

# Sociability in Bottle Fed vs. Mother Fed Lambs

Kelsey Longrie

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# Overview

- Purpose
- Ainsworth
- Paired Attachment
- Mismatch Attachment
- Results



# What do we know about sheep?

- Sheep are livestock raised for meat and fiber.
- Despite common belief, there is supporting evidence to show that sheep do have a highly developed brain, especially for memorization!

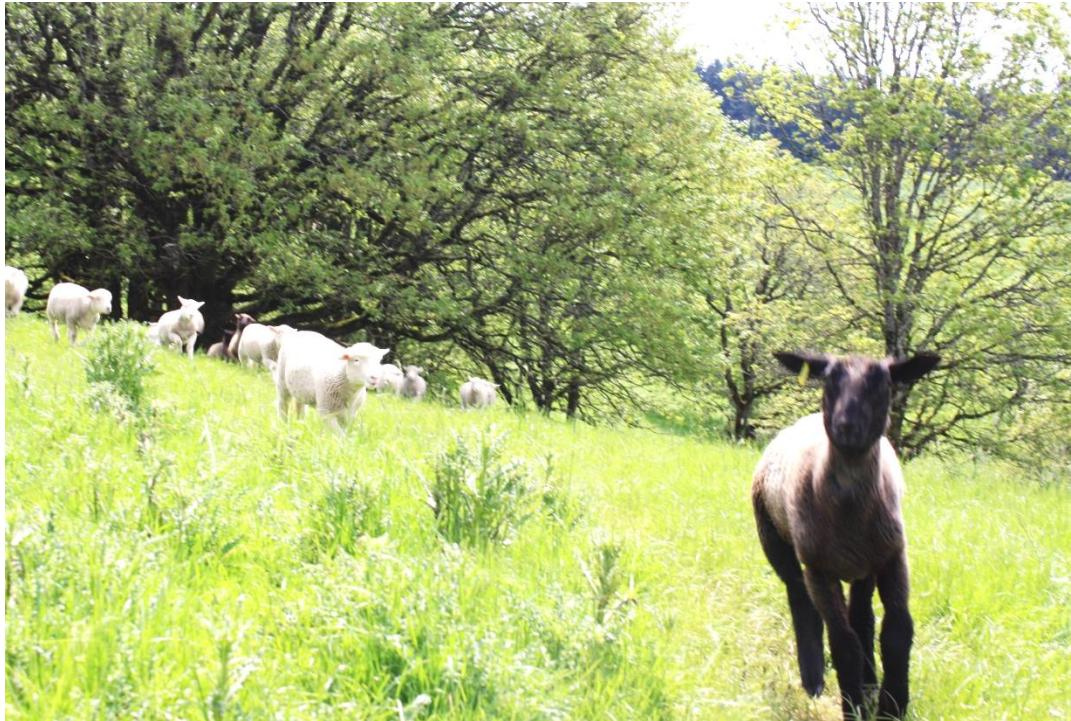


# Questions and Hypothesis

- **Ainsworth:** Lambs will increase vocalization (bleats) when left alone in an unfamiliar area.
- **Ainsworth:** Lambs that are bottle fed will approach human in unfamiliar area more often than mother fed lambs.
- **Paired Attachment:** Bottle fed lambs will approach human, and mother fed lambs will approach mother.
- **Mismatch Attachment:** If given a choice, bottle fed lambs will not have a preference for mother or random ewe. Mother fed lambs will choose their mother.

# Three tests

- Ainsworth Sociability
- Paired Attachment
- Mismatch Attachment





# Background Of Tests

- ◉ Where did these tests come from?
- ◉ Why are we choosing to do these tests?
- ◉ What purpose will this serve?



# Methods of Design

- We tested two types of sheep, Polypay & Suffolk, for the Sociability test.



Polypay



Suffolk

# Methods of Design

- 30 lambs were used in the Ainsworth Test
- 10 of the 30 lambs were Polypay Bottle Fed
- 10 of the 30 lambs were Polypay Mother Fed
- The last 10 lambs we used were Suffolk Mother Fed





# What is Bottle Fed and Mother Fed?

- **Bottle Fed**: Lambs that needed to drink out of a bottle in order to eat. There are many different reasons why a lamb is bottle fed...
- **Examples**: Mother did not produce enough milk, the lamb was started off on a bottle and did not take to the teat, the mother died (true bummer lamb).
- **Mother Fed**: Took to mom's teat from the start!



# Bottle Fed Lambs



# Ainsworth Sociability

- We paired the Bottle Fed Polypays with the Mother Fed Polypays based on age, sex, or if they were siblings.
- We paired the Suffolk lambs with the MF Polypays





# Ainsworth Test

- The creation of the Hay Area!

