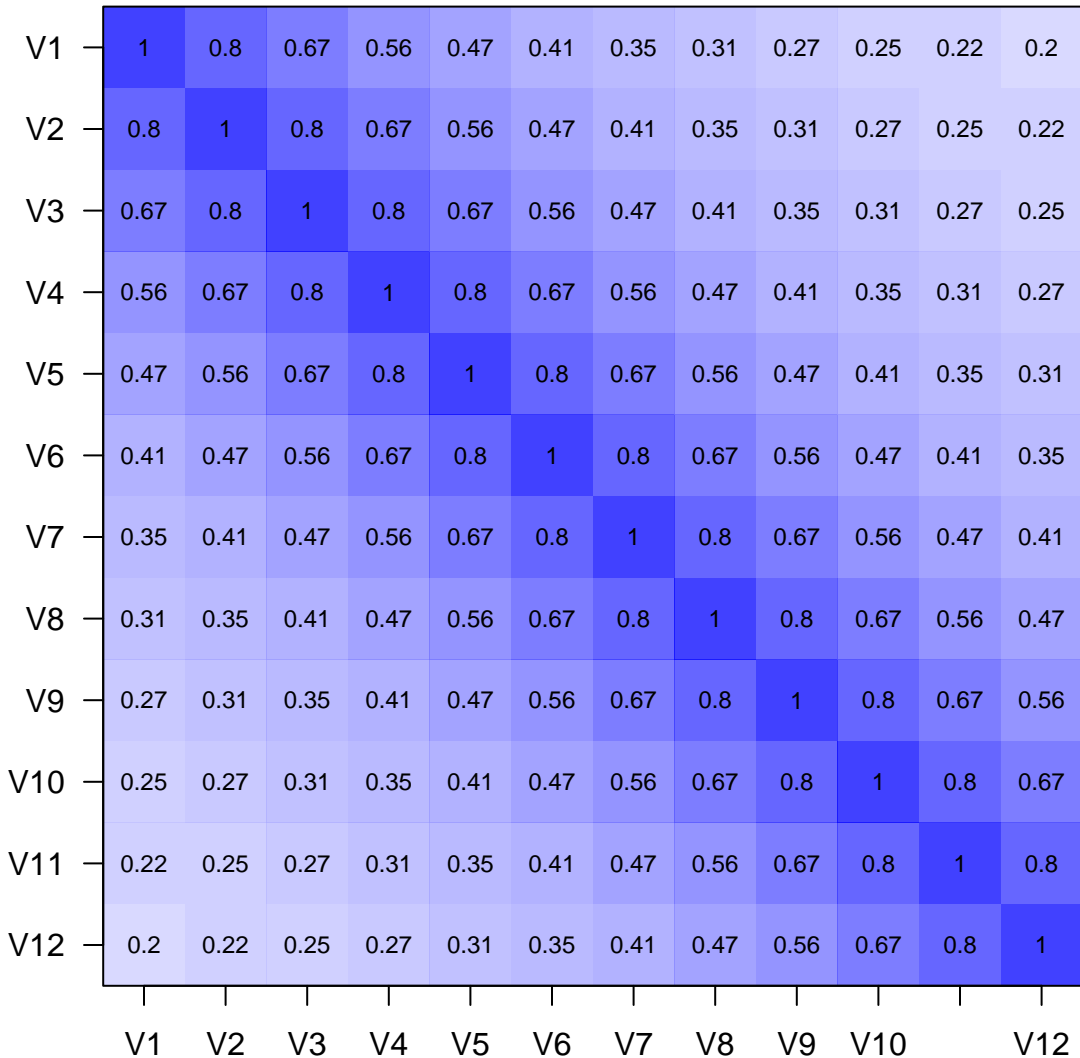
help("simr")

A simplex structure

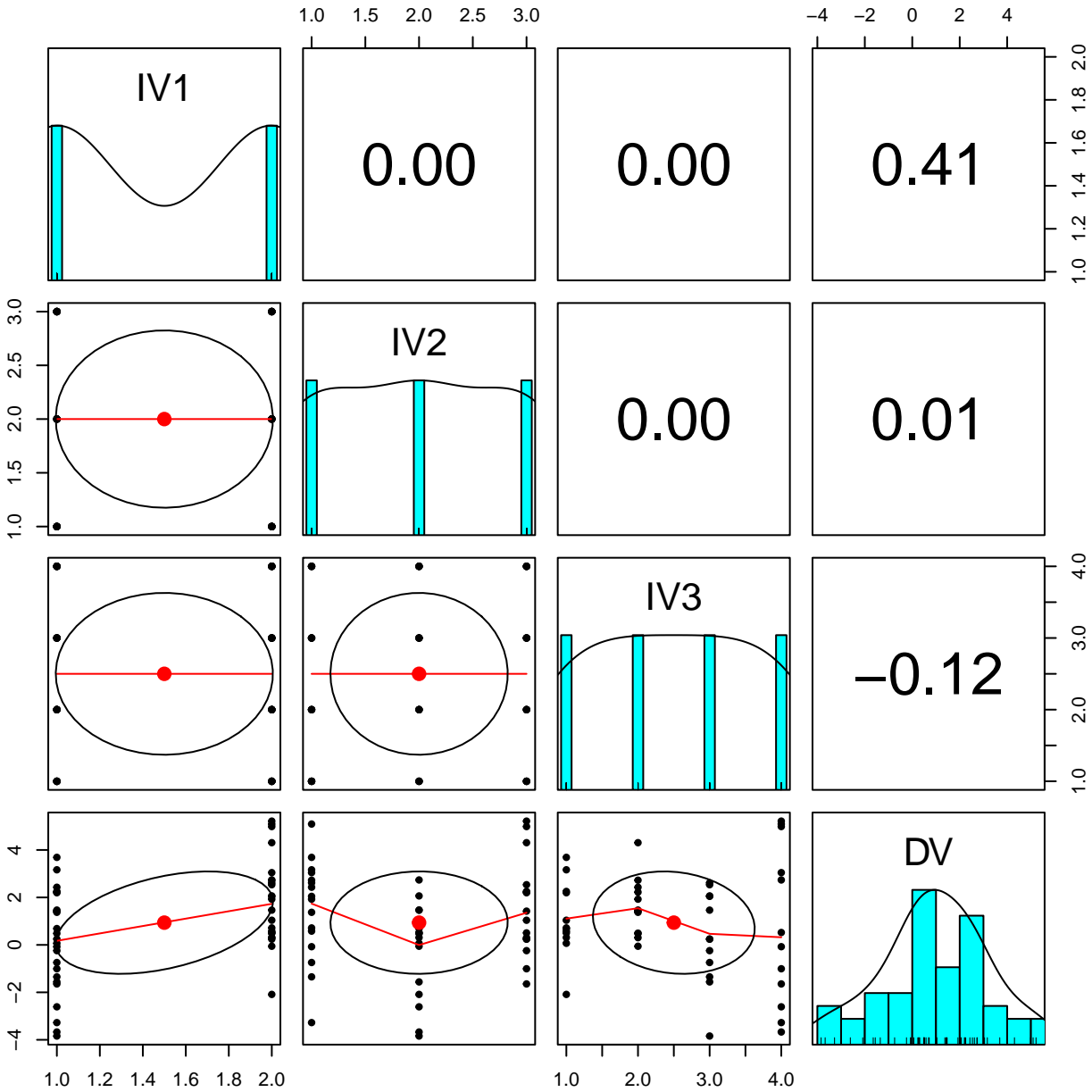


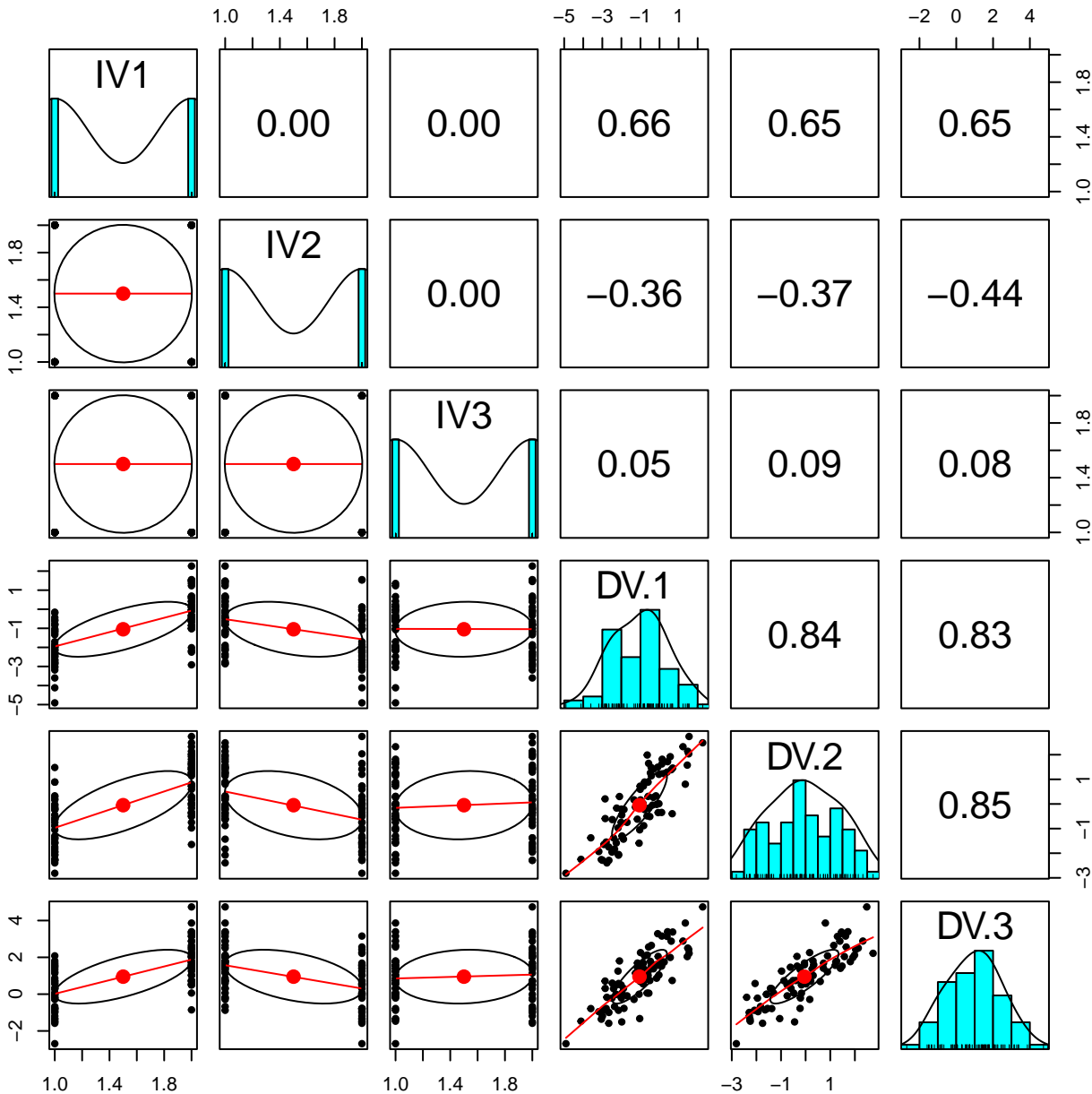
help("simr")

State Trait Auto Regressive Simplex

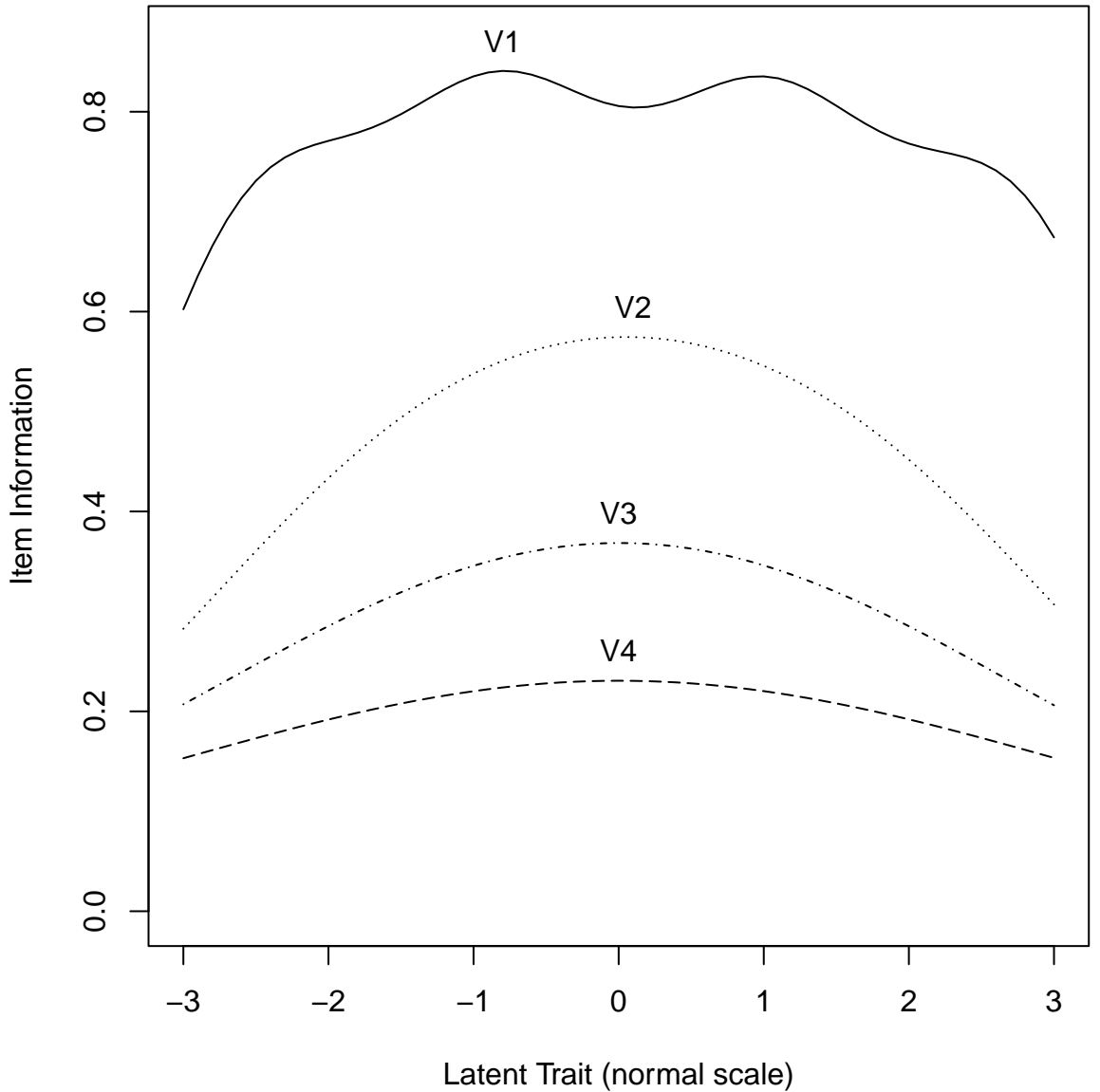


help("simr")

