

1. We are measuring the blood pressure with an arm and a finger device. Our aim is to compare if the two devices has a good agreement (measuring the same values).

a) What kind of a plot is appropriate to use?

A: Bland-Altman plot

b) What will be on the X and Y axis in this plot?

A: on X: mean of the corresponding values, on Y: difference of the corresponding values

2. 5 clinicians evaluate Xray pictures for how good is it for diagnostics. Their answers are measured on subjective ordinal scale (1-10). Which index (coefficient) and hypothesis test could be a good choice to describe the agreement?

A: Kendall W and Kendall-Babington Smith test

3. 5 clinicians evaluate Xray pictures if it is good for diagnostics. Their answers are measured on a nominal scale (good, not good). Which index (coefficient) could be good choice to describe the agreement?

A: Fleiss' kappa

4. TRUE or FALSE?

a) Correlation describes symmetric monotonic relation between variable A and B.

T

b) Correlation describes symmetric parabolic relation between variable A and B.

F

c) Regression describes symmetric monotonic relation between variable A and B.

F

d) Pearson r can be used as measure of „strength” of any monotonic correlation between A and B.

F

e) Spearman rho can be used as measure of „strength” of any monotonic correlation between A and B.

T

f) Both Pearson r and Spearman rho can be used as measure of „strength” of any linear correlation between A and B.

T

g) Regression describes function relation between a dependent and an independent variable.

T

h) With regression we may answer if A depends on B or B depends on A.

F

i) With regression we can answer if there is (a given kind) of statistical relation.

T

j) With regression we can answer if there is (a given kind) of casual relation.

F

k) With regression we can answer (estimate) what is the value of Y if X value is given.

T

l) With regression we can answer (estimate) what is the value of X if Y value is given.

T

m) For correlation both X and Y have to be random variables.

T

n) For correlation at least Y have to be random variable (X is not necessary) .

F

o) For regression both X and Y have to be random variables.

F

p) For regression at least Y have to be random variable (X is not necessary) .

T

q) An assumption in linear regression that the distribution of variables have to be normal.

F

r) An assumption in linear regression that the distribution of residuals have to be normal.

T

s) The meaning of  $R^2$  (in regression we have learned) is how much variability of Y explained by X.

T

t) Assumptions of linear regression can be checked by other hypothesis tests (eg. normality test).

F

u) Assumptions of linear regression can be checked by plots (eg. residuals versus fitted).

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