



Standardized coefficients

A standardized beta coefficient is a coefficient used to compare the strength of the effect of each individual predictor (independent variable) to the outcome variable. To compare coefficients, the absolute value of the coefficients is used. Standardized beta coefficients have standard deviations as their units and can thus easily be compared to each other. Standardized beta coefficients are the coefficients that you would get if the variables in the regression were all converted to z-scores before running the analysis.

Standardized coefficients can be obtained in two ways. The first way is to standardize all variables (outcome and predictors) prior to the analysis. This implies calculating the z scores for each. For example, the z score for age would be calculated as

$$\frac{(age - mean[age])}{std.dev.(age)}$$

Your output would then give standardized coefficients as results.

The second way, based on what is used in regression analysis, is an after-the-analysis approach. In that case, you would take the estimated coefficient obtained from the output, multiply it by the standard deviation of the predictor variable and divide it by the standard deviation of the outcome variable. That would be

$$regression\ coefficient(age) \times [std.dev(age) / std.dev.(y)]$$

However, the interpretation of standardized coefficients is not necessarily straightforward. See, for example,

<https://www3.nd.edu/~rwilliam/stats1/x92.pdf>

for a discussion of possible pitfalls.