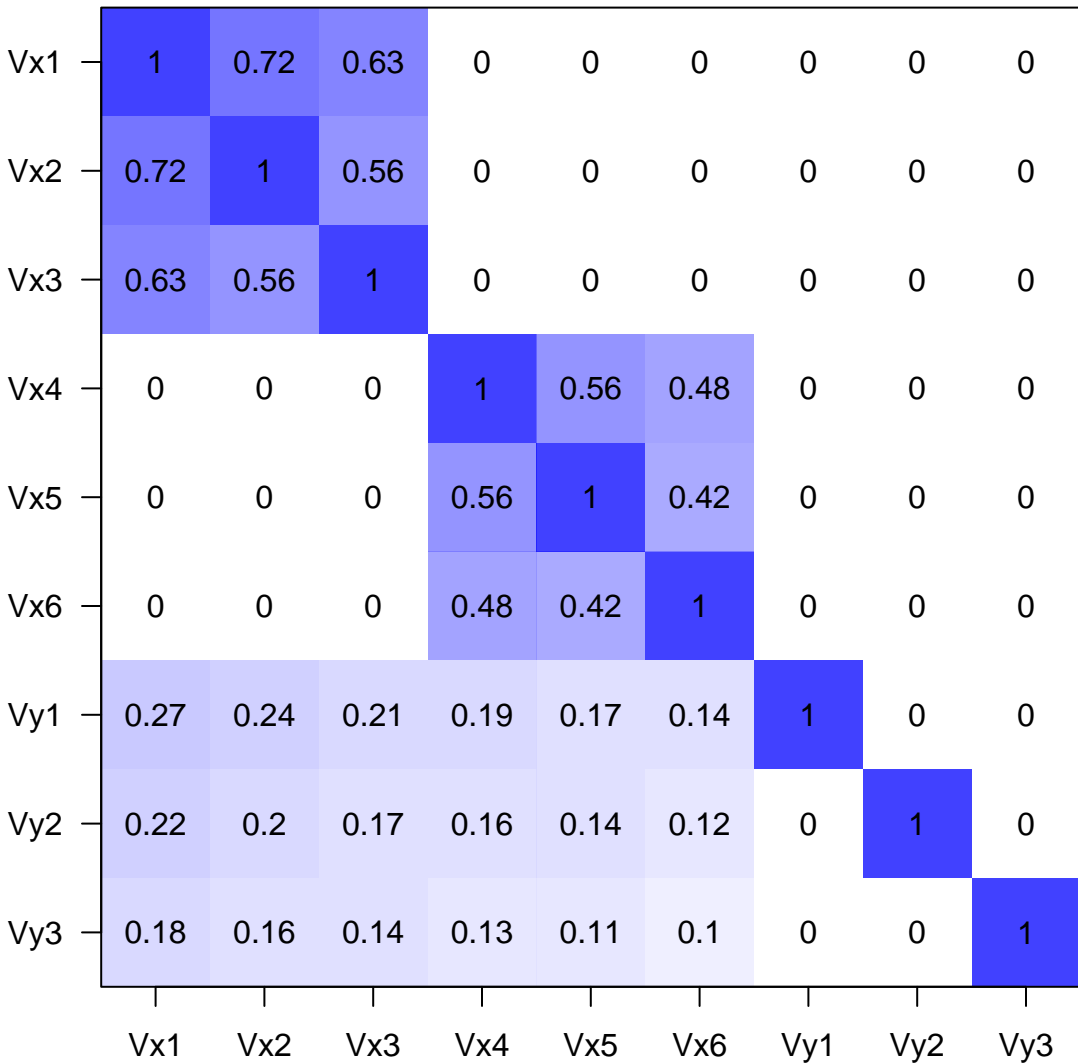




Item information from factor analysis

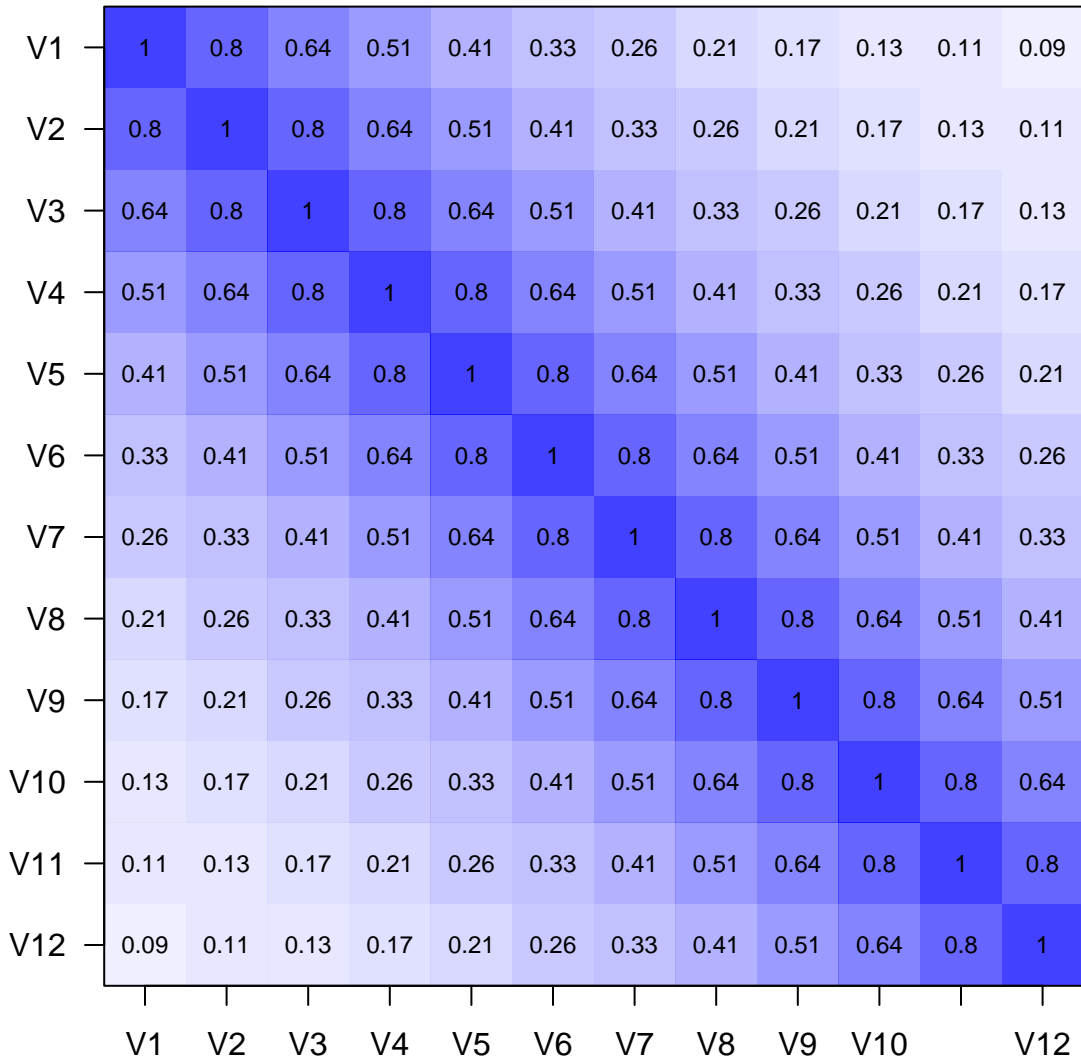


help("sim.congeneric")



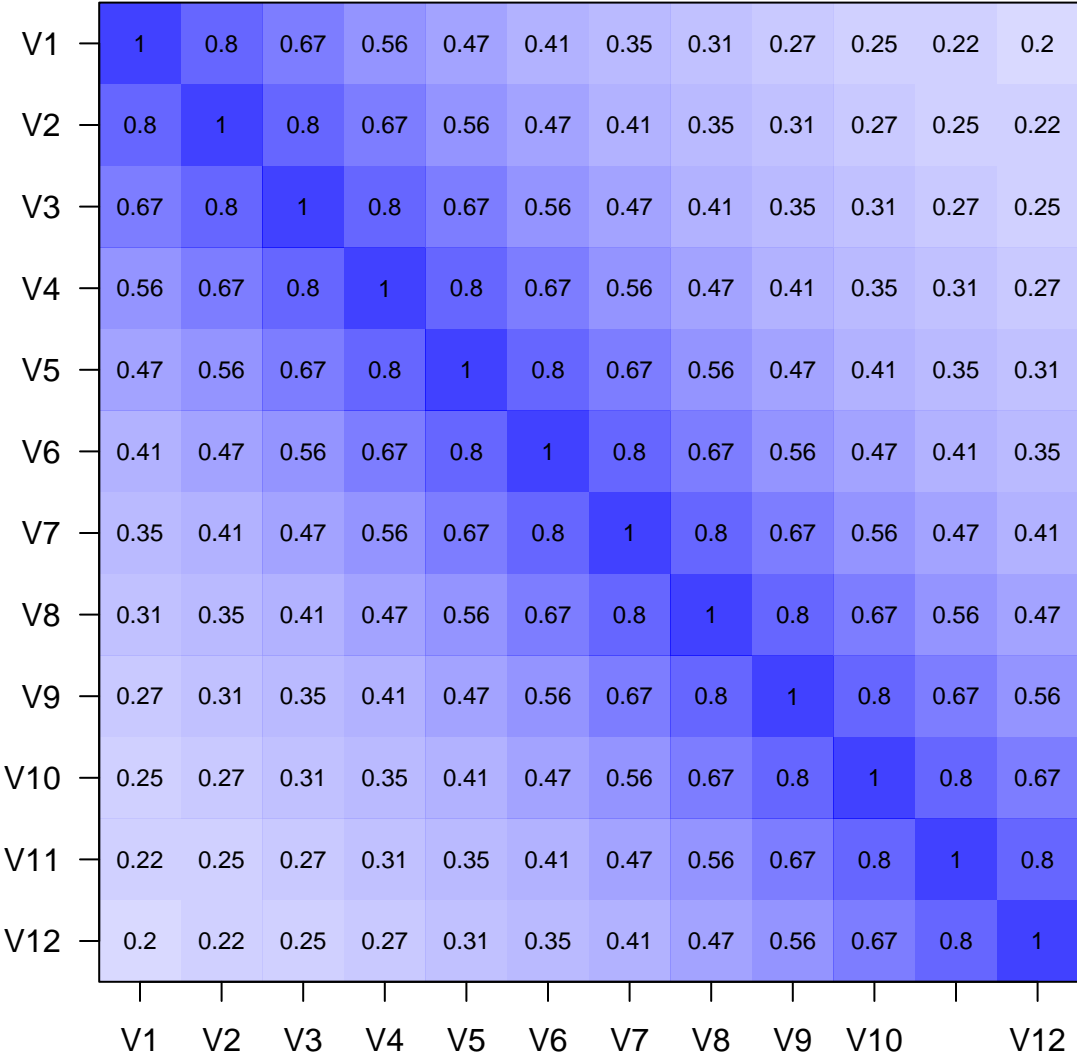
help("sim.irls")

