



# The Impact of Cannabis Use and Trauma on the Development of Mania

Tristan Morel L'Horset, Applied Data Analysis, Wesleyan University



## Introduction

- Marijuana usage among adolescents and young adults has increased drastically with 43% of adults aged 19-30 having reported using the drug in the last year (National Institute of Drug Abuse, 2021).
- Through recent research, cannabis has been found to cause the development of psychotic-like symptoms, particularly in individuals who are predisposed to psychiatric disorders (Hall, W., & Degenhardt, L., et al. 2008).
- Additionally, traumatic experience has also been found to lead to the development of psychotic-like disorders (E. DeVylder, J. Wang, H. Oh, E. Lukens, et al. 2013).

## Research Questions

- How does the individual impact of both cannabis abuse and parental death lead to the development of mania?
- Do those who abuse cannabis and have experienced parental death exhibit a higher susceptibility to developing mania?

## Methods

### Sample

- The data for this research comes from the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC), which studies 43,093 civilian adults in the U.S., including individuals in households, military housing, group homes, and shelters. The dataset looks at individuals and young adults aged 18-24, with data collected through face-to-face and computer-assisted interviews.

### Measures

- The frequency of cannabis abuse was assessed by looking at respondents who answered (Number of Episodes of Cannabis?), which was coded categorically. 1 episode being "low", 2-3 being "medium", 4-5 being "high", and 6-90 being "very high".
- Trauma was assessed by looking at respondents who answered (Did Biological or Adoptive Parent die Before Respondent Was 18?). This was coded as a binary variable with the answers either being "Yes" or "No".
- Both these variables were compared to respondents who answered (Number of Episodes of Mania?) which was coded quantitatively with responses ranging from 1-90 separate episodes.

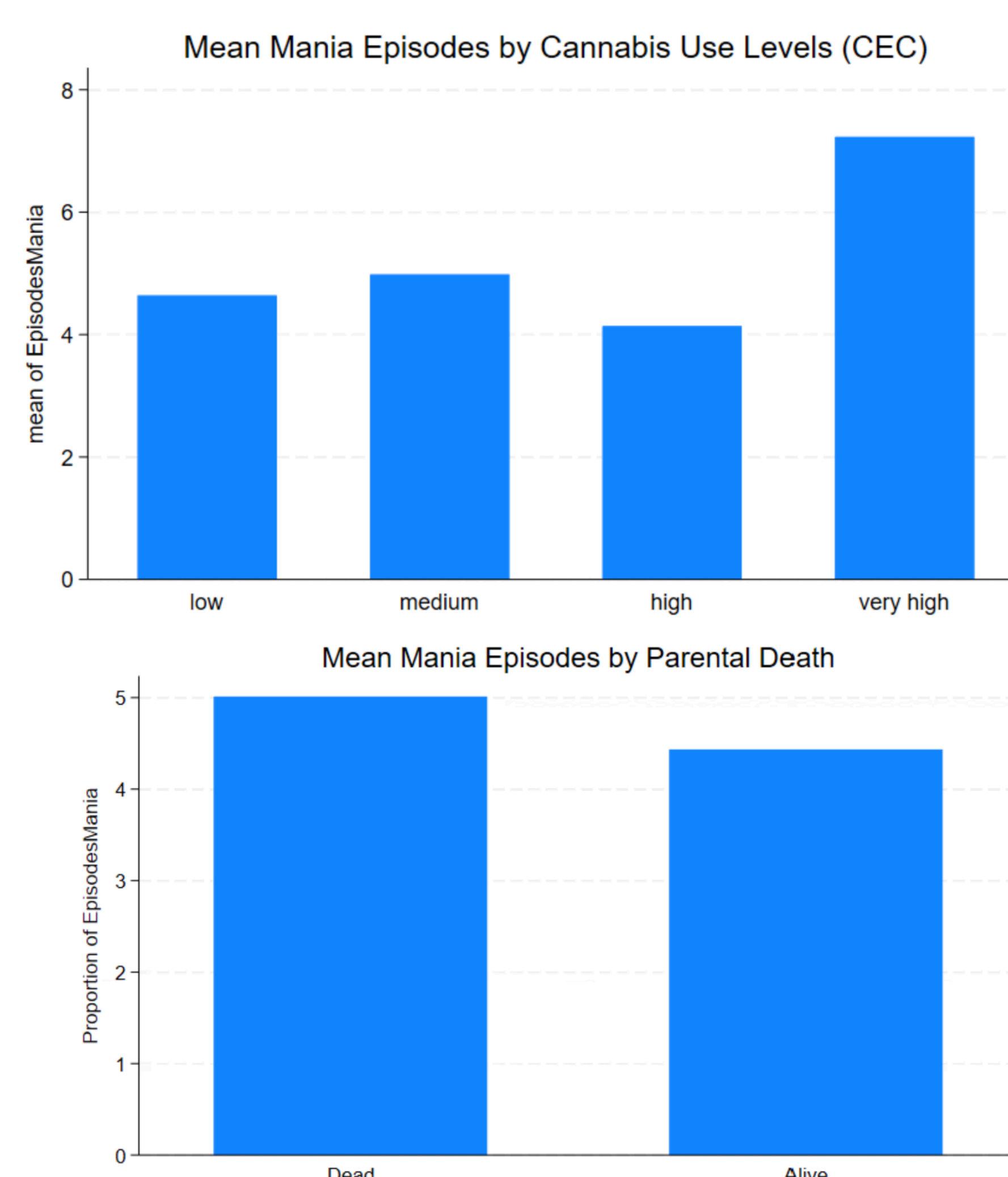
## Results

### Bivariate

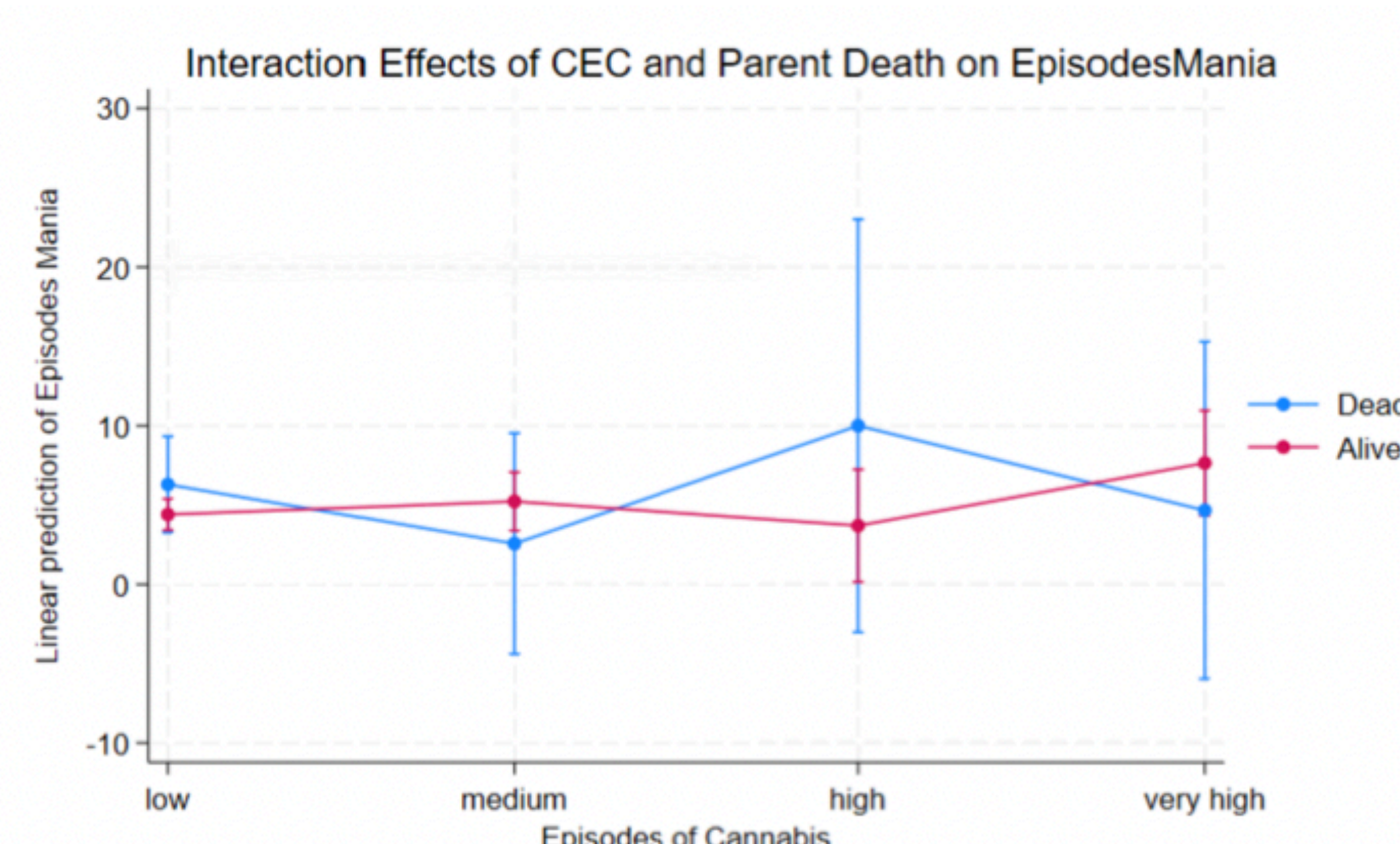
- The ANOVA test for EpisodesMania and CEC revealed that participants in the "very high" cannabis use category have the highest average number of mania episodes and the largest variability. However, other groups show relatively similar means. The p-value (0.4592) indicates that there is no statistically significant difference in the average number of mania episodes across the four cannabis use levels however based on the results in the graph this could warrant further investigation.
- The ANOVA test for EpisodesMania and ParentDeath revealed that while the mean number of mania episodes is slightly higher for individuals with deceased parents the difference is not statistically significant as the p-value was (0.302).

### Multivariate

- The graph shows that for individuals with deceased parents, the predicted number of mania episodes fluctuates with cannabis use, peaking at "high" CEC levels, while for individuals with living parents, the predictions remain stable across CEC categories.
- The graph suggests variability in the "high" category however it was not statistically significant.



**Figure 1: Proportion of Mania Episodes Across Cannabis Use Categories, Proportion of Mania Episodes by Parent Death Experience**



**Figure 2: Predicted Likelihood of Mania Episodes Based on Cannabis Use and Parental Death Experience.**

## Discussion

- As cannabis use (CEC) increases, the likelihood of experiencing higher levels of mania episodes tends to increase, though the results were not statistically significant. Parental death was not significant.
- These findings add to the understanding of the relationship between substance use, family trauma, and mental health outcomes. The results align with existing research suggesting a possible link between heavy cannabis use and mental health issues however the multivariate graph suggests other factors are at play as it doesn't have a consistent linear relationship.
- Future research is needed to extend the analysis to explore other forms of trauma or stressors not included in this study.

## References

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