

Posters

Involvement of dorsal hippocampus in context-induced the reinstatement of ethanol-seeking behavior in C57BL/6 mice

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ABSTRACT

The ABA renewal is an important animal model to study the influence of contextual cues on the reinstatement of ethanol-seeking. Here, we standardized a protocol for context-induced reinstatement of ethanol seeking in mice and investigated the involvement of the dorsal hippocampus in this behavior. For that, male C57BL/6 mice, at 8-10 weeks of age, were given free access to either a 9% ethanol + 2% saccharin (ES) or a 2% saccharin solution (SA) and water in their home cage, followed by an involuntary four-hour consumption of these solutions. Then, mice were trained to self-administer ES or SA in context A during three sessions of 16h, followed by 15 sessions of 1h. We extinguished drug-reinforced responding in a distinct context B for 14 sessions and assessed context-induced reinstatement of the alcohol-seeking behavior by placing the animals in context A or B. Sixty min later, mice were perfused, and brains were removed for immunofluorescence analysis for

Fos (cell activation marker) and NeuN (neuron marker) in the dorsal hippocampus. We found that animals of both groups acquired the operant self-administration behavior in context A and extinguished this behavior in context B. Re-exposure to context A but not context B reinstated the seeking behavior and increased neuronal activation in the hippocampal CA1 and CA2 regions in ethanol and saccharin groups. Thus, our findings suggest that the association of ethanol with saccharin facilitated the establishment of context-induced reinstatement protocol, and the context induced reinstatement of ethanol seeking is associated with the activation of CA1 and CA2 hippocampal subregions.

Keywords: ethanol, renewal, mice, hippocampus

Rats who lives with depressed ones drink more alcohol

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ABSTRACT

An interesting phenomenon, emotional contagion, allows the transmission of emotional states and, along with this, of behavioral patterns from one individual to another. The aim of our work was to observe the influence of emotional contagion on alcohol consumption in euthymic rats that cohabit with pharmacologically depressed peers. 40 female adolescent Wistar rats were used, which were divided into 5 boxes, designating one box as control.

ones with the greatest probability of having risky behaviors, early-onset players (36%), later-onset players (15%) and cautious players (3%). Our findings suggest that the preferences toward risk are associated with the decision to participate in pregaming, namely, belonging to all-in players class is associated with a greater pregaming likelihood. Conclusion: Our contribution on harmful drinking behaviors among Argentinian college students, a highly exposed population to alcohol and other psychoactive substances, is relevant for the design and implementation of targeted interventions at educational levels, considering that risk profiles are linked to facts prior to university entrance, as it is the onset age of substance use.

Keywords: Argentinean college students, alcohol use, latent class analysis

MicroRNAs in the brain of mice that voluntarily drink ethanol chronically

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ABSTRACT

The transition from recreational ethanol consumption to an alcohol use disorder involves oxidative stress and neuroinflammation in the brain reward system and hippocampus, altering the reward circuits. The brain responds to oxidative stress and neuroinflammation by the activation of microglia and astrocytes. MicroRNAs can inhibit the translation of hundreds of mRNA. Proinflammatory miRNAs are increased in the brain of animals treated with ethanol chronically. We studied microRNA levels in the brain of C57BL/6 mice that voluntarily drink ethanol every-other-day for 70 days. We analyzed differential expression of miRNAs in tissue homogenates, and

isolated microglia and astrocytes by Fluorescence Activated Cell Sorting. In homogenates, alterations were observed in pro and anti-inflammatory microRNAs of drinking animals compared to controls. Changes in microRNA levels of microglia or astrocytes were of a different subset than in homogenates, suggesting that cell isolation is required to determine local alterations after chronic ethanol consumption.

Keywords: ethanol consumption, microRNA, microglia, astrocytes

Effect of emotion dysregulation on alcohol and marijuana outcomes via internal motives: a longitudinal study

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ABSTRACT

Introduction: Previous studies showed difficulties in emotion regulation is related to self-medicate use of alcohol and marijuana (i.e., substance use to alleviate emotional distress or to increase pleasant emotions). However, longitudinal evidence on these relationships is still scarce. Aim: The present study aimed to longitudinally examine the effect of emotion dysregulation on alcohol and marijuana outcomes (i.e., use and problems) via internal motives (i.e., enhancement and coping) in Argentinian college emerging adults (i.e., aged 18 to 30). Method: A sample of 498 participants completed two online surveys (six months between each) assessing last-month alcohol use and negative consequences, last-three-month marijuana use and associated problems, internal motives (i.e., coping and enhancement) to use alcohol or marijuana and difficulties in negative emotion regulation. Of these participants, 468 (72% women; $M_{age} = 23.62$ $SD = 3.04$) reported last-month

alcohol use, while 241 (63% women; $M_{age} = 23.78$ $SD = 2.92$) reported last-three-month marijuana use. Results: Coping motives mediated the associations of emotion dysregulation with typical week quantity of alcohol use and with negative consequences. Instead, the relationship between emotion dysregulation and marijuana frequency use was mediated by enhancement motives. Discussion: Findings support and extend previous cross-sectional evidence showing that, in students with problems to regulate emotions, motivation to cope with negative affect and to intensify pleasurable sensations could contribute to problematic use of alcohol and marijuana use, respectively. They also provide the basis for developing research that determines whether interventions focused on managing the negative emotional experience are useful in preventing increasing in alcohol and marijuana consumption.

Keywords: alcohol, marijuana, internal motives, emotion dysregulation, longitudinal

Psychological distress and cognitive distortions predict alcohol and marihuana use in Uruguayan citizens

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ABSTRACT

There is an increasing interest in finding factors that predict substance use in the adult population, as the use of these substances is associated with significant negative effects. Among other factors, psychological distress has been associated with substance use. This distress may act via a series of cognitive distortions, such as polarized thinking, overgeneralization, and personalization. The effects of distress, in turn, could be counteracted by

emotional regulation strategies. This study analyzed the predictive value of these variables upon alcohol or marihuana use. A sample of 1132 Uruguayan citizens answered an online survey compiling the Kessler K-10 inventory, the inventory of automatic thoughts (Ruiz y Luján, 1991), the emotion regulation questionnaire (ERQ) and several ad-hoc questions on alcohol and marihuana use. Hierarchical regression analyses, one for each substance, indicated that men were more likely to use either substance than women, and a younger age was associated with greater endorsement of marihuana use. Likewise, those participants with greater scores of psychological distress were more likely to use either substance. Interestingly, the addition of cognitive distortions significantly enhanced the predictive power of the model predicting marihuana use. Those exhibiting greater mind reading and catastrophic vision, yet lower personalization and fallacy of justice, endorsed greater marihuana use. Psychological distress was no longer predictive of marihuana use after adding these variables, suggesting that its effect was mediated by these cognitive distortions. These results pinpoint potential avenues for intervention to reduce marihuana and alcohol use.

Keywords: alcohol, psychological distress, cognitive distortions, emotion dysregulation

Folate administration at pregnancy ameliorates the facilitatory effects of prenatal ethanol exposure on postnatal ethanol intake

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