

## Figure 1-figure supplement 1

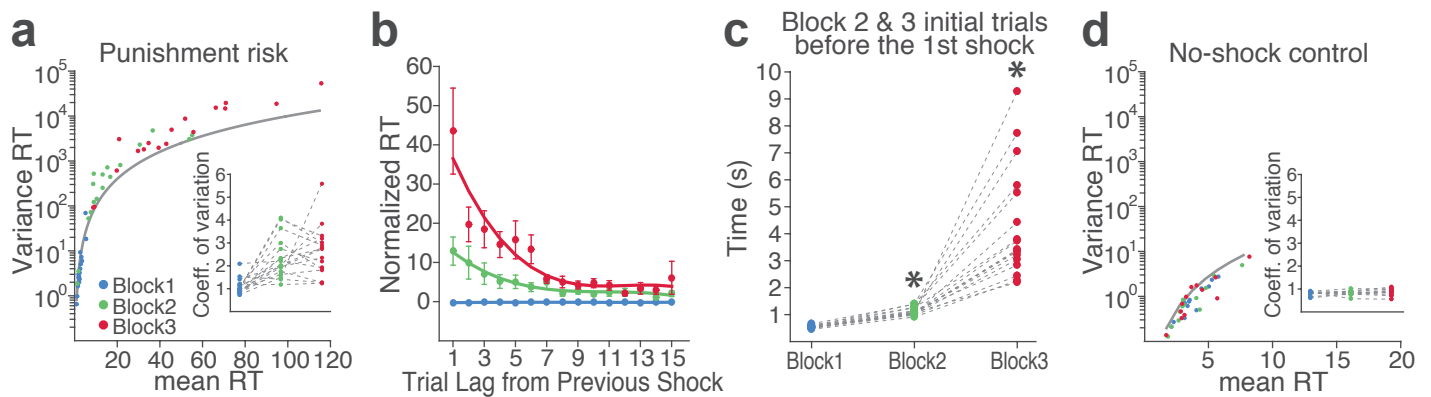


Figure 1-figure supplement 1. Punishment increases trial-to-trial variability in RT. (a) Colored dots represent individual animals' variance RT across trials in different blocks as a function of mean RT. The gray curve indicates expected variance RT given the mean RT, considering RT as time intervals in Poisson point process. Note that variances of RT in block 2 & 3 appear above the gray curve. (Inset) Coefficients of variation significantly increase as a function of punishment. (b) RT varied systematically as a function of the trial lag (distance) from the previously punished trial in blocks 2 & 3. Each dot represents RT normalized to the mean and the standard deviation RT of the block 1 plotted as a function of the trial lag from the previous shock trial. Each curve represents the polynomial fit of each block's data. (c) To examine whether animals predicted upcoming increase in punishment risk based on learning from previous sessions, we compared the RTs of initial trials of block 2 & 3 prior to the 1st shock in each block. Asterisks indicate a significant increase from the block 1 mean RT (GLM repeated measures, post hoc pairwise comparisons,  $p < 0.001$ ). (d) Individual mean and variance RT of the no-shock control session exhibit lack of change across blocks. (Inset) Coefficients of variation did not differ across blocks in the absence of risk.