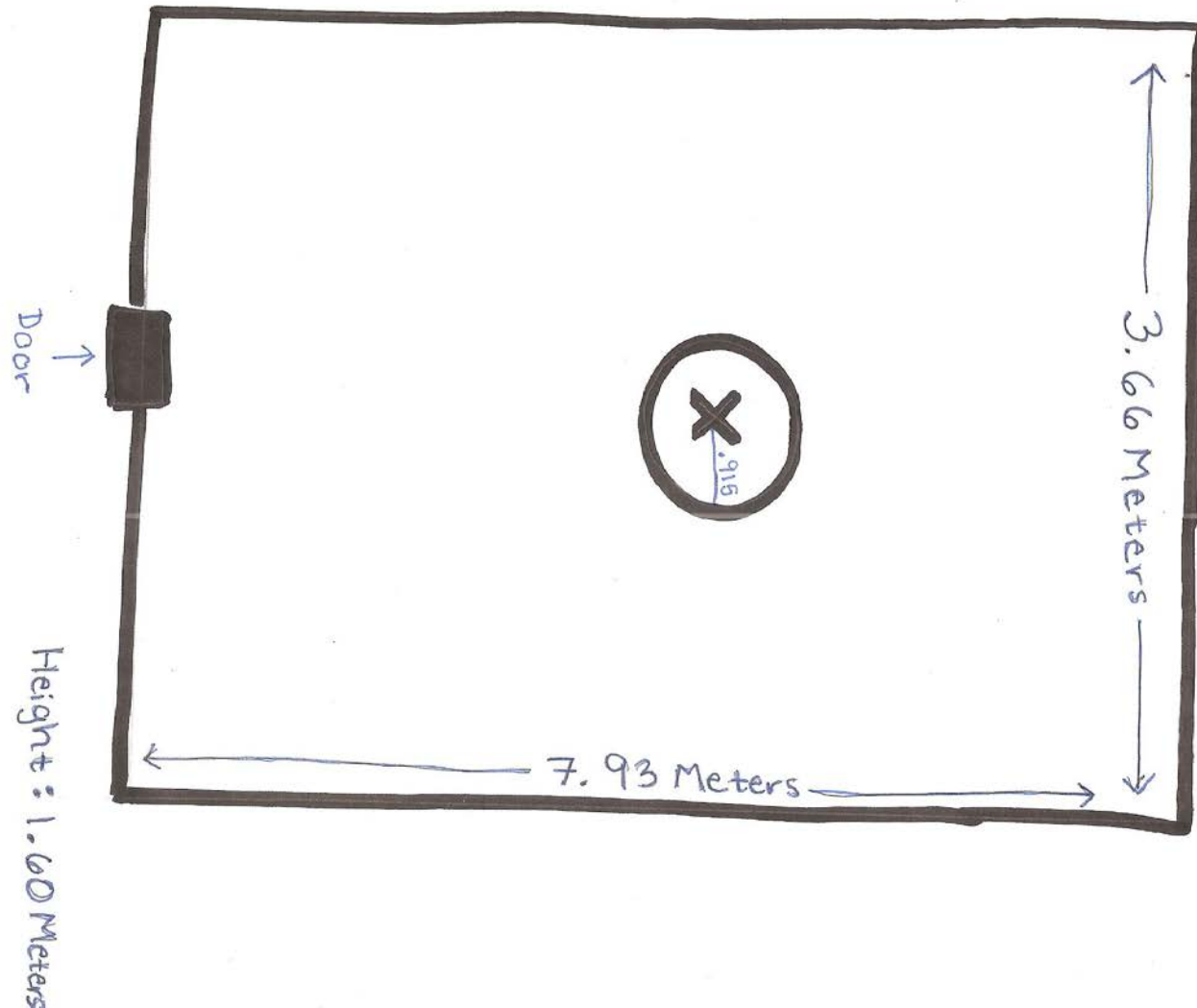
We quickly learned that lambs can jump high and are extremely athletic... we thought 2 bales of hay could hold them in... turns out we needed 4 bales!





# Ainsworth Test

● Birds Eye view



# Ainsworth Sociability Test

- Each selected lamb was put through the same three conditions...
- Baseline: lamb and person in hay area (2 min)
- Alone: lamb alone in hay area (2 min)
- Return: Human returns to hay area (2 min)

# Ainsworth Sociability Test

- Behaviors
- Jumping at or touching door
- orientating towards door area and walls
- exploring environment
- touching objects
- urinating/defecating
- time inside/outside circle
- walking towards human
- touch
- We also recorded # of bleats



