


Introduction

Traditional treatments for depression have numerous side effects

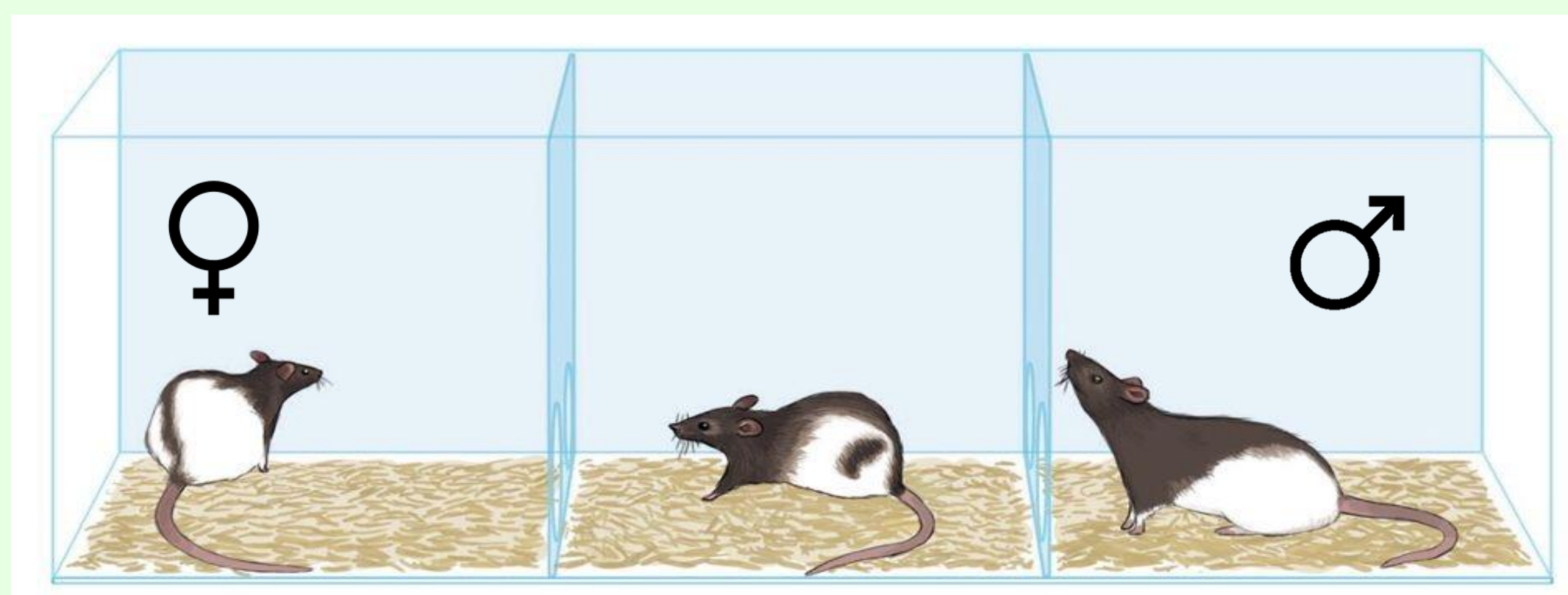
Ketamine is a novel, fast-acting antidepressant medication for treatment resistant depression.

Whether sexual dysfunction and anxiety in female subjects are affected by ketamine administered weekly, as in humans, is unknown.

