

**P4 PSYCHOLOGICAL STRESS ALTERS THE EFFECTS OF ETHANOL IN THE RAT SOCIAL INTERACTION TEST**

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Psychological stress from the early stage of life such as social isolation rearing from weaning has been shown to change the behaviors of the adult animals and modify the responsibility to many addictive agents (1-4). However, there is no report concerning the effect of psychological stress on the behavioral effect of ethanol in the social interaction test.

**Objective:** The purpose of the present experiments was to investigate the effect psychological stress on the behavioral effect of ethanol in the rat social interaction test.

**Methods:** Male Wistar rats were reared from weaning either singly (isolation rearing) or in groups of five-six rats/cage (social rearing). Four weeks later, these rats were tested for their sensitivity to ethanol using the social interaction test (3).

**Results:** In the rat social interaction test, the active social interaction behavior of the saline-treated isolation reared rats was not significantly difference from the socially reared controls. However, the latencies of active social interaction of the saline-treated isolation reared rats were significantly longer than the social reared rats ( $P<0.05$ ). The isolation reared rats were significantly more aggressive than the socially reared rats ( $P<0.05$ ). Systemic administration of ethanol (300 and 600 mg/kg i.p.) to both isolation and socially reared rats, did not significantly alter the latencies of active social interaction in the social reared rats ( $P>0.05$ ), but it produced a dose-related decrease the latencies of active social interaction in the isolation reared rats, Ethanol (300 and 600 mg/kg i.p.) significantly decreased the active social interaction behavior in both isolation and socially reared rats compared with the saline treated controls  $P<0.05$ ). However, this effect was more pronounced in the socially reared rats. Moreover, ethanol produced a dose-related antiaggressive effect in socially reared rats as indicated by decrease the aggressive interaction time. This effect of ethanol was not observed in the isolation reared rats.

**Conclusion:** The present results indicate that psychological stress alters the behavior of the adult rats and the responsibility to ethanol, and decreases the antiaggressive effect of ethanol. Future experiments will need to investigate the mechanism of action of ethanol in isolation reared rats.

**Keywords:** Psychological stress, social interaction test, ethanol, rats

**Reference**

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