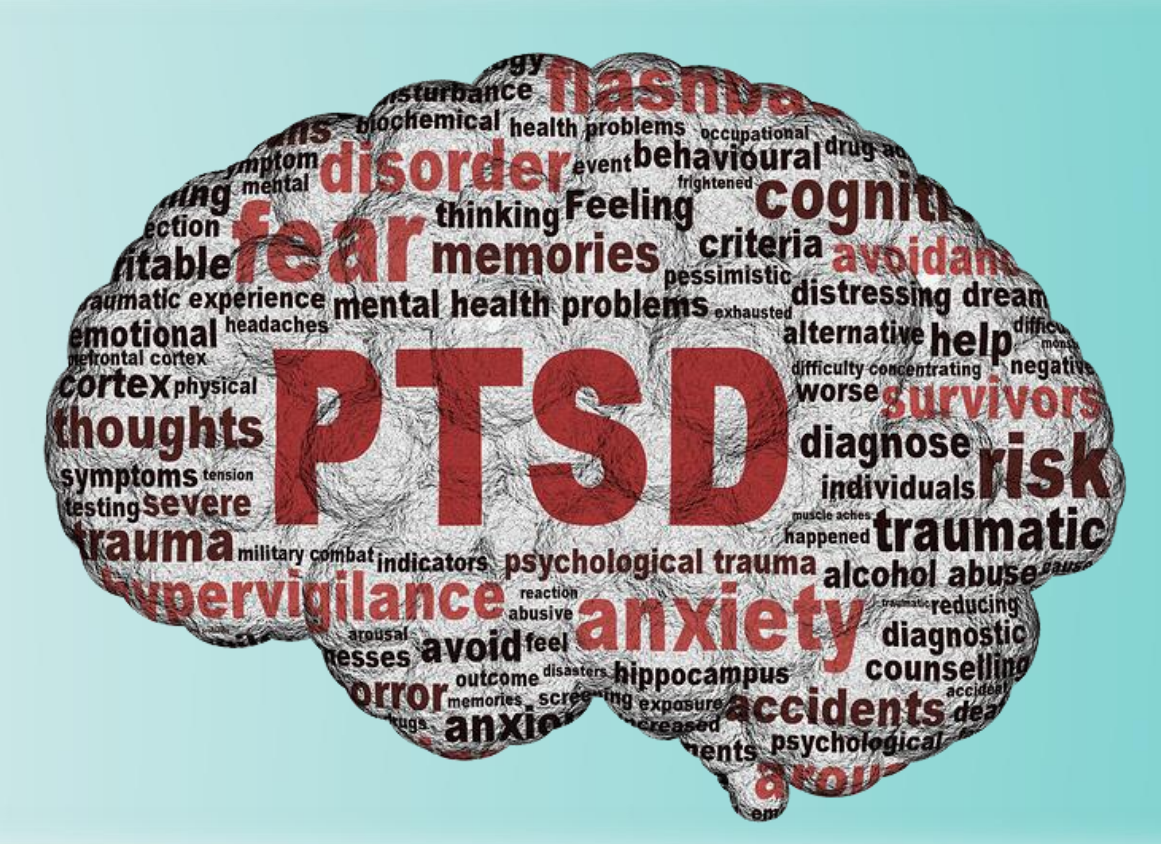


# Effects of Childhood Social Support on Trauma

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## Introduction

Groundbreaking current research known as Adverse Childhood Experiences (ACE) has shown a correlation between childhood experiences (both positive and negative) and the propensity for future violence victimization and perpetration, as well as lifelong health and opportunity. The Center for Disease Control (CDC) believes these early childhood experiences to be an important public health issue. Adverse Childhood Experiences have been linked to risky health behaviors, chronic health conditions, low life potential, and early death. The CDC has stated that “as the number of ACEs increases, so does the risk for these outcomes”. (CDC 2016) The ACE research prompted this analysis that focuses on childhood adversity and traumatic stress and the lasting effects that may occur as a result.

The data in this report is from a dataset compiled during a study entitled, “Childhood Adversity and Traumatic Stress among Inpatients at Psychiatric Hospital in the Baltimore Area from 1993-1995”, by Eve Carlson (Carlson 2015). The data was compiled on patients aged 30 - 45, that were patients in a non-profit inpatient psychiatric hospital in the Baltimore, Maryland area.

The goal of the study was to investigate the relationships between aspects of childhood physical and sexual abuse and adult psychological symptoms in psychiatric inpatients. The researchers variables represent aspects of abuse experiences including the severity, duration, and age of onset. They also measured variables that are thought to alleviate or exacerbate responses to traumatic experiences.

