SYSTAT v13 was used for the random effects analysis. The model and equations are obtained from SYSTAT’s reference literature.

Specifically, in this instance, a linear mixed model was used.

y = INTERCEPT + Xβ + Z1γ1 + Z2γ2 + ε

y is the response vector, in this case the Likert score. X is the fixed effect which is AUCDesat, Desaturation (categorical), Desaturation Incidence, Desaturation Depth, or Desaturation Duration. β is the fixed effect coefficient. Z1γ1 is the random effect of the reviewer (categorical) and its coefficient. Z2γ2 is the random effect of the record (categorical) and its coefficient.

The SYSTAT code for the model is:

MIXED

RESET

MODEL SCORE = INTERCEPT + AUCDESAT

RANDOM CHART REVIEWER / STRUCTURE = VC

CATEGORY CHART REVIEWER

REPEATED / STRUCTURE = VC

ESTIMATE / METHOD = REML TYPE = HESSIAN CONVERGENCE = 1e-008 NNR = 20 NEM = 5 HALF = 50 TOLERANCE = 1e-012 CONFI = 0.95 CRITERION = RELATIVE