

# ***Does exposure to neurotypical rats improve the social preference of autistic model rats?***

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## ***Background and Significance***


- Autism Spectrum Disorder has a range of debilitating effects including social impairment
- Although the development of ASD individuals is initially hindered
- The possibility to learn social cues from neurotypical companions still exists
- ICT (Integrated co-Teaching) has been proven to remedy the effects of ASD


## ***Goal of Research***

Our goal is to produce a simulation of an ICT environment by investigating whether time spent with a neurotypical rat will have a positive effect on the social development of a CFD model rat

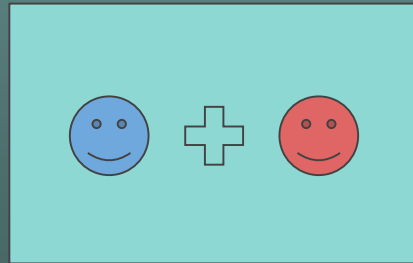
# *Hypothesis*

Exposure to neurotypical rats will cause CFD rats to prefer a social cue over a non-social cue. We expect that time spent with a neurotypical rat will have a direct and positive correlation to social preference.

 = CFD rat

 = NT rat

Pairing




5 Days



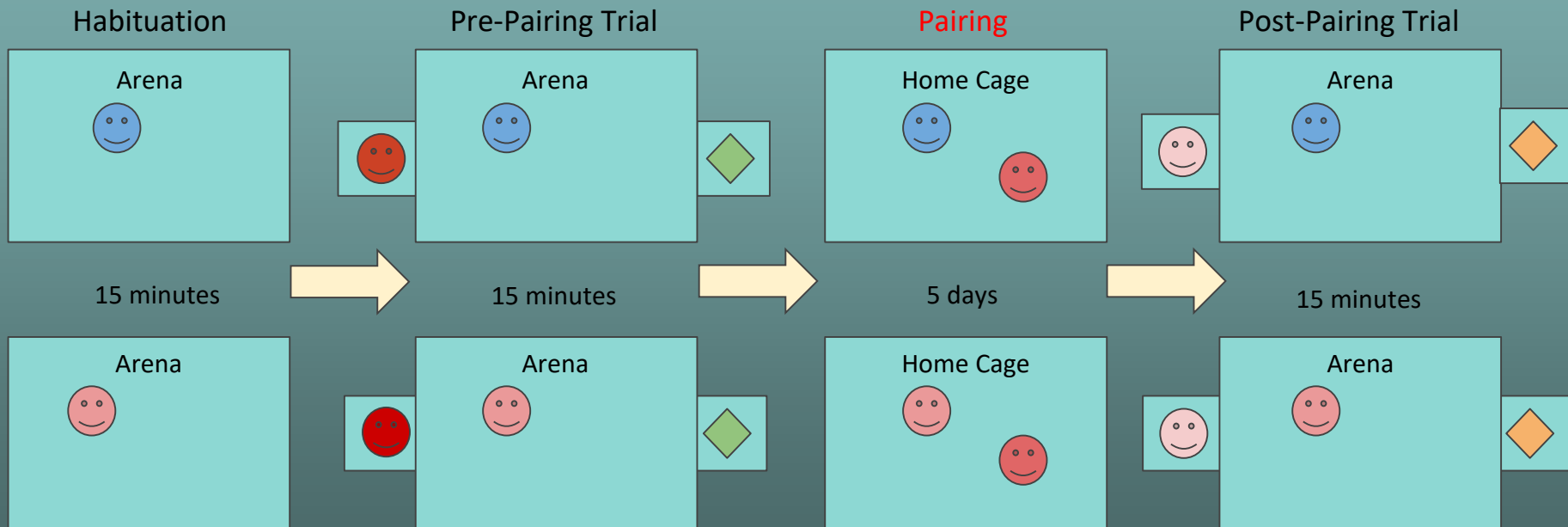
Increase in Social  
Interaction

# Design of Task

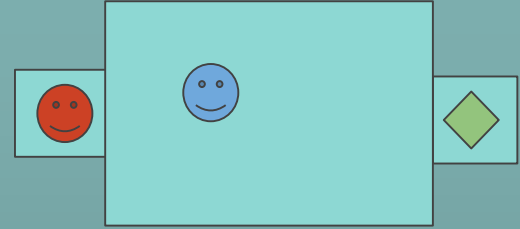
 = CFD rat