The study looked at 59 variables for each patient including demographics, types of mental disorders, and level of amnesia. Subjects were asked about the type, age of onset and duration that the abuse occurred. The interview questions regarding physical abuse used items from the Conflict Tactics Scale (Straus, 1979). Information about amnesia for traumatic events other than childhood abuse was obtained using the Structured Interview for Post Traumatic Stress Disorder (PTSD) (Davidson, Smith, & Kudler, 1989).

This analysis specifically investigated whether there was a gender difference when looking at the potential correlation between the level of social support received during childhood and substance abuse. Additionally, when considering the research done on ACE, this analysis looked deeper at whether social support as a child helped reduce present PTSD symptoms among those with similar physical abuse and trauma as a child.

## Variables of Interest

Social Support	Physical Abuse Score	PTSD	Substance Abuse
<ul style="list-style-type: none"><li>Recorded as both a continuous score of support incidences and a category of level of support.</li></ul>	<ul style="list-style-type: none"><li>Number of incidences of abuse multiplied by the severity level of the incident. This total was log transformed to induce normality.</li></ul>	<ul style="list-style-type: none"><li>A score based on how often the patient currently experiences post-traumatic stress disorder symptoms.</li></ul>	<ul style="list-style-type: none"><li>A category of the level of substance abuse in which patient currently engages.</li></ul>

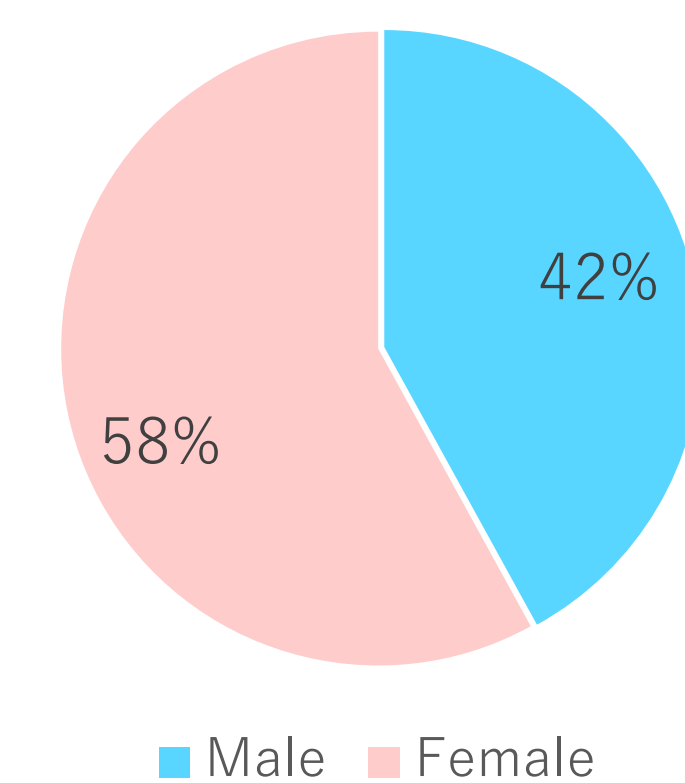
## Research Questions

- How does social support impact substance abuse between men and women?
- Does social support as a child reduce adult Post Traumatic Stress Disorder (PTSD) symptoms among those with similar physical abuse scores?

