User Input of Scripts for Article Figures: V 174

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Contents

1 Note

a) **Data Analysis** folder contains MATLAB scripts for data analysis and generating figures provided in the paper. Some figures may invoke several other functions from the current folder or other folder in **Data-Analysis** directory. Please make sure that all folders in **Data-Analysis** directory are in the MATLAB path.

b) Download **Signal Processing Toolbox** to successfully generate figures using these plots.

c) To overlay plots the user needs to use either *mergePlots.m* or *mergePlotsPreserveOriginalColor.m* functions in **Plots** folder. To use these function/script it is necessary to first generate and save the individual plots as *.fig* files (e.g, f1.fig, f2.fig, etc.).
For *mergePlots.m* call the function with the specific figure names you want to overlay, like this: *mergePlots*('f1.fig', 'f2.fig', ...). To use *mergePlotsPreserveOriginalColor.m*, replace the figure names in the variables **f1** and **f2** with your desired figures.

2 Figure 2

2.1 Figure 2a: Control Approach rate (FvM)

From "Data Analysis" directory run the function,
masterPsychometricFunctionPlot('approachavoid').
For user inputs please enter the following inputs:
i) Enter genotype: CRL: Long Evans
ii) Do you want to analyze only approach trials? (y/n/reject) n
iii) Enter tasktypedone (or enter "all" for all task types): P2L1
iv) Which health types do you want to analyze?
(enter multiple values separated by comma and a space or type 'all' for all types): N/A
v) Start date? 06/16/2022
vi) End date? 06/23/2022
vii) Do you want to split the graph by gender? (y/n) y

2.2 Figure 2b: Control Effect of cost on Approach rate (FvM)

From "Data Analysis" directory run the function,
approachRateAtDifferentCost.
For user inputs please enter the following inputs:
Do you want average plot? (y/n) y

2.3 Figure 2d: Control Distance traveled (FvM)

From "Data Analysis" directory run the function,
masterPsychometricFunctionPlot('distanceaftertoneuntillimitingtimestamp').
For user inputs please enter the same inputs as **Figure 2a**

2.4 Figure 2e: Control Number of high sp. runs (FvM)

From "Data Analysis" directory run the function,
masterPsychometricFunctionPlot('bigaccelerationperunittravel').
For user inputs please enter the same inputs as **Figure 2a**

2.5 Figure 2f: Control Approach time (FvM)

From "Data Analysis" directory run the function,
masterPsychometricFunctionPlot('entrytime').
For user inputs please enter the following inputs:
i) Enter genotype: CRL: Long Evans
ii) Do you want to analyze only approach trials? (y/n/reject) y
For rest of the user inputs please enter the same inputs as in **Figure 2a**

2.6 Figure 2g: Control Prop. of trial out. all reward zones (FvM)

From "Data Analysis" directory run the function,
masterPsychometricFunctionPlot('passingcentralzonerejectinitialpresence').
For user inputs please enter the same inputs as **Figure 2a**

2.7 Figure 2h: Control Number of stopping points

From "Data Analysis" directory run the function,
masterPsychometricFunctionPlot('stoppingpts_per_unittravel_method6').
For user inputs please enter the same inputs as **Figure 2a**

3 Figure 5

3.1 Figure 5a: Approach rate (FD vs Control)

Step 1: Get '*Ad libitum* fed' figure.
For '*Ad libitum* fed' From "Data Analysis" directory run the function,
masterPsychometricFunctionPlot('approachavoid').

For user inputs please enter the following inputs:
i) Enter genotype: CRL: Long Evans
ii) Do you want to analyze only approach trials? (y/n/reject) n
iii) Enter tasktypedone (or enter "all" for all task types): P2L1
iv) Which health types do you want to analyze?
(enter multiple values separated by comma and a space or type 'all' for all types): N/A
v) Start date? 06/16/2022
vi) End date? 06/23/2022
vii) Do you want to split the graph by gender? (y/n) n
viii) Do you want to a graph for specific animal? (y/n) n

Step 2: Get 'Food dep' figure.
For 'Food dep' From "Data Analysis" directory run the function,
masterPsychometricFunctionPlot('approachavoid').
For user inputs please enter the following inputs:
i) Enter genotype: CRL: Long Evans
ii) Do you want to analyze only approach trials? (y/n/reject) n
iii) Enter tasktypedone (or enter "all" for all task types): P2L1
iv) Which health types do you want to analyze?
(enter multiple values separated by comma and a space or type 'all' for all types): Food Deprivation
v) Start date? 08/23/2022
vi) End date? 08/25/2022
vii) Do you want to split the graph by gender? (y/n) n
viii) Do you want to a graph for specific animal? (y/n) n

Step 3: Overlay '*Ad libitum* fed' and 'Food dep' figures.
i) Open *mergePlotsPreserveOriginalColor.m* from 'Plots' directory
ii) Paste the figures obtained in step 1 and 2 for 'f1' and 'f2'
iv) Run the script

3.2 Figure 5c: Approach time (FD vs Control)

Step 1: Get '*Ad libitum* fed' figure.
For '*Ad libitum* fed' From "Data Analysis" directory run the function,
masterPsychometricFunctionPlot('entrytime'). For user inputs please enter the following inputs:
i) Enter genotype: CRL: Long Evans
ii) Do you want to analyze only approach trials? (y/n/reject) y
For rest of the user inputs please enter the same inputs as Step1 in **Figure 5a**

Step 2: Get 'Food dep' figure.
For 'Food dep' From "Data Analysis" directory run the function,
masterPsychometricFunctionPlot('entrytime').