Methods

- | | | |
|------------------------|---|---|
| <u>Ovaries Removed</u> | <u>Hormone Treated</u> | <u>Ketamine</u> |
| ⊘ ⊘ | <ul style="list-style-type: none"> 10 μg estradiol benzoate (EB) 48 hrs pre-test 1 mg progesterone (P) 4 hrs pre-test | <ul style="list-style-type: none"> 10 mg/kg Ketamine Injected IP 30 min before tests |
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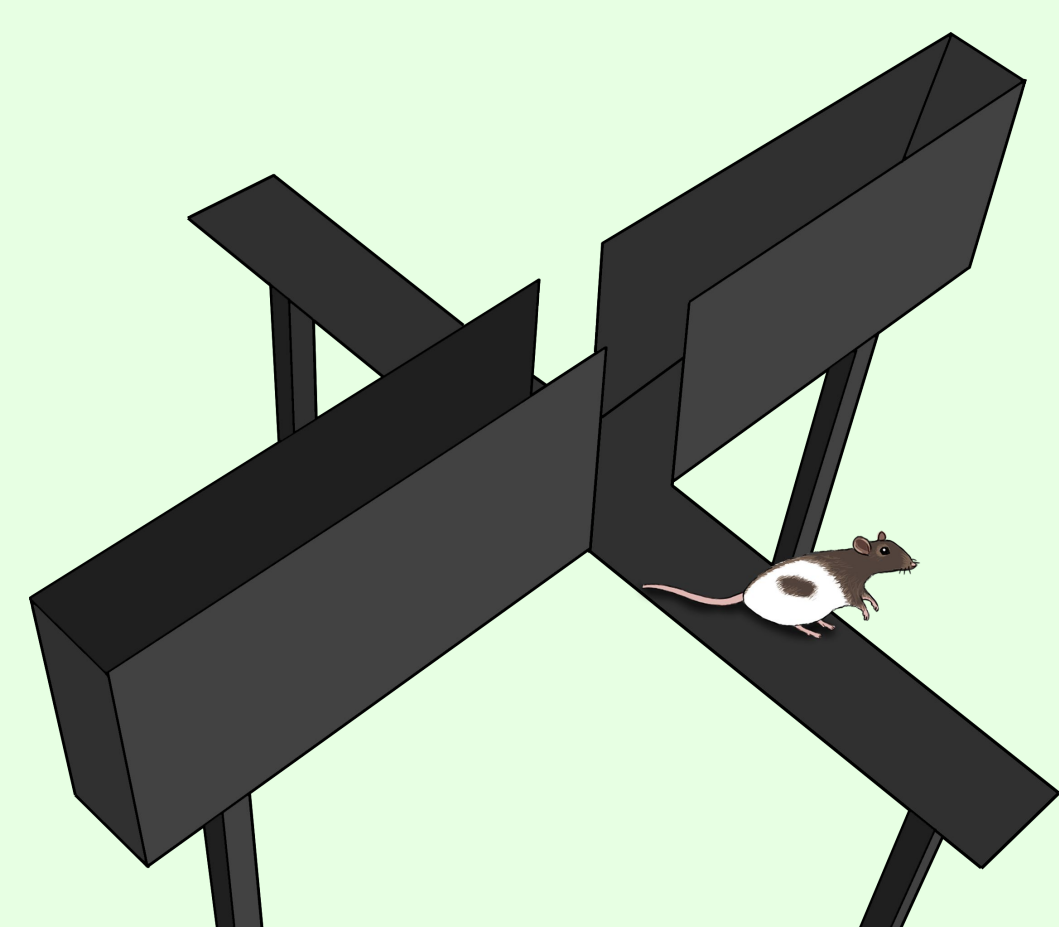
Partner Preference Tests



No Contact: Stimulus animals behind wire mesh
Contact: Mating permitted

- Time with Stimulus Animal: duration of time inside either stimulus animal's compartment.
- Contact-Return Latency (CRL): time to return to male after receipt of a stimulation

Elevated Plus Maze Test



- Time in open arm or closed arm

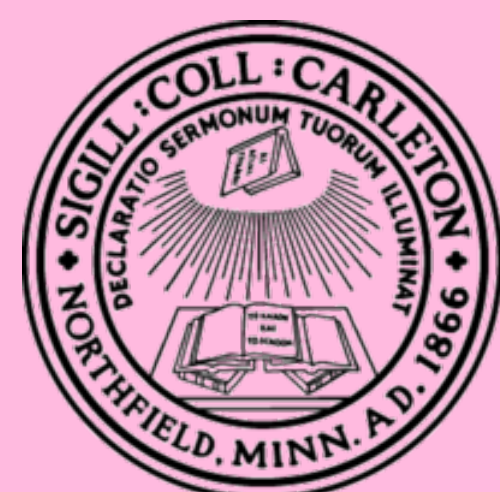
Is sexual motivation or anxiety in female rats affected by anti-depressant doses of ketamine?

