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# The Association Between Traumatic Brain Injuries and Adverse Childhood Experiences

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### Introduction

There is little information known about the association between TBIs and ACEs. This project aims to compare ACEs experienced by patients who have suffered a TBI in the UCDCMC with the general California and Sacramento County population.

### Hypothesis

The UCD TBI registry population will be significantly associated with ACEs when compared to the general Sacramento and California populations.

### Methods

- Patients in the UCD TBI registry were administered a survey assessing ACEs experienced.
- Data was compared to data from BRFSS database using chi-square analysis.

**Main Finding:** There are significant differences between the types of ACEs experienced by the general California or Sacramento County population and the UCD TBI Registry.



### Results

#### Type of ACE Experienced

	California	Sacramento County	UCD TBI Registry	California p-value	Sacramento p-value
Alcohol Abuse	23.7%*	25.3%*	34.5%	3.29 x10 <sup>-4</sup>	2.76 x10 <sup>-3</sup>
Drug Abuse	9.2%*	9.7%*	18.5%	5.35 x10 <sup>-6</sup>	2.61 x10 <sup>-5</sup>
Jail/Incarceration	5.6%*	7.7%	10.0%	6.80 x10 <sup>-3</sup>	0.222
Mental Illness	15.6%*	20.3%*	37.9%	<1x10 <sup>-6</sup>	<1x10 <sup>-6</sup>
Physical Abuse Between Parents	17.1%	18.9%	22.1%	0.061	0.247
Divorce	22.6%*	31.9%	41.4%	4.02 x10 <sup>-4</sup>	0.031
Physical Abuse Towards Child	20.1%	20.0%	21.5%	0.621	0.596
Verbal Abuse Towards Child	35.6%	39.3%*	27.0%	0.011	3.69 x10 <sup>-4</sup>
Child was Touched Sexually	11.9%	14.6%	16.0%	0.073	0.575
Child Forced to Touch Adult Sexually	8.5%	10.3%	9.5%	0.596	0.727
Sexual Abuse	7.1%*	8.1%*	13.5%	4.25 x10 <sup>-4</sup>	5.12 x10 <sup>-3</sup>

#### Number of ACEs Experienced

	California*	Sac County	UCD TBI Registry
0	38.0%	33.0%	27.5%
1-3	46.0%	48.0%	50.5%
4+	16.0%	19.0%	22.0%

\*=p<0.01

### Discussion

There are significant differences between alcohol abuse, drug abuse, mental illness, and sexual abuse experienced by the California and Sacramento population compared to the population from the TBI registry. The California population also experienced a difference in the number of ACEs compared to the TBI registry.