For user inputs please enter the following inputs:
i) Enter genotype: CRL: Long Evans
ii) Do you want to analyze only approach trials? (y/n/reject) y
For rest of the user inputs please enter the same inputs as Step 2 in **Figure 5a**

Step 3: Overlay '*Ad libitum* fed' and 'Food dep' figures.
Please follow the same steps as Step 3 in **Figure 5a**

3.3 Figure 5d: Prop. of trial out. all reward zones (FD vs Control)

Step 1: Get '*Ad libitum* fed' figure.
For '*Ad libitum* fed' From "Data Analysis" directory run the function,
masterPsychometricFunctionPlot('passingcentralzonerejectinitialpresence').
For user inputs please enter the same inputs as Step1 in **Figure 5a**

Step 2: Get 'Food dep' figure.
For 'Food dep' From "Data Analysis" directory run the function,
masterPsychometricFunctionPlot('passingcentralzonerejectinitialpresence').
For user inputs please enter the same inputs as Step 2 in **Figure 5a**

Step 3: Overlay '*Ad libitum* fed' and 'Food dep' figures.
Please follow the same steps as Step 3 in **Figure 5a**

3.4 Figure 5e: Number of stopping points (FD vs Control)

Step 1: Get '*Ad libitum* fed' figure.
For '*Ad libitum* fed' From "Data Analysis" directory run the function,
masterPsychometricFunctionPlot('stoppingpts_per_unittravel_method6').
For user inputs please enter the same inputs as Step1 in **Figure 5a**

Step 2: Get 'Food dep' figure.
For 'Food dep' From "Data Analysis" directory run the function,
masterPsychometricFunctionPlot('stoppingpts_per_unittravel_method6').
For user inputs please enter the same inputs as Step 2 in **Figure 5a**

Step 3: Overlay '*Ad libitum* fed' and 'Food dep' figures.
Please follow the same steps as Step 3 in **Figure 5a**

3.5 Figure 5f: Number of high sp. runs (FD vs Control)

Step 1: Get '*Ad libitum* fed' figure.
For '*Ad libitum* fed' From "Data Analysis" directory run the function,

masterPsychometricFunctionPlot('bigaccelerationperunittravel').
For user inputs please enter the same inputs as Step1 in **Figure 5a**

Step 2: Get 'Food dep' figure.
For 'Food dep' From "Data Analysis" directory run the function,
masterPsychometricFunctionPlot('bigaccelerationperunittravel').
For user inputs please enter the same inputs as Step 2 in **Figure 5a**

Step 3: Overlay '*Ad libitum* fed' and 'Food dep' figures.
Please follow the same steps as Step 3 in **Figure 5a**

3.6 Figure 5g: Distance traveled (FD vs Control)

Step 1: Get '*Ad libitum* fed' figure.
For '*Ad libitum* fed' From "Data Analysis" directory run the function,
masterPsychometricFunctionPlot('distanceaftertoneuntillimitingtimestamp').
For user inputs please enter the same inputs as Step1 in **Figure 5a**

Step 2: Get 'Food dep' figure.
For 'Food dep' From "Data Analysis" directory run the function,
masterPsychometricFunctionPlot('distanceaftertoneuntillimitingtimestamp').
For user inputs please enter the same inputs as Step 2 in **Figure 5a**

Step 3: Overlay '*Ad libitum* fed' and 'Food dep' figures.
Please follow the same steps as Step 3 in **Figure 5a**

3.7 Figure 5h: Scatter Plots

Left panel: From "Data-Analysis/Scatter Plots" directory run the script, *nestPosition* For user inputs please enter the following inputs:
i) Enter genotype: CRL: Long Evans
ii) Which health types do you want to analyze? N/A iii) Which animal? raissa
iv) Which task? P2 L1L3

Left panel: From "Data-Analysis/Scatter Plots" directory run the script, *nestPosition* Use same inputs as left panel, except
ii) Which health types do you want to analyze? Food Deprivation

