



In the webinar on  
October 26<sup>th</sup>, 2021,  
Steffen van Heijning-  
en discussed the  
dilemma of individual  
versus social housing  
of mice.

# Q&A

## The dilemma of individual versus social housing of mice



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**Suggestion for the first part of the talk - please indicate the group size, which is crucial for interpreting the graphs.**

The group sizes in the studies mentioned vary from  $n=20$  to  $n=30$ . For the full publication please follow this [link](#).

**What is the gender of the animals using for the first part of the talk? Any notes on the stress-susceptibility of female mice to social isolation?**

The studies shown all used male mice. We indeed also investigated female mice in a similar paradigm, and found that they are less susceptible to the obesogenic phenotype due to individual housing. Whether this is related to stress we unfortunately have no data on.

**Can a reversed cycle also affect anxiety?**

Yes it can. Testing in the light (rest phase) or dark (active phase) can have different effects on anxiety. Sudden light pollution, even very brief, is a challenge to overcome when testing in the dark and can acutely affect anxiety.

**Did you observe a difference in the behavior of the mice when they were handled by a female or male researcher?**

This was unfortunately not measured, but is a very interesting angle to investigate.

## Thank you!

We would like to thank all participants of this webinar. We value your attendance and questions!

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**I'm not familiar with the plastic cup handling of mice that you pointed out. Can you please go into detail as to how they are handled with these cups, and if you see any added benefits from handling mice this way vs handling mice by hand.**

I referred to tunnel or tube handling, which I incorporated in my design to try and reduce anxiety experienced by handling. Jane Hurst has a very nice [publication](#) on this topic, and also multiple [Youtube videos](#) in which she shows this technique.

**Did you have normal light-dark cycle or reverse light-dark cycle?**

I maintained a normal light dark cycle, thus lights being on during our daytime and vice versa.

**Do you think the level of anxiety we find in mice that are single housed is equivalent to the level of anxiety we can find in a submissive mouse that is pair housed with a dominant mouse?**

I think a submissive mouse is very susceptible to anxiety based on social defeat theories. In the case of an individual mouse, this refers to chronic isolation, and anxiety can thus be more related to boredom and/or even depression. I would thus say these are different forms of anxiety.



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