

P6. SOCIAL ISOLATION ENHANCES THE RESPONSE TO DESIPRAMINE IN THE OPEN FIELD TEST

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ABSTRACT

Social isolation after weaning results in a number of behavioral modification in the adult animals and alters the responsiveness to various psychotropic drugs. The present study, we compared isolation and socially reared rats in two complementary paradigms for assessing responding to the open field test. Both isolation and socially reared rats were individually exposed to the circular open field arena either without drug pretreatment or following systemic administration of the selective noradrenaline uptake inhibitor, desipramine or saline. Male Wistar rats were raised from weaning either alone (isolation rearing) or in groups of five rats/cage (social rearing). After four weeks, both isolation and socially reared rats were tested for their sensitivity to desipramine using the open field test. The results demonstrated that drug free isolation reared rats showed hyperlocomotion and had significantly more number of rears ($P<0.05$) than socially reared rats, but field arena. Intraperitoneal injection of desipramine (5, 10 and 20 mg/kg) 24, 5 and 1 h to both isolaiton and socially reared rats caused a dose related reduce locomotion as indicated by reduction of total zone transitions compared to the saline treated groups. The hypolocomotion effect of desipramine was greater in isolation than socially reared rats ($P<0.05$). These results show that social isolation in the early stage of life alters the open field behavior of the adult rats and increases the hyponiotion effect of the selective noradrenaline uptake inhibitor, desipramine. Isolation rearing may produce some of its behavioral effects through central adrenergic mechanisms.