



Supplementary Figure 2. Relationship between approach responses and dopamine signal. **(a)** Approach latency histogram for CS+ approaches on the recording day (200 ms time bins). The majority of approach responses occurred within one second of CS+ onset. **(b)** Peri-event histogram of maximal DA signal timing on a given trial relative to the completion of the approach response on the same trial (measured as first lever depression, dashed red line at time zero). Peak [DA] timing was normally distributed around approach response completion. The abscissa has been truncated at -2.5 and 2.5 s relative to the approach response. One animal did not exhibit a statistically significant dopamine response to the CS+ on average and was removed from this analysis. **(c)** Temporal relationship of approach response completion and maximal cue-evoked dopamine signal. Linear regression analysis between latency to approach completion and latency to peak [DA] signal after CS+ onset revealed no correlation ($r^2 > 0.01$, $p = 0.76$). Again, the animal that did not exhibit significant cue-related [DA] signals was removed. **(d)** Magnitude of the dopamine response on a given trial (ordinate, normalized concentration) did not predict the vigor (number of lever presses) after the approach response on the same trial (abscissa, normalized responses; $r^2 = 0.01$, $p = 0.21$).