4 Figure 6

4.1 Figure 6a. Approach rate (Control vs Self admin. Oxy)

Step 1: Get 'Self admin. Oxy' figure.
From "Data Analysis" directory run the function,

oxyPsychometricFunctionPlot('approachavoid').
For user inputs please enter the following inputs:
i) Which data do you want to analyze? Print "Oxycodon" or "Incubation"
Oxycodon
ii) Do you want to analyze only approach trials? (y/n) n
iii) Do you want to split the graph by gender? (y/n) n

Step 2: Get 'Control' figure.
Use same steps as in Step 1 in **Figure 5a**

Step 3: Overlay 'Self admin. Oxy' and 'Control' figures.
Use *mergePlotsPreserveOriginalColor.m* from 'Plots' directory

4.2 Figure 6b. Distance traveled (Control vs Self admin. Oxy)

Step 1: Get 'Self admin. Oxy' figure.
From "Data Analysis" directory run the function,
oxyPsychometricFunctionPlot('distanceaftertoneuntillimitingtimestamp').
For user inputs please enter the same inputs as **Figure 6a**

Step 2: Get 'Control' figure.
Use same steps as in Step 1 in **Figure 5d**

Step 3: Overlay 'Self admin. Oxy' and 'Control' figures.
Use *mergePlotsPreserveOriginalColor.m* from 'Plots' directory

4.3 Figure 6c. Number of high speed runs (Control vs Self admin. Oxy)

Step 1: Get 'Self admin. Oxy' figure.
From "Data Analysis" directory run the function,
oxyPsychometricFunctionPlot('bigaccelerationperunittravel').
For user inputs please enter the same inputs as **Figure 6a**

Step 2: Get 'Control' figure.
Use same steps as in Step 1 in **Figure 5f**

Step 3: Overlay 'Self admin. Oxy' and 'Control' figures.
Use *mergePlotsPreserveOriginalColor.m* from 'Plots' directory

4.4 Figure 6d. Approach time (Control vs Self admin. Oxy)

Step 1: Get 'Self admin. Oxy' figure.
From "Data Analysis" directory run the function,
oxyPsychometricFunctionPlot('entrytime').
For user inputs please enter the same inputs as **Figure 6a** except
ii) Do you want to analyze only approach trials? (y/n) y

Step 2: Get 'Control' figure.
Use same steps as in Step 1 in **Figure 5c**

Step 3: Overlay 'Self admin. Oxy' and 'Control' figures.
Use *mergePlotsPreserveOriginalColor.m* from 'Plots' directory

4.5 Figure 6e. Proportion of trials outside all reward zone (Control vs Self admin. Oxy)

Step 1: Get 'Self admin. Oxy' figure.
From "Data Analysis" directory run the function,
oxyPsychometricFunctionPlot('passingcentralzonerejectinitialpresence').
For user inputs please enter the same inputs as **Figure 6a**

Step 2: Get 'Control' figure.
Use same steps as in Step 1 in **Figure 5g**

Step 3: Overlay 'Self admin. Oxy' and 'Control' figures.
Use *mergePlotsPreserveOriginalColor.m* from 'Plots' directory

4.6 Figure 6f. Number of stopping points (Control vs Self admin. Oxy)

Step 1: Get 'Self admin. Oxy' figure.
From "Data Analysis" directory run the function,
oxyPsychometricFunctionPlot('stoppingpts_per_unittravel_method6').
For user inputs please enter the same inputs as **Figure 6a**

Step 2: Get 'Control' figure.
Use same steps as in Step 1 in **Figure 5e**

Step 3: Overlay 'Self admin. Oxy' and 'Control' figures.
Use *mergePlotsPreserveOriginalColor.m* from 'Plots' directory

4.7 Figure 6g. Approach rate (Control vs Abstinence)

Step 1: Get 'Abstinence' figure.
From "Data Analysis" directory run the function,
oxyPsychometricFunctionPlot('approachavoid').
For user inputs please enter the following inputs:
i) Which data do you want to analyze? Print "Oxycodon" or "Incubation"
Incubation
ii) Do you want to analyze only approach trials? (y/n) n
iii) Do you want to split the graph by gender? (y/n) n

Step 2: Get 'Control' figure.
Use same steps as in Step 1 in **Figure 5a**

Step 3: Overlay 'Self admin. Oxy' and 'Control' figures.
Use *mergePlotsPreserveOriginalColor.m* from 'Plots' directory

4.8 Figure 6h. Distance traveled (Control vs Abstinence)

Step 1: Get 'Abstinence' figure.
From "Data Analysis" directory run the function,
oxyPsychometricFunctionPlot('distanceaftertoneuntillimitingtimestamp').
For user inputs please enter the same inputs as **Figure 6g**

Step 2: Get 'Control' figure.
Use same steps as in Step 1 in **Figure 5d**

Step 3: Overlay 'Self admin. Oxy' and 'Control' figures.
Use *mergePlotsPreserveOriginalColor.m* from 'Plots' directory