A simplex structure



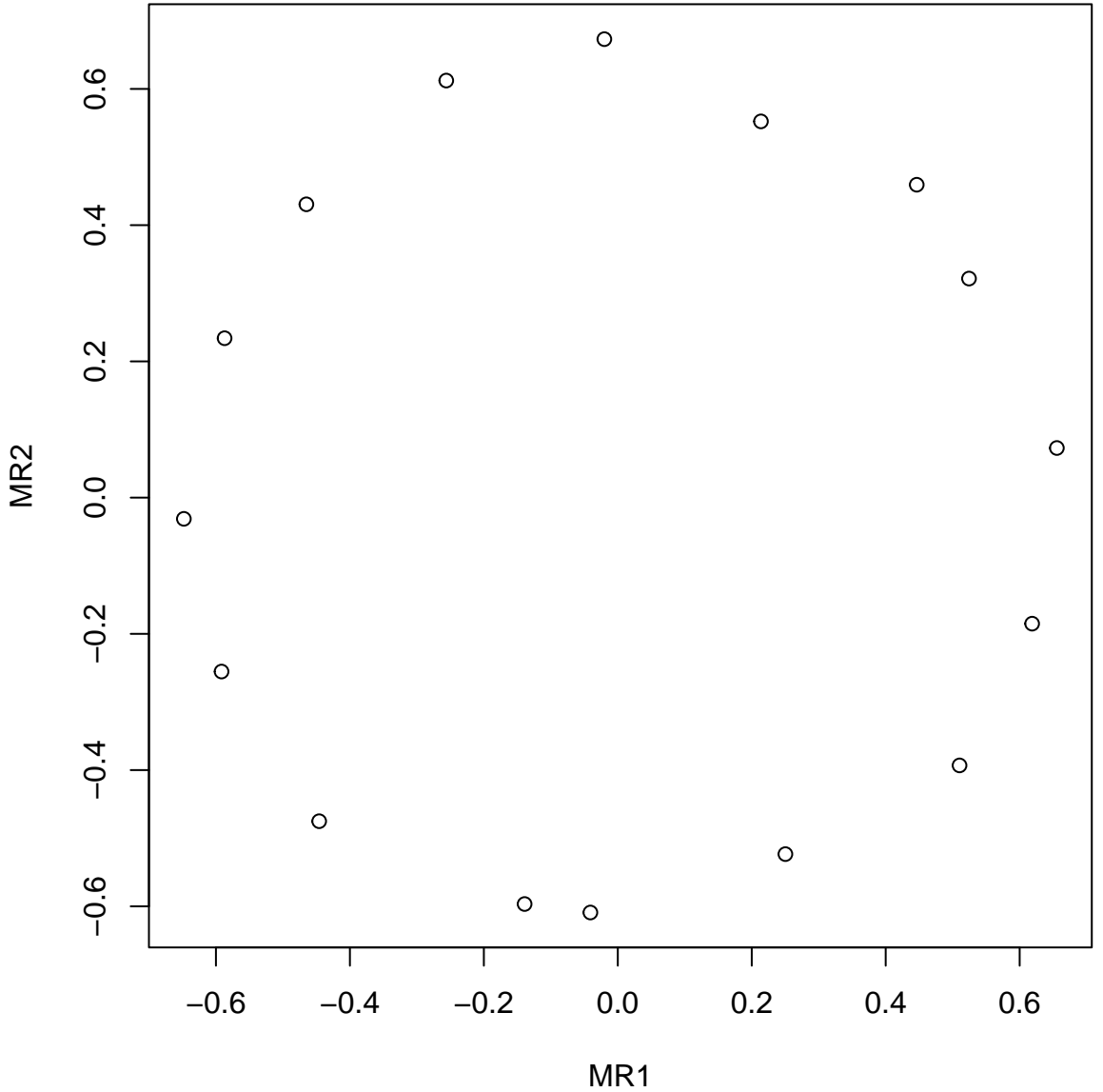
help("sim.irc")

State Trait Auto Regressive Simplex



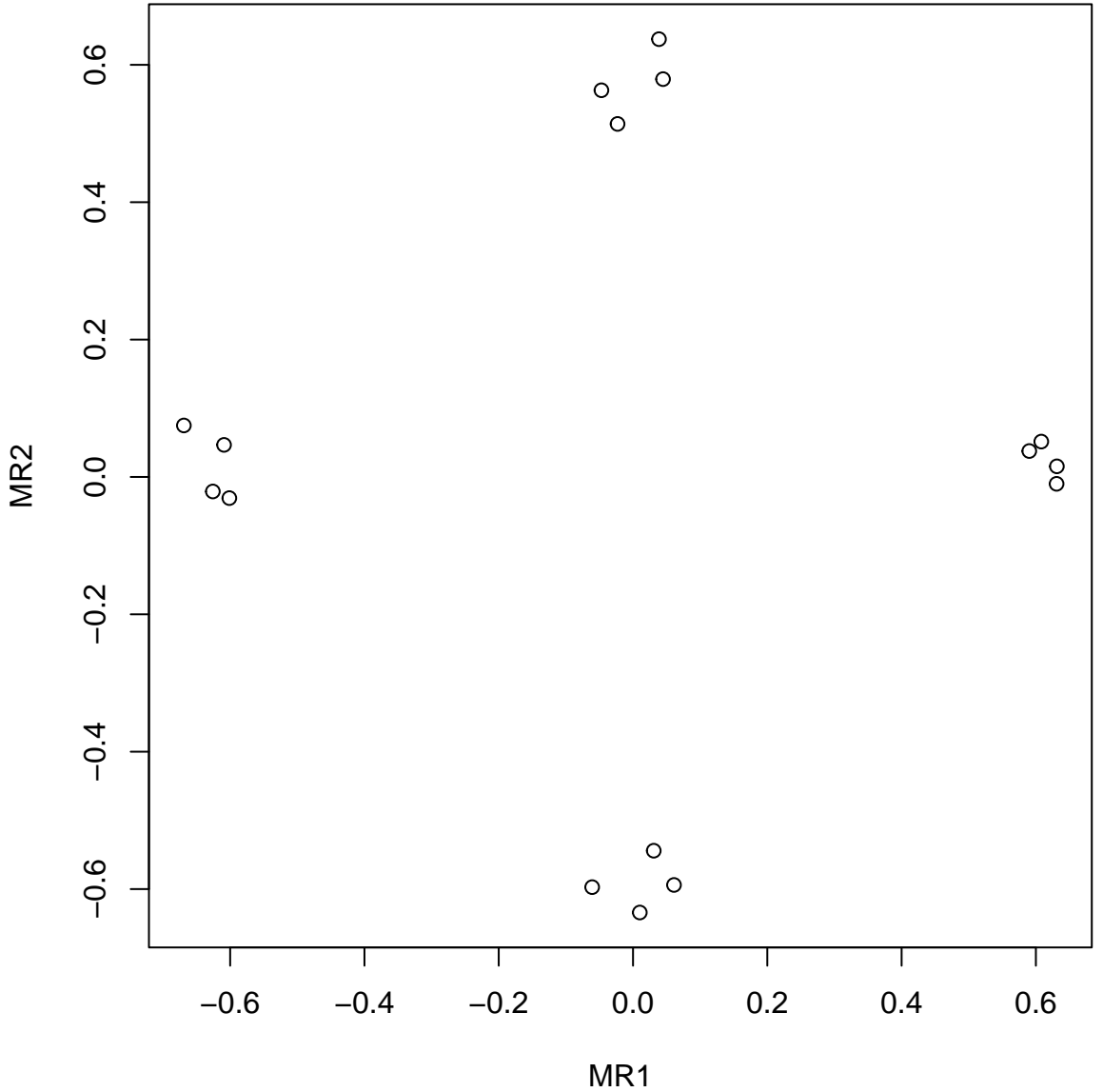
help("sim.irls")

Circumplex Structure



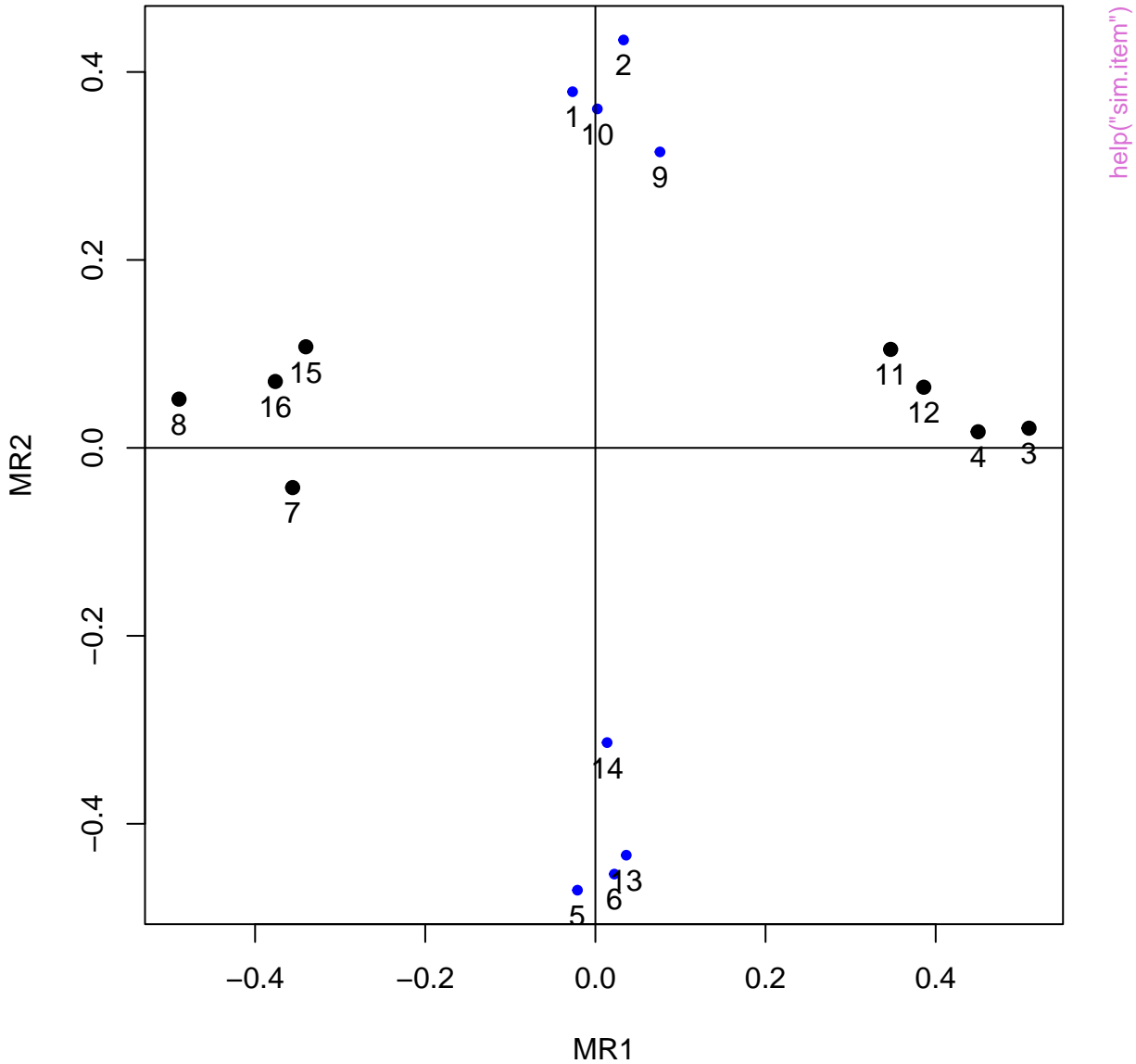
help("sim.item")

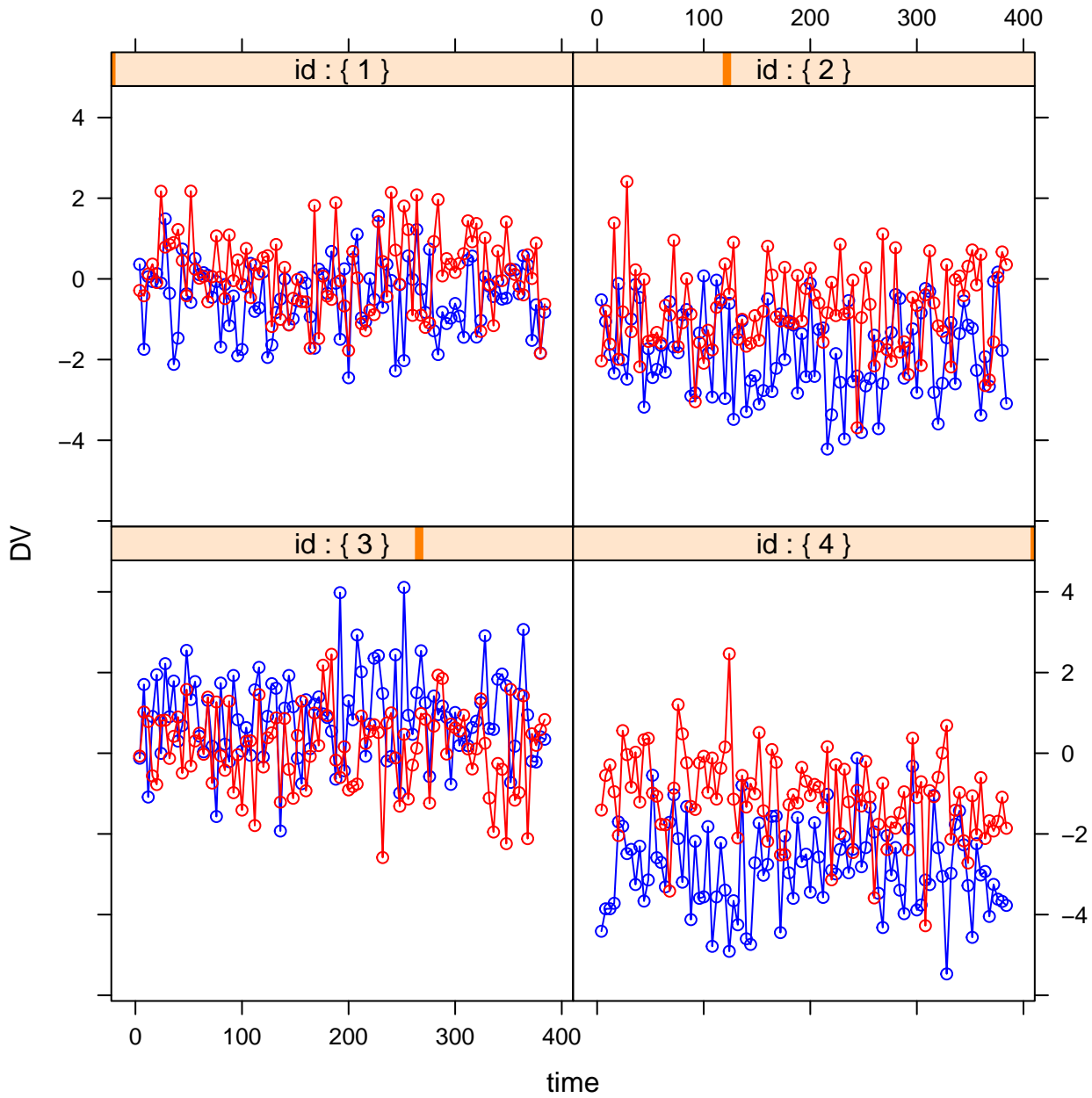
Simple Structure



help("sim.item")