# Ainsworth Sociability

- Baseline



Lamb 1463 Mother Fed



Lamb 1482 Bottle Fed



# Ainsworth Test

○ Alone



Lamb 1463 Mother Fed



Lamb 1482 Bottle Fed

# Ainsworth Test

- Return



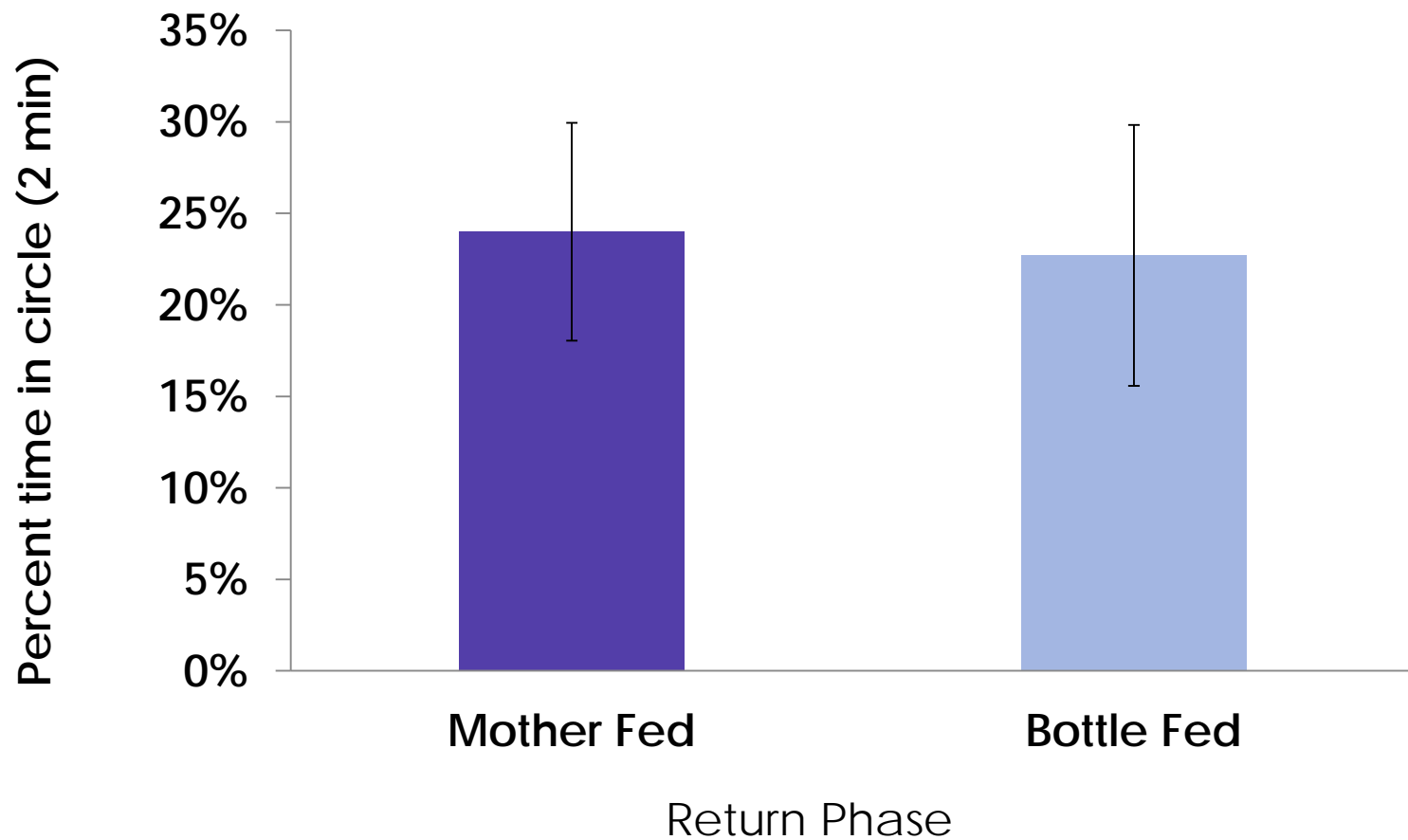
Lamb 1463 Mother Fed



Lamb 1482 Bottle Fed

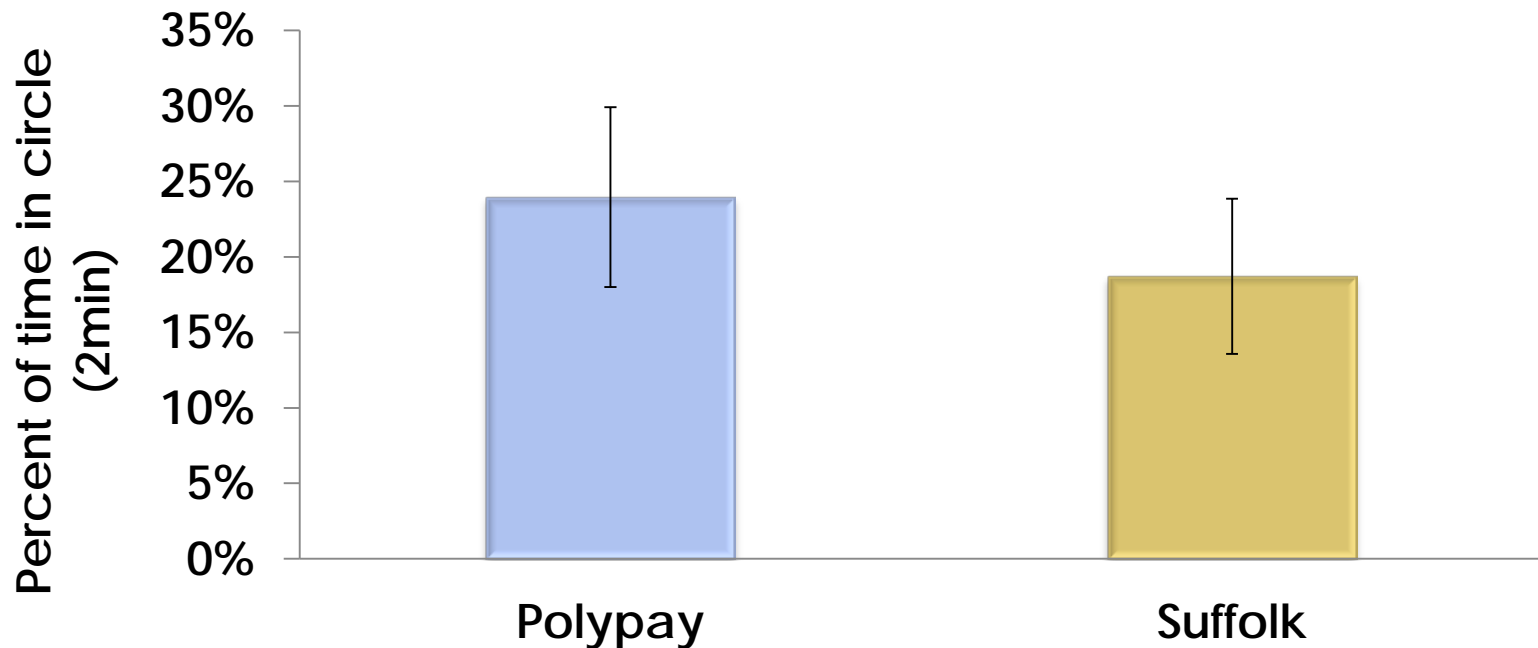
# Results

% Time in Circle Mother Fed vs. Bottle Fed



# Ainsworth: Results

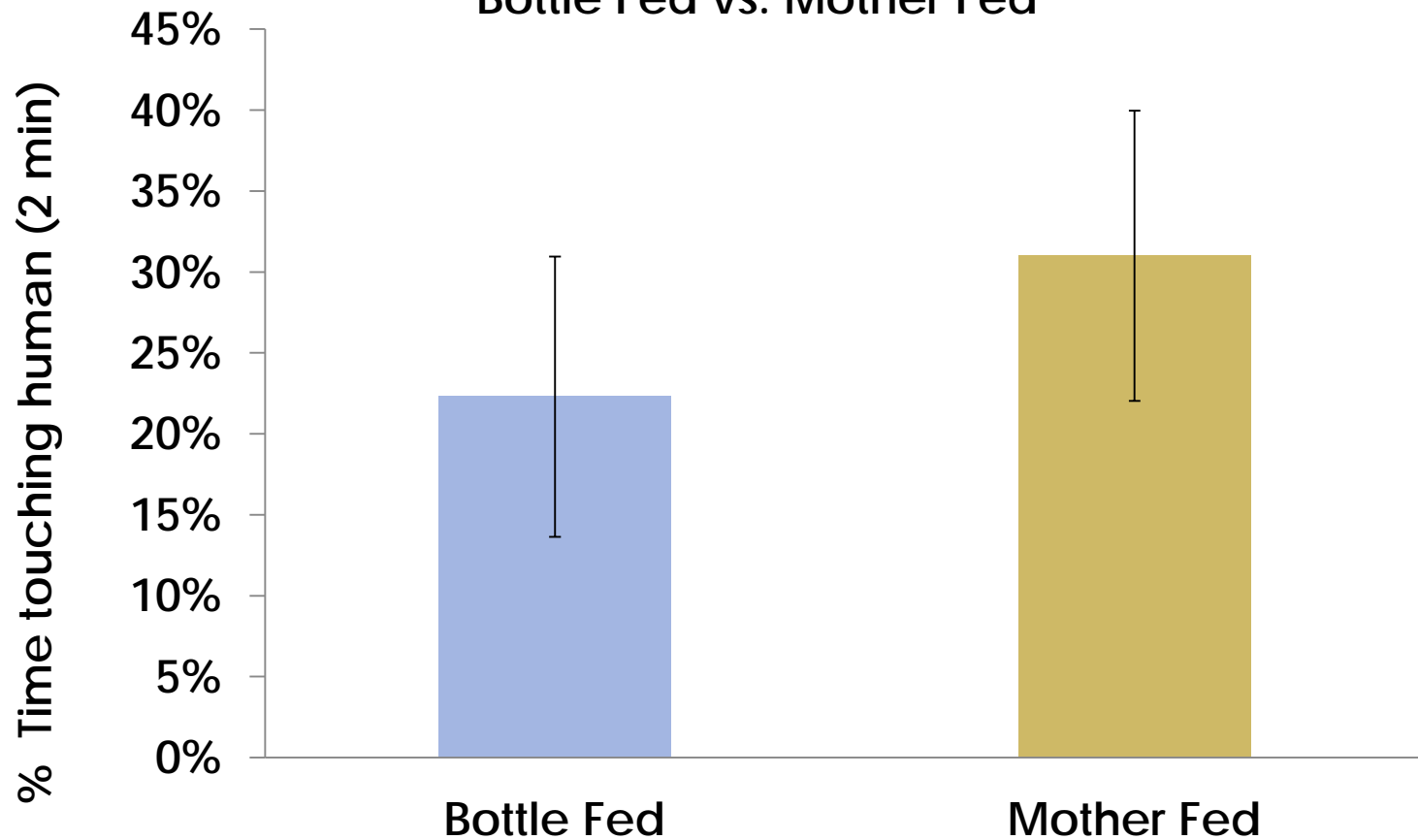