4.9 Figure 6i. Number of high speed runs (Control vs Abstinence)

Step 1: Get 'Abstinence' figure.
From "Data Analysis" directory run the function,
oxyPsychometricFunctionPlot('bigaccelerationperunittravel').
For user inputs please enter the same inputs as **Figure 6g**

Step 2: Get 'Control' figure.
Use same steps as in Step 1 in **Figure 5f**

Step 3: Overlay 'Self admin. Oxy' and 'Control' figures.
Use *mergePlotsPreserveOriginalColor.m* from 'Plots' directory

4.10 Figure 6j. Approach time (Control vs Abstinence)

Step 1: Get 'Abstinence' figure.
From "Data Analysis" directory run the function,
oxyPsychometricFunctionPlot('entrytime').
For user inputs please enter the same inputs as **Figure 6g**, except
ii) Do you want to analyze only approach trials? (y/n) y

Step 2: Get 'Control' figure.
Use same steps as in Step 1 in **Figure 5c**

Step 3: Overlay 'Self admin. Oxy' and 'Control' figures.
Use *mergePlotsPreserveOriginalColor.m* from 'Plots' directory

4.11 Figure 6k. Proportion of trials outside all reward zone (Control vs Abstinence)

Step 1: Get 'Abstinence' figure.
From "Data Analysis" directory run the function,
oxyPsychometricFunctionPlot('passingcentralzonerejectinitialpresence').
For user inputs please enter the same inputs as **Figure 6g**

Step 2: Get 'Control' figure.
Use same steps as in Step 1 in **Figure 5g**

Step 3: Overlay 'Self admin. Oxy' and 'Control' figures.
Use *mergePlotsPreserveOriginalColor.m* from 'Plots' directory

4.12 Figure 6l. Number of stopping points (Control vs Abstinence)

Step 1: Get 'Abstinence' figure.
From "Data Analysis" directory run the function,
oxyPsychometricFunctionPlot('stoppingpts_per_unittravel_method6').
For user inputs please enter the same inputs as **Figure 6g**

Step 2: Get 'Control' figure.
Use same steps as in Step 1 in **Figure 5e**

Step 3: Overlay 'Self admin. Oxy' and 'Control' figures.
Use *mergePlotsPreserveOriginalColor.m* from 'Plots' directory

4.13 Figure 6m: Self admin oxycodone Approach rate (FvM)

Step 1: Get 'Self admin. oxy' figure.
From "Data Analysis" directory run the function,
oxyPsychometricFunctionPlot('approachavoid').
For user inputs please enter the following inputs:
i) Which data do you want to analyze? Print "Oxycodon" or "Incubation"
Oxycodon
ii) Do you want to analyze only approach trials? (y/n) n
iii) Do you want to split the graph by gender? (y/n) y

Step 2: Get 'Control' figure.
Use same steps as **Figure 2a**

Step 3: Overlay 'Self admin. oxy' and 'Control' figures.
Overlay using *mergePlots.m* from 'Plots' directory

4.14 Figure 6n: Self admin oxycodone Distance traveled (FvM)

Step 1: Get 'Self admin. oxy' figure.
From "Data Analysis" directory run the function,
oxyPsychometricFunctionPlot('distanceaftertoneuntillimitingtimestamp').
For user inputs please enter the same inputs as **Figure 6m**.

Step 2: Get 'Control' figure.
Use same steps as **Figure 2d**

Step 3: Overlay 'Self admin. oxy' and 'Control' figures.
Overlay using *mergePlots.m* from 'Plots' directory

4.15 Figure 6o: Self admin oxycodone Number of high sp. runs (FvM)

Step 1: Get 'Self admin. oxy' figure.
From "Data Analysis" directory run the function,
oxyPsychometricFunctionPlot('bigaccelerationperunittravel').
For user inputs please enter the same inputs as **Figure 6m**.

Step 2: Get 'Control' figure.
Use same steps as **Figure 2e**

Step 3: Overlay 'Self admin. oxy' and 'Control' figures.
Overlay using *mergePlots.m* from 'Plots' directory

4.16 Figure 6p: Abstinence Approach rate (FvM)

Step 1: Get 'Abstinence' figure.
From "Data Analysis" directory run the function,
oxyPsychometricFunctionPlot('approachavoid').
For user inputs please enter the following inputs:
i) Which data do you want to analyze? Print "Oxycodon" or "Incubation"
Incubation
ii) Do you want to analyze only approach trials? (y/n) n
iii) Do you want to split the graph by gender? (y/n) y

Step 2: Get 'Control' figure.
Use same steps as **Figure 2a**

Step 3: Overlay 'Abstinence' and 'Control' figures.
Overlay using *mergePlots.m* from 'Plots' directory

4.17 Figure 6q: Abstinence Distance traveled (FvM)

Step 1: Get 'Abstinence' figure.
From "Data Analysis" directory run the function,
oxyPsychometricFunctionPlot('distanceaftertoneuntillimitingtimestamp').
For user inputs please enter the same inputs as **Figure 6p**.

