Q2: correlation analysis among the MRI count and IQ variables

Correlations of the IQ measurements with MRI count (p-value for test of $\rho = 0$ is in brakets):

-	Full data	High-IQ group	low-IQ group
FSIQ	0.3576(0.0235)	0.5483(0.0123)	0.5273(0.0169)
VIQ	0.3375(0.0332)	0.4067(0.0752)	0.1464(0.5381)
PIQ	0.3868(0.0137)	0.2013(0.3948)	0.5862(0.0066)

From the correlation analysis, we conclude that

- There is a weak correlation between MRI count and FSIQ for full data whereas there's moderate correlation for high and low IQ group. Since the p-values are less than significance, the correlations are significance and there is evidence to show the relationship.
- There is a weak correlation between MRI count and VIQ for the full data and since p-value is less than significance level the correlations are significant and there is evidence to show the relationship. There is a moderate correlation between MRI count and VIQ for the high IQ group but since the p-value is greater than significance level the correlation is not significant. There is negligible correlation between MRI count and VIQ for the low IQ group but it's not significant.
- There is a weak correlation between MRI count and PIQ for full data and it is significant. There is a weak correlation between MRI count and PIQ for highIQ group but it's not significant. There is a moderate correlation between MRIcount and PIQfor lowIQ group and it's significant.
- There is a conflict between the correlation between MRI count and PIQ for high IQ groups and for the low IQ groups. When we look at the p-value for the correlation between MRI count and PIQ for the high IQ group we conclude that they're not correlated whereas when we do the same for low IQ group we conclude that they're not correlated.