Effects of ketamine on sexual behavior and anxiety in female rats.

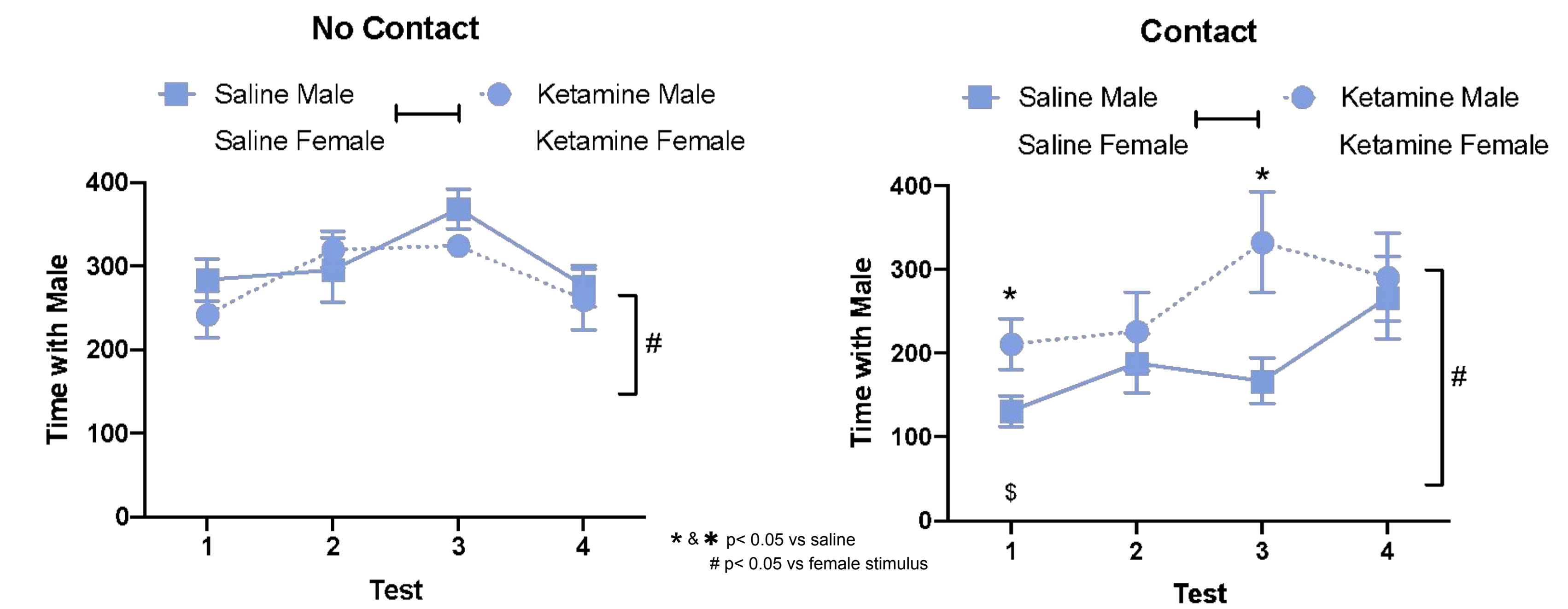
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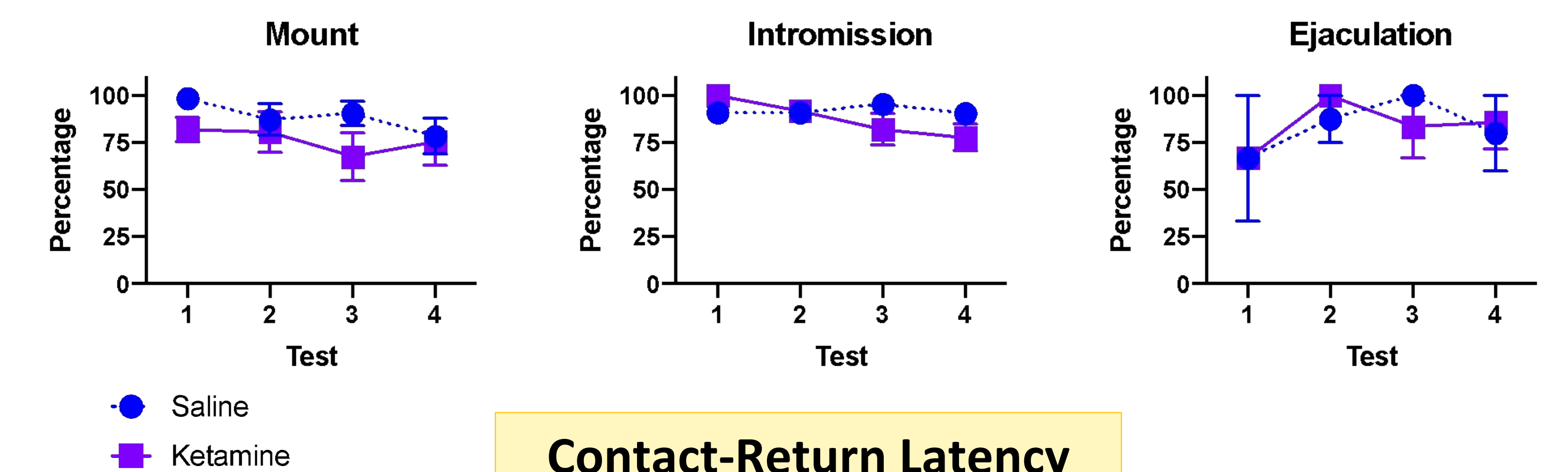


