

Sexual differences in depressive-like behaviours after juvenile and adult stress

V. Martín¹, J. Munoz-Martin², P. Chaves-Peña², M.I. Infantes-López², C. Ramírez Pérez², M. Pérez-Martín², C. Pedraza-Benítez²

¹University of Malaga, Málaga, Spain, ²University of Malaga, Malaga, Spain

Topic & Theme selection

Main Topic: G.16.b: Affective Disorders

Title

Abstract Body

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Early stress episodes affect brain development and is related to increased risk of developing stress-induced depression in adulthood. However, little is known about the sexual differences in this process. Our goal is to study how stress in different developmental periods affects depression-like behaviours in male and female mice.

For this purpose, four experimental groups of both male and female mice of strain C57BL/6J were used: control (C) Juvenile (JE), adult (AE), and double stress JE+AE (DE).

Depression-like behaviours were evaluated in the adult period. Nest building test was used to assess motivation and fatigue, the open field test to study exploratory behaviour, and the tail suspension test for learned helplessness. Taken together, the results suggest that male mice behaviours are more affected by adult stress (AE, DE), while female mice behaviours are more affected by juvenile stress (JE, DE).

A PCA was performed to integrate the results. It revealed three principal components that account for 64,62% of the variance. The first is related to exploratory behavior, the second to active coping mechanisms and the third is the motivation for basic behaviors. Exploratory behaviour seems to be affected by all types of stress, while motivation is specially hindered in the female DE.

Taken together, these results suggest that stress in different developmental periods affects differently male and female mice, with DE females exhibiting more depressive-like behaviours.

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Poster Group Code

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