

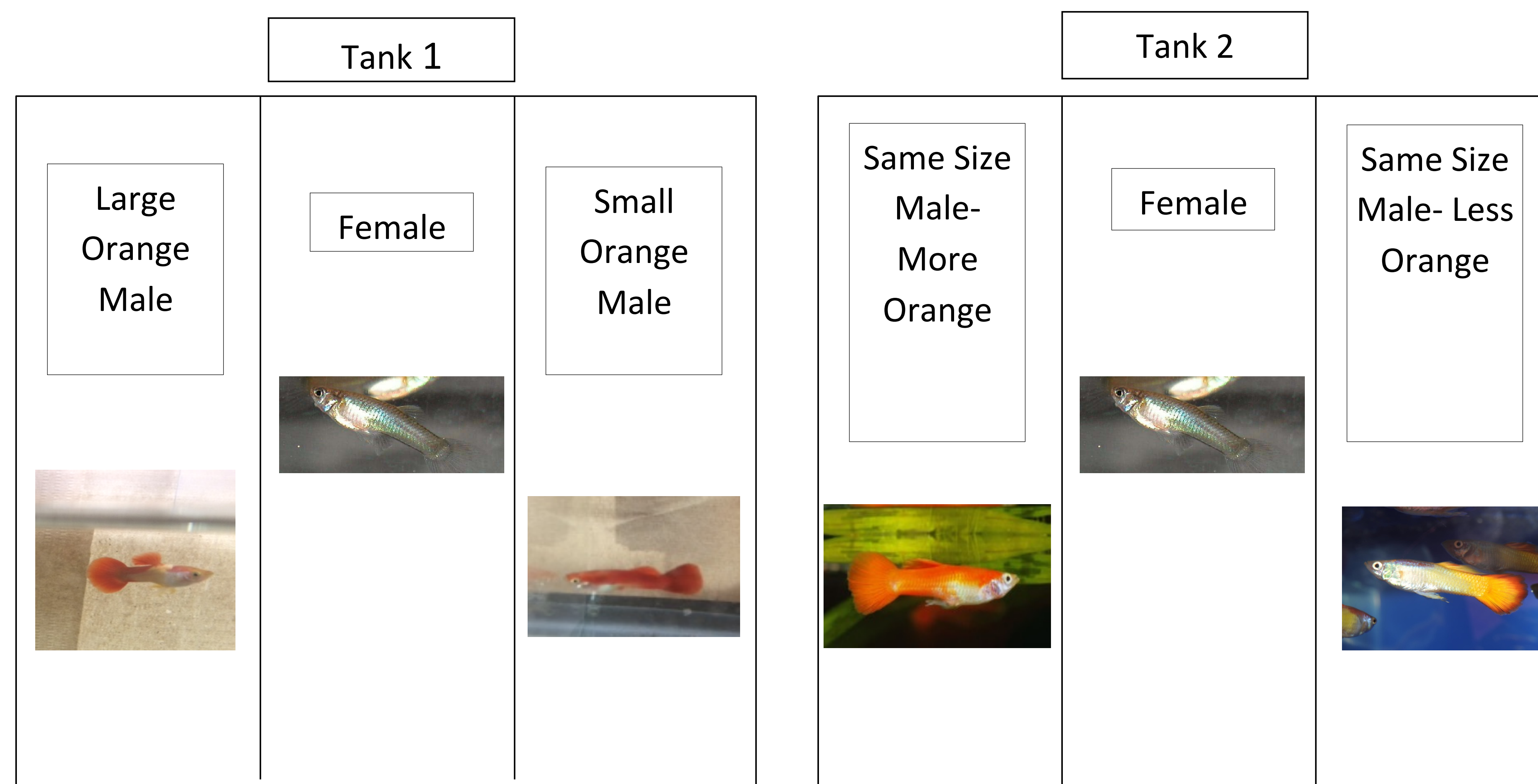
# What a Guppy Wants

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## Introduction

We were interested in whether female guppy mate choice was a product of sensory biases that were preexisting in the sensory system. We specifically looked at female guppy mate choice in response to variation in size and color of male guppies. A larger body size indicates that the male is better able to find food. More orange on a male's body indicates that they are able to obtain more food that contain carotenoids, an important nutrient in guppy diets. We predicted that the female guppies would prefer males who were larger and had more orange coloration on their body.

## Methods



- 30 females and 40 males were tested over the course of 30 trials.

