

For illustration purposes the following examples of measuring dissimilarity could be viewed in a population genetic context, in which genetic markers are the traits, populations are the factors, gene pools are the levels of the factors, and mixture proportions of gene pools represent the degrees of factor participation.

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- Contribution vectors differ in two respects, factor participations and factor levels. Factor participations provide weights to factor levels.
- Primary differences are defined among factor levels. The same difference measure applies to levels of the same factor and levels of different factors (such as genetic distances among populations).
- If the situation of complete distinctness is to be distinguished, difference measures must be dissimilarity measures with maximum values (usually 1) indicating complete distinctness.
- Complete distinctness between two contribution vectors is realized if among the factors represented in the two vectors a factor either participates only in one vector (zero participation in the other) or the factor participates in both vectors with completely distinct levels.
- Measures of association require dissimilarities as difference measures in order to indicate states of complete association. Quantification of dissimilarity is required for the presumptive causal variable.
- Dissimilarity between two contribution vectors is measured by the minimum degree to which the participations of the factors in one vector must be transformed in order to make it match the factor participations in the other vector. This is carried out by shifting the participation excesses of factor levels to other factor levels of deficient participation, for which shifts occur among as similar of levels as possible (Gregorius et al., 2003).