**Figure Legends**

Main Figure 1: Alcohol changes the shape of psychometric function.

3 decision making tasks: Describe them in short

Experimental timeline: how they are organized

Example of individual psychometric function

How did you fit, describe parameters

Distributions of param and statistics.

Median psychometric function is affected. Two middle conc. Only.

Provide stat

Variability affected

Main Figure 2: Males are affected more than females

Main Figure 3: Describe time in feeder and describe conclusions with stat

Main Figure 4: Individual differences.

Main Figure 5: Long term effects of alcohol on CCB task but not on NCCB.

Main Figure 6: Long-term effects are not gender dependent. Discuss time in feeder.

Main Figure 7: Check individual differences in long-term alcohol.

1. A) Illustration of non-conflict decision making task. In each trial, the bowl where the reward will be dispensed is indicated by illuminated LEDs around it. The reward levels are represented by varying concentrations (0.5%, 2%, 5%, 9%) of sucrose solution. The metadata of 3 non-conflict tasks are summarized. LED intensity is fixed at 15 lux in this behavioral protocol. In each trial the illuminated bowl is randomly determined.

B) Conflict decision making task, and the corresponding metadata are summarized. In this behavioral protocol, LED intensity varies from 15-320 lux.

C) Acute alcohol task and corresponding metadata is summarized. Instead of varied sucrose solution different concentrations of alcohol act as offer.   
  
D, I, J) Psychometric plots of approach rates for individual sessions of all rats (N=20) across different reward levels in a non-conflict cost-benefit (NCCB), conflict cost-benefit (CCB), and acute alcohol (AA) tasks, respectively. The total number of sessions across all animals is 115, 125, and 158 for NCCB, CCB, and AA tasks, respectively.

E) Psychometric plot for one specific session of the NCCB task, represented by 4 data points corresponding to different reward levels. The data is fitted with a 4-parameter logistic model (f(x) = d + (a-d)/ (1 + (x/c) ^b)). Both the raw data points and the fitted curve are displayed. The derived parameters (a, b, c, d) and the R² value of the fit are indicated on the figure.

F) The kernel probability density plots of the fitting parameter c (inflection point) show significant difference between NCCB and AA tasks (KS test, p = 0.0320), and CCB and AA tasks (KS test, p = 0.0000), respectively. The difference in probability density of c is more pronounced between CCB and AA tasks than between NCCB and AA tasks.

G) The difference in approach rates is more pronounced between CCB and AA tasks (MANOVA, p = 3.9096e-07) than between NCCB and AA tasks (MANOVA, p = 0.0010).

H) Variances in approach rates at four different concentrations of sucrose solutions shows significant difference between both NCCB and AA tasks (F-test, p = 0.0096), and CCB and AA tasks (F-test, p = 0.0001). Error bars are shown with lower and upper confidence intervals with 95% significance.

2. A) Approach rates for individual sessions for all rats (N=10) in NCCB, and AA tasks, separated by gender. The total number of sessions across males are 54 and 77 for NCCB and AA tasks, respectively. Whereas the total number of sessions across females are 61 and 81 for NCCB and AA tasks, respectively.

b) The kernel probability density of inflection point is significantly different between NCCB and AA tasks for males (KS test, p = 0.0010) but not for females (KS test, p = 0.9860).

c) The difference in approach rates is statistically significant between NCCB and acute alcohol tasks for males (MANOVA, p = 3.3390e-05) but not for females (MANOVA, p = 0.4701).

d) Variances in approach rates at four different concentrations of sucrose solutions shows no significant difference between NCCB and acute alcohol tasks for both males (F-test, p = 0.1209) and females (F-test, p = 0.0530).

e) The panel displays approach rates for individual sessions for all rats (N = 10) in CCB, separated by gender. The total number of sessions across males and females are 63 and 62, respectively.

f) The kernel probability density of inflection point is significantly different between CCB and acute alcohol tasks for males (KS test, p = 0.0000) but not for females (KS test, p = 0.1580).

g) The difference in approach rates is more pronounced between males (MANOVA, p = 1.1419e-07) than females (0.0134) in CCB vs acute alcohol tasks.

h) Variances in approach rates at four different concentrations of sucrose solutions shows significant difference between NCCB and acute alcohol tasks for males (F-test, p = 0.0000), but not for females (F-test, p = 0.0603).

3. a) The difference in time in feeder across four different concentration of sucrose solution is statistically significant between both NCCB and acute alcohol tasks (MANOVA, p = 0.0002), and CCB and acute alcohol tasks (MANOVA, p = 0.0000).

b) The kernel probability density plot of inflection point derived from logistic model fits of individual psychometric plot for each session is significantly different between both NCCB and acute alcohol tasks (KS test, p = 0.0030) and CCB and acute alcohol tasks (KS test, p = 0.0040).

c) The difference in time in feeder is statistically significant between NCCB and acute alcohol tasks for males (MANOVA, p = 0.0000) but not for females (MANOVA, p = 0.5719).

d) The kernel probability density is significantly different between NCCB and acute alcohol tasks for males (KS test, p = 0.0050), but not for females (KS test, p = 0.1700).

e) The difference in time in feeder is statistically significant between CCB and acute alcohol tasks for males (MANOVA, p = 0.0000) but not for females (MANOVA, p = 0.2946).

f) The kernel probability density is significantly different between CCB and acute alcohol tasks for males (KS test, p = 0.0090), but not for females (KS test, p = 0.1840).