Step 2: Get 'Control' figure.
Use same steps as **Figure 2d**

Step 3: Overlay 'Abstinence' and 'Control' figures.
Overlay using *mergePlots.m* from 'Plots' directory

4.18 Figure 6r: Abstinence Number of high sp. runs (FvM)

Step 1: Get 'Abstinence' figure.
From "Data Analysis" directory run the function,
oxyPsychometricFunctionPlot('bigaccelerationperunittravel').
For user inputs please enter the same inputs as **Figure 6p**.

Step 2: Get 'Control' figure.
Use same steps as **Figure 2e**

Step 3: Overlay 'Abstinence' and 'Control' figures.
Overlay using *mergePlots.m* from 'Plots' directory

4.19 Figure 6s: Fraction of sigmoid

From "Data Analysis" directory run the function, ***barPlotOfOxy.m***.

5 Supplemental Figure 2

5.1 Figure S.2a: Individual approach rate at reward level

Step 1: Get individual plots
i) - vi) follow same steps as in **Figure 2a**.
vii) Do you want to split the graph by gender? (y/n) n
viii) Do you want to a graph for specific animal? (y/n) y
ix) Which Animal? alexis

Do same for all other animals.

Step 2: Overlay plots.
Overlay using *mergePlots.m* from 'Plots' directory

5.2 Figure S.2b: Individual approach rate at cost level

From "Data Analysis" directory run the function,
approachRateAtDifferentCost.m.
For user inputs please enter the following inputs:
Do you want average plot? (y/n) n

5.3 Figure S.2c: Example of trajectories

From "Feature-extraction/Trajectory plots" directory run the function,
trajectoryPlot(88385) and ***trajectoryPlot***(91303)

5.4 Figure S.2d: Number of stopping points

From "Feature-extraction/Stop Time" directory run the function,
stopTimeFun(92597) and ***stopTimeFun***(135600)

5.5 Figure S.2e: Number of stopping points

From "Feature-extraction/Stop Time" directory run the function,
stopTimeFun(3) and ***stopTimeFun***(75)

5.6 Figure S.2f: Number of high speed runs

From "Feature-extraction/Acceleration and Jerk Outliers" directory run the function,
jerkOutlierWOPlot(137421) and ***jerkOutlierWOPlot***(91864)

5.7 Figure S.2g: Proportion of trial outside all reward zones

Left Panel: From "Feature-extraction/Passing Central Zone" directory run the function,
passingCentralZoneRejectInitialPresence((90956, 0.5)).
For the rest of the figures use 88092, 90788, 92732, 91504, respectively as the first input of the function.
Then, overlay using *mergePlots.m* from 'Plots' directory.

Right Panel: Use 134830, 137350, 137342, 137502, 138178, respectively as the first input of the function.
Then, overlay using *mergePlots.m* from 'Plots' directory.

5.8 Figure S.2h: Number of rotation points

From "Feature-extraction/Rotation Points" directory run the function,
rotationPtFun(200894) and ***rotationPtFun***(206523)

5.9 Figure S.2i: Control Distance traveled, approach only (FvM)

From "Data Analysis" directory run the function,
masterPsychometricFunctionPlot('distanceaftertoneuntillimitingtimestamp').
For user inputs please enter the following inputs:
i) Enter genotype: CRL: Long Evans
ii) Do you want to analyze only approach trials? (y/n/reject) y
For rest of the user inputs please enter the same inputs as **Figure 2a**

5.10 Figure S.2j: Control Number of stopping points, approach only (FvM)

From "Data Analysis" directory run the function,
masterPsychometricFunctionPlot('stoppingpts_per_unittravel_method6').
For rest of the user inputs please enter the same inputs as **Figure S.2i**

5.11 Figure S.2k: Control Number of high sp. runs, approach only (FvM)

From "Data Analysis" directory run the function,
masterPsychometricFunctionPlot('bigaccelerationperunittravel').
For user inputs please enter the same inputs as **Figure 2i**

5.12 Figure S.2l: Control Prop. of trial out. all reward zones, approach only (FvM)

From "Data Analysis" directory run the function,
masterPsychometricFunctionPlot('passingcentralzonerejectinitialpresence').
For user inputs please enter the same inputs as **Figure 2i**

5.13 Figure S.2m: Control Number of high sp. runs, reject only (FvM)

From "Data Analysis" directory run the function,
masterPsychometricFunctionPlot('bigaccelerationperunittravel').
For user inputs please enter the following inputs:
i) Enter genotype: CRL: Long Evans
ii) Do you want to analyze only approach trials? (y/n/reject) reject
For rest of the user inputs please enter the same inputs as **Figure 2a**

5.14 Figure S.2n: Control Distance traveled, reject only (FvM)

From "Data Analysis" directory run the function,
masterPsychometricFunctionPlot('distanceaftertoneuntillimitingtimestamp').
For user inputs please enter the same inputs as **Figure S.2m**

