Anxiolytic Effect in Elevated Plus Maze - Simulation

Experiment 15 - Practical Notes

Name: _____ Roll no.: _____ Date: _____

Aim

To interpret virtual open-arm behaviour.

Principle

The model compares approach and avoidance in open and enclosed arms. An anxiolytic example may increase open-arm exploration, but motor effects influence the endpoint.

Hypothetical Dataset

These original figures illustrate analysis only. They are not live observations or dosing instructions.

Virtual record	Open-arm time, s	Total time, s
Control	30	300
Treatment	90	300

Requirements

- Institution-approved pharmacology simulation such as ExPharm
- Predefined virtual control and treatment records
- Worksheet or spreadsheet for graphing and calculation

Procedure

1. Open the exercise

Select the named virtual model and read its endpoint and default settings.

2. Review controls

Record the baseline, vehicle/control and comparator entries supplied by the software.

3. Run the simulation

Use the instructor-assigned virtual treatment option; record the output and units.

4. Compare

Compare the defined endpoint between control and treatment; repeat a virtual run only if the exercise requires it.

5. Analyse

Use the supplied calculation or response trend and state possible confounders.

6. Record

Save the virtual results and write an interpretation that identifies them as simulated.

Interpretation Guide

Use open-arm entries, total activity and time together; a change in one behaviour is not a clinical anxiety diagnosis.

Observations and Record

Group / run	Endpoint: Open-arm time, seconds	Student record
Control	Control behaviour	_____
Treatment	Assigned anxiolytic	_____
Software / setting	Assigned virtual exercise	_____

Worked Example

The numbers below are illustrative; enter your own observations in the record.

- Open-arm time (%) = open-arm time / total observation time × 100.
- Control 10%; treatment 30%; difference = 20 percentage points.

Result

In the software exercise, _____ changed from _____ to _____. The result _____ supports the stated model effect. Confounders/limits: _____.

Precautions

- Use software only; no live animal, tissue collection or drug administration is performed.
- Do not alter safety or validity settings to make a desired result.
- A virtual output demonstrates the model's programmed response and is not a patient treatment recommendation.

Viva Questions and Answers

1. Why record total activity?

Motor suppression or stimulation can change arm-entry patterns.

2. What is a percentage point?

The arithmetic difference between two percentages.

3. Why identify the data as simulated?

It prevents a programmed result from being represented as a real experimental observation.

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