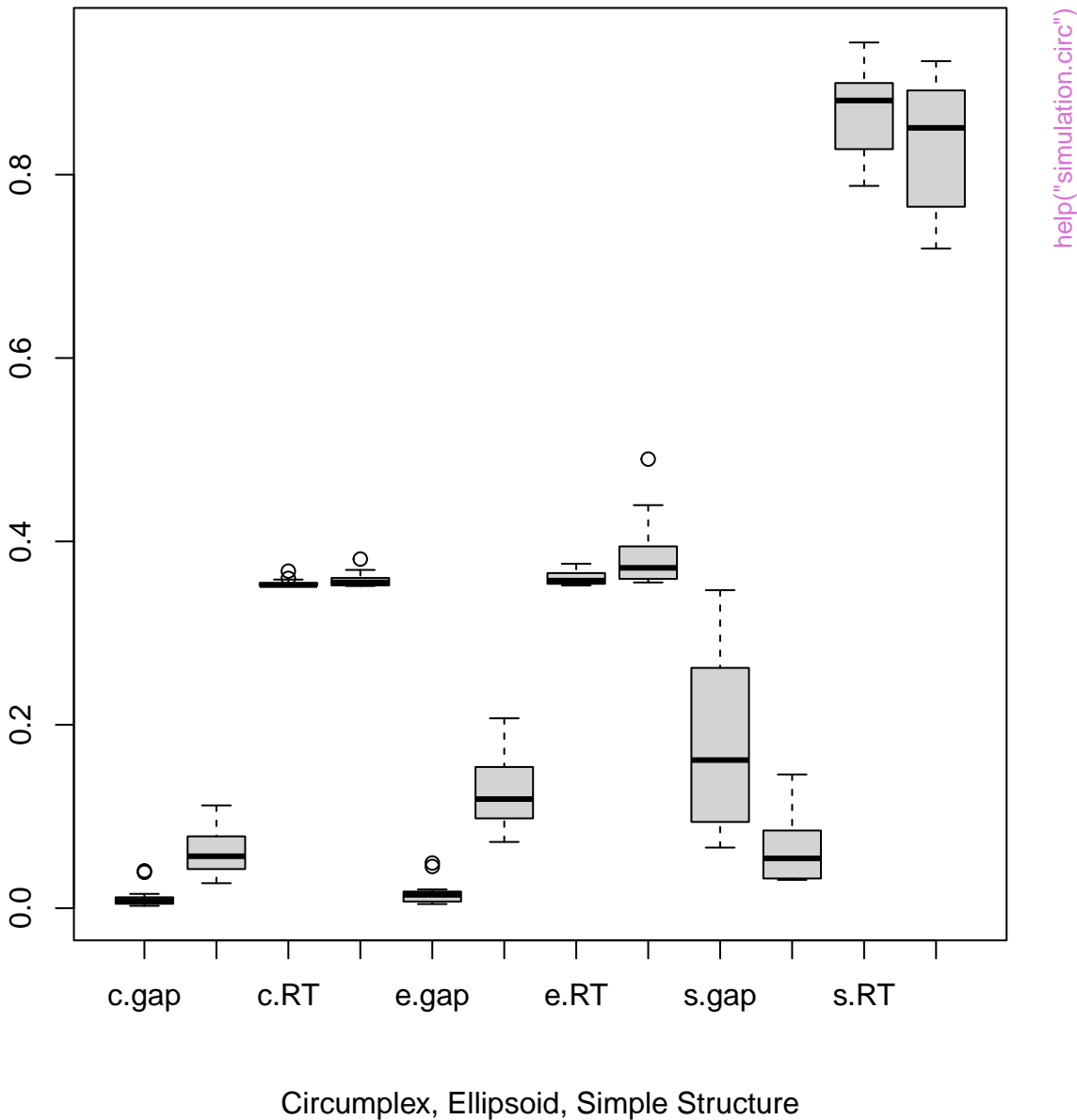
Cluster plot





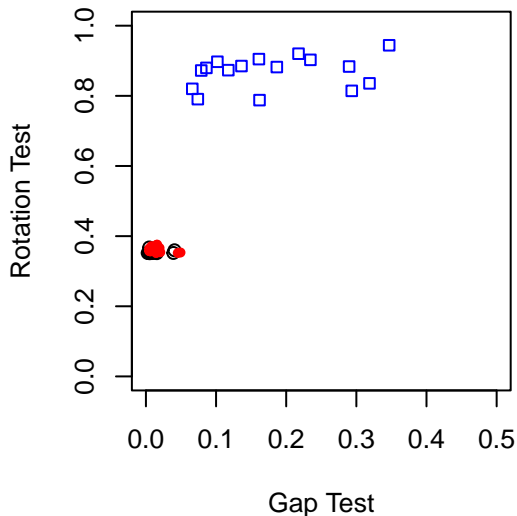
help("sim.multilevel")

4 tests of Circumplex Structure

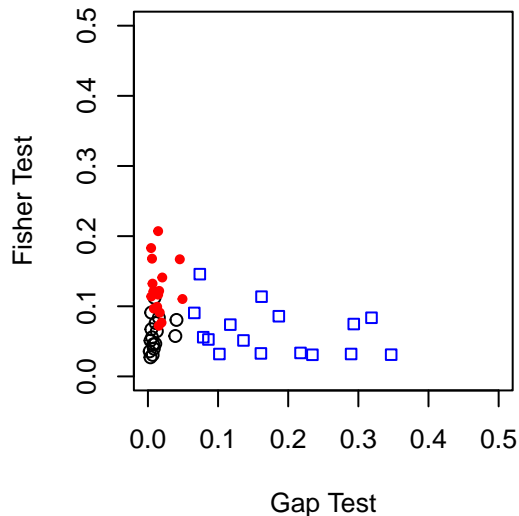


Circumplex Tests for Circumplex, Ellipsoid, and Simple Structure

Gap x Rotation

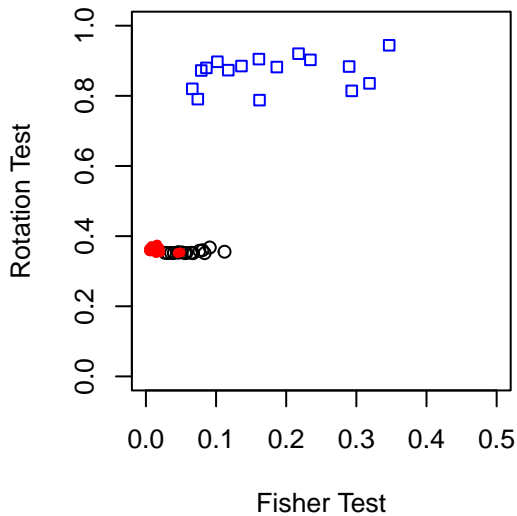


Gap x Fisher

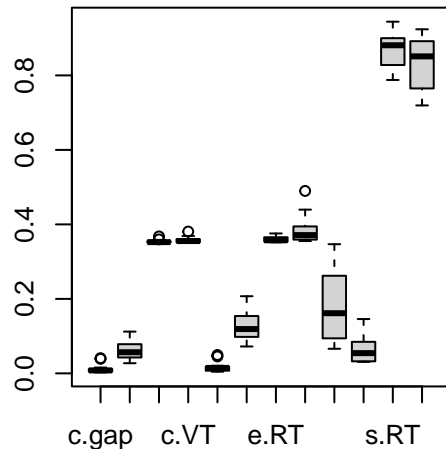


help("simulation.circ")

