Ubiquitous bias & false discovery due to model misspecification in analysis of statistical interactions: The role of the outcome's distribution and metric properties

Supplemental Figures

Figure S1: Scatterplot of y ($y^\star$ suppressed given the difference in scales) as a function of xz for different values of λ ($\beta_0 = 0, \beta_1 = \beta_2 = 1, \sigma^2_y = 0.25, \alpha = 0, N = 1000$) when y_i is a transformed outcome.

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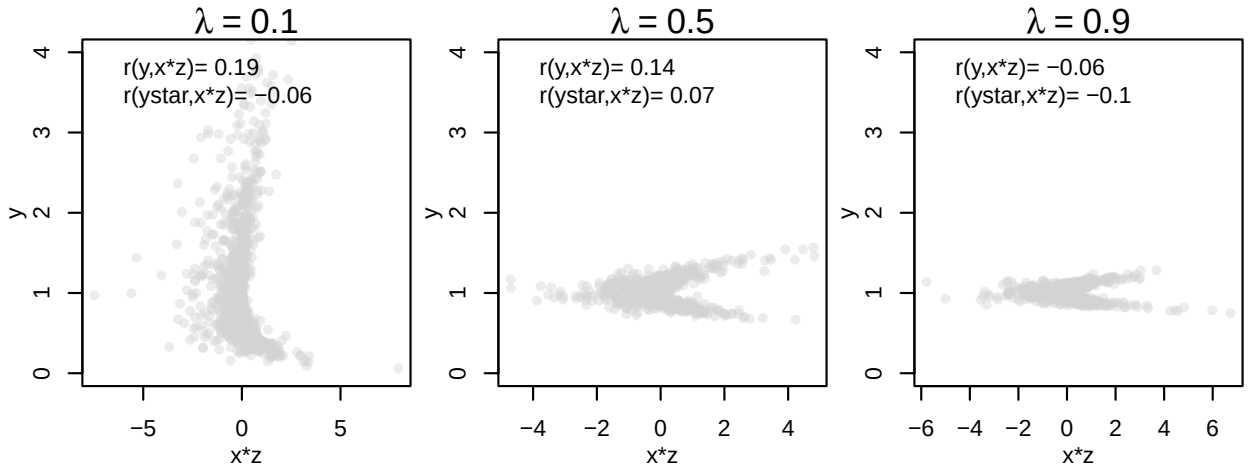

Figure S2: Illustration of the geometry driving false discovery due to variation in λ when the linear model is used ($\beta_0 = 0, \beta_1 = \beta_2 = 1, \sigma_y^2 = 0.25, \alpha = 0, N = 1000$) for analysis of transformed outcomes. Blue and red dots represent those data points within half a unit of their respective z values (i.e., z such that $|z - 1| < 0.5$ are in blue and z such that $|z + 1| < 0.5$ are in red. Fitted lines for ± 1 are similarly shaded). Dashed lines are fits from linear model.