% Time in Circle- Polypay vs Suffolk



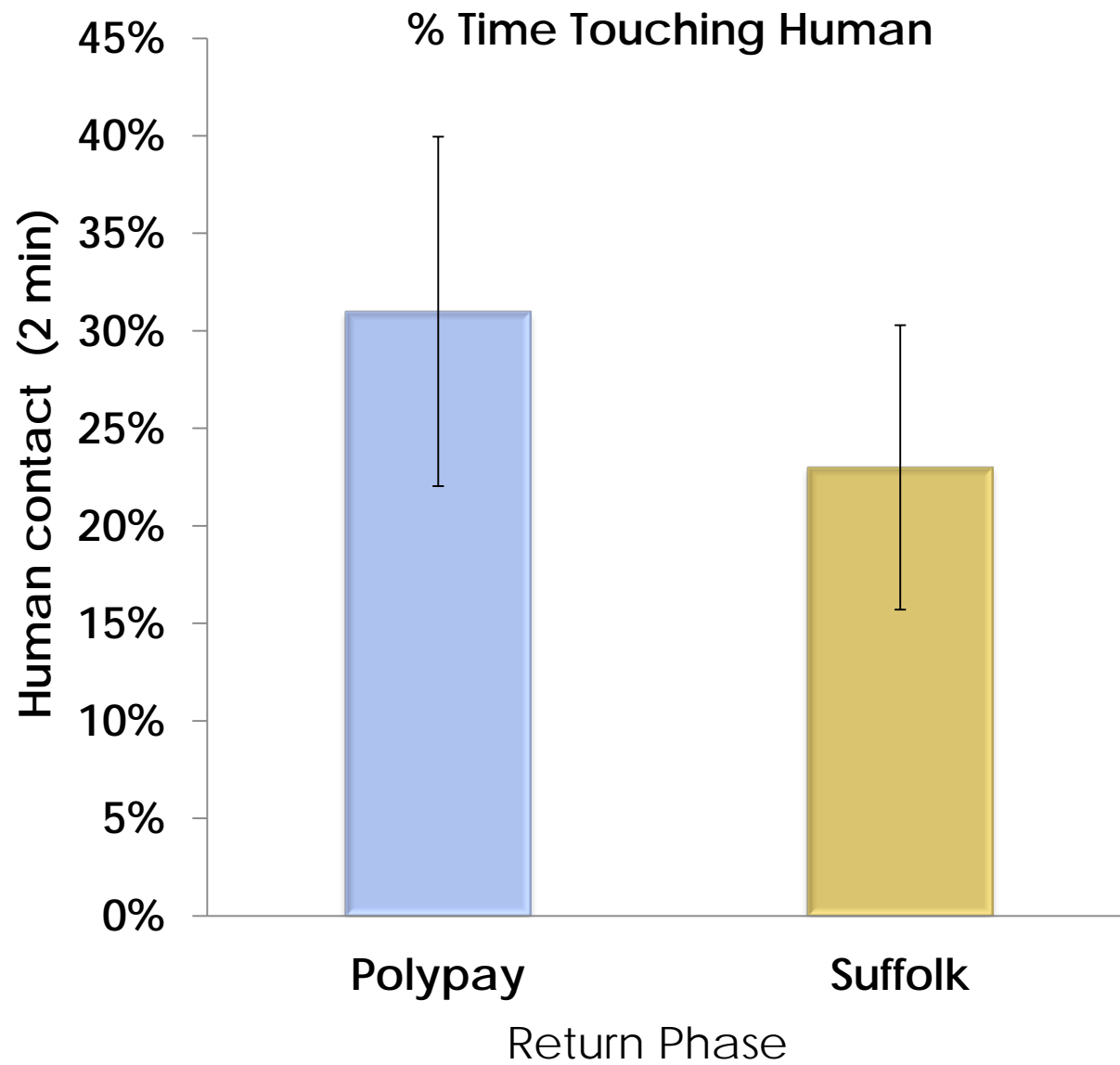
Return Phase



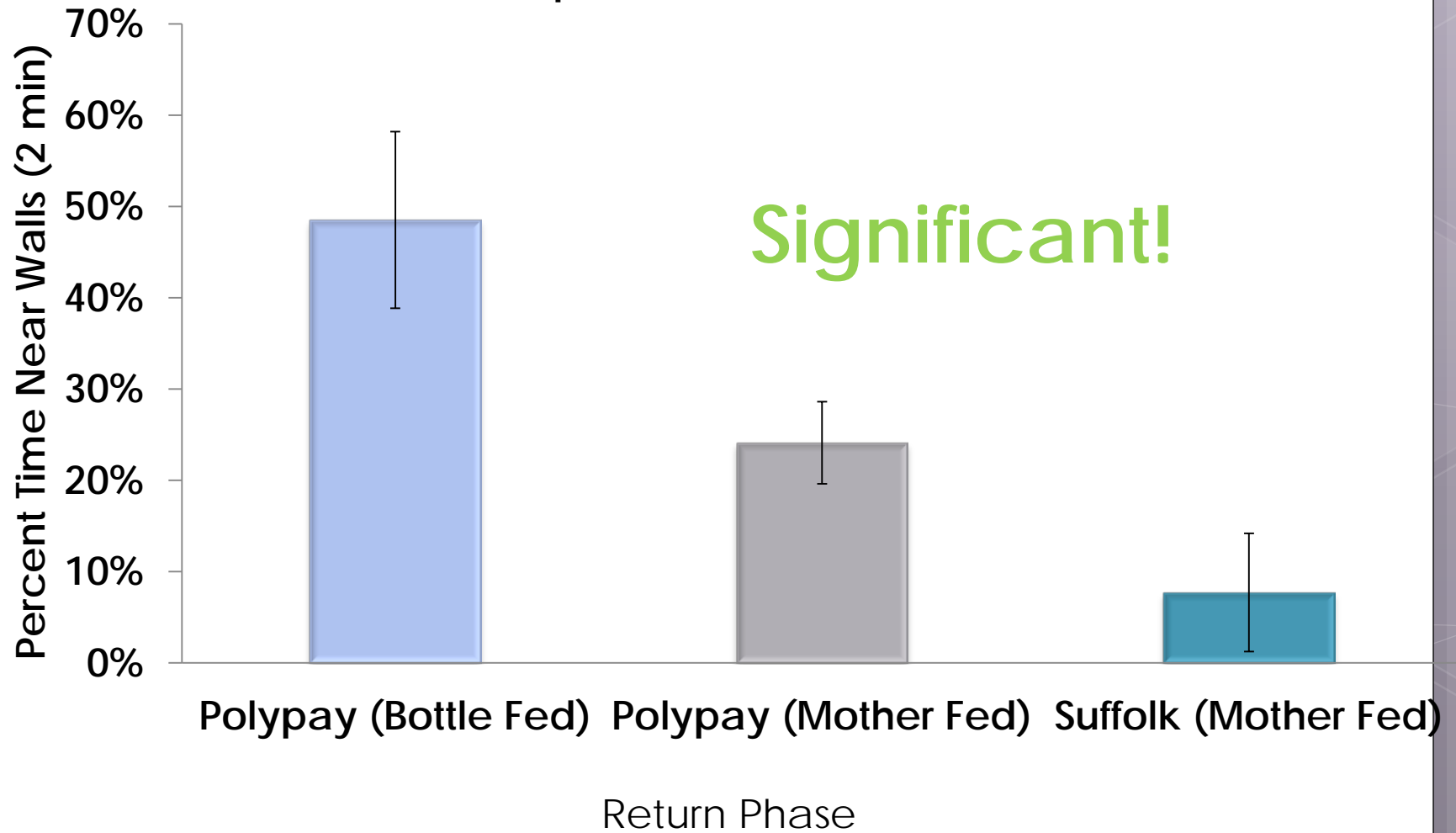
**% Contact With Human**  
**Bottle Fed vs. Mother Fed**