- Two tanks were separated into three sections using glass dividers.
- Females were placed in the middle section of each tank for five minutes to allow them to choose a mate.
- Mate choice was determined by the number of times the female actively touched the glass dividers over the five minute period.
- Each set of males were tested using three different females before switching the male pairs.

## Results

Figure 1.1

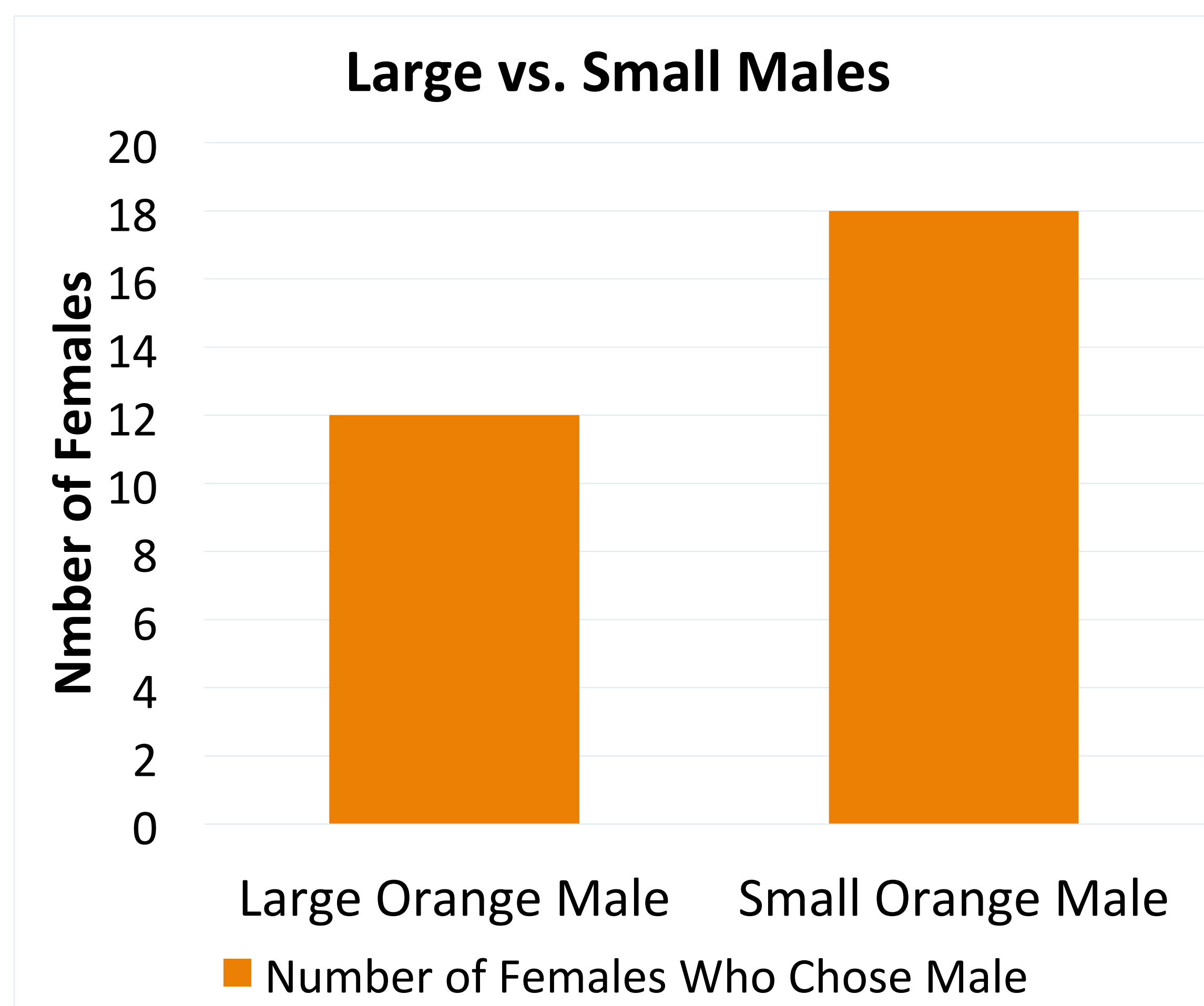


Figure 1.1 shows the number of females who spent more time with the large orange male versus the number of females who spent more time with the small orange male in 30 different trials giving each female guppy five minutes to make a choice.

- Our data shows that more females chose males with more orange on their bodies and smaller males were more appealing than the larger males.