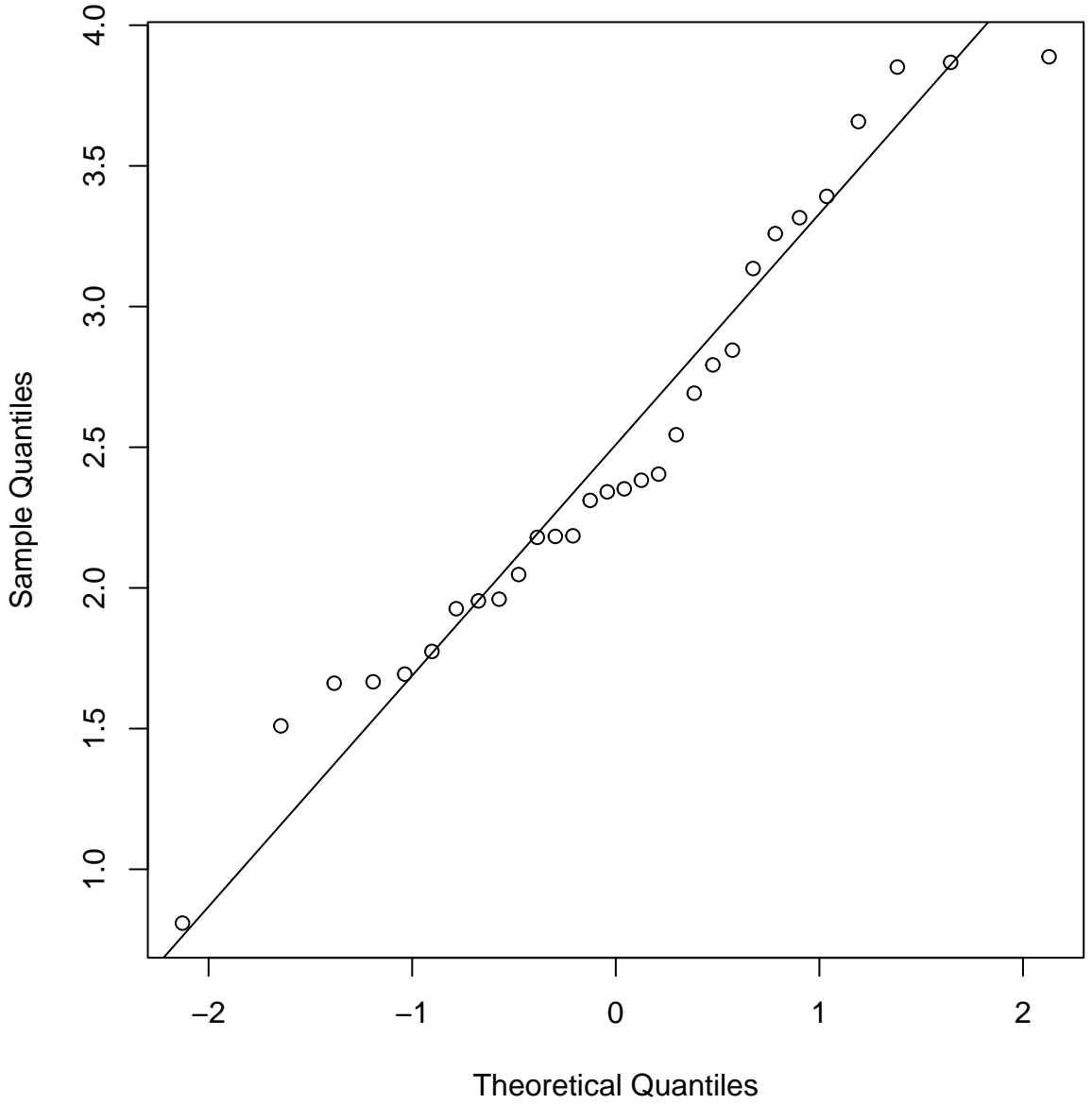
Fisher x Rotation



Box Plot of all tests

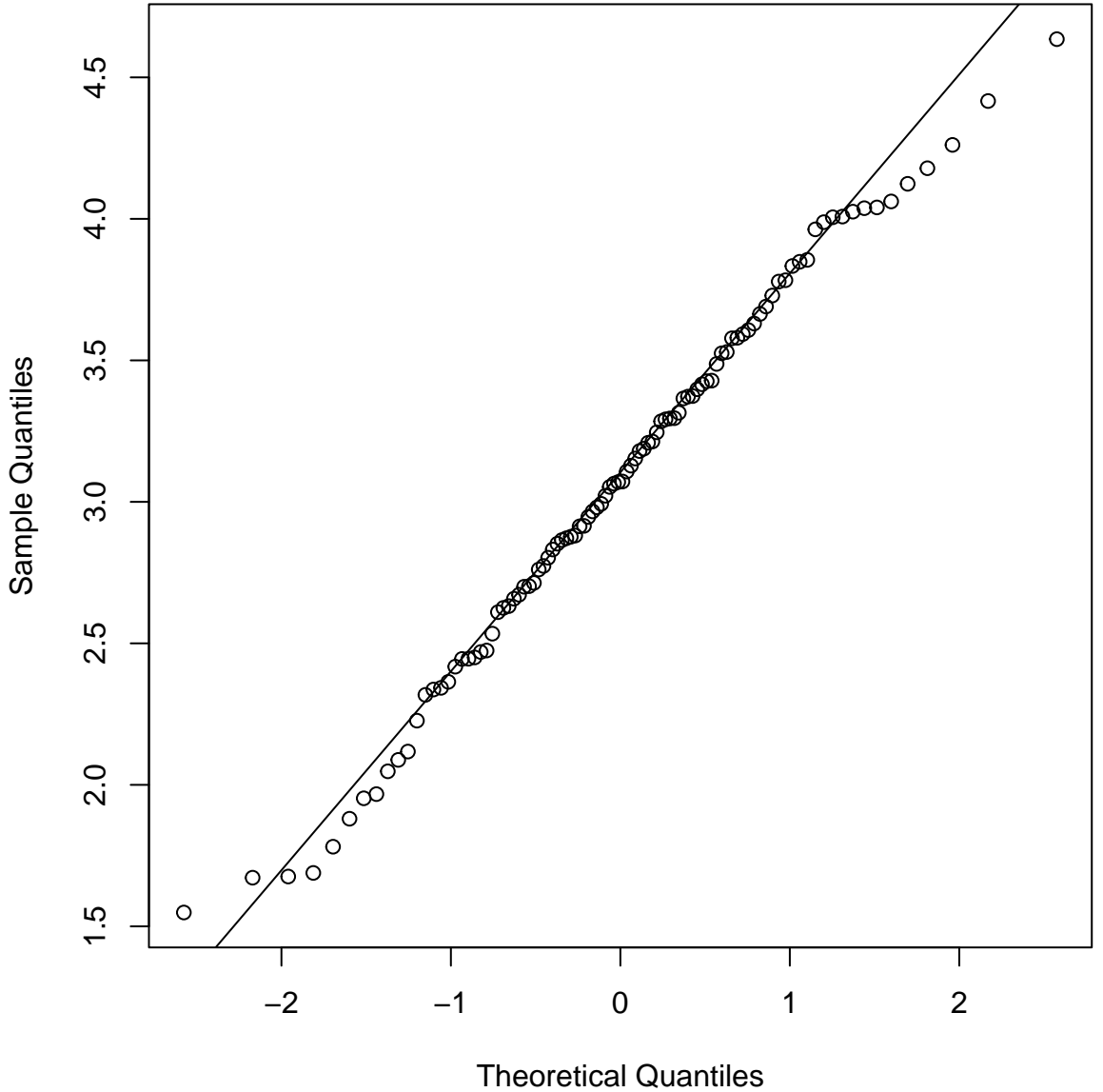


Normal Q-Q Plot



help("skew")

Normal Q-Q Plot



[help\("skew"\)](#)

Sentences

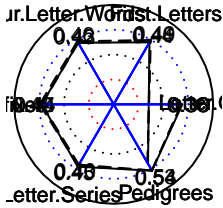


Sentences

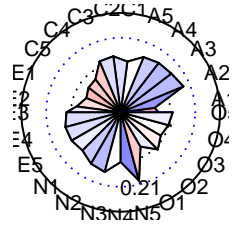


help("spider")

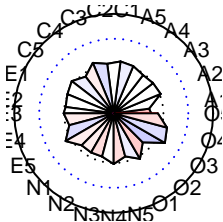
Sentences



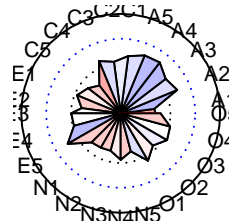
gender



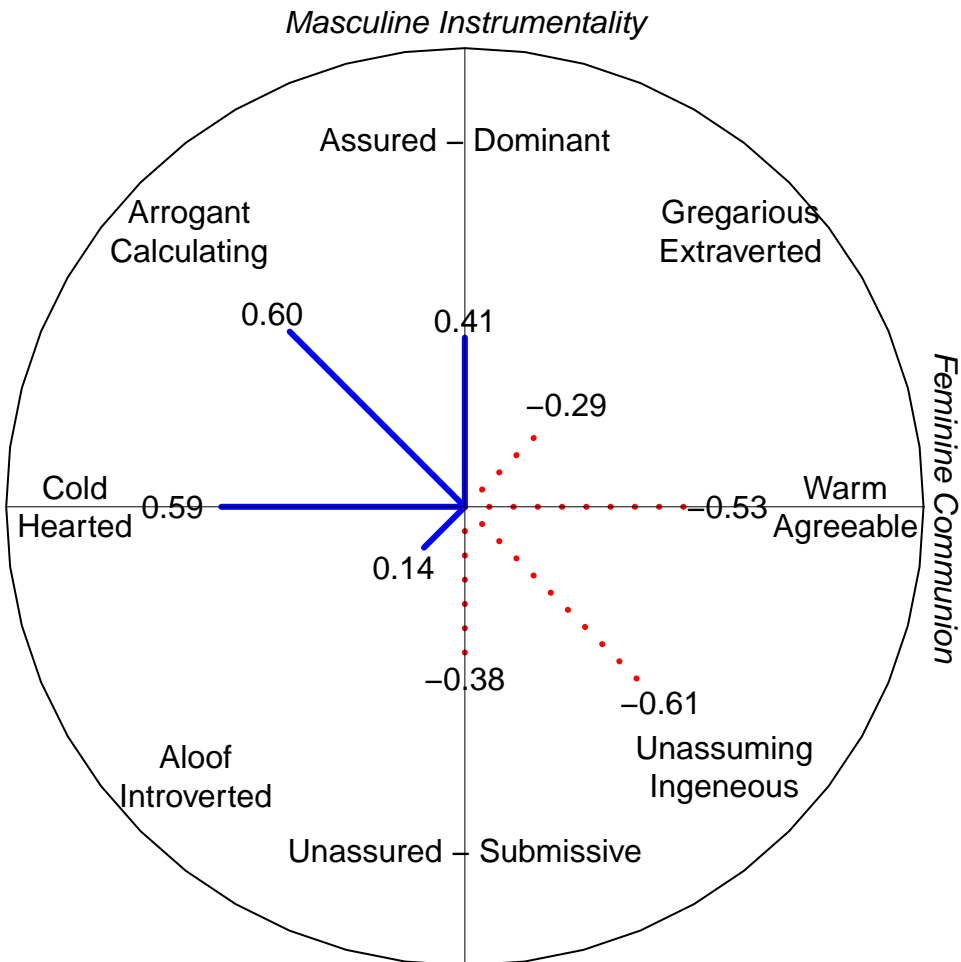
education

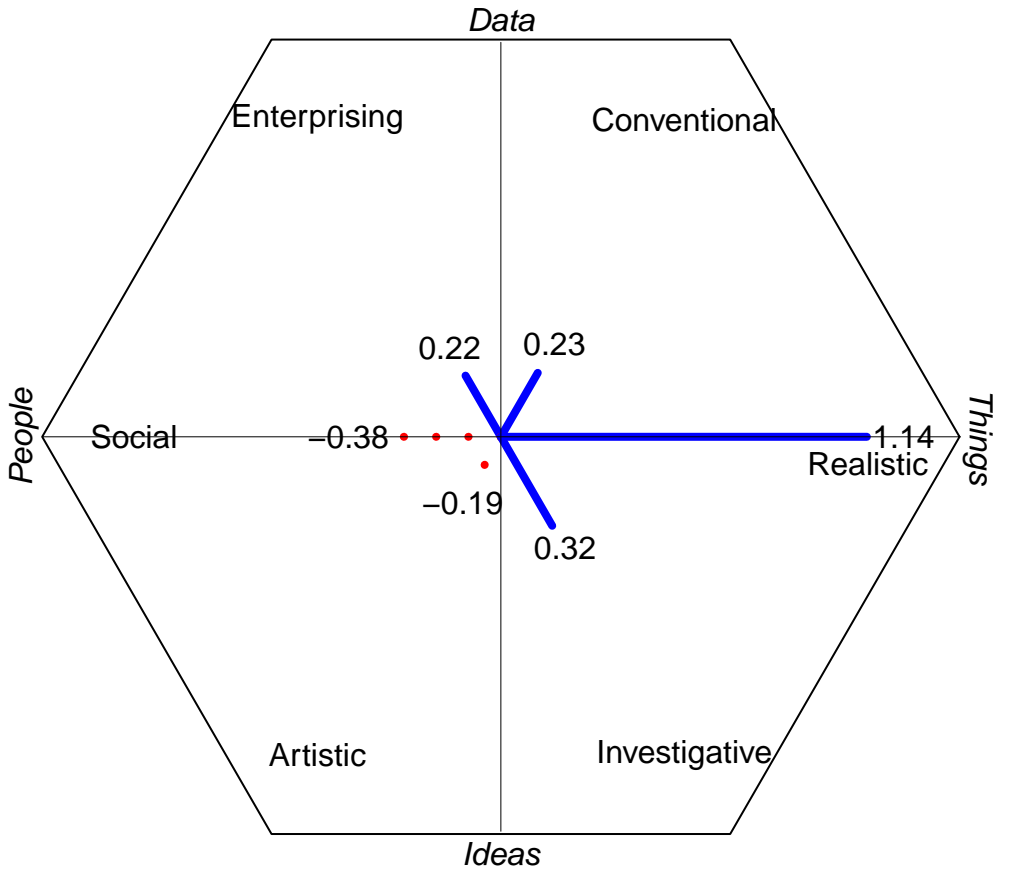


age

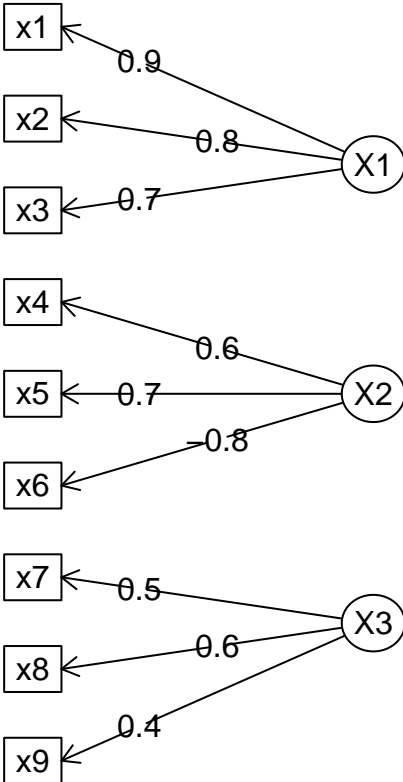


Data from Lippa (2001)