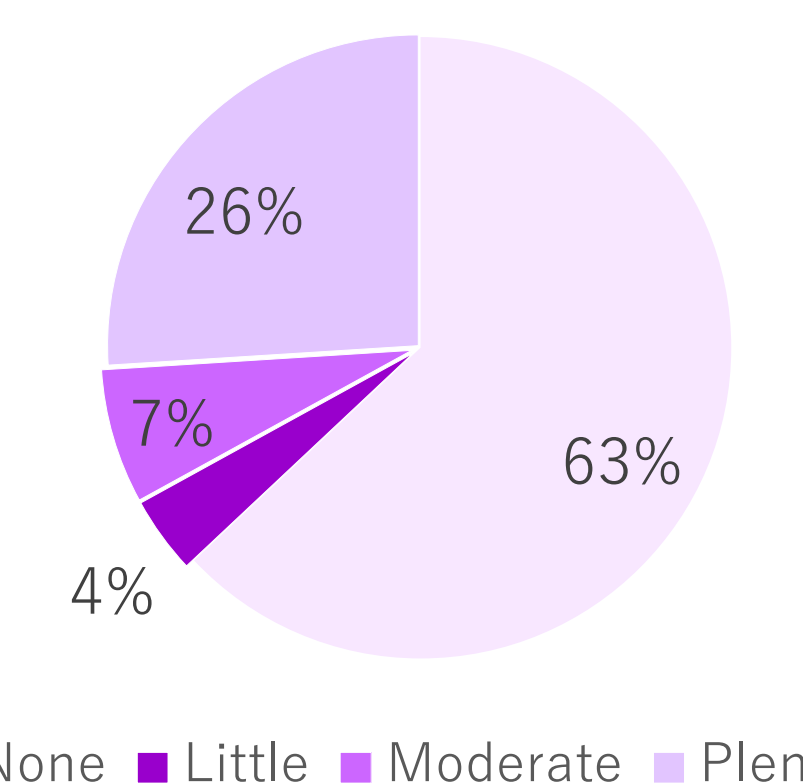
## Variables Distribution

	Mean	Median	St. Dev.	Range
Social Support	1.7	1.8	0.9998	[0,3]
Log Transformed Physical Abuse Score	6.6	7.6	3.4579	[0,13.5]
PTSD Score	29.4	30.5	16.2323	[0, 60]

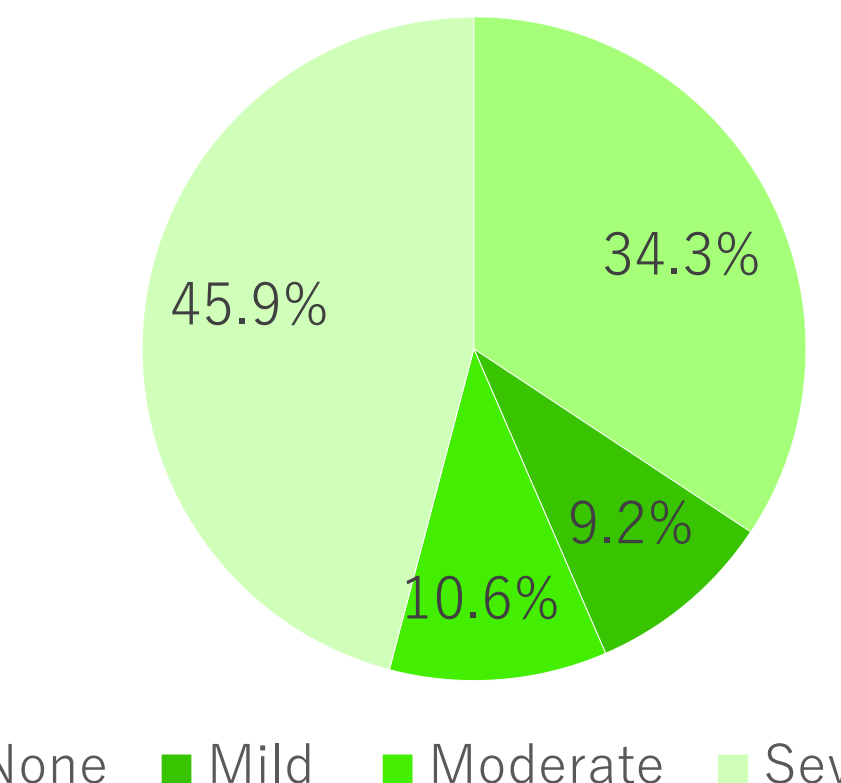
Gender Distribution



Social Support Levels



Substance Abuse Levels



## Methods

The variables of interest were examined during data exploration after assumptions were met. Each variable of interest was summarized numerically and visually. Bivariate relationships of these variables were analyzed using bar charts and scatterplots.

Further analysis of multi-variables was completed. The variables substance abuse, social support and gender were analyzed using logistic regression and chi-square test and the variables social support, PTSD symptoms and physical abuse were analyzed using a linear regression model.

