**Computational model of social preference behavior**

The code was written in Matlab (2017a). It was tested using on a standard HP-i7 computer (i7-4790 CPU @ 3.60 GHz, 8.0GB RAM, windows 7). Run time on such a computer is about 10 seconds.

Installation and running:

1. **Download the model from the following link:**
2. **Open Matlab and select your working directory to be the model file folder.  
   The folder should contain the file – “Show\_model\_social\_sim \_015052018.m”.**
3. **Run the model using the following function:**[seq] = Show\_model\_social\_sim\_Shai\_015052018(params)  
   % when the model params are:   
   % [anxiety\_0, anxiety\_tau, reward\_0\_1, reward\_0\_2, reward\_tau, beta1\_reward, beta2\_reward, beta1\_anxiety, beta2\_anxiety, choose\_Stillness\_score\_0, choose\_Exploration\_score\_0];
4. **For SP mice type:  
   Open the code of the function “Show\_model\_social\_sim \_015052018.m”   
   Comment lines 53-54 and uncomment lines 51-52.**[seq] = Show\_model\_social\_sim\_Shai\_015052018([7.66,10355.62,4.98,4.72,100406.23,1.10,1.12,-0.08,0.71,2.72,5.19]);
5. **For SNP mice type:  
   Open the code of the function “Show\_model\_social\_sim \_015052018.m”   
   Comment lines 53-54 and uncomment lines 51-52.**[seq] = Show\_model\_social\_sim\_Shai\_015052018([7.66,10355.62,4.7,4.9,100406.23,1.10,1.12,-0.08,0.71,2.72,5.19]);
6. **For SP rats type:  
   Open the code of the function “Show\_model\_social\_sim \_015052018.m”   
   Comment lines 51-52 and uncomment lines 53-54.**[seq] = Show\_model\_social\_sim\_Shai\_015052018([7.66,10355.62,5.8,4.72,33406.23,1.10,1.12,-0.08,0.71,2.72,5.19]);
7. **For SNP rats type:  
   Open the code of the function “Show\_model\_social\_sim \_015052018.m”   
   Comment lines 51-52 and uncomment lines 53-54.**[seq] = Show\_model\_social\_sim\_Shai\_015052018([7.66,10355.62,5.17,5.3,33406.23,1.10,1.12,-0.08,0.71,2.72,5.19]);
8. **A Matlab figure should open at the end and hold 8 subplots, similar to supplemental figures 8-11.**