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.

The article “Decoding the Correlation Coefficient: A Window into Association, Fit, and Prediction in Linear Bivariate Relationships” provides a useful insight into a limitation of the correlation coefficient.

A set of points that lie perfectly on a line will generate a Pearson correlation coefficient |R| = 1 as long as the linear regression slope is not horizontal or vertical. If the linear regression slope is 1 or 0.0000001, |R| will still be 1 (and in the limit as the slope approaches zero or infinite, R becomes undefined). One can change the units of either X or Y to generate a desired slope but the value of R remains unchanged.

An individual who computes R should: (1) Compute the associate p-value which will be affected by the number of points (n) and as the article suggests (2) Compute the linear regression slope which should not be extremely small (assuming Y is the dependent variable and appropriately units are used for X and Y).

My only concern with the article is the need for a more extensive literature search. Other authors may have addressed this point tangentially or in an application and a thorough search may uncover other related publications.