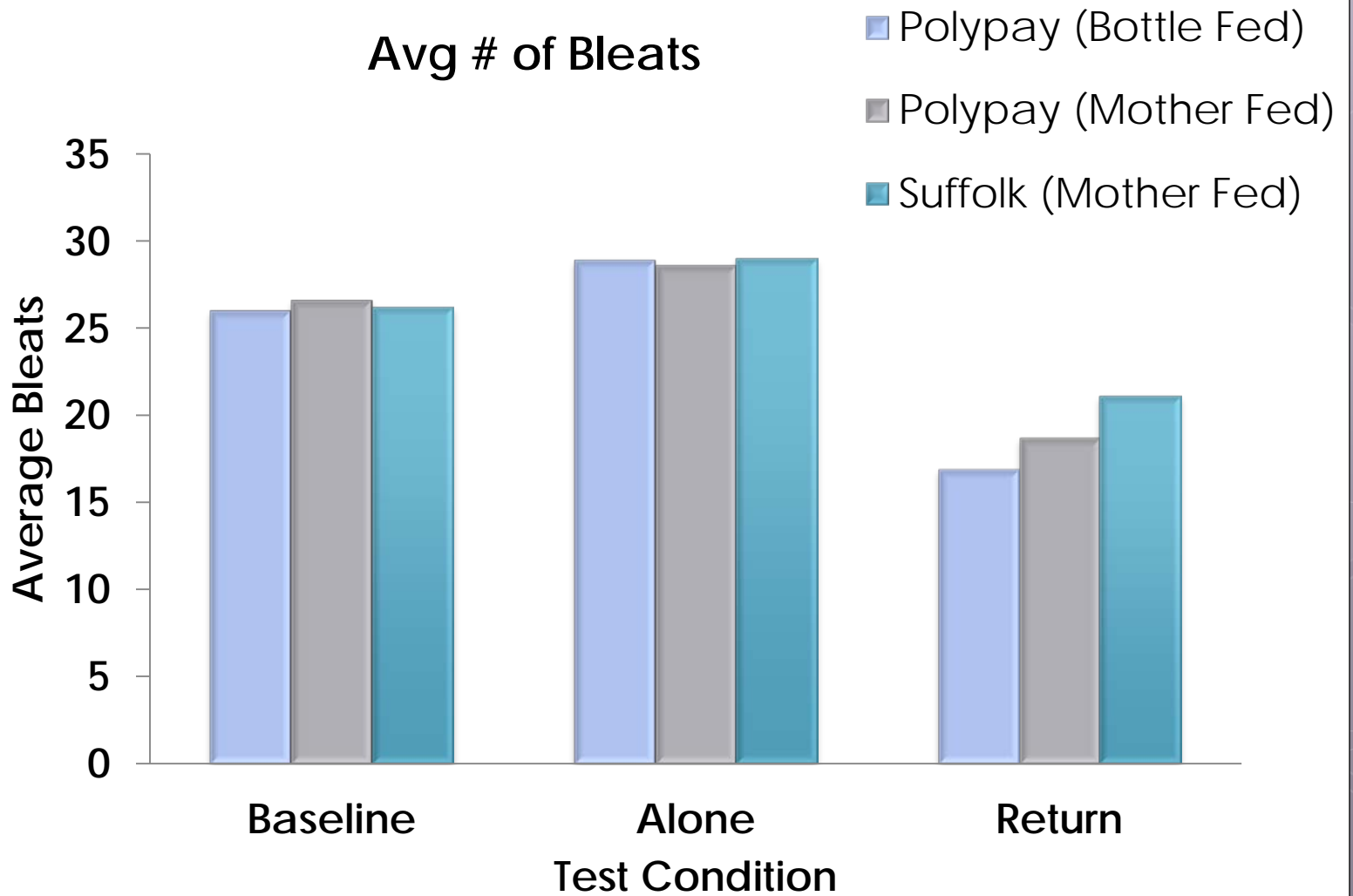


Return Phase



## Time Spent Near Room Walls





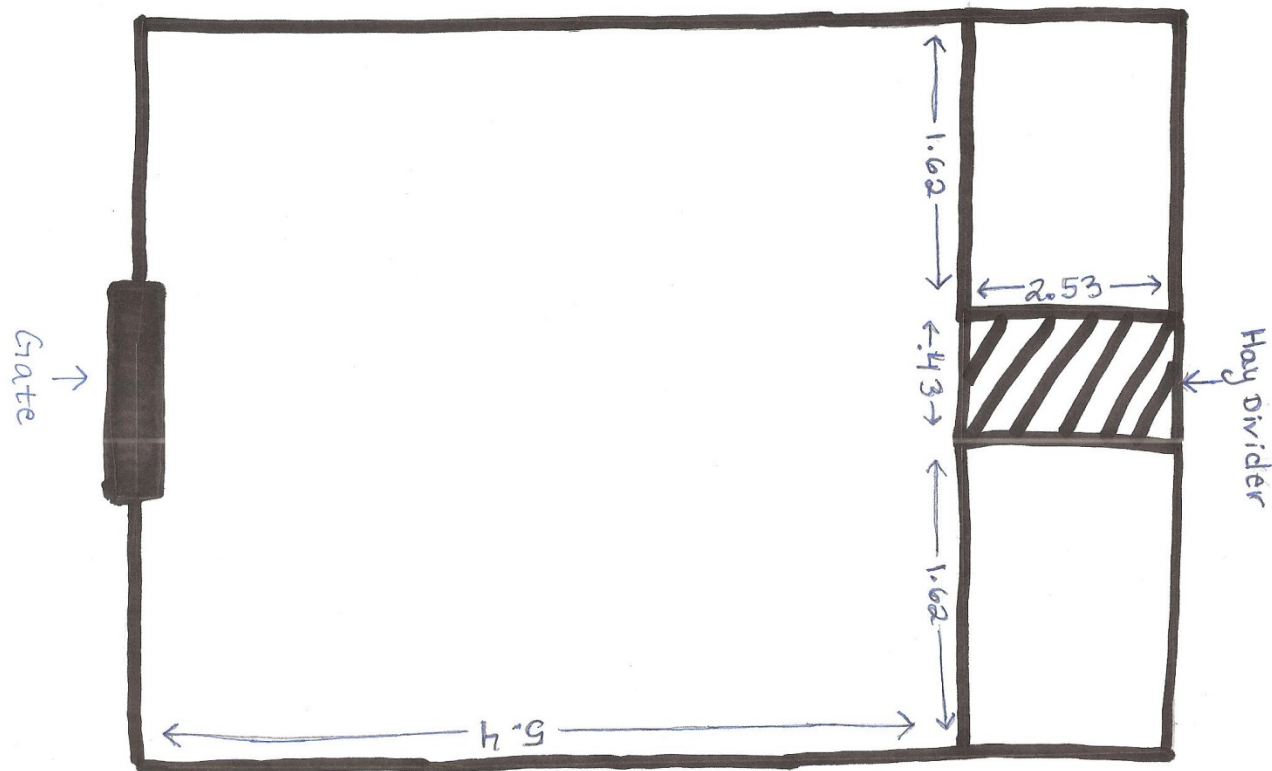


# Paired Attachment

- Lamb chooses to go either to the human or to the mom (1 minute to choose)
- Tested Polypay lambs only (20 lambs)