 = NT rats

  = Toys



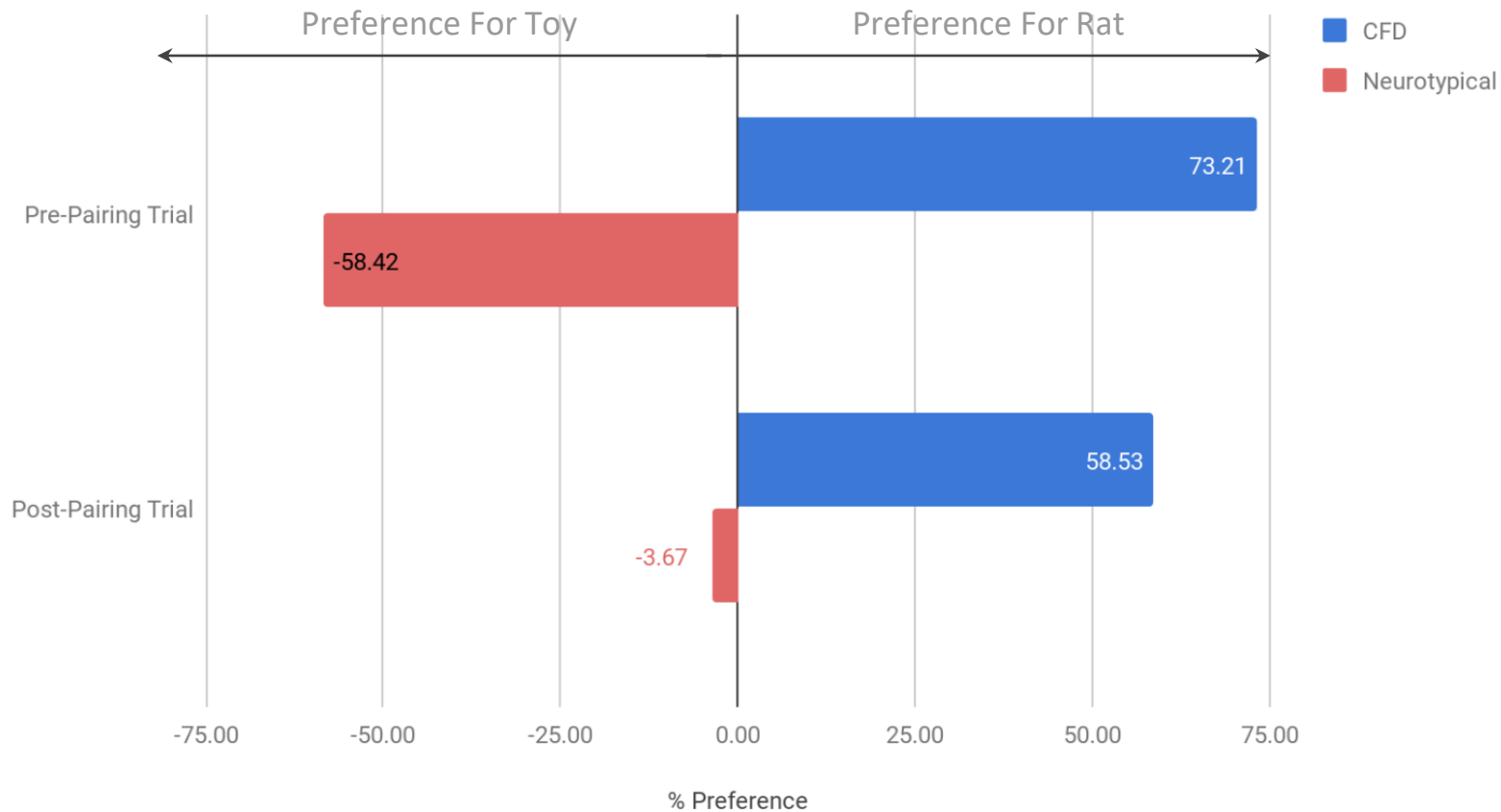
# *What We're Tracking*



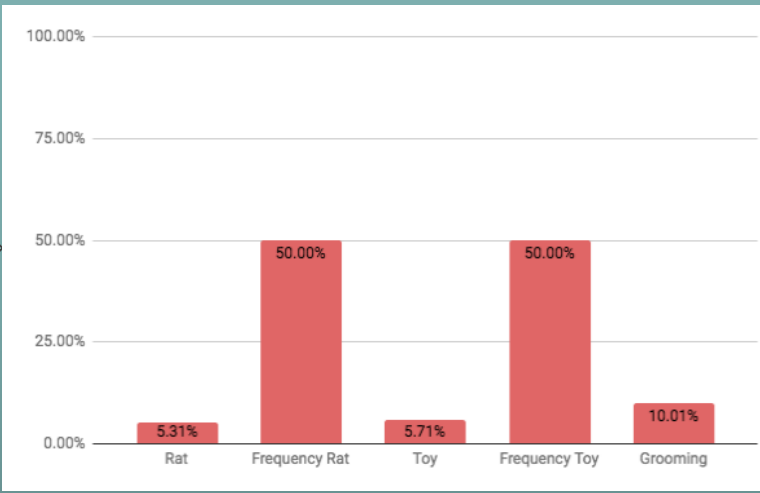
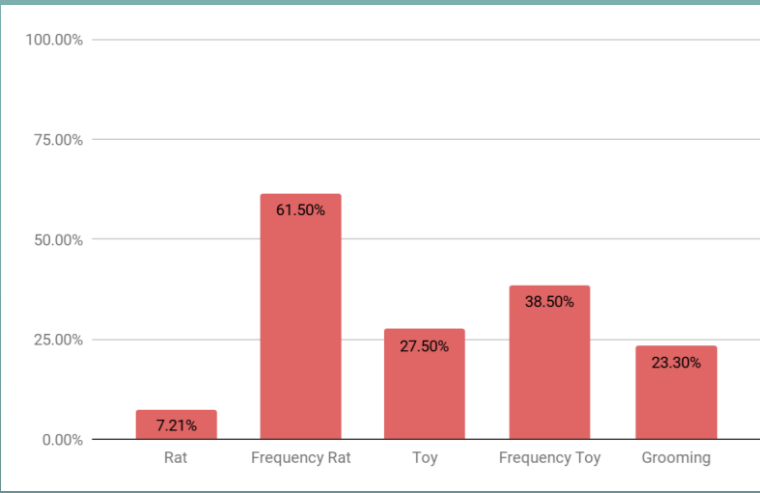
- **Number of times rat puts its nose to cage with toy vs. cage with rat**
- **Total time spent with toy**
- **Total time spent with caged NT rat**
- **Total time spent grooming**
- **Grooming frequency** for each social trial

We hope to see that these parameters improve after pairing with a NT rat

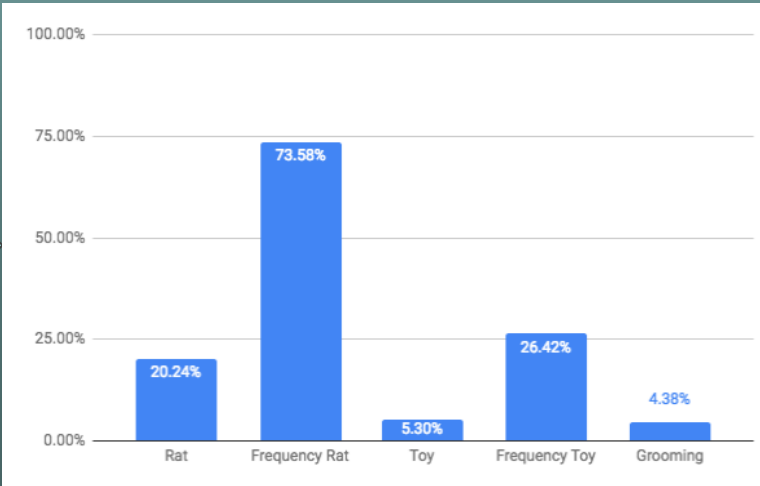
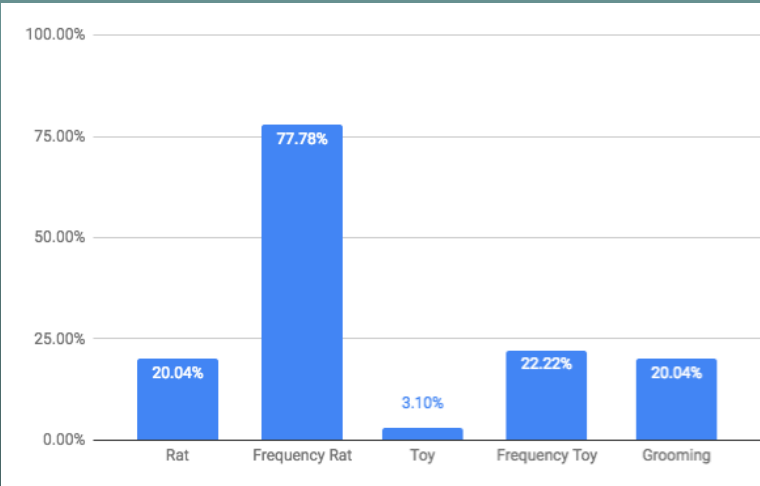
# % Preference for Rat Vs. Toy



