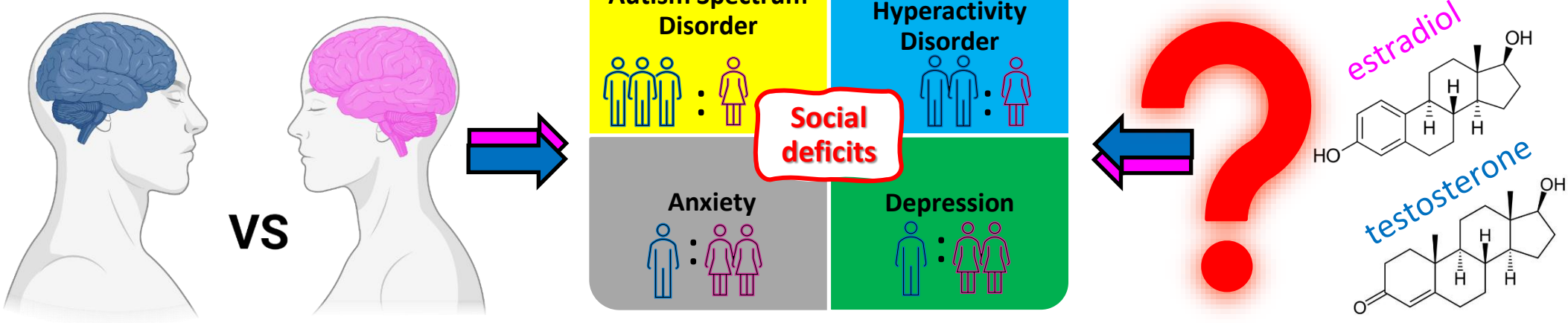
The home-cage social interaction test: an innovative ethological approach for measuring social behavior in laboratory rats and the role of sex steroid hormones

NOC VEDY 2025, 26.9.2025, Bratislava

Borbélyová V[1], Macáková K[1], Szabó J[2], Pastorek M[1], Renczés E[1], Sušienková P[1], Feješ A[1], Skybová E[1]

[1]Institute of Molecular Biomedicine, Faculty of Medicine, Comenius University, Bratislava, Slovakia
[2]Institute of Medical Physics and Biophysics, Faculty of Medicine, Comenius University, Bratislava, Slovakia

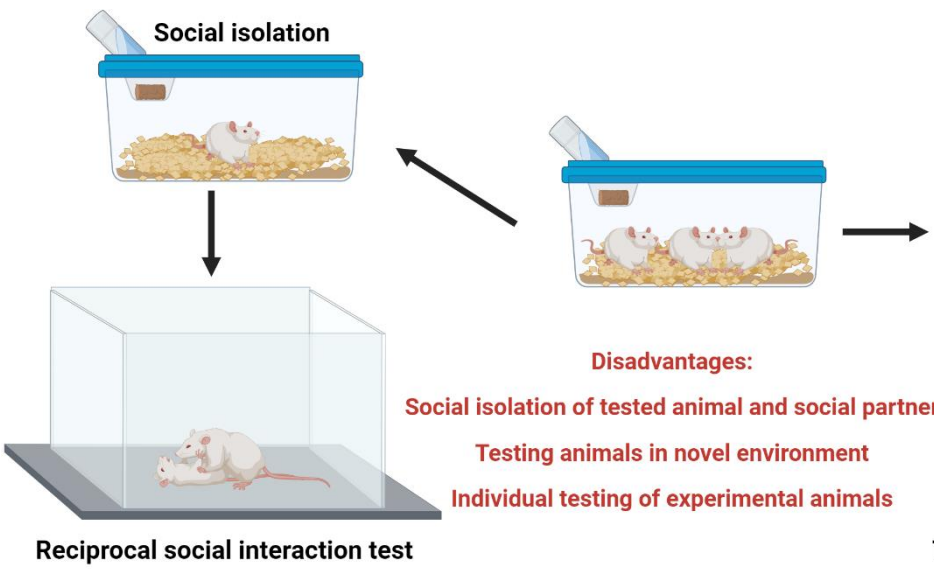


Aim

1. To compare the sex-specific social behavior of adult Wistar rats using home cage systems (PhenoTypers) and standard tests (outside of home cages).

