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

Michael Wood[1]

1 University of Portsmouth

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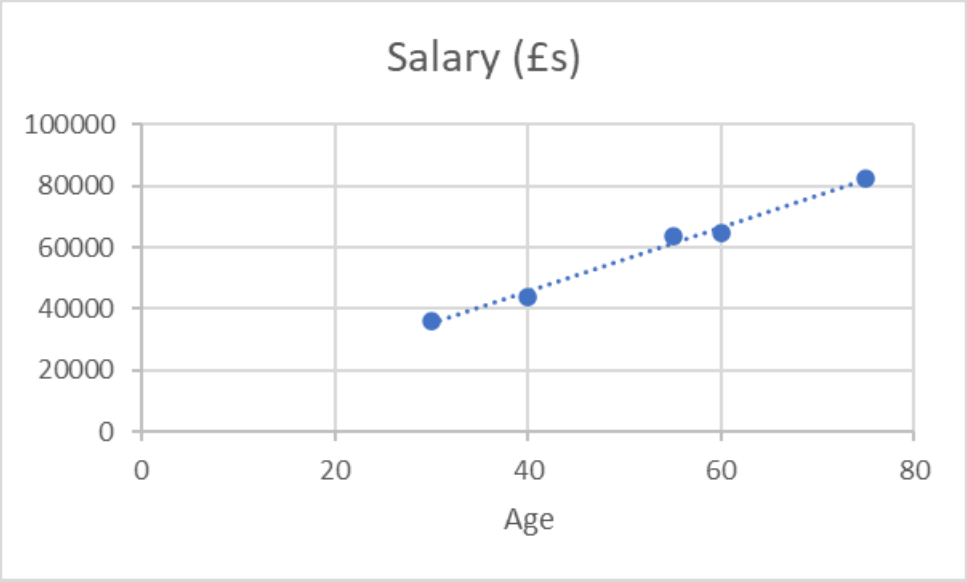
This article certainly tackles an important question given the number of people without the appropriate mathematical background who need to decode statistical concepts like correlations. However, my feeling is that given that the potential audience is likely to be people who need a quick and practical explanation without going into technical details, the article would be much better if it included at least one simple numerical example, at least one diagram to show the scatter of the data and a graph of a regression line, and avoided bringing in another technical concept – standard deviation. The article as it stands strikes me as rather confused, introduces concepts like the coefficient of determination without any real explanation, and certainly does not need separate sections for “Methodology”, “Argument” and “Discussion”.

My suggestion is that the article would be far more useful if it were based around an example like this:



The correlation coefficient here is 0.99, and the slope of the regression line is 1045. The correlation means that the relationship between the variables is very close to being a positive linear one, and the slope indicates that the predicted difference in salary for two people who differ in age by one year is £1045. It should be clear that these two numbers represent completely different quantities without bringing in standard deviations. Further graphical examples could be

used to extend the discussion to the coefficient of determination, and perhaps make the point that these concepts are not helpful if the relationship between the variables is not linear.