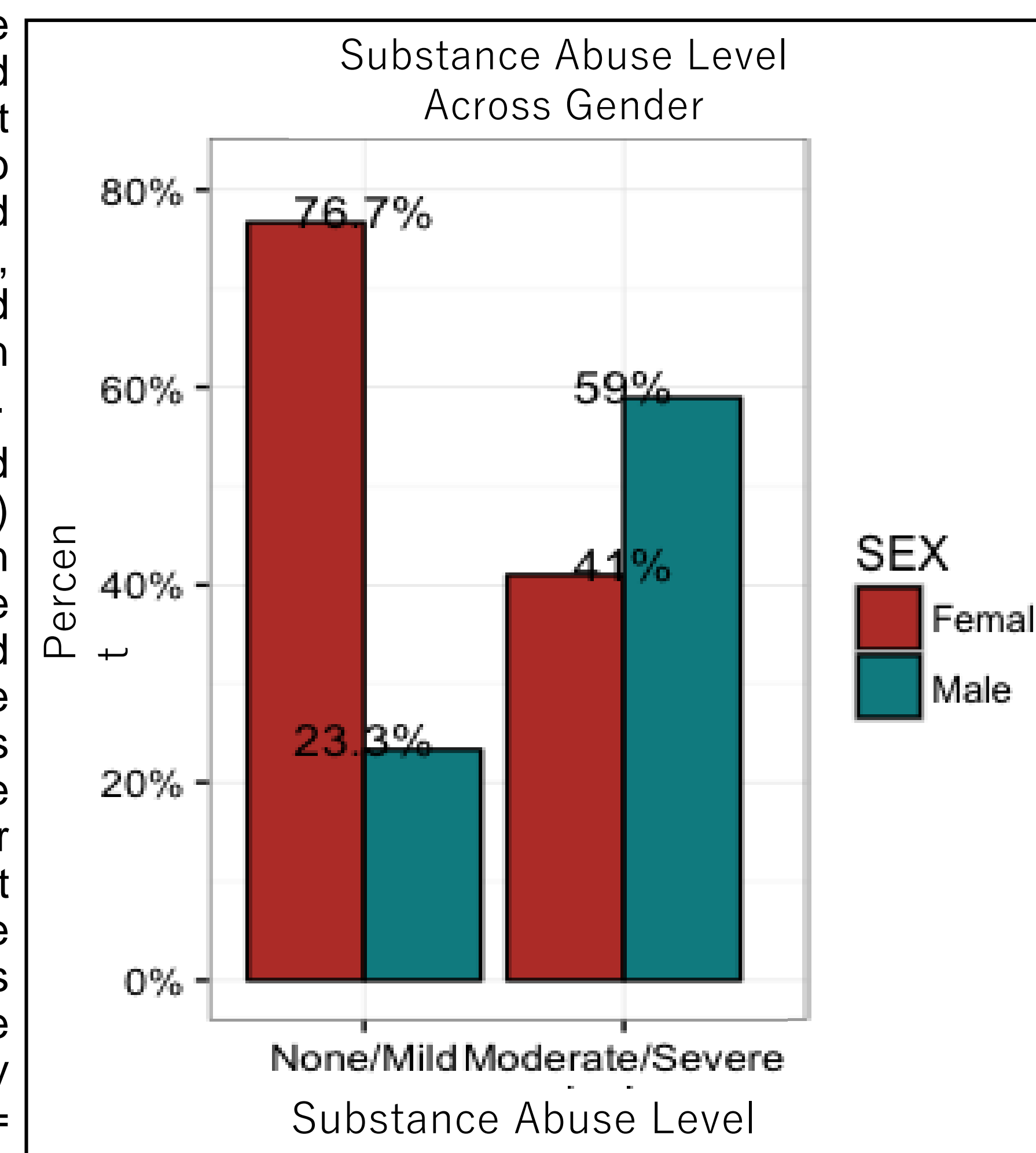
It should be noted that the physical abuse variable was log transformed to induce normality.

## Results

### Question #1

While analyzing substance abuse, social support and gender, it was found that social support had no effect so it was dropped leaving the two variables, substance abuse and gender, which were then analyzed using chi-square.

Social support was found to be insignificant ( $P=0.89$ ) in the logistic regression model indicating that the level of social support did not impact substance abuse. The odds of males engaging in substance abuse is 4.7 times higher than females in patients at a psychiatric hospital. The percentage of inpatients that had substance abuse significantly differed by gender chi-square (3,  $N = 217$ ) =44.73, ( $p < 0.001$ ).