5.15 Figure S.2o: Control Number of stopping points, reject only (FvM)

From "Data Analysis" directory run the function,
masterPsychometricFunctionPlot('stoppingpts_per_unittravel_method6').
For user inputs please enter the same inputs as **Figure S.2m**

5.16 Figure S.2p: Control Prop. of trial out. all reward zones, reject only (FvM)

From "Data Analysis" directory run the function,
masterPsychometricFunctionPlot('passingcentralzonerejectinitialpresence').
For user inputs please enter the same inputs as **Figure 2m**

6 Supplemental Figure 5

6.1 Figure S.5a. Control vs FD Distance traveled, approach only

Use same steps as in **Figure 5d** except the following: 1. In 'Step 1' ii) Do you want to analyze only approach trials? (y/n/reject) y
2. In 'Step 2' ii) Do you want to analyze only approach trials? (y/n/reject) y

6.2 Figure S.5b. Control vs FD Number of stopping points, approach only

Use same steps as in **Figure 5e** except the following: 1. In 'Step 1' ii) Do you want to analyze only approach trials? (y/n/reject) y
2. In 'Step 2' ii) Do you want to analyze only approach trials? (y/n/reject) y

6.3 Figure S.5c. Control vs FD Number of high speed runs, approach only

Use same steps as in **Figure 5f** except the following: 1. In 'Step 1' ii) Do you want to analyze only approach trials? (y/n/reject) y
2. In 'Step 2' ii) Do you want to analyze only approach trials? (y/n/reject) y

6.4 Figure S.5d. Control vs FD Proportion of trials outside all reward zone, approach only

Use same steps as in **Figure 5g** except the following: 1. In 'Step 1' ii) Do you want to analyze only approach trials? (y/n/reject) y
2. In 'Step 2' ii) Do you want to analyze only approach trials? (y/n/reject) y

6.5 Figure S.5e. Control vs FD Distance traveled, reject only

Use same steps as in **Figure 5d** except the following: 1. In 'Step 1' ii) Do you want to analyze only approach trials? (y/n/reject) reject
2. In 'Step 2' ii) Do you want to analyze only approach trials? (y/n/reject) reject

6.6 Figure S.5f. Control vs FD Number of stopping points, reject only

Use same steps as in **Figure 5e** except the following: 1. In 'Step 1' ii) Do you want to analyze only approach trials? (y/n/reject) reject
2. In 'Step 2' ii) Do you want to analyze only approach trials? (y/n/reject) reject

6.7 Figure S.5g. Control vs FD Number of high speed runs, reject only

Use same steps as in **Figure 5f** except the following: 1. In 'Step 1' ii) Do you want to analyze only approach trials? (y/n/reject) reject
2. In 'Step 2' ii) Do you want to analyze only approach trials? (y/n/reject) reject

6.8 Figure S.5h. Control vs FD Proportion of trials outside all reward zone, reject only

Use same steps as in **Figure 5g** except the following: 1. In 'Step 1' ii) Do you want to analyze only approach trials? (y/n/reject) reject
2. In 'Step 2' ii) Do you want to analyze only approach trials? (y/n/reject) reject

6.9 Figure S.5i: FD Approach rate (FvM)

Step 1: Get 'FD' figure.
From "Data Analysis" directory run the function,
masterPsychometricFunctionPlot('approachavoid').
For user inputs please enter the following inputs:

i) - vi) same as **Figure 5a**.
vii) Do you want to split the graph by gender? (y/n) y

Step 2: Get 'Control' figure.
Use same steps as **Figure 2a**

Step 3: Overlay 'FD' and 'Control' figures.
Overlay using *mergePlots.m* from 'Plots' directory.

6.10 Figure S.5j: FD Distance traveled (FvM)

Step 1: Get 'FD' figure.
From "Data Analysis" directory run the function,
masterPsychometricFunctionPlot('distanceaftertoneuntillimitingtimestamp').
For user inputs please enter the same inputs as **Supplemental Figure 5i**.

Step 2: Get 'Control' figure.
Use same steps as **Figure 2d**

Step 3: Overlay 'FD' and 'Control' figures.
Overlay using *mergePlots.m* from 'Plots' directory.

6.11 Figure S.5k: FD Number of stopping points (FvM)

Step 1: Get 'FD' figure.
From "Data Analysis" directory run the function,
masterPsychometricFunctionPlot('stoppingpts_per_unittravel_method6').
For user inputs please enter the same inputs as **Supplemental Figure 5i**.

Step 2: Get 'Control' figure.
Use same steps as **Figure 2h**

Step 3: Overlay 'FD' and 'Control' figures.
Overlay using *mergePlots.m* from 'Plots' directory.

6.12 Figure S.5l: FD Number of high sp. runs (FvM)

Step 1: Get 'FD' figure.
From "Data Analysis" directory run the function,
masterPsychometricFunctionPlot('bigaccelerationperunittravel').
For user inputs please enter the same inputs as **Supplemental Figure 5i**.

