

Food Anticipatory Activity in Female Mice with and without Wheel Access

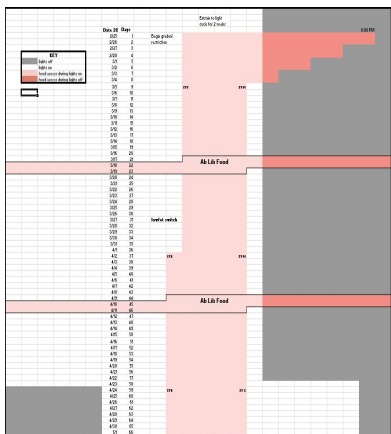
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Introduction

- Bias to use male mice in research
- Limited data on female food anticipatory activity (FAA)
- Male mice show enhanced FAA with wheel access
- Female mice show less FAA
- Do female mice experience enhanced FAA with wheel access?

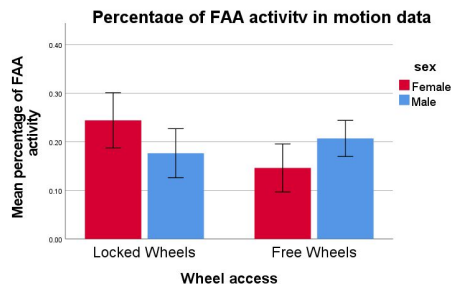
Methods

- 16L:8D
- Female vs male
- Free vs locked wheels
- Motion and wheel data measured

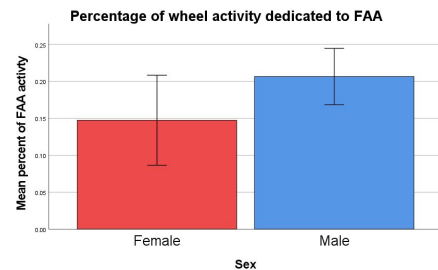


Results

- Increase food intake during ab lib vacation of LFD
- Female mice were resistant to weight loss during changes to feeding
- **No significant differences between wheel access or sex in motion data**

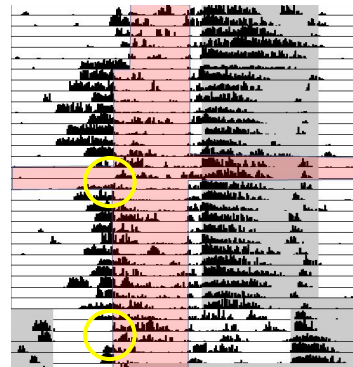


- **No significant differences between sex in wheel data**

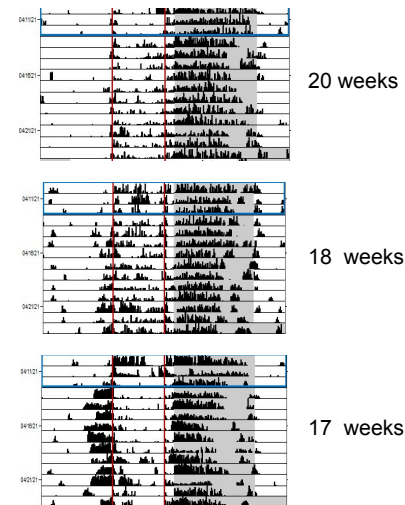


Motion data:

- Decrease/disappearance of FAA during ab lib
- Decrease/disappearance of FAA during phase delay



FAA intensity decreases with age



Discussion

- Female mice resistant to obesity and weight changes
- Increased food intake during ab lib suggests caloric restriction
- Disappearance of FAA during ab lib suggests FAA fueled by caloric restriction, not food presentation
- No sex differences in wheel or motion data
 - Potentially no sex differences in FAA if caloric restriction is present
- No differences in FAA due to access of wheels
 - Potentially no enhancement of FAA with wheels during caloric restriction
- Disappearance of FAA during phase delay
- FAA strength may decrease with age
 - Larger sample size for future experiments