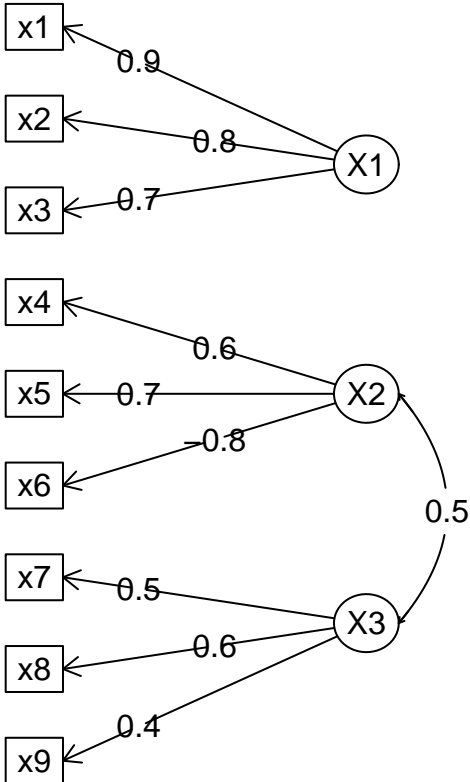




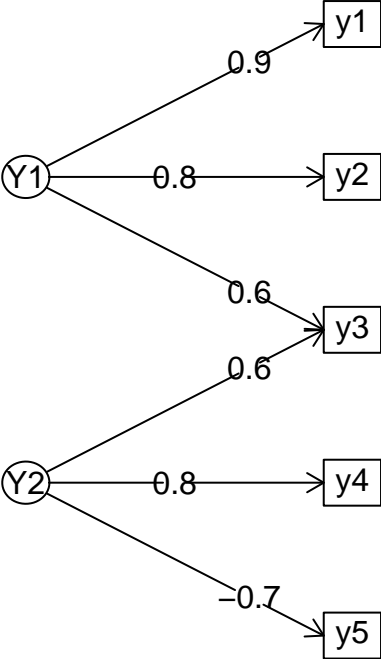
A measurement model for x



A measurement model for x

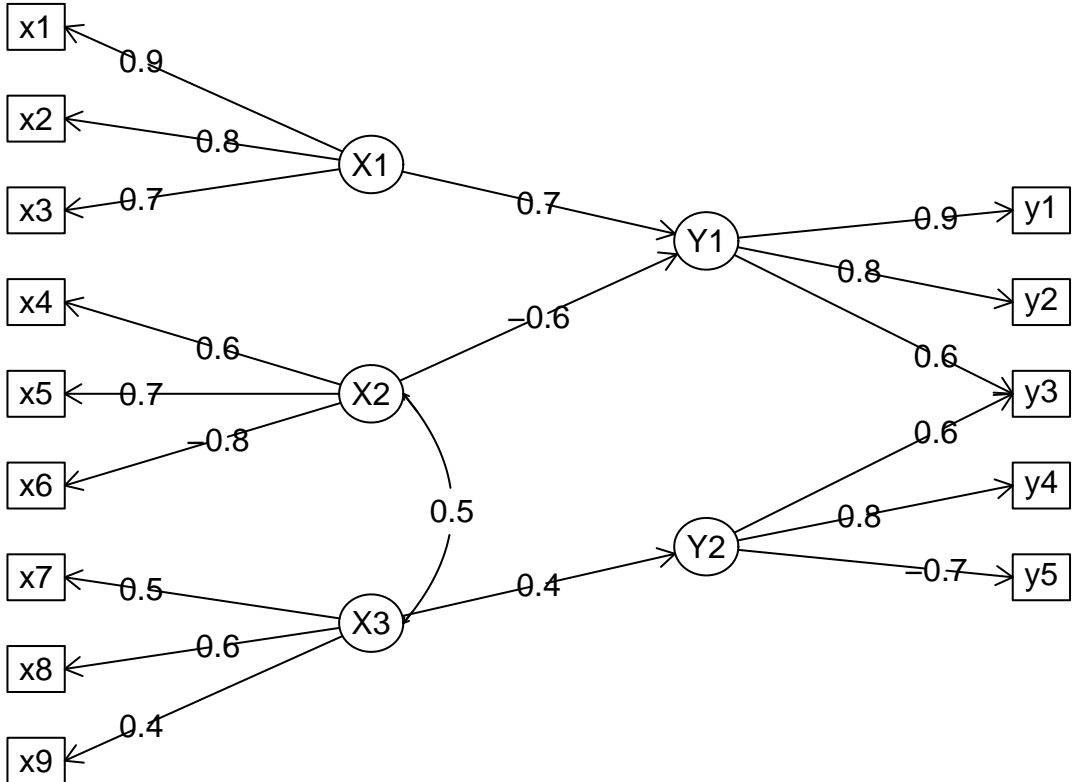


A measurement model for y

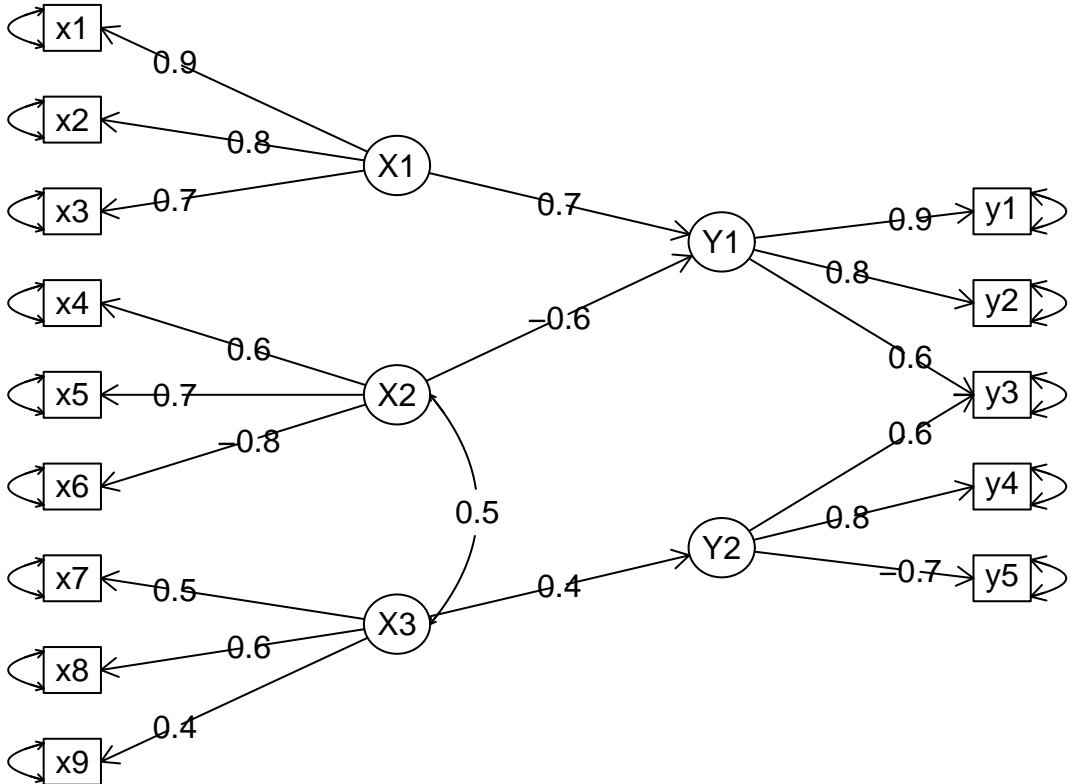


`help("structure.diagram")`

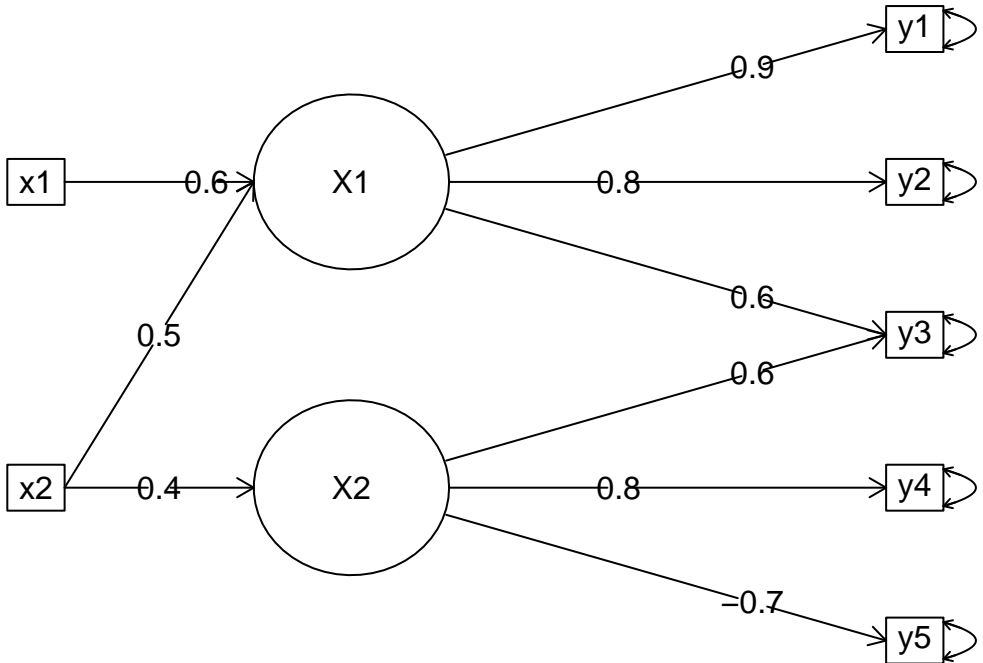
A structural path diagram



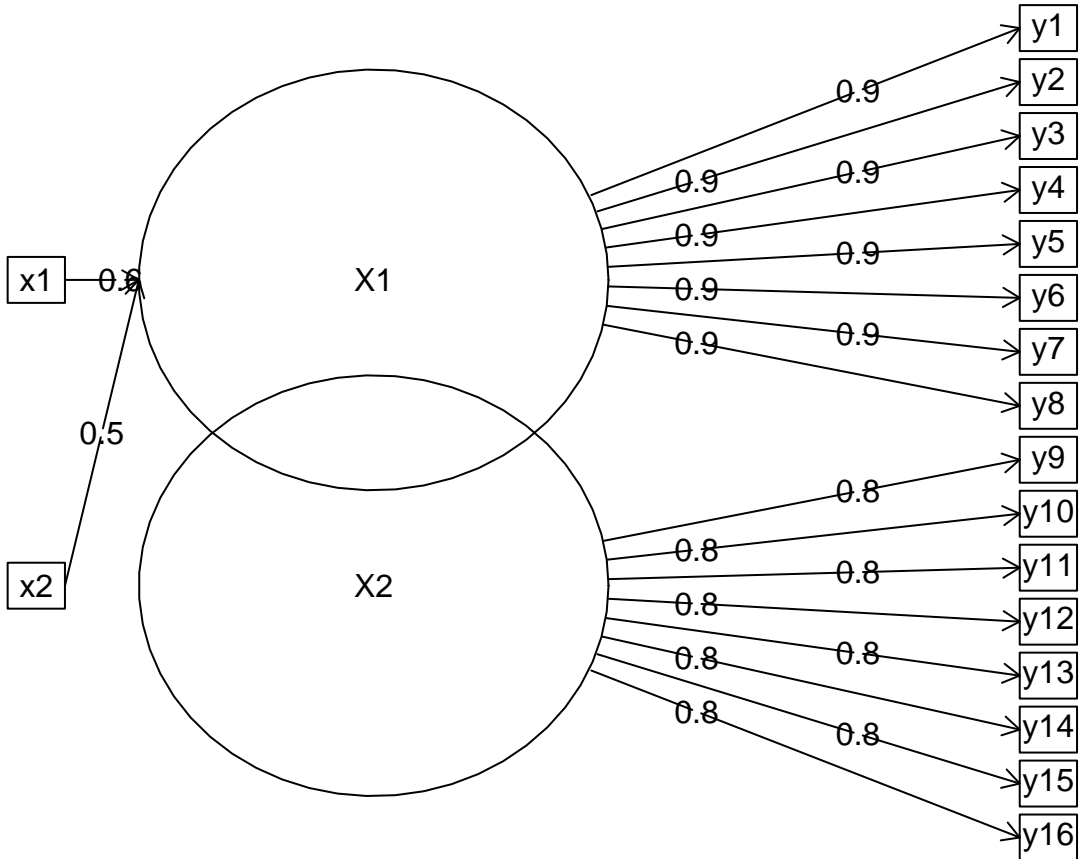
A structural path diagram



