

# Effects of the estrous cycle and ovarian hormones on behavioral indices of anxiety in female rats

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The influence of the estrous cycle and the effects of exogenous administration of estradiol and progesterone on level of anxiety were studied in intact and ovariectomized rats. Intact Sprague-Dawley female rats were classified according to the stages of estrous cycle. Another group of rats was ovariectomized bilaterally and, 14 days after surgery, they received estradiol benzoate (10 µg/kg, SC) and/or progesterone (25 mg/kg, SC) or corn oil (1 ml/kg). The behavioral tests began 3 h after estradiol or 6 h after progesterone and consisted of: (1) exploration of an elevated plus-maze; and (2) retention of a passive avoidance response. Open-arm exploration of the plus-maze varied according to light intensity and the stages of the estrous cycle. There was a slight increase in open-arm exploration by rats in metestrus, under high light intensity. Low light intensity increased the exploration of the open arms by rats in proestrus and estrus, compared to the other phases of the cycle. Retention