Geary c

- Focus on Dissimilarity
  - Squared difference as a measure of dissimilarity
  - Similar notion of variogram (geostatistics)
  - Values between 0 and 2.

Value > 1 → Negative corr.

Value $= 1$ → No corr.

Value < 1 → Positive corr.

Geary - c

$$c = \frac{(n-1)\sum_i \sum_j w_{ij}(x_i - x_j)^2}{2\left(\sum_{i \neq j} w_{ij}\right)\sum_i (x_i - \bar{x})^2}$$

$$c = \frac{\sum_i \sum_j w_{ij}(x_i - x_j)^2 / 2\left(\sum_{i \neq j} w_{ij}\right)}{\sum_i (x_i - \bar{x})^2 / (n-1)}$$

$\rightarrow$ = variance σ^2

Eq(1,2,3)

Local Geary - c

$$c_i = \sum_j w_{ij}(x_i - x_j)^2$$

Check paper:
A local indicator of multivariable spatial Association: Extending Geary's c
From: Luc Anselin

Standardized Local - Geary - c

$$St(c_i) = \frac{\sum_j w_{ij}(x_i - x_j)^2}{\sigma^2}$$

Geary - c From St(ci)

$$c = \frac{St(c_i)}{2\left(\sum_{i \neq j} w_{ij}\right)}$$