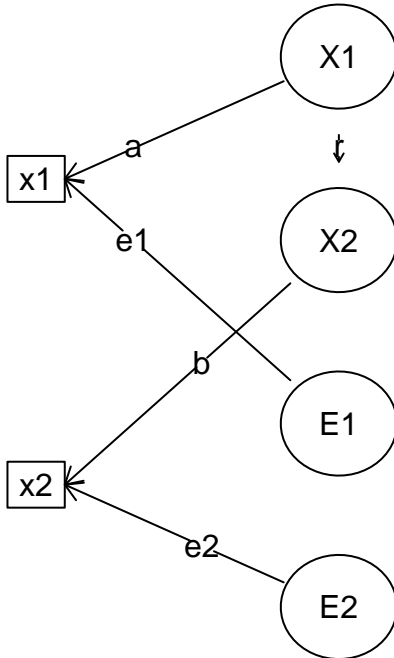
A mimic diagram



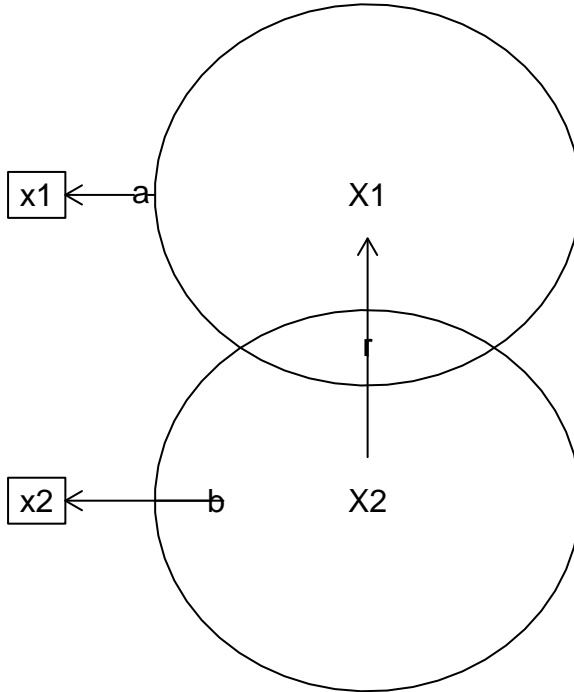
Structural model



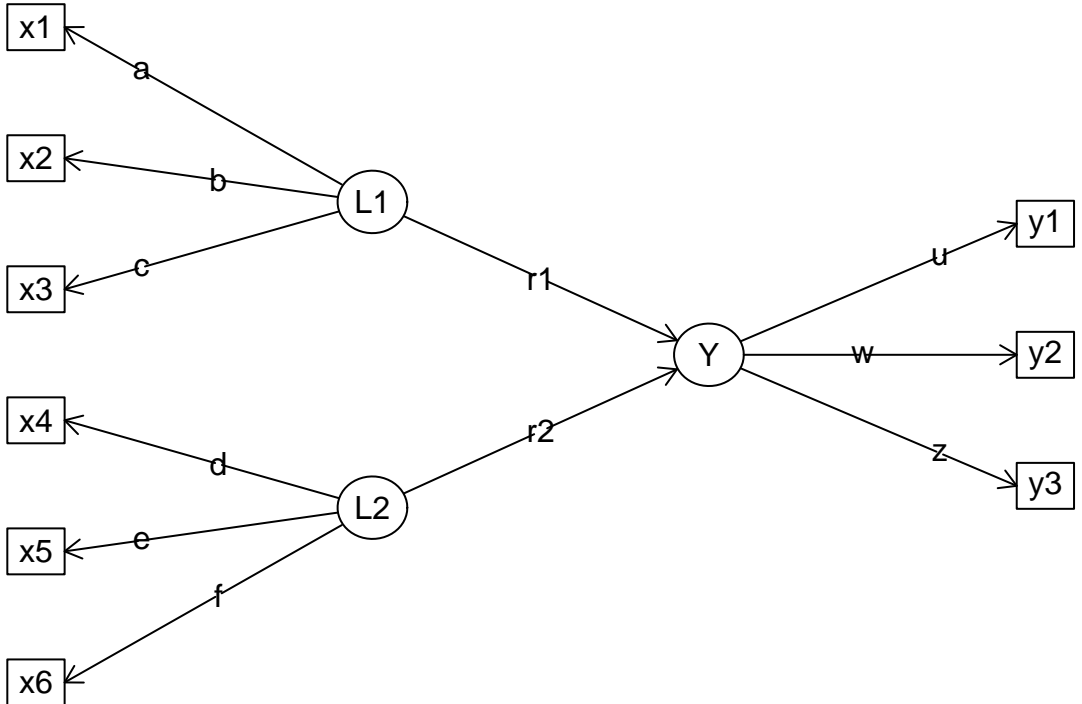
A symbolic model



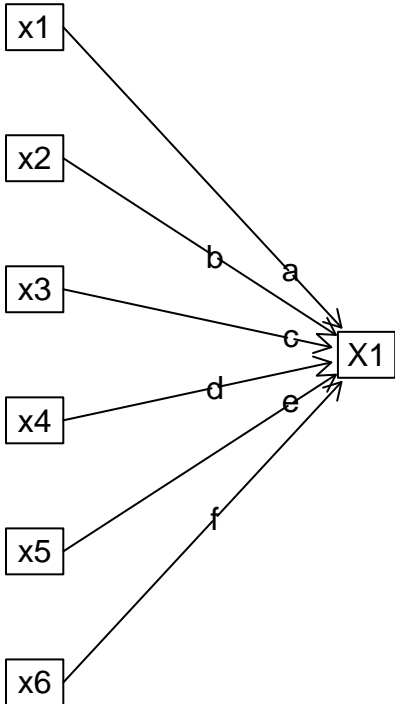
an alternative representation



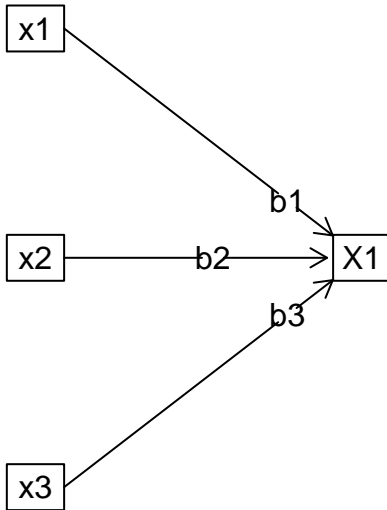
Structural model

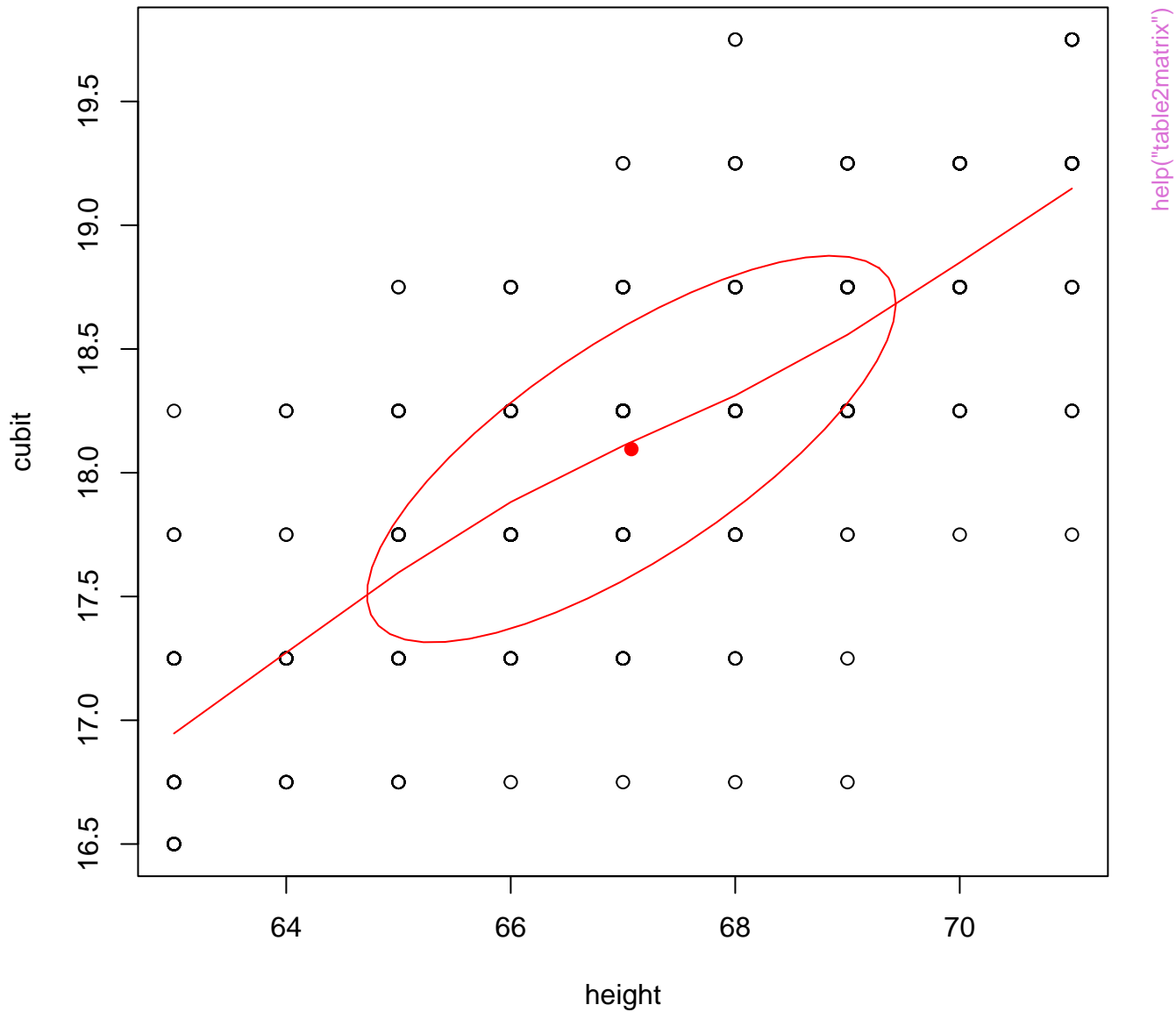


Regression model

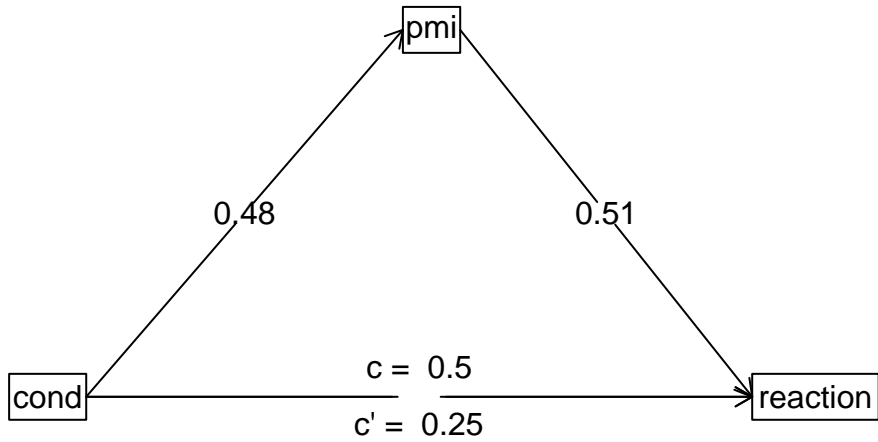


Regression model