Figure 1.2

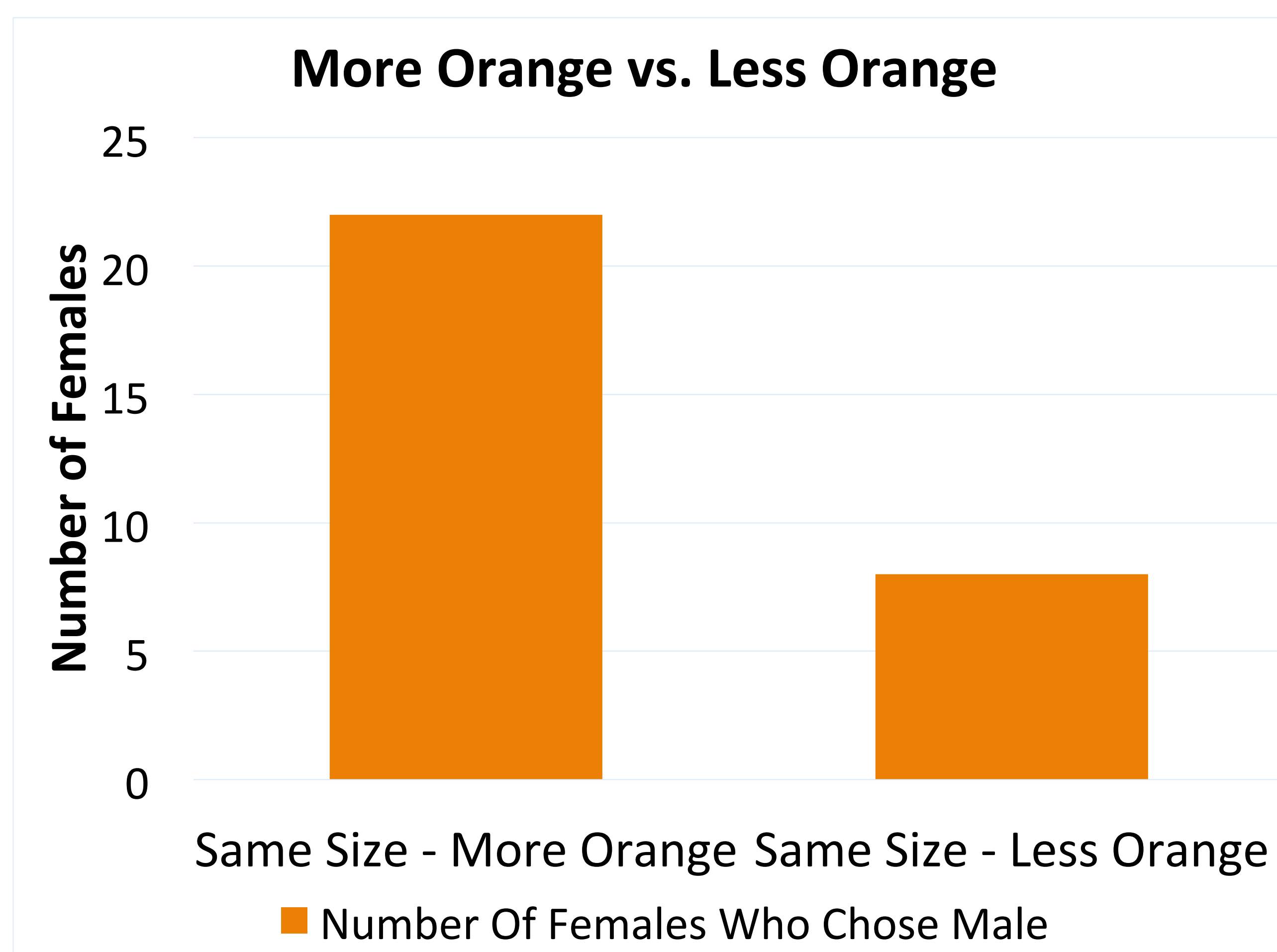


Figure 1.2 shows the number of females who spent more time with males who have more orange on their bodies versus the males with less orange on their bodies in 30 different trials giving each female guppy five minutes to make a choice.

## Conclusions

Our results suggest that female guppies do prefer males with more orange coloration on their bodies as we predicted. Our results also suggest that female guppies prefer smaller male guppies over larger male guppies. We predicted that female guppies would prefer larger male guppies so this result went against our prediction. More tests should be done to collect more data to determine if the results are the same. The parameters of the experiment should also be narrowed to get more precise conclusions.

## Acknowledgements

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