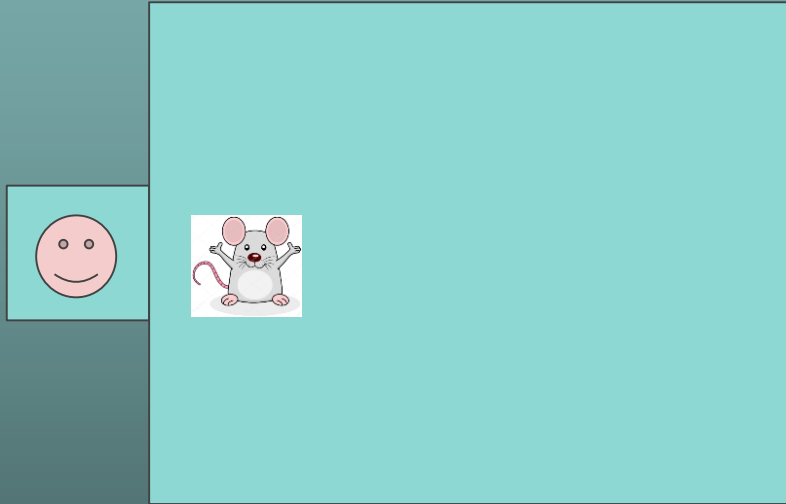
NT Rat



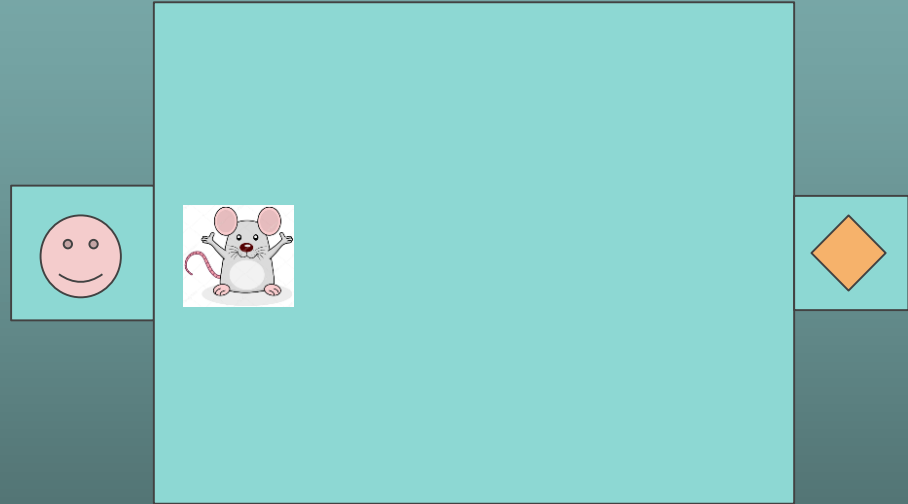
CFD Rats



Pre-Pairing



Post-Pairing







## ***Conclusion***

- There is a social preference observed in the NT but not in the CFD since the CFD was already social
- After pairing, anxiety indicators reduced significantly
- The data implies an improvement in social adaptation skills



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## ***Works Cited***

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