# Paired Attachment • Birds eye view



# Paired Attachment

- The ewes stayed in their designated corner with the incentive of corn, alfalfa pellets and alfalfa flakes.





# Paired Attachment





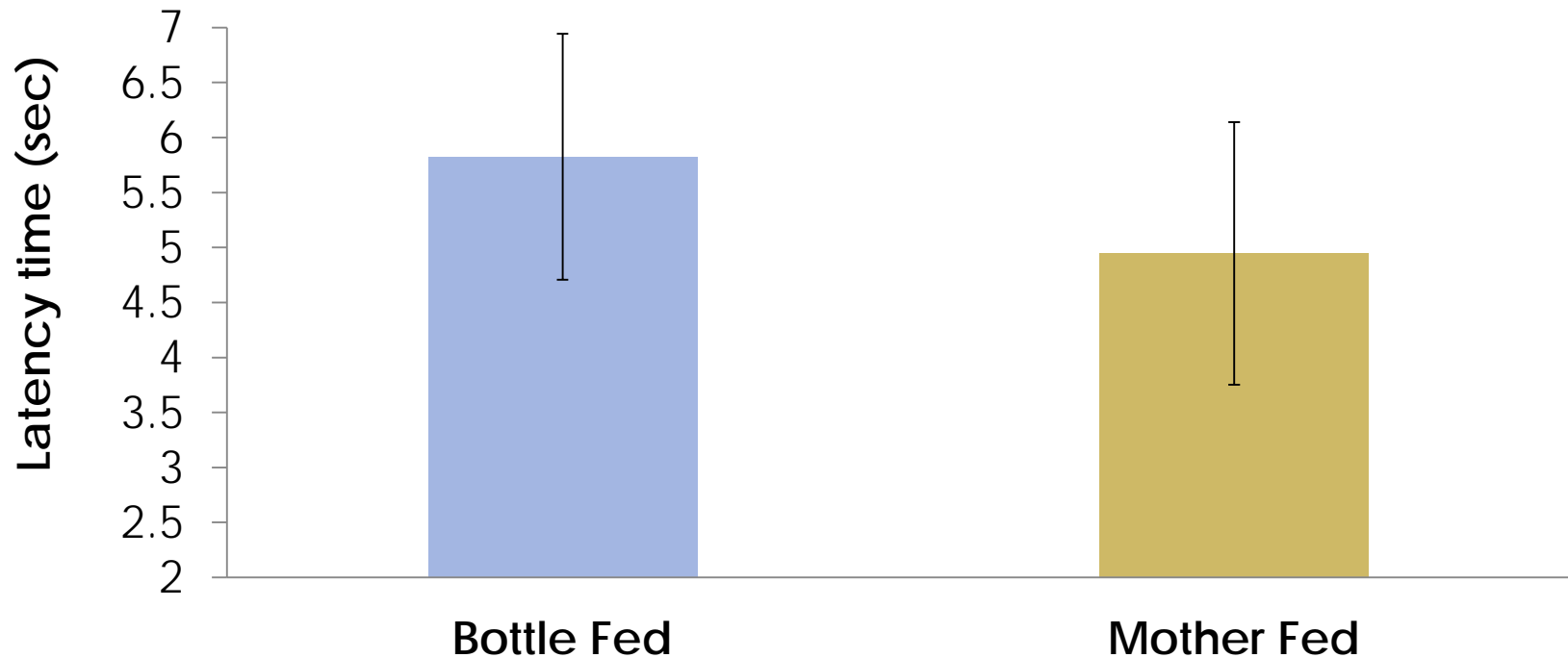
# Paired Attachment: Results

- All 20 lambs choose their mother!



# Paired Attachment: Results

Latency  
Bottle Fed vs. Mother Fed



# Mismatch Attachment

- Lamb chooses either its mother or other ewe.
- Polypay lambs and ewes were tested