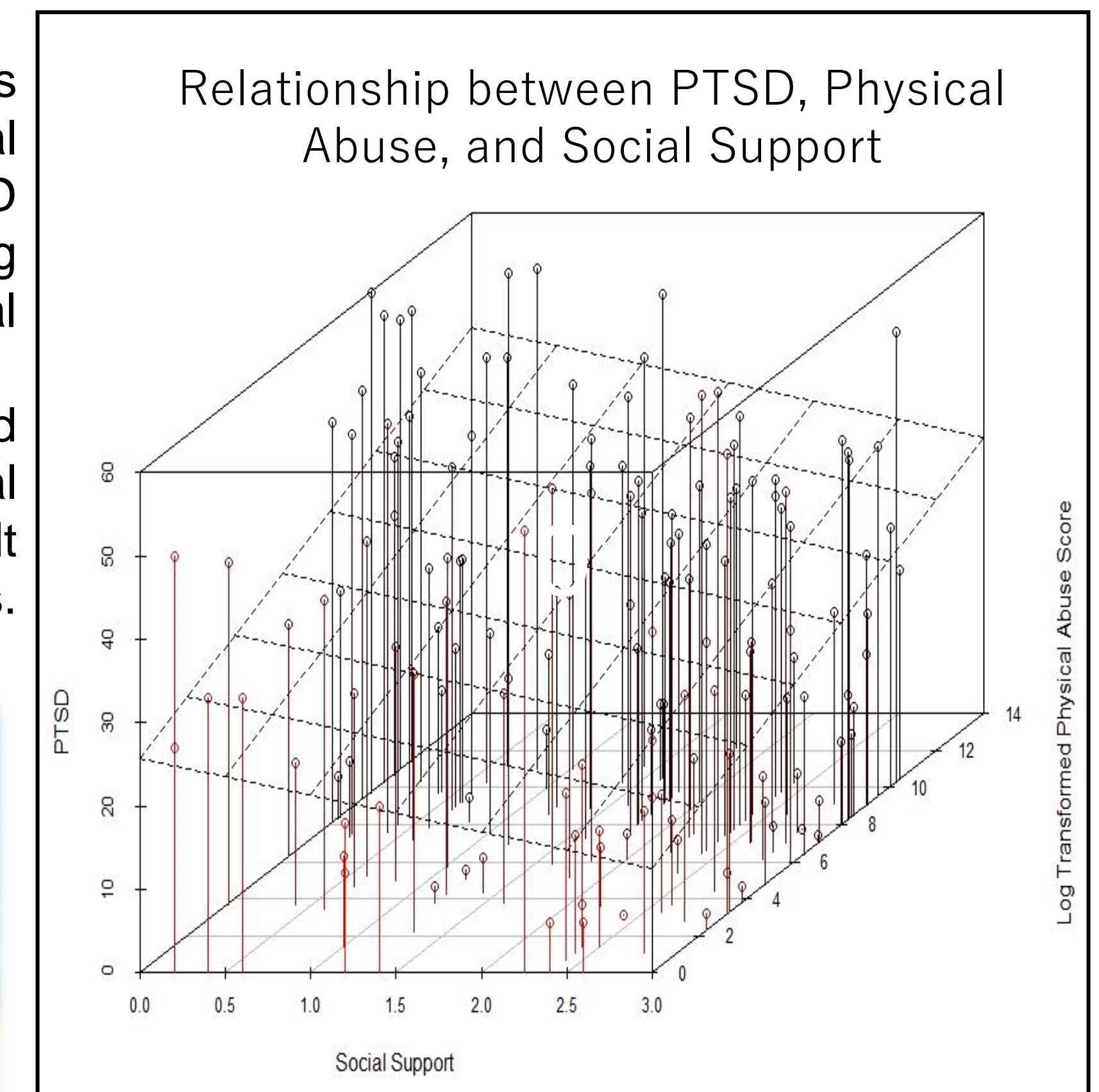


## Results (cont.)

### Question #2

A positive relationship exists between the patients' physical abuse scores and PTSD symptoms as shown in the log transformed 3-D graph ( $p\text{-val} < .001$ ).

This analysis also found increased childhood social support reduced the adult patients' PTSD symptoms. ( $p < .001$ ).



Variable	Coefficient	Std. Error	T-Statistic	P-Value
Social Support	-4.4190	1.1878	-3.720	0.001
Log transformed Physical Abuse Score	1.4656	0.3646	4.020	0.001
Adjusted R-squared	0.1803			

## Conclusion

The impact that childhood trauma has on the prevalence of violent and risky adult behaviors is becoming more acknowledged as more research is completed. The Center of Disease control believes early childhood trauma to be an important public health issue. Based on the initial study that was done of psychiatric inpatients, one could surmise that these adults certainly had residual effects from suffering childhood trauma considering they were being treated in a psychiatric ward. The conclusion drawn from this analysis was that social support received during childhood had no impact on substance abuse, and that men were more likely than women to have severe substance abuse issues.

Additionally, an increase in physical abuse directly increased the PTSD symptoms experienced as an adult; however, social support during these traumatic childhood experiences dramatically reduced the amount of PTSD symptoms adults exhibit. Investing care in children who might be suffering abuse at home can not only help them through childhood, but also give them a better life experience as an adult.

## References

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