

Figure 7 – Figure Supplement 1

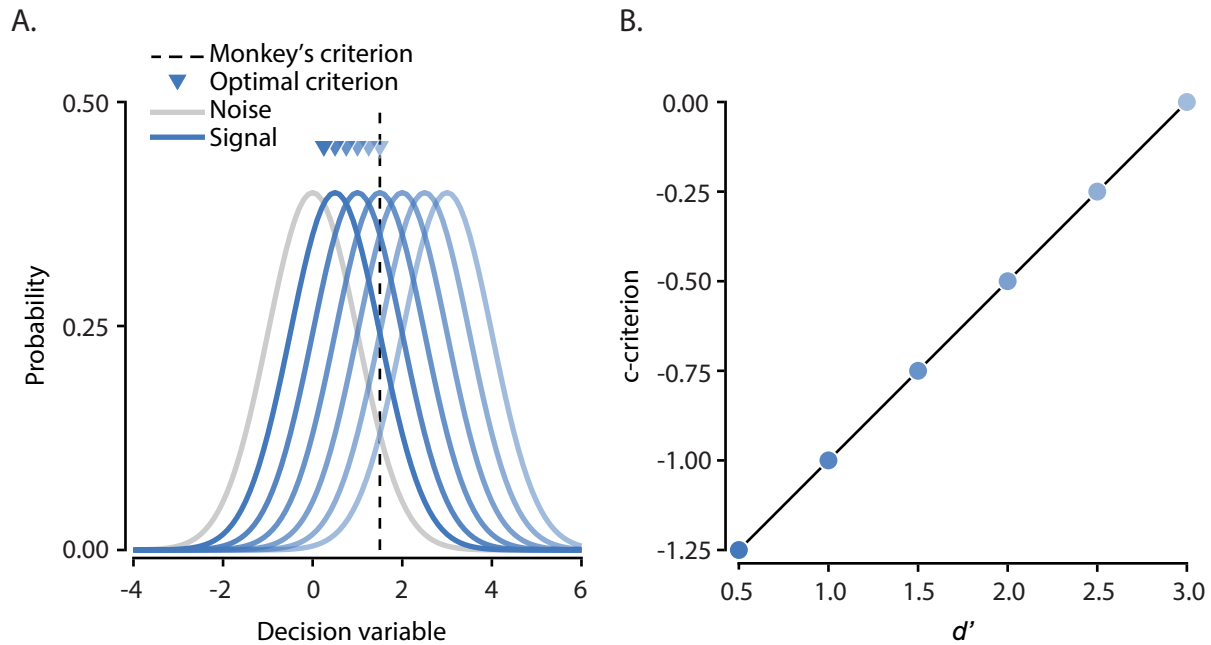


Figure 7 – Figure Supplement 1. Analysis of the relationship between d' and c-criterion computed using the standard formula from signal detection theory (Macmillan, 2004). (A) Noise (gray, $N(0,1)$) and signal (blue) distributions of decision variables with same variance are plotted. The effect of the laser is assumed to reduce the mean of the signal distribution. Shown are the monkey's criterion (vertical dashed line) and the optimal criterion (blue triangle) for each signal distribution. The optimal criterion is the point of intersection between the signal and noise distributions. Even if the monkey's criterion does not depend on laser power, c-criterion changes. This is because c-criterion is the difference between the optimal and the monkey's criterion. (B) d' is plotted against the c-criterion for different signal distributions. Under this model, changes in d' are conflated with changes in c-criterion.