Review of: "Decoding the Correlation Coefficient: A Window into Association, Fit, and Prediction in Linear Bivariate Relationships"

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Potential competing interests: No potential competing interests to declare.

In this paper, the concepts of the correlation coefficient (r) and the coefficient of determination (R^2) are misunderstood.

The correlation coefficient is used as a criterion for the correlation analysis. In this analysis, both x and y are random. That is, the variables x and y are both random and are observations from a joint density function.

The coefficient of determination is used as a criterion for the regression analysis. In this analysis, x is an independent variable and y is a dependent variable. To evaluate the relationship between x and y, the coefficient of determination is a criterion. However, it cannot serve as the sole criterion. Other criteria, such as residual plots, normal distribution test, t-test for slope and intercept, etc.