Posterior Predictive Check Linearity Model-predicted lines should resemble observed data line Reference line should be flat and horizontal 600 0.0015 300 Residuals Density 0.0010 0.0005 -300-6000.0000 0 500 1000 1500 400 500 600 700 900 -500300 TFD Fitted values Observed data — Model-predicted data Homogeneity of Variance Influential Observations Reference line should be flat and horizontal Points should be inside the contour lines 18008 1.5 √|Std. residuals| 300 Std. Residuals 0.5 1.0 0.5 -300 2910 **18006** 300 400 500 600 700 800 900 0.00 0.05 0.10 Fitted values Leverage (h_{ii}) Normality of Residuals Collinearity High collinearity (VIF) may inflate parameter uncertainty Dots should fall along the line Sample Quantile Deviations 600 10 Variance Inflation Factor (VIF, log-scaled) 300 5 3 -300 2 -600 -500 Condition Relations by posting the condition of the condi 0 Standard Normal Distribution Quantiles Low (< 5) Normality of Random Effects (ID) Normality of Random Effects (Stimulus) Dots should be plotted along the line Dots should be plotted along the line (Intercept) Sexual_dimorphismFeminized 200 200 25 RE Quantiles Quantiles 100 0 0 RE (-200 -100 -25 -2 0 2 3 -3 0 2 3 -2 -10 2 **Theoretical Quantiles Theoretical Quantiles**