

# The Correlation between Cannabis Use Disorder and Displays of Social Anxiety Disorder in Relation to Brain Development

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## Introduction

- Participants with previous forms of depression or social anxiety have been more likely to develop cannabis use disorder than people without forms of mental conditions (Lemyre et al. 2019).
- Using cannabis in a context of emotional pain was most consistently related to both CUD and depression (Beck et al. 2009)
- Cannabis is the most widely used illicit substance among United States adults and the average age for cannabis users gets lower each year (Lloyd et al. 2018).

## Research Questions

- Do people who use cannabis more frequently more likely to display forms of social anxiety disorder?
- Does brain development have any association with the relationship between CUD and SAD?

## Methods

### Sample

- The data were drawn from the first wave of the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC) representing the civilian, noninstitutionalized adult population of the United States Measures
- The variable CANNBUSE was determined by the frequency of cannabis usage, with 1-2 a week being the minimum to multiple times everyday as maximum (CANNBUSE = 1). If the participant used it less frequently, for occasionally purposes, CANNBUSE = 0.
- Displays of social anxiety disorder was measured through numerous social phobia questions and was labeled as (SAD = 1 for present) and (SAD = 0 for not present).

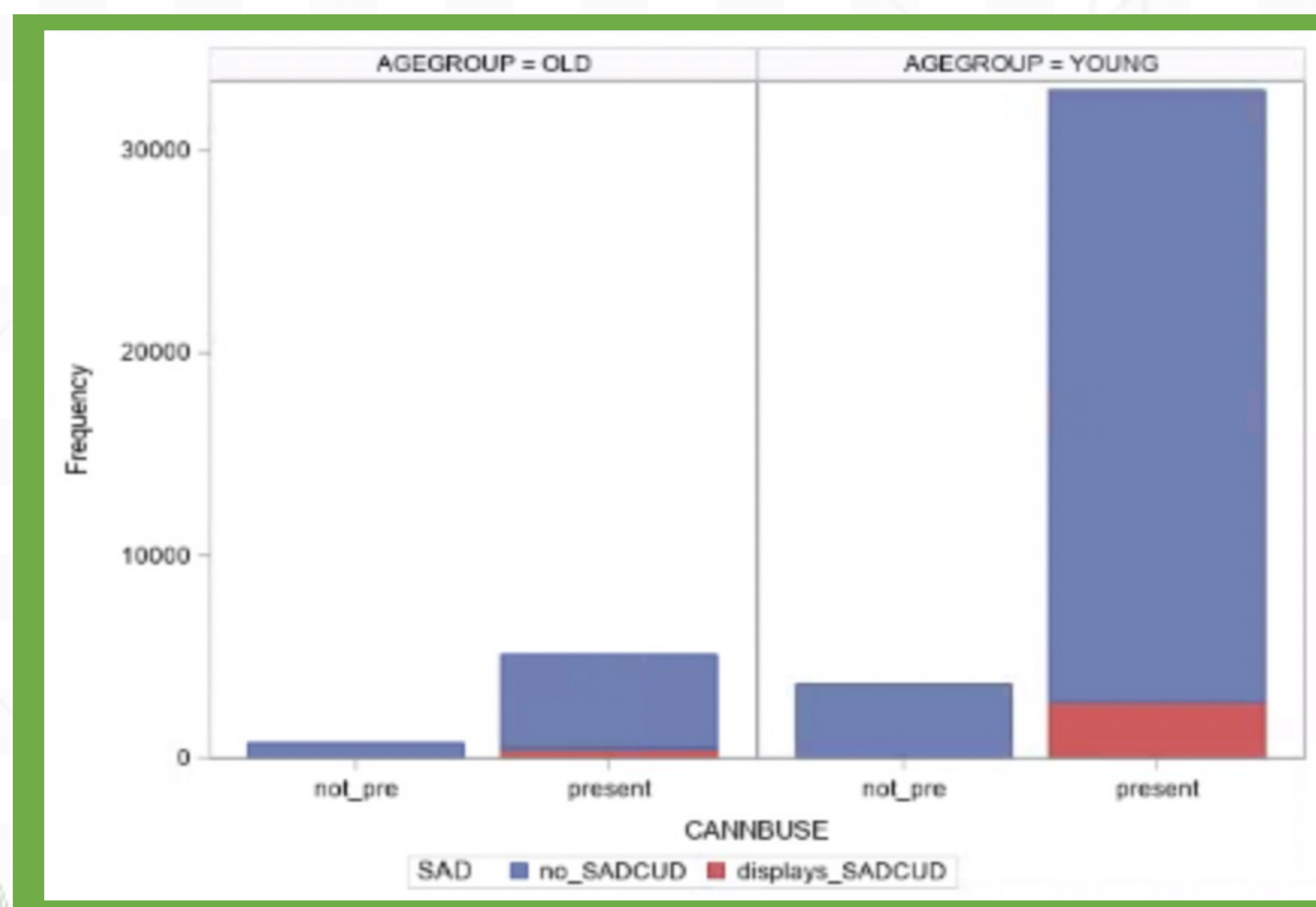
