9.7 Variability weighting

Hallett, Valesini & Clarke (2012) describe a similar idea to dispersion weighting for use when the data are continuous biological variables, such as diversity indices or other measures of ecological health of an assemblage. For such non-quantity data, for which zero plays no special role (and measures can be negative), variance-to-mean ratios are inappropriate. Instead, a natural weighting of indices in Euclidean distance calculation might be to divide each index by an average measure of its standard deviation (or range or IQ range) over replicates from each group. Indices with high replicate variability are then given less weight than more consistent ones. In some cases this may be preferable to normalising, which gives each index equal weight.

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