



# Examining the Relationship between ACEs and Childhood ADD/ADHD Diagnoses

Melanie Johnson – Department of Social Work  
Research Advisor: Brittany Eghaneyan

## Abstract

Adverse Childhood Experiences, or ACEs, have been found to have negative impacts on short and long-term physical and mental health. Research has also identified a relationship between the experience of ACEs and the diagnosis of ADD or ADHD. The present study aimed to examine the relationship between the experience of ACEs and the diagnosis of ADD or ADHD and whether the experience of any specific ACE had a more significant impact on the diagnosis of ADD or ADHD. A secondary analysis of the data from the Early Head Start Research and Evaluation Study was conducted, and found that experience of an ACE was significantly and positively associated with ADD or ADHD diagnosis and that mental illness in the household was most significantly associated with ADD or ADHD diagnosis.

## Introduction

### Significance of the Study

A CDC and Kaiser study conducted in 1998 identified a number of Adverse Childhood Experiences, or ACEs. Since this study, these ACEs have been linked to a number of mental and physical health problems, including ADHD. However, there is a lack of research regarding which ACEs are more significantly associated with ADHD diagnosis.

### Research Question

The present study was designed to investigate if there is a difference between ADD/ ADHD diagnosis in children and the exposure of specific categories of ACEs.

### Hypotheses

The researcher hypothesized first that the data would confirm a positive relationship between ACE exposure and ADD/ ADHD diagnosis. The researcher also hypothesized that the ACE experience of domestic violence or substance abuse in the household would have a stronger relationship with an ADD/ ADHD diagnosis than the ACE of parental divorce or mental illness in the household.

## Literature Review

### Impact of ACEs on Physical and Mental Health

ACEs have been associated with an increased risk for a number of health risks and risky behaviors. They have also been found to be associated with a number of mental health issues including anxiety disorders, depressive disorders, PTSD, and suicidality.

### ADHD Defined

The DSM-5 defines ADHD as a pattern of inattention and/ or hyperactivity-impulsivity that significantly interferes with social and academic or occupational functioning.

### ACEs and ADD/ADHD Diagnoses

Trauma and ACE exposure have both been linked to increased ADHD diagnosis.

### Gaps in the Literature

While ACE exposure is linked to ADHD diagnosis, there is little to no research on the relationship between separate categories of ACEs and ADHD diagnosis.

### Theoretical Framework

• Dynamic System Theory hypothesizes the relationship between ADHD diagnosis and ACE exposure by explaining the child's externalizing ADHD behaviors as a result of dysfunction in the systems they are part of.

• The Trauma Informed Care perspective also explains this relationships as trauma has been shown to alter brain chemistry which can lead to symptoms that may be diagnosed as ADHD.

## Methods

The researcher conducted a secondary analysis of the Early Head Start Research and Evaluation (EHSRE) Study, which was a longitudinal study that utilized mixed methods to collect data on a diverse group of low-income families throughout the United States. 1,619 children were eligible for the current study.

### Measures

• **Exposure to ACEs:** child had experienced at least one of four ACE categories (mental illness in the household, violence in the home, substance abuse in the household, or parental divorce or separation).

• **Mental illness in the household:** child's caregiver scored as depressed on the CES-D.

• **Violence in the home:** the child had witnessed domestic violence or the caregiver had been a victim of domestic violence.

