

Heightened Baseline Anxiety-Like Behavior in Mice with Escalating Cocaine Consumption During Extended Access Cocaine Self-Administration

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Addiction continues to be a major issue in the United States. Current research suggests various individual differences in vulnerability to addiction, separating casual substance abusers from those with true dependence. In particular, clinical evidence shows high baseline anxiety is positively correlated with compulsive stimulant drug consumption, suggesting a link between anxiety and the loss of control observed in addiction. However, whether this is a causal or correlational relationship is still unclear. We hypothesized that mice with higher baseline anxiety would be more susceptible to escalating cocaine consumption. To study this, mice were subjected to elevated plus maze, open field, and light-dark exploration prior to exposure to extended access cocaine self-administration. Although mice with high anxiety (HA) had higher cocaine consumption compared to mice with low anxiety (LA), not all HA mice showed escalating cocaine consumption throughout extended access. These data support evidence for the link between anxiety and escalating drug consumption and further work will help to address the molecular mechanisms underlying this relationship.