Data Set Description

Project Title: Open Field Test Video Recordings in Mice Exposed to Traumatic Stress and Glycine Treatment

Dataset Description:

This dataset contains original, unprocessed video recordings of the Open Field Test (OFT) performed in male C57BL/6J mice aged 4 months. The dataset includes recordings from control, stress-exposed animals and stress-exposed animals treated with glycine. The videos are provided as raw recordings to allow independent behavioral analysis using manual scoring or automated video-tracking methods. Researchers may use the dataset to develop, test, and validate methods for behavioral tracking and quantification, as well as to compare analytical approaches for assessing mouse behavior in the Open Field Test.

The accompanying metadata describe the experimental groups and relevant characteristics of the animals and video recordings.

Experimental information

Animals

- Species: Mouse (*Mus musculus*)
- Strain: C57BL/6J
- Sex: Male
- Age at testing: 4 months
- Number of animals: 27
- Housing conditions: The animals were housed under a 12-hour light/dark cycle (6:00 a.m./6:00 p.m.) at a temperature of 22 ± 2°C and a humidity of 50-60%. One-month-old animals were separated by sex, and only males were used for this study. All mice were fed a standard rodent diet, "KombyKorm" (PF Vita, Ukraine). All animals had free access to food and water.

Experimental groups

The dataset includes three experimental groups:

- Control group: 9 mice
- Stress group: 9 mice
- Stress + Glycine group: 9 mice

Stress-induction procedure

On Days 0 and 1, mice in the Stress and Stress + Glycine groups were subjected to electric foot-shock stress in an individual chamber. Each 7-min session included 15 foot shocks delivered at 10-s intervals. The detailed procedure for electrical stress induction has been described in our previous work (Strilbytska et al. 2025). Following each session, animals were returned to their home cages. Control mice were placed in the same chamber for the same duration but were not exposed to electrical stimulation.

- Timing of EPM testing relative to stress exposure: 22 days after footshock

Open Field Test (OFT)

- Duration of each session: 10 minutes
- Apparatus dimensions: 40 × 40 × 40 cm (length × width × wall height).
- Recording: Original, unprocessed video recordings of each session.

Dataset Structure:

The dataset contains 27 video recordings of the mice.

Video Filename Coding: Each video filename encodes information about the individual animal, with the filename corresponding directly to the animal’s unique identification marking.

***Experimental Model*:**

- Species: *Mus musculus*, male C57BL/6J mice
- Groups:
    1. Control (**Cage 1, Cage 2**)
    2. Stress (PTSD-like model induced by inescapable foot-shock) (**Cage 3, Cage 4**)
    3. Stress + Glycine treatment
       The study aims to assess behavioral and biochemical effects of Glycine following stress exposure (**Cage 5, Cage 6**)

Analysis and Measured Variables

The Open Field Test (OFT) is used to assess locomotor activity, exploratory behavior, and anxiety-related responses in rodents. Behavioral parameters are typically evaluated over the 10-minute test session. The arena is a square enclosure, and behavioral measures can be derived from video recordings. These may include:

- Total distance travelled
- Locomotor activity and movement speed
- Time spent in the center versus the peripheral zone
- Number of entries into the center zone
- Time spent in the center zone
- Rearing
- Grooming
- Defecation

Videos from this test can be analyzed using automated tracking software, such as ToxTrac, EthoVision XT, or ANY-maze, or by manual scoring. The specific variables analyzed depend on the study design and the selected analysis method.

Ethical approval

All animal procedures were approved by the Animal Experimental Committee of Vasyl Stefanyk Carpathian National University and were conducted in accordance with the Directive 2010/63/EU of the European Parliament and of the Council of 22 September 2010 on the protection of animals used for scientific purposes. The study was conducted in accordance with the ARRIVE Guidelines for reporting animal research (https://arriveguidelines.org/arrive-guidelines). Approval number PNU-2025-M-013.

Reuse considerations

The deposited recordings may be used for independent behavioral scoring, methodological comparisons, and development or validation of automated tracking approaches. Users should consider the specific apparatus dimensions, recording angle, lighting, and behavioral scoring criteria when comparing these data with recordings collected in other laboratories.

Video Acquisition Parameters:

- Camera: A4-Tech PK-925H
- Resolution: FullHD 1920 × 1080 px
- Frame rate: 70°
- Format: MP4 (H.264)
- Processing: raw videos, no filtering or editing applied

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