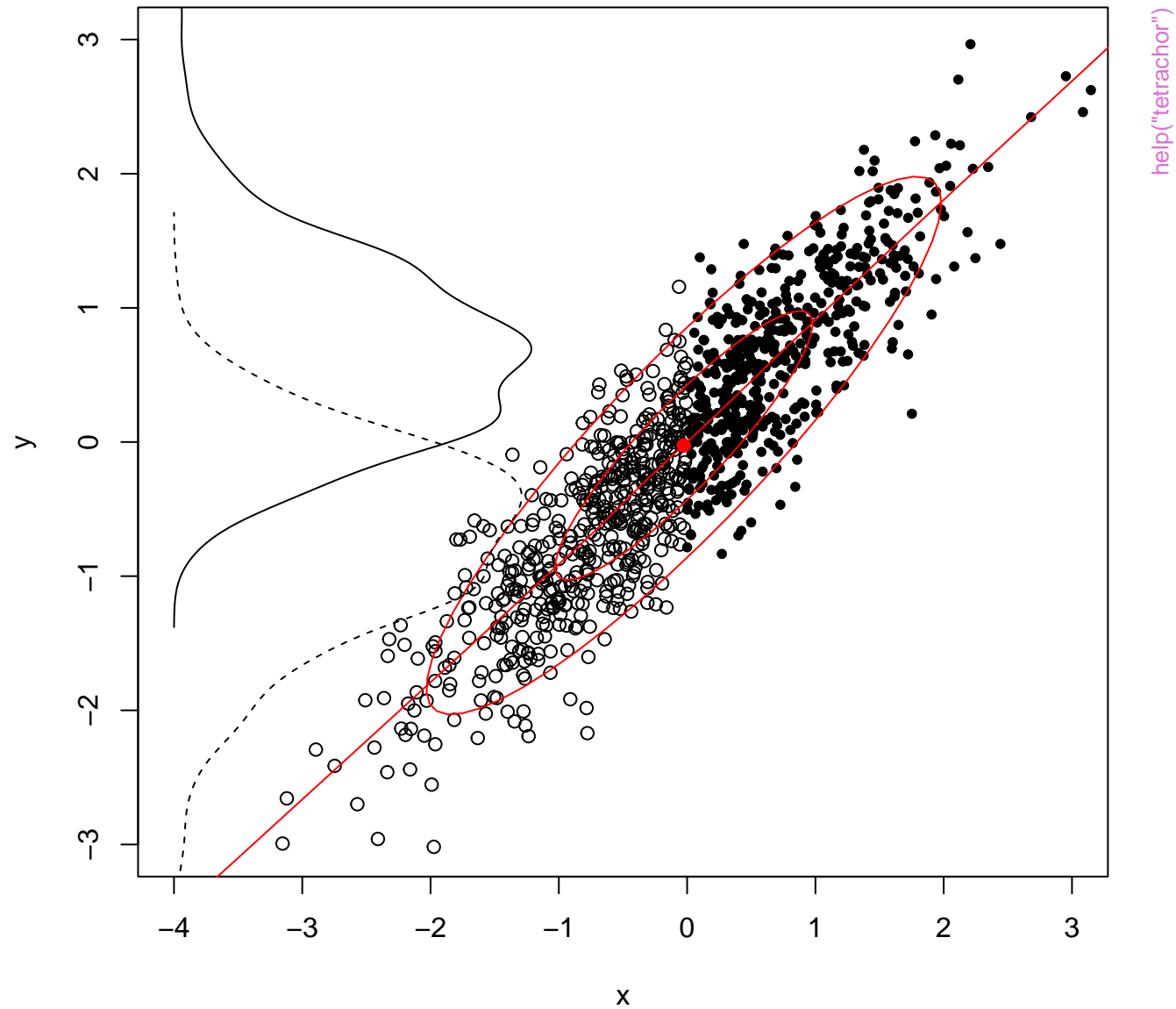




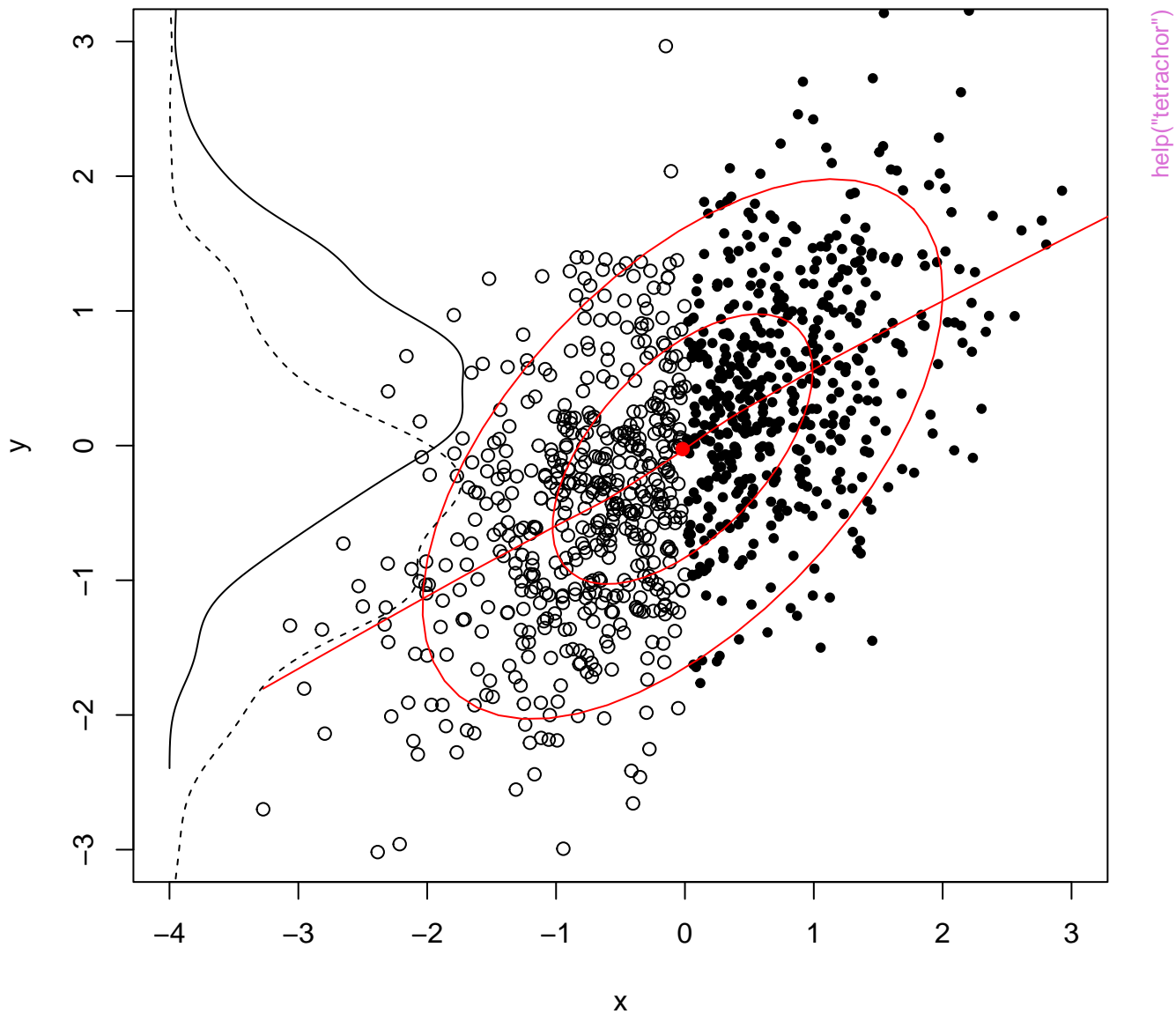
Mediation



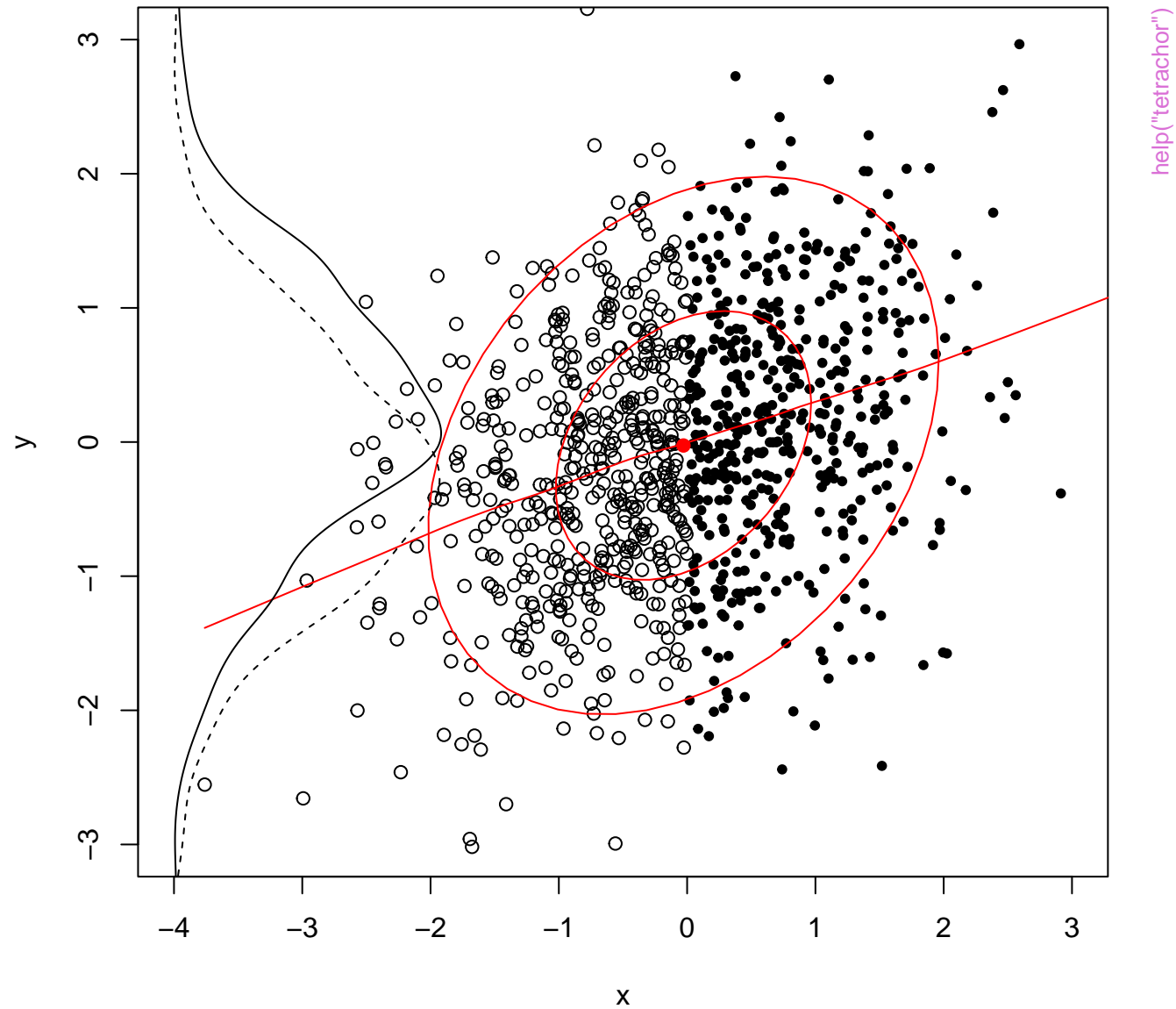
$r = 0.9$ rpb = 0.71 rbis = 0.89



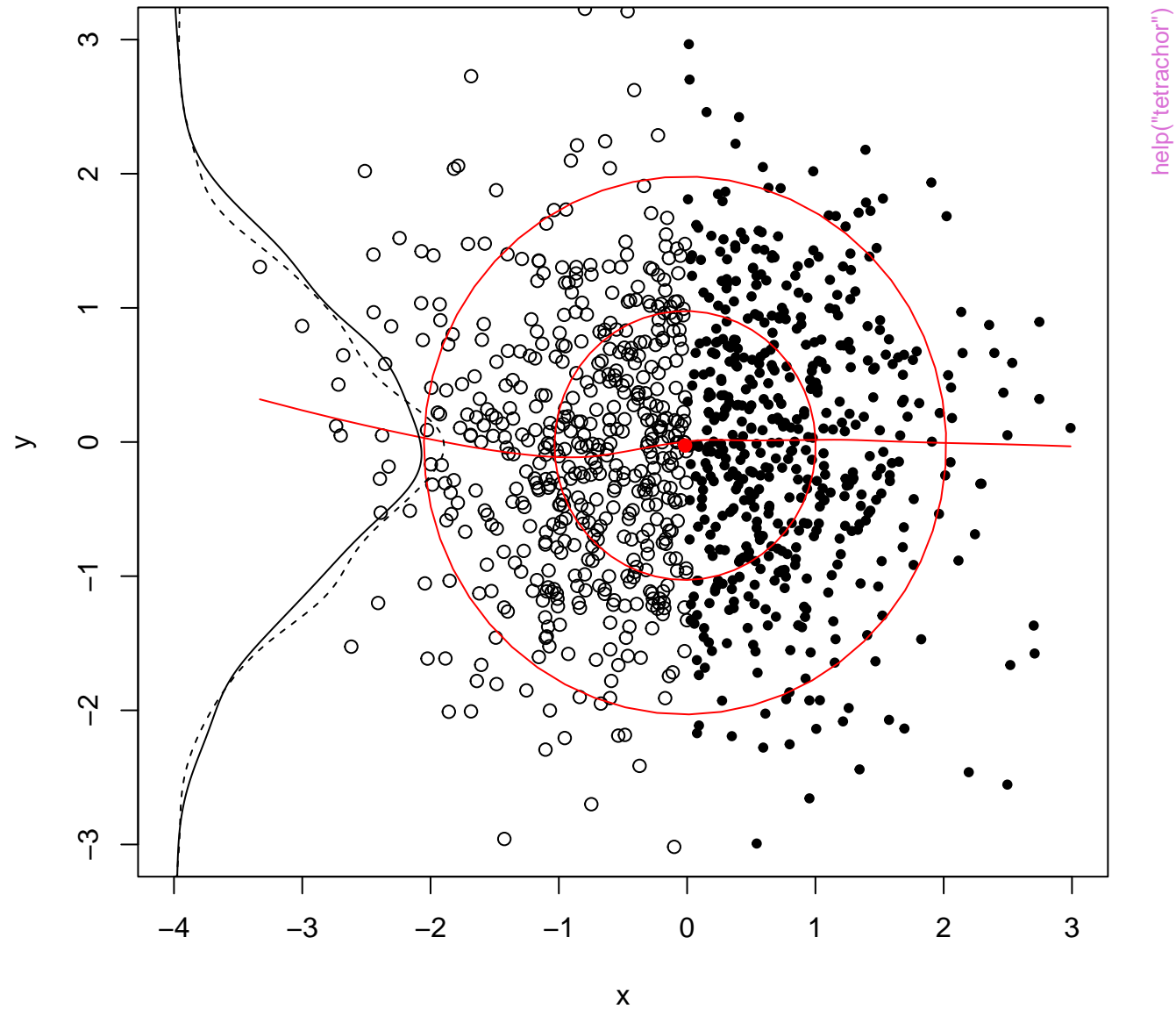
$r = 0.6$ rpb = 0.48 rbis = 0.6

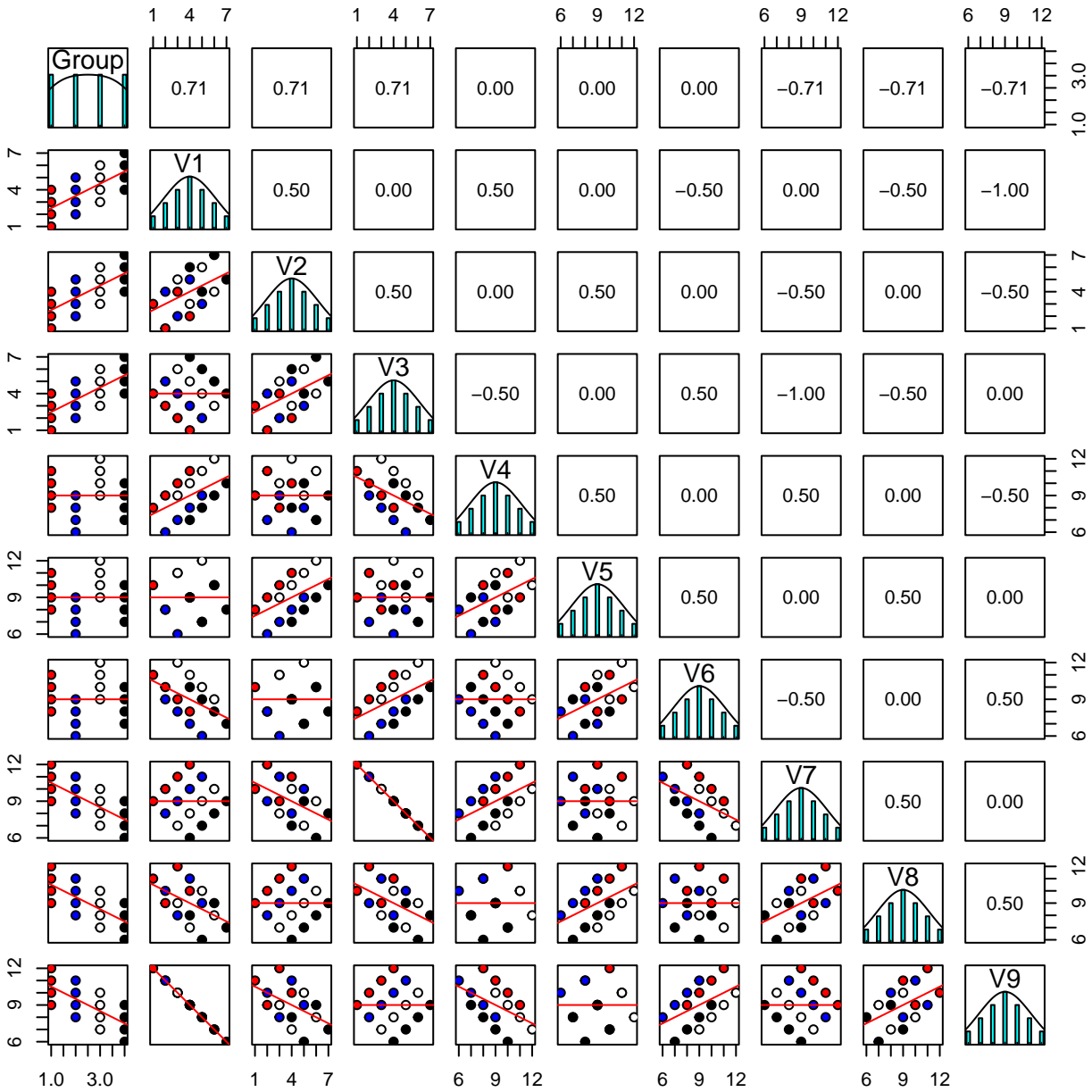


$r = 0.3 \text{ rpb} = 0.23 \text{ rbis} = 0.28$



$r = 0 \text{ rpb} = 0.02 \text{ rbis} = 0.02$





help("withinBetween")