

# IV CONGRESO INTERNACIONAL SOBRE PREVENCIÓN, TRATAMIENTO Y CONTROL DEL CONSUMO DE CANNABIS Y SUS DERIVADOS

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UNIVERSITAT DE VALÈNCIA  
Facultat de Psicologia

## IMPACT OF ETHANOL AND FRUCTOSE INTAKE ON THE ENDOCANNABINOID SYSTEM UNDER CONDITIONS OF SOCIAL STRESS

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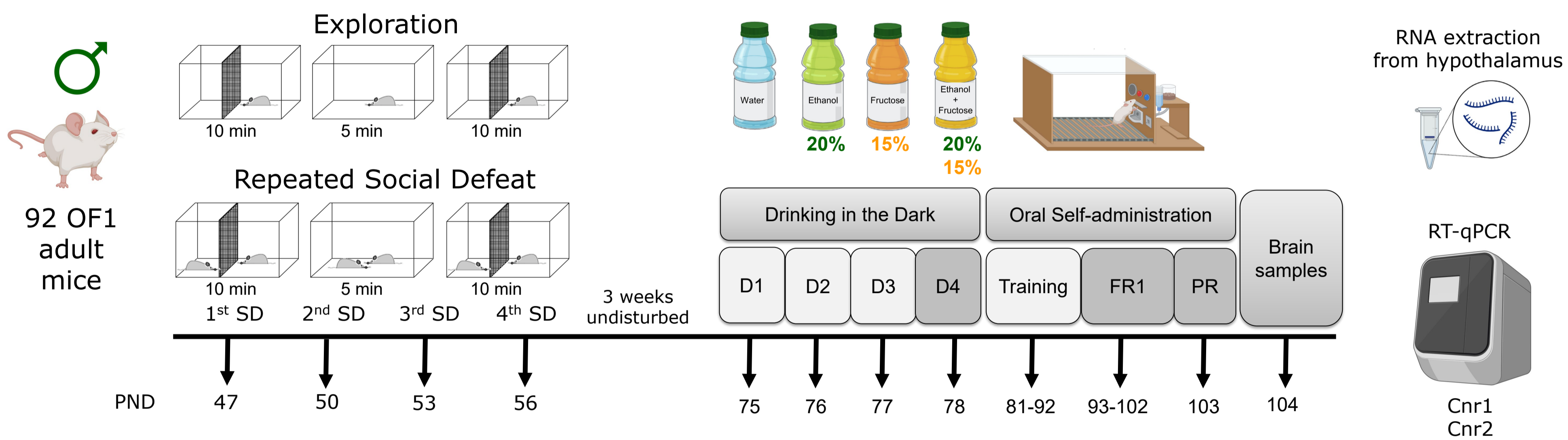
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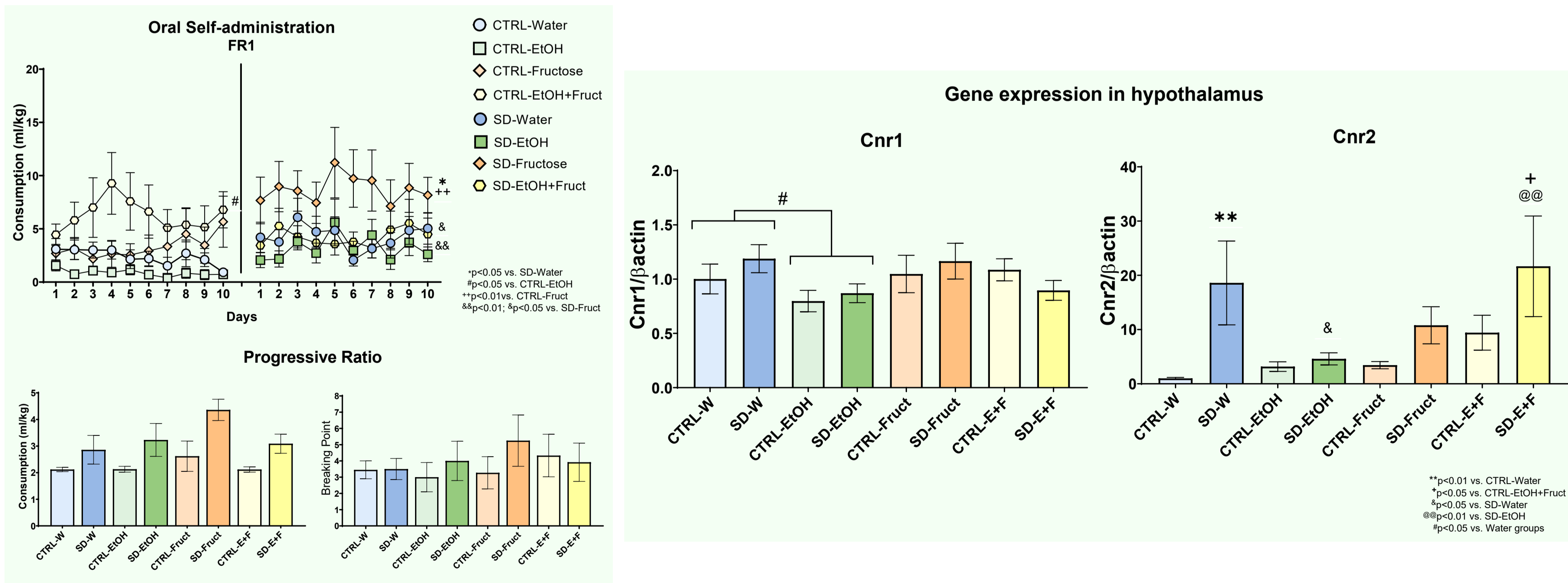
### Introduction:

The endocannabinoid system plays a role in reward and reinforcement of drugs of abuse. In addition, this system regulates neuroinflammation, offering protection in neurological and neuroinflammatory conditions, which may also be altered by stress and drugs of abuse. In situations of social stress, activation of the endocannabinoid system, through the CB1 and CB2 receptors, regulates neuronal and hormonal responses thus modulating brain function and behavior. However, alterations caused by substance abuse could impact the stress response and contribute to persistence in drug used. The aim of this study was to evaluate the changes in gene expression of the CB1 and CB2 receptors after ethanol consumption, a sugary beverage (fructose), and the combination of both (as an approximation to the most common consumption of alcoholic beverages in humans). We also aimed to evaluate how a social stress model, social defeat (SD) modifies the CB1 and CB2 gene expression.

### Methods:



### Results:



### Discussion:

These results indicate that the decrease in CB1 receptor gene expression could be related to an adaptive response of the organism to alcohol consumption, independent of exposure to SD and fructose intake. Also, we can conclude that SD can increase CB2 receptor gene expression by inducing neuroinflammation in the hypothalamus of these rodents. Furthermore, the combination of ethanol and fructose seems to potentiate this effect. These findings highlight the complex interaction between alcohol consumption, social stress, and the inflammatory response in the endocannabinoid system.

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