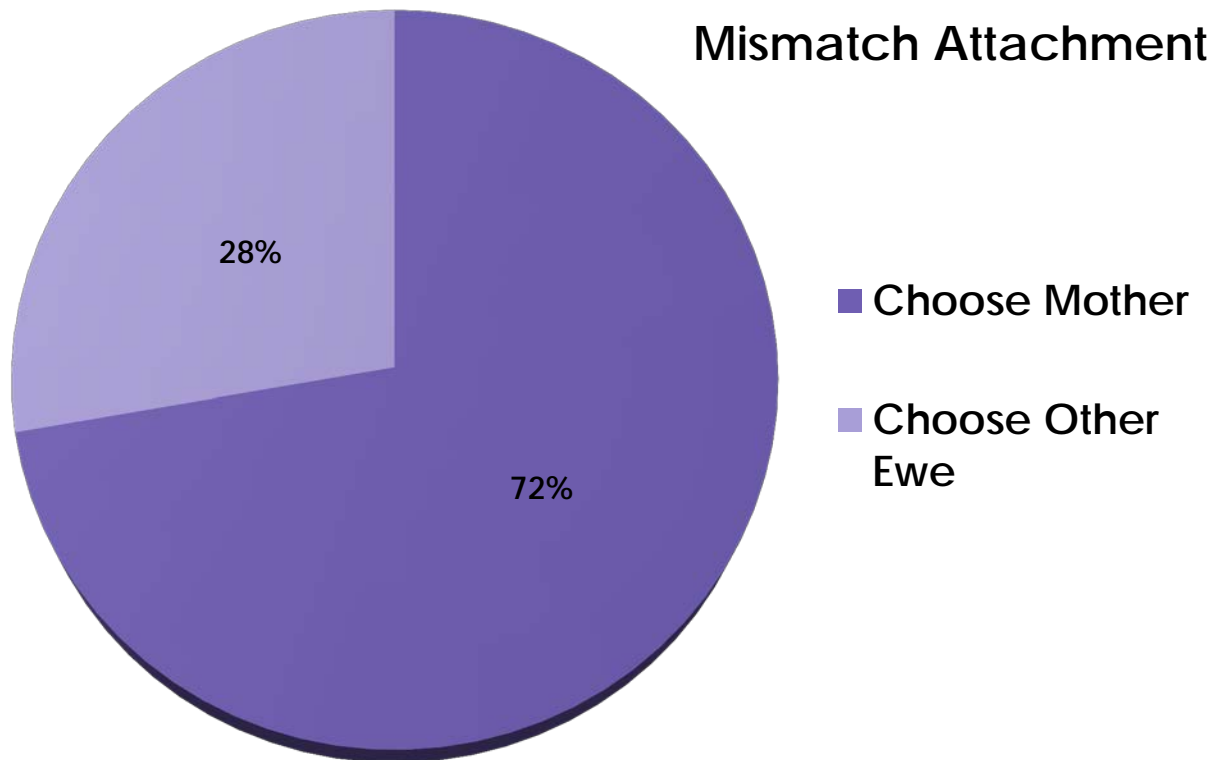


# Mismatch Attachment



# Mismatch Attachment: Results

- Out of all 18 tests (2 videos were not viable), 5 lambs choose different ewes.





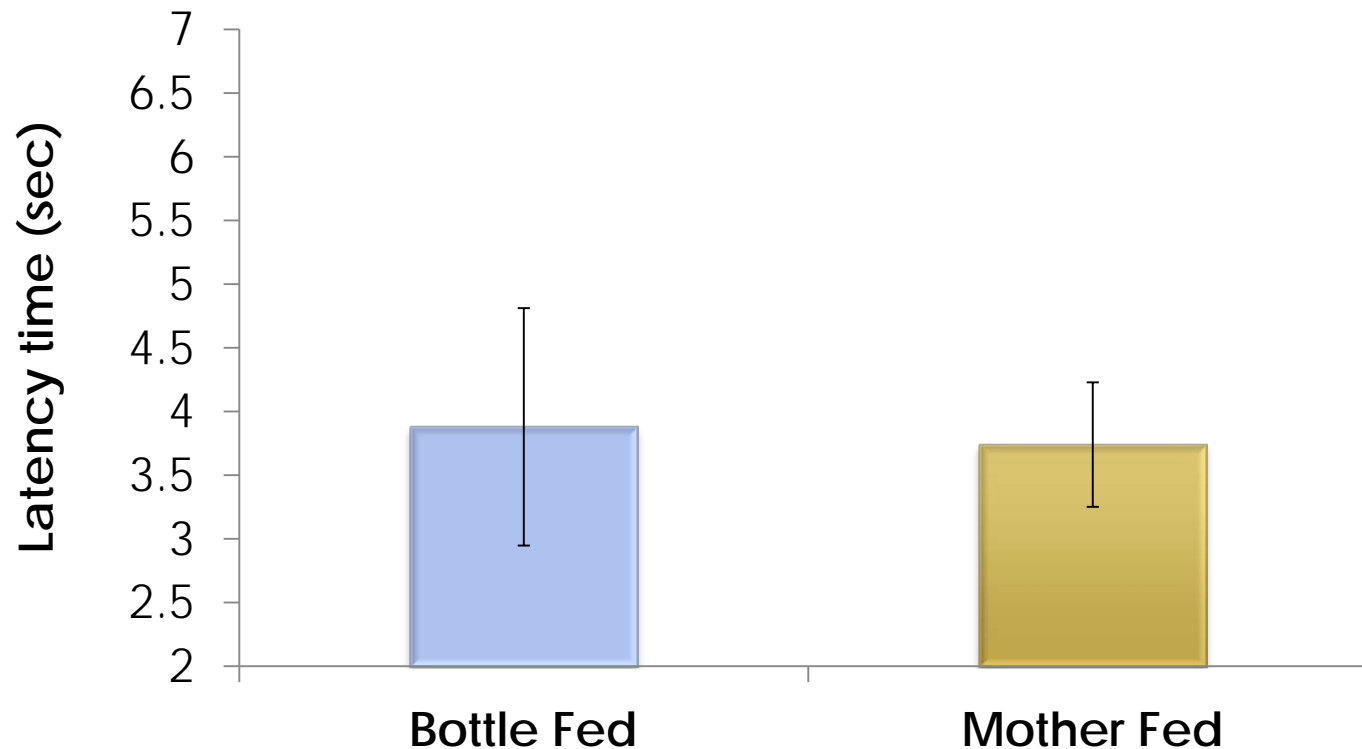
# Mismatch Attachment: Results

- 3 out of the 5 lambs that did not choose their mother, were bottle fed. The other 2 were mother fed.



# Mismatch Attachment: Results

Latency  
Bottle Fed vs Mother Fed



# Wrap-up

- The results were different than expected!
- Difference in types of lambs near walls/door
- All lambs decreases bleats in Return



# Conclusion

- ◉ What do these results mean?
- ◉ Lambs prefer their own species over humans no matter the feeding method.
- ◉ Further analysis in progress!

Questions?





# Literature Cited

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