Food Anticipatory Activity in Female Mice with and without Wheel Access

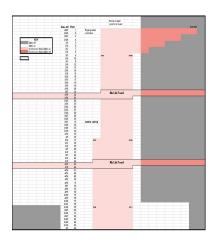
Alyssa Santiago

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?

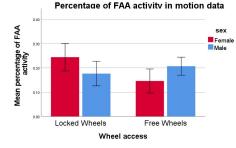
Methods

- 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



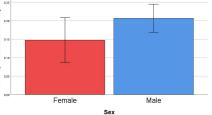
 No significant differences between sex in wheel data

Percentage of wheel activity dedicated to FAA

ctivity

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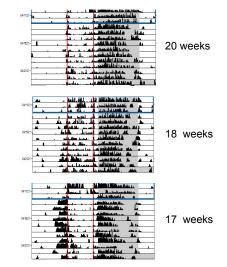


Motion data:

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

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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