Step 2: Get 'Control' figure.
Use same steps as **Figure 2e**

Step 3: Overlay 'FD' and 'Control' figures.
Overlay using *mergePlots.m* from 'Plots' directory.

6.13 Figure S.5m: FD Prop. of trial out. all reward zones (FvM)

Step 1: Get 'FD' figure.
From "Data Analysis" directory run the function,
masterPsychometricFunctionPlot('passingcentralzonerejectinitialpresence').
For user inputs please enter the same inputs as **Supplemental Figure 5i**.

Step 2: Get 'Control' figure.
Use same steps as **Figure 2g**

Step 3: Overlay 'FD' and 'Control' figures.
Overlay using *mergePlots.m* from 'Plots' directory.

7 Supplemental Figure 6

7.1 Figure S.6a: Self admin oxycodone Approach time (FvM)

Step 1: Get 'Self admin. oxy' figure.
From "Data Analysis" directory run the function,
oxyPsychometricFunctionPlot('entrytime').
For user inputs please enter the same inputs as **Figure 6m**, except
ii) Do you want to analyze only approach trials? (y/n) y

Step 2: Get 'Control' figure.
Use same steps as **Figure 2f**

Step 3: Overlay 'Self admin. oxy' and 'Control' figures.
Overlay using *mergePlots.m* from 'Plots' directory.

7.2 Figure S.6b: Self admin oxycodone Prop. of trial out. all reward zones (FvM)

Step 1: Get 'Self admin. oxy' figure.
From "Data Analysis" directory run the function,

oxyPsychometricFunctionPlot('passingcentralzonerejectinitialpresence').
For user inputs please enter the same inputs as **Figure 6m**

Step 2: Get 'Control' figure.
Use same steps as **Figure 2g**

Step 3: Overlay 'Self admin. oxy' and 'Control' figures.
Overlay using *mergePlots.m* from 'Plots' directory.

7.3 Figure S.6c: Self admin oxycodone Number of stopping points (FvM)

Step 1: Get 'Self admin. oxy' figure.
From "Data Analysis" directory run the function,
oxyPsychometricFunctionPlot('stoppingpts_per_unittravel_method6').
For user inputs please enter the same inputs as **Figure 6m**

Step 2: Get 'Control' figure.
Use same steps as **Figure 2h**

Step 3: Overlay 'Self admin. oxy' and 'Control' figures.
Overlay using *mergePlots.m* from 'Plots' directory.

7.4 Figure S.6d: Abstinence Approach time (FvM)

Step 1: Get 'Abstinence' figure.
From "Data Analysis" directory run the function,
oxyPsychometricFunctionPlot('entrytime').
For user inputs please enter the same inputs as **Figure 6p**, except
ii) Do you want to analyze only approach trials? (y/n) y

Step 2: Get 'Control' figure.
Use same steps as **Figure 2f**

Step 3: Overlay 'Self admin. oxy' and 'Control' figures.
Overlay using *mergePlots.m* from 'Plots' directory.

7.5 Figure S.6e: Abstinence Prop. of trial out. all reward zones (FvM)

Step 1: Get 'Abstinence' figure.
From "Data Analysis" directory run the function,
oxyPsychometricFunctionPlot('passingcentralzonerejectinitialpresence').

For user inputs please enter the same inputs as **Figure 6p**

Step 2: Get 'Control' figure.
Use same steps as **Figure 2g**

Step 3: Overlay 'Self admin. oxy' and 'Control' figures.
Overlay using *mergePlots.m* from 'Plots' directory.

7.6 Figure S.6f: Abstinence Number of stopping points (FvM)

Step 1: Get 'Abstinence' figure.
From "Data Analysis" directory run the function,
oxyPsychometricFunctionPlot('stoppingpts_per_unittravel_method6').
For user inputs please enter the same inputs as **Figure 6p**

Step 2: Get 'Control' figure.
Use same steps as **Figure 2h**

Step 3: Overlay 'Self admin. oxy' and 'Control' figures.
Overlay using *mergePlots.m* from 'Plots' directory.

7.7 Figure S.6g: Individual fraction of sigmoid (Control vs Oxycodone)

From "Data Analysis" directory run the function,
individualFractionOfSigmoid.m.

7.8 Figure S.6h: Oxycodone I.V. vs Fraction of sigmoid

From "Data Analysis" directory run the function,
pokeCorrelation.m.