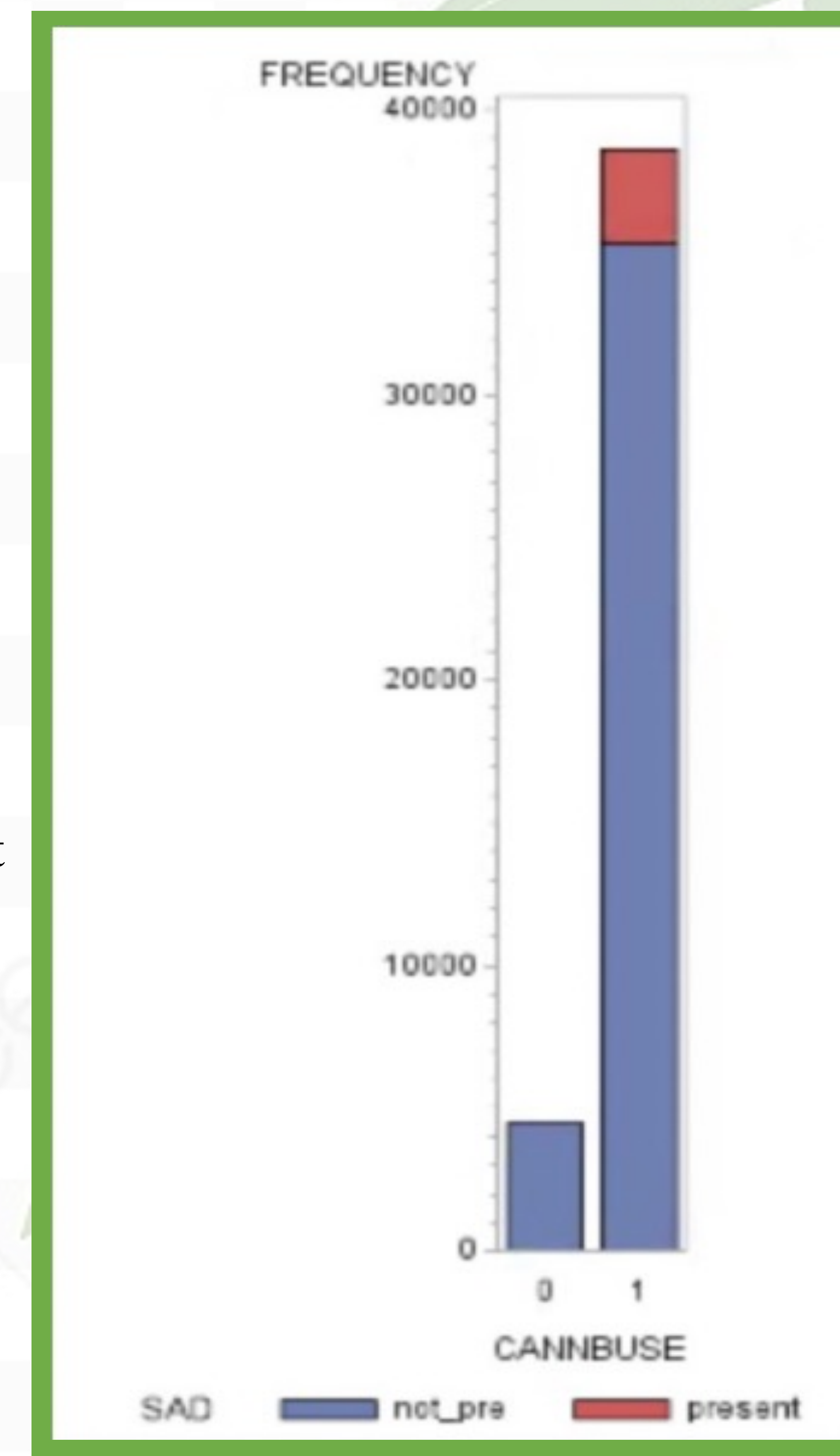
## Results

### Bivariate

- A Chi-squared correlation test showed that the amount of cannabis use has a strong correlation with displaying forms of social anxiety disorder ( $\chi^2 = 413.3$ ,  $p < 0.001$ )
- According to the graph, the blue represents whether the participant has Cannabis Use Disorder and the red shows whether the participant shows forms of social anxiety disorder

### Multivariate

- Figure 2 shows that there is a significant relationship between CUD and age
- YOUNG = cannabis users under 25
- OLD = cannabis users over 25
- In both age groups. SAD was present in small frequencies for both CUD-present smokers
- Even in small ratios, the YOUNG smokers showed higher frequency for CUD-SAD relationship



## Discussion

- Regardless of age, the association between cannabis abuse and forms of social anxiety disorder is great, so further study into the mechanisms behind the neurochemistry in relation to behavior is needed
- Researchers will be able to see whether the younger or older generation is more vulnerable to SAD in using cannabis heavily.
- Researchers will also be able to know the long-term effects of cannabis in the human mind as participants can be old in age but may have started at a young age.
- It should also be taken into consideration that at the time of data collection, the social stigma and laws around cannabis was very different so it may not represent a big population, or a more generalized population. There is a high possibility that the population group will be biased to start with.