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## INTRODUCTION

- **Anticipatory Nausea (AN)** is thought to be a form of classical conditioning in which the effects of a nausea-inducing substance become associated with a specific social or environmental context<sup>1,2</sup>.
- In rats, conditioned nausea can be represented by the occurrence of **conditioned gaping behavior** (Fig. 1), displayed when rats are re-exposed to a context that has previously been associated with a nausea-inducing toxin such as lithium chloride (LiCl)<sup>3,4,5,6,7</sup>.
- **Oxytocin (OT)** is involved in mediating responses to socially salient factors with little involvement in mediating responses to non-socially related factors<sup>8</sup>. OT has been shown to be involved in the mediation of socially conditioned disgust, though its **role in mediating non-social environmentally conditioned disgust is unclear**<sup>8</sup>.
- **Purpose:** Investigate the role of oxytocin (OT) in mediating non-social environmentally conditioned disgust.
- **Hypothesis:** For rats conditioned with LiCl in a novel context, administration of L-368 899, an OT antagonist (at a dose that effects socially conditioned disgust), prior to LiCl-free conditioning context re-exposure will significantly reduce the frequency of conditioned gaping behaviour compared to controls

## METHODS

### Animals

- 32 adult male Long-Evans rats

### Conditioning Drugs

- Lithium chloride (LiCl) (128mg/kg, 20ml/kg)
- Saline (NaCl) (20ml/kg)

### Extinction Drugs

- L-368 899 (OTX) (5mg/kg, 10ml/kg)
- Saline (NaCl) (10 ml/kg)



Figure 1. Gaping

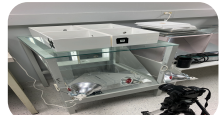


Figure 2. Conditioning Apparatus

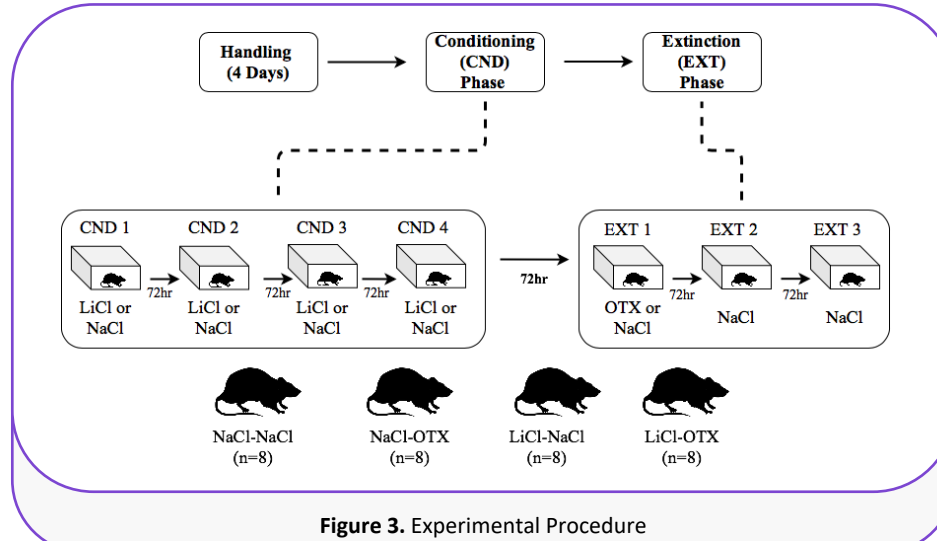
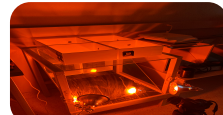


Figure 3. Experimental Procedure

## DISCUSSION

- **Contrary to the hypothesis**, it was found that **L-368 899 (OTX) administration did not significantly effect the frequency of conditioned gaping behaviour**.
- **This suggests that oxytocin (OT) was not involved in the mediation of non-social environmentally conditioned disgust in rats**, supporting the contention that OT has little involvement in the mediation of responses to non-social factors.
- **Limitations** of the present study include that there were large variations in gaping behaviour on extinction day 1 and 2, and that only 1 dose of OTX was used in the extinction phase.

## RESULTS

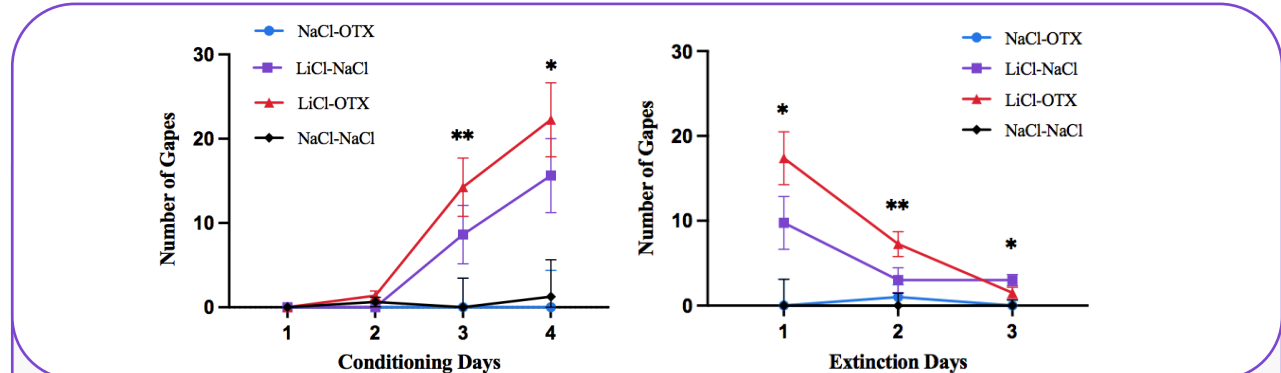


Figure 4. CND 3: The LiCl-OTX group gaped significantly more than both NaCl groups ( $p < 0.01$ ). CND 4: Both LiCl groups gaped significantly more than both NaCl groups ( $p < 0.05$ ). EXT 1: Both LiCl gaped significantly more than both NaCl groups ( $p < 0.05$ ). EXT 2: The LiCl-OTX group gaped significantly more than both NaCl groups ( $p < 0.01$ ). EXT 3: The LiCl-NaCl group gaped significantly more than both NaCl groups ( $p < 0.05$ ).

## References

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