8 Supplemental Figure 7

8.1 Figure S.7b: Initial task Approach rate (FvM)

Step 1: Get 'Initial task performance' figure. From "Data Analysis" directory run the function,
alcoholPsychometricFunctionPlot('approachavoid').
For user inputs please enter the following inputs:

i) Enter genotype: CRL: Long Evans
ii) Do you want to analyze only approach trials? (y/n) n
iii) Enter tasktypedone (or enter "all" for all task types): P2A
iv) Which health types do you want to analyze?
(enter multiple values separated by comma and a space or type 'all' for all types): N/A
v) Start date? 09/16/2022
vi) End date? 10/03/2022
vii) Do you want to split the graph by gender? (y/n) y

Step 2: Get 'Control' figure. Use same steps as **Figure 2a**

Step 3: Overlay 'Initial task performance' and 'Control' figures. Overlay using *mergePlots.m* from 'Plots' directory.

8.2 Figure S.7c: Late task Approach rate (FvM)

Step 1: Get 'Late task performance' figure. From "Data Analysis" directory run the function,
alcoholPsychometricFunctionPlot('approachavoid').
For user inputs please enter the following inputs:
i) Enter genotype: lg_boost, lg_etoh
ii) Do you want to analyze only approach trials? (y/n) n
iii) Enter tasktypedone (or enter "all" for all task types): P2A
iv) Which health types do you want to analyze?
(enter multiple values separated by comma and a space or type 'all' for all types): N/A
v) Start date? 11/02/2022
vi) End date? 12/01/2022
vii) Do you want to split the graph by gender? (y/n) y

Step 2: Get 'Control' figure. Use same steps as **Figure 2a**

Step 3: Overlay 'Late task performance' and 'Control' figures. Overlay using *mergePlots.m* from 'Plots' directory.

8.3 Figure S.7d: Initial task Approach time (FvM)

Step 1: Get 'Initial task performance' figure. From "Data Analysis" directory run the function,
alcoholPsychometricFunctionPlot('entrytime')
For user inputs please enter the following inputs:
i) Enter genotype: CRL: Long Evans
ii) Do you want to analyze only approach trials? (y/n) y

For rest of the user inputs please enter the same inputs as in **Figure S.7b**

Step 2: Get 'Control' figure. Use same steps as **Figure 2f**

Step 3: Overlay 'Initial task performance' and 'Control' figures. Overlay using *mergePlots.m* from 'Plots' directory.

8.4 Figure S.7e: Late task Approach time (FvM)

Step 1: Get 'Late task performance' figure. From "Data Analysis" directory run the function,
alcoholPsychometricFunctionPlot('entrytime')
For user inputs please enter the following inputs:
i) Enter genotype: lg_boost, lg_etoh
ii) Do you want to analyze only approach trials? (y/n) y
For rest of the user inputs please enter the same inputs as in **Figure S.7c**

Step 2: Get 'Control' figure. Use same steps as **Figure 2f**

Step 3: Overlay 'Late task performance' and 'Control' figures. Overlay using *mergePlots.m* from 'Plots' directory.

8.5 Figure S.7f: Initial task Number of high sp. runs (FvM)

Step 1: Get 'Initial task performance' figure. From "Data Analysis" directory run the function,
alcoholPsychometricFunctionPlot('bigaccelerationperunittravel').
For user inputs please enter the same inputs as **Figure S.7b**.

Step 2: Get 'Control' figure. Use same steps as **Figure 2e**

Step 3: Overlay 'Initial task performance' and 'Control' figures. Overlay using *mergePlots.m* from 'Plots' directory.

8.6 Figure S.7g: Late task Number of high sp. runs (FvM)

Step 1: Get 'Late task performance' figure. From "Data Analysis" directory run the function,
alcoholPsychometricFunctionPlot('bigaccelerationperunittravel').
For user inputs please enter the same inputs as **Figure S.7c**.

Step 2: Get 'Control' figure. Use same steps as **Figure 2e**

Step 3: Overlay 'Late task performance' and 'Control' figures. Overlay using *mergePlots.m* from 'Plots' directory.

8.7 Figure S.7h: Initial task Distance traveled (FvM)

Step 1: Get 'Initial task performance' figure. From "Data Analysis" directory run the function,
alcoholPsychometricFunctionPlot('distanceaftertoneuntillimitingtimestamp').
For user inputs please enter the same inputs as **Figure S.7b**.

Step 2: Get 'Control' figure. Use same steps as **Figure 2d**

Step 3: Overlay 'Initial task performance' and 'Control' figures. Overlay using *mergePlots.m* from 'Plots' directory.

8.8 Figure S.7i: Late task Distance traveled (FvM)

Step 1: Get 'Late task performance' figure. From "Data Analysis" directory run the function,
alcoholPsychometricFunctionPlot('distanceaftertoneuntillimitingtimestamp').
For user inputs please enter the same inputs as **Figure S.7c**.

Step 2: Get 'Control' figure. Use same steps as **Figure 2d**

Step 3: Overlay 'Late task performance' and 'Control' figures. Overlay using *mergePlots.m* from 'Plots' directory.

8.9 Figure S.7j: Fraction of sigmoid (Control vs Alcohol)

From "Data Analysis" directory run the function, ***barPlotOfOxy.m***.