# INVESTIGATING THE ASSOCIATION BETWEEN PARENTAL DYNAMICS AND ADOLESCENT DEVIANT BEHAVIOR

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## Introduction

Hirschi's "Social Control Theory" states that only one moral compass exists in mankind, unchanging across individuals[1]. In an attempt to explain moral deviance in adolescents, this research investigates the association between parental dynamics and child misbehavior. The research question is if the choices and lifestyle a child's parents make may affect the child's drug abuse and deviant behavior in the future. Parental dynamics that have been previously associated with deviant behaviors include parental presence or absence and monitoring, and parental self control[2,3,4,5,6,8].

## Materials and Methods

- Data from National Longitudinal Study of Adolescent to Adult Health
- 5114 adults, ages 24-32
- 46% male, 54% female
- Started in 1994 - 2008 (Wave IV)
- Statistical analysis performed in R (2016)

### Variables Considered:

Explanatory Variables:

- Parents alive/dead
- Father's jail time
  - Collapsed into 3 categories:
    0-1: never to once
    1-2: once to twice
    2+: more than twice
- Parents ever in jail

Composed of mother and fathers jail time combined into one variable (at least one parent went to jail)

- Binary: 0 = "No", 1 = "Yes"
- Participant reporting abuse
  - Recoded to binary: 0 = "No", 1 = "Yes"

Response Variables:

- Age first smoked marijuana
  - Age range: 5-32
- Ever arrested
  - Binary: 0 = "No", 1 = "Yes"

**Table 1: Sample Characteristics**

| Quantitative Variables | Mean | N |
|---|---|---|
| How old were you when you first smoked marijuana? | 16.7 | 2762 |

| Categorical Variables | % No | % Yes | N |
|---|---|---|---|
| Is your biological mother still alive? | 0.5 | 0.95 | 5048 |
| Is your biological father still alive? | 0.12 | 0.88 | 4912 |
| Did your father ever go to jail? | 0.85 | 0.15 | 4820 |
| Before 18, have you ever felt abused? | 0.87 | 0.13 | 5051 |
| Did your mother ever go to jail? | 0.97 | 0.03 | 5065 |
| Were you ever arrested? | 0.71 | 0.29 | 5067 |

| Multi-Level Categorical Variables | % 0-1 | % 1-2 | % 2+ | N |
|---|---|---|---|---|
| How many times did your father go to jail? | 0.52 | 0.2 | 0.27 | 4958 |

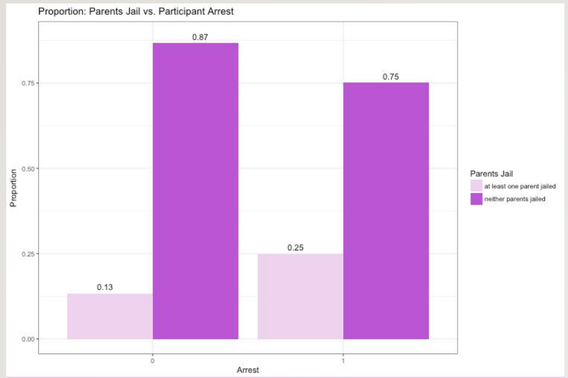


Figure 1: Bar chart of those never arrested to those arrested more than once compared to the proportion of parents committed.

**Table 2: Summary Stats for Figure 1**

| Parents Jail ~ Arrested | | |
|---|---|---|
| Arrested | 1 Parent Jailed | Neither Jailed |
| **0 = "No"** | 13% | 87% |
| **1 = "Yes"** | 25% | 75% |
| **p-value** | | <0.001 |
| **$X^2$** | | 92.9 |
| **df** | | 1 |

*Pearson's Chi-Squared test with Yates' continuity correction

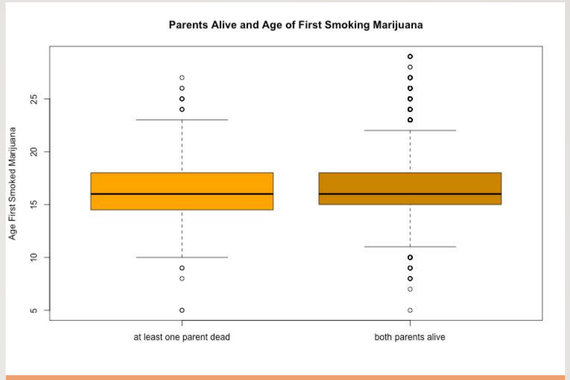


Figure 2: Boxplot of those who participated and reported at least one parent no longer alive linked to the age participants reported having first smoked marijuana.