Sexual Preference Tests

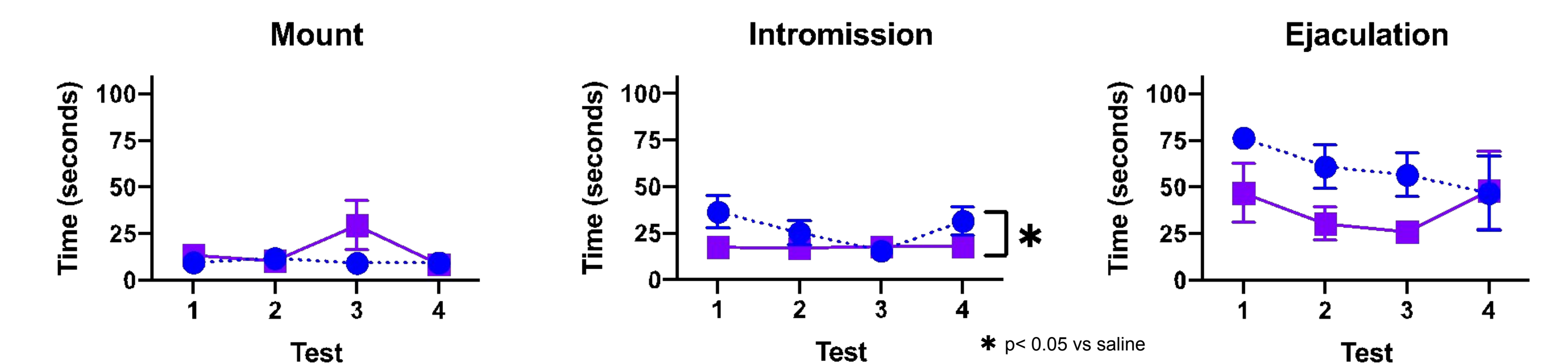


Mating Behaviors

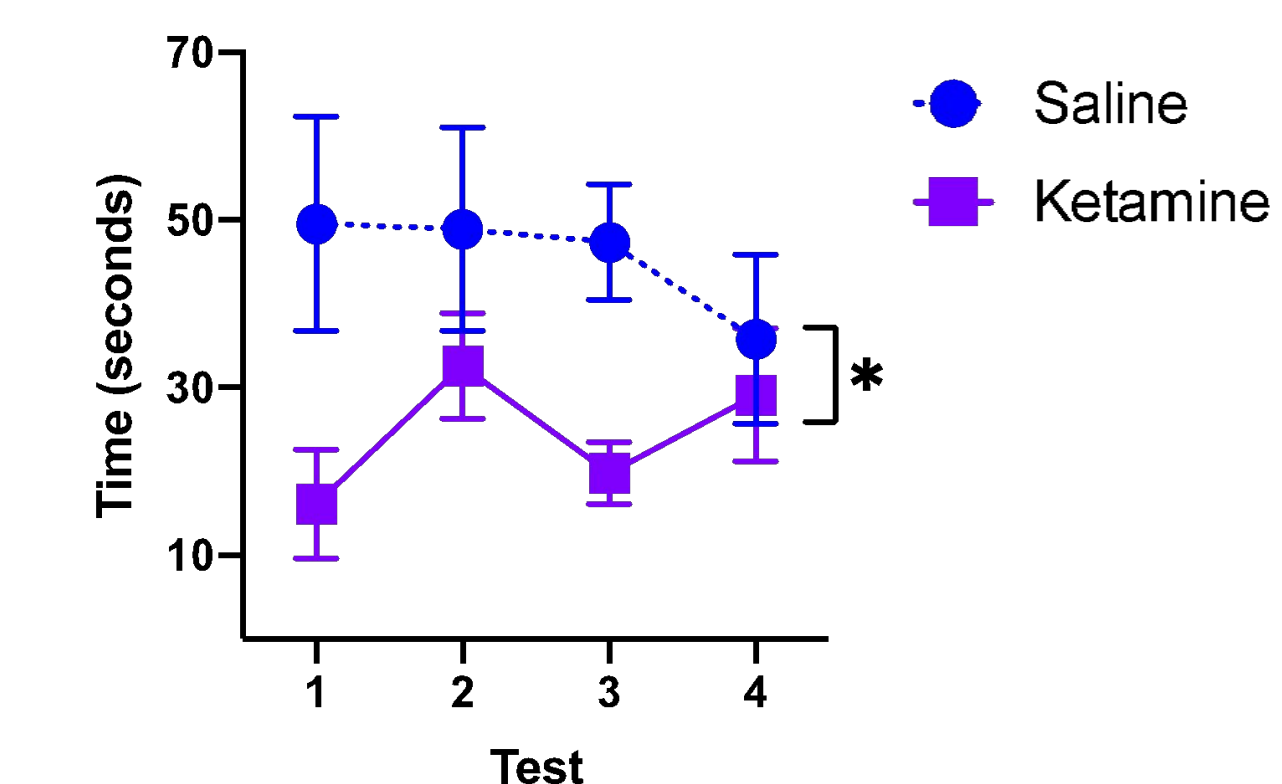
Percentage of exits



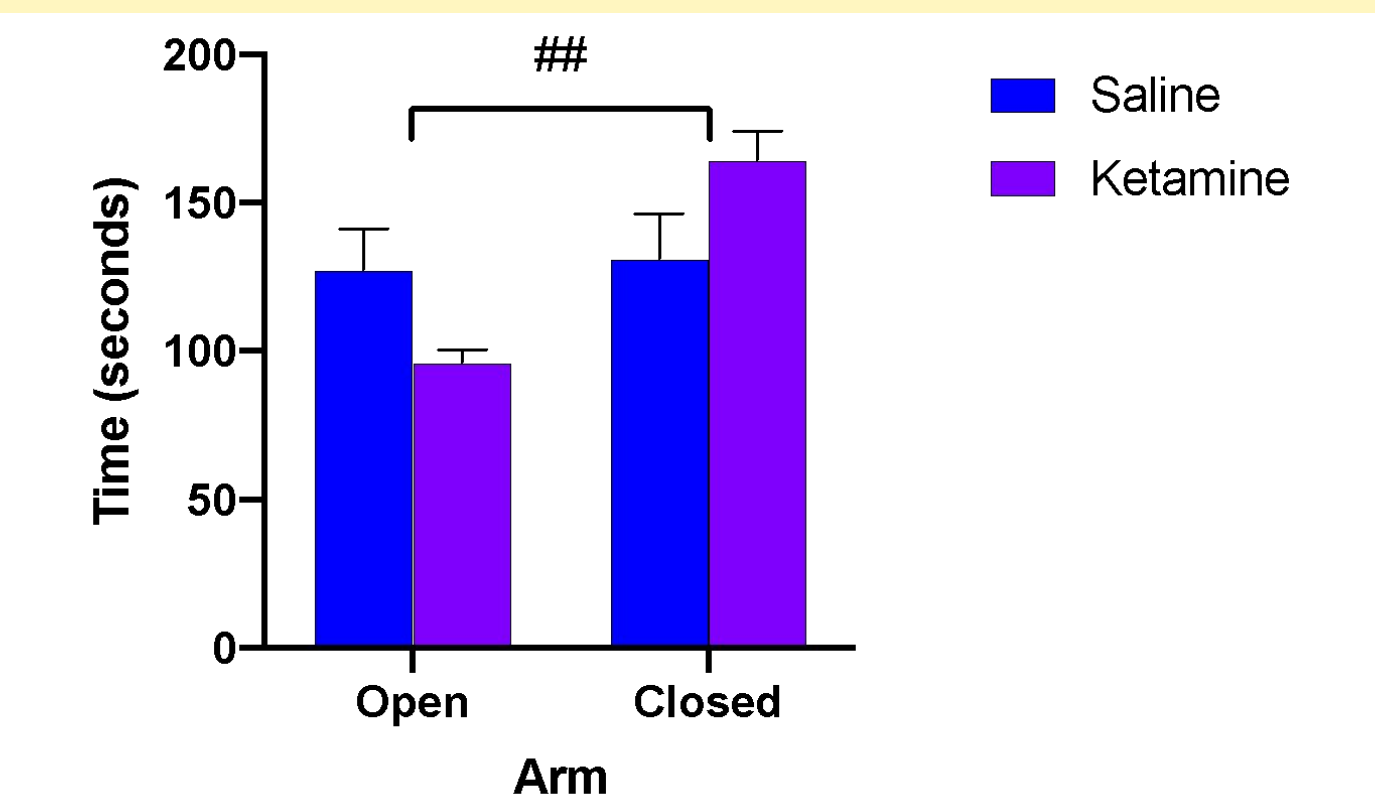
Contact-Return Latency



Solicitation Behaviors



Elevated Plus Maze



Discussion

Sexual experience and ketamine treatment resulted in increased time with the male and decreased time with the female stimulus animal.

Ketamine-treated rats were less likely to exit the male compartment and returned more quickly than saline-treated rats.

Elevated plus maze behavior was unaffected by ketamine treatment.

Ketamine enhanced sexual motivation and mating behavior, particularly in sexually naive female rats.

Our results provide support for the continued exploration of ketamine as treatment for depression and possibility a treatment for sexual dysfunction in women.

Ketamine is a promising new treatment for depression particularly if, as shown here, effects on sexual function are positive and not disruptive.