2. To assess the effect of gonadectomy and, consequently, hormone replacement therapy on the social behavior of female and male rats in the home-cage system.

Standard tests for measuring sociability in laboratory rodents

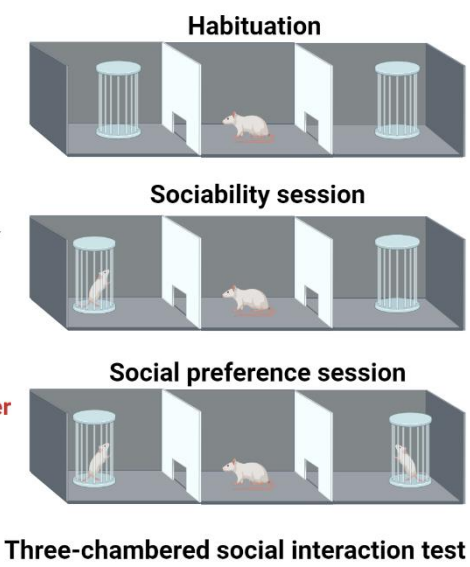


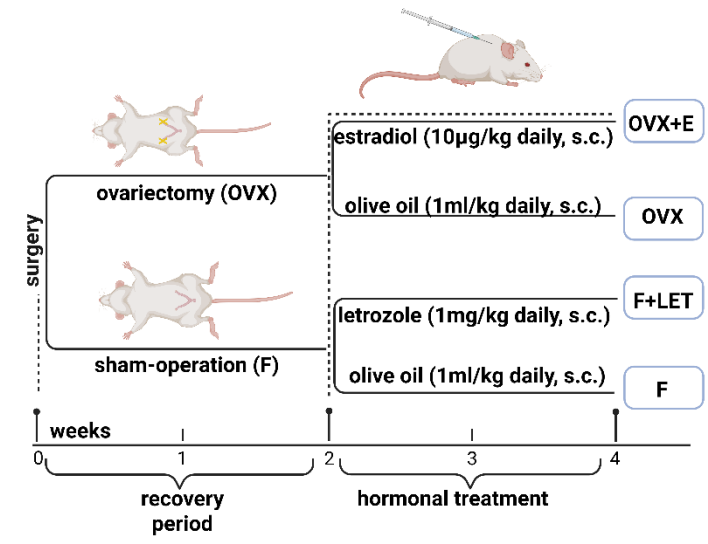
Disadvantages:

Social isolation of tested animal and social partner

Testing animals in novel environment

Individual testing of experimental animals





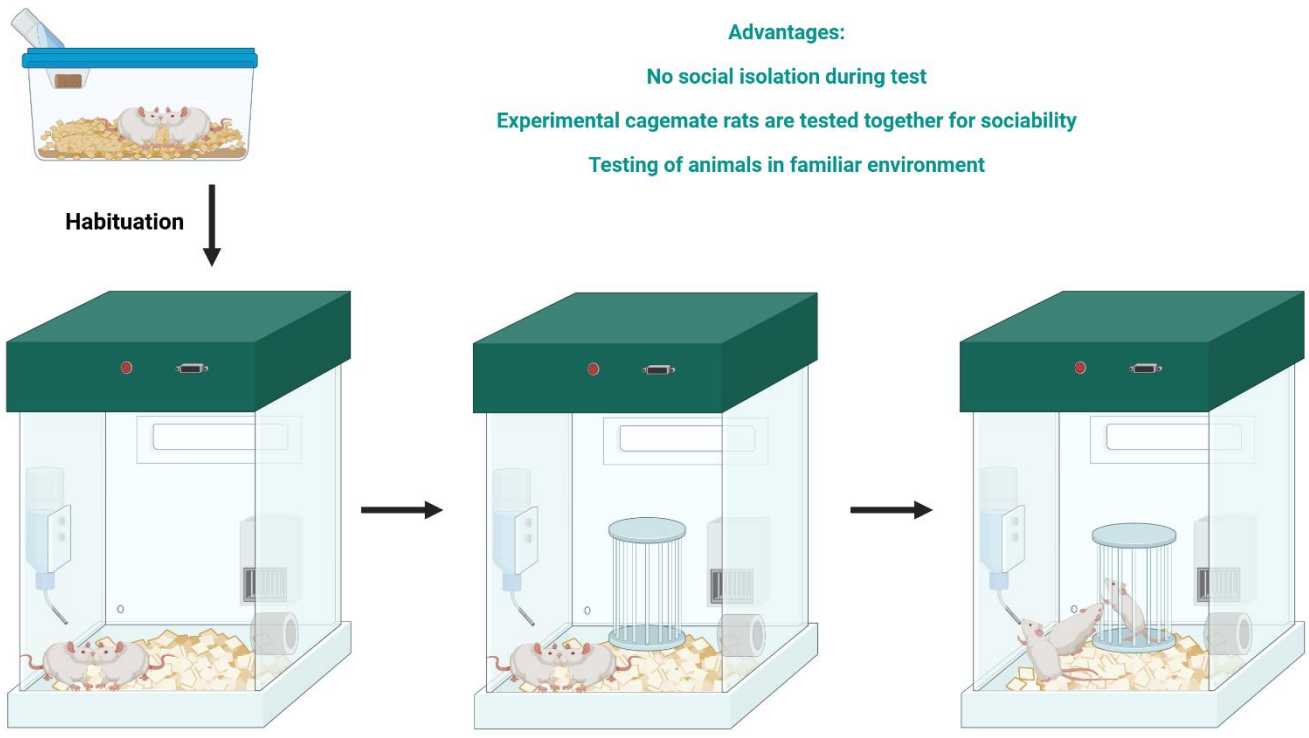
Social interaction testing in PhenoTyper cages mimicking a home-cage environment

Advantages:

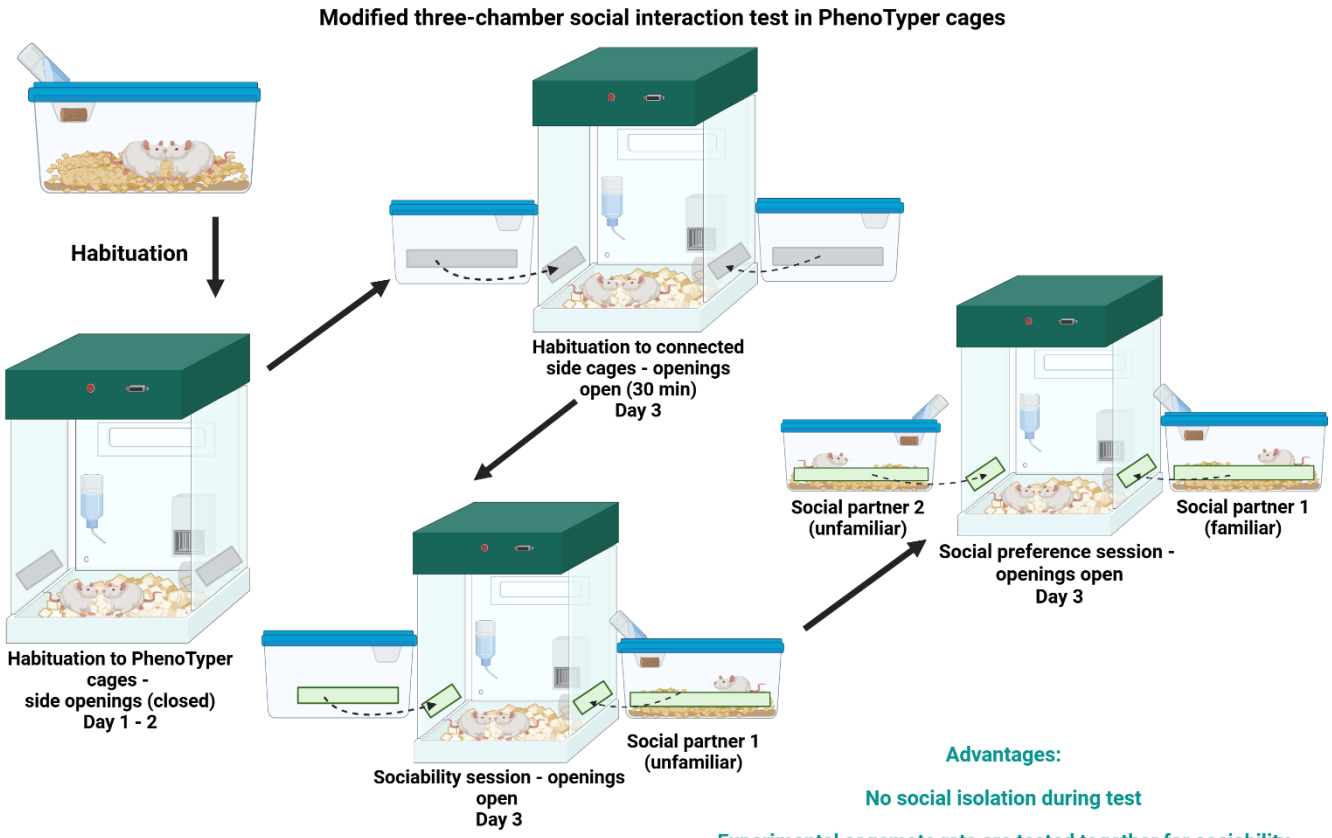
No social isolation during test

Experimental cagemate rats are tested together for sociability

Testing of animals in familiar environment



Modified three-chamber social interaction test in PhenoTyper cages

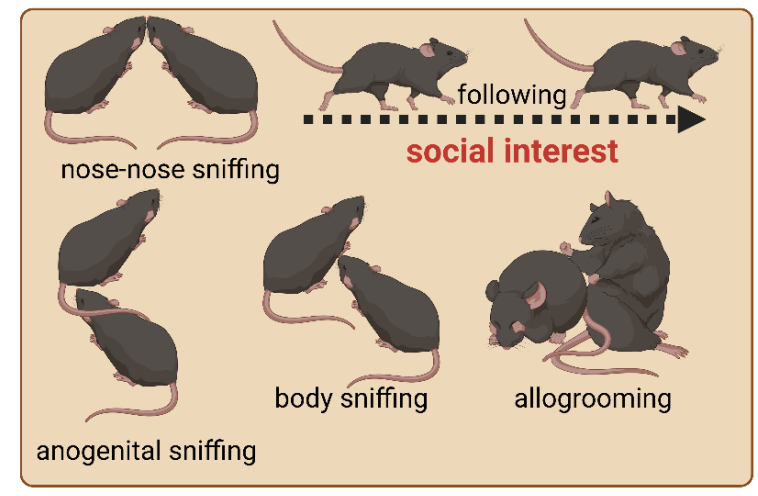


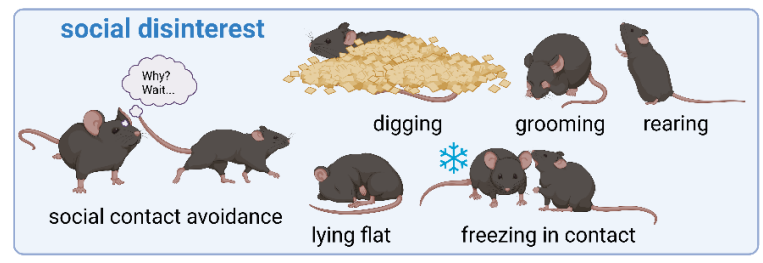
Advantages:

No social isolation during test

Experimental cagemate rats are tested together for sociability

Testing of animals in familiar environment







Principal investigator:
Veronika Borbélyová, MSc., PhD.
Email: veronika.borbelyova@imbm.sk
Website: www.imbm.sk

INSTITUTE OF MOLECULAR BIOMEDICINE

SLOVAK RESEARCH AND DEVELOPMENT AGENCY

This project is supported by **APVV-24-0274.**

Schematics created with BioRender.com