**Table 3: Summary Statistics for Figure 2**

| Age Smoking Marijuana ~ Parents Alive | | |
|---|---|---|
| | Both Alive | One Parent Dead |
| **Mean Age** | 16.8 | 16.3 |
| **95% C.I.** | | -0.8-0.1 |
| **t-value** | | -2.7 |
| **p-value** | | 0.006 |

*Welch Two-Sample Test used for statistics analysis

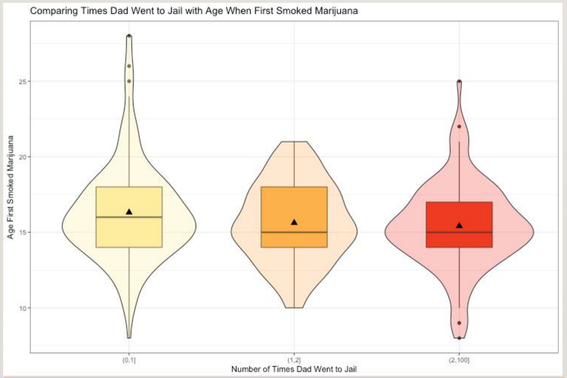


Figure 3: Grouped violin plots with over laying box plots of the times participants father went to jail correlating to the age they reported first having smoked marijuana.

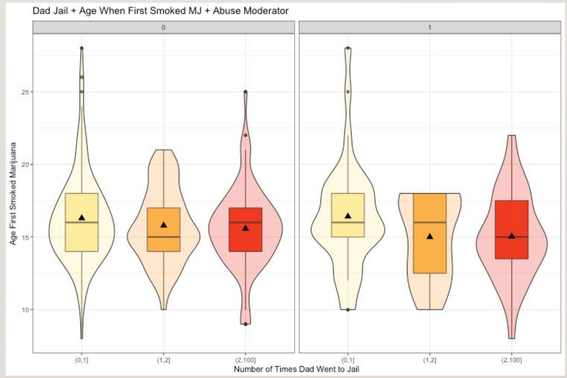


Figure 4: Panel of grouped violin plots with overlaying box plots comparing abuse as a moderator to the times participants father went to jail and the age they reported first having smoked marijuana.

**Table 4: Summary Statistics for Figures 3 & 4**

| | Jail Time ~ Age Smoking | | | | Jail Time ~ Age Smoking + Abuse | | | |
|---|---|---|---|---|---|---|---|---|
| **measure** | mean | estimate | 95% CI | p-value | mean | estimate | 95% CI | p-value |
| **0-1** | 16.3 | 16.3 | 15.9-16.8 | <0.001 | 16.4 | 16.4 | 15.9-16.9 | <0.001 |
| **1-2** | 15.6 | -0.7 | -1.6 | 0.10 | 15.0 | -0.7 | -1.5-0.2 | 0.11 |
| **2+** | 15.4 | -0.9 | -1.5 | 0.01 | 15.0 | -0.9 | -1.6-0.1 | 0.02 |
| **Abused** | | | | | | -0.3 | -1.1-0.5 | 0.45 |

*ANOVA and Two-Way ANOVA used to calculate summary statistics

## Discussion

The use of recreational drugs at early ages was investigated through specific associations of parental dynamics such as absence due to death or time spent in jail. First, the Pearson's Chi-squared test was applied to assess statistical significance of the frequency distribution of those reporting at least one parent going to jail and those reporting themselves being arrested (Figure 1). Results show an association between those whose parents have been to jail and likeliness of themselves having been arrested (p-value<0.05, Table 1). Figure 2 shows that if at least one parent is dead, there is an association with starting to smoke marijuana at a younger age (p<0.05). To confirm this the Welch Two Sample t-test was used to analyze for statistical significance (Table 3). There was an association found between the average age when participants first used marijuana and the number of times their father went to jail (Figure 3, Table 4). A two-way ANOVA was used to test for a moderator after initial ANOVA results for the original comparison was significant (p-value<0.05) (Figure 4, Table 4). Results showed that the variable abuse modified this initial relationship, rendering it insignificant (p-value>0.05)(Figure 4, Table 4). This analysis revealed that participants who had reported being abused had a younger age of first using marijuana regardless if their father went to jail. Through analyzing the aforementioned variables, it is possible able to assess the factors that affect early drug use and deviant behaviors.

## Implications

Research done by the U.S. Department of Health and Human Services (2008) show an increase in behavioral problems were prevalent in children whose families have been affected by jail time, death, and neglect[8]. This information could be integrated into models that could be applied to parenting tools to assist them in navigating through risky adolescent behavior. Support groups for those children who have had some form of an absent parental figure could potentially improve the wellbeing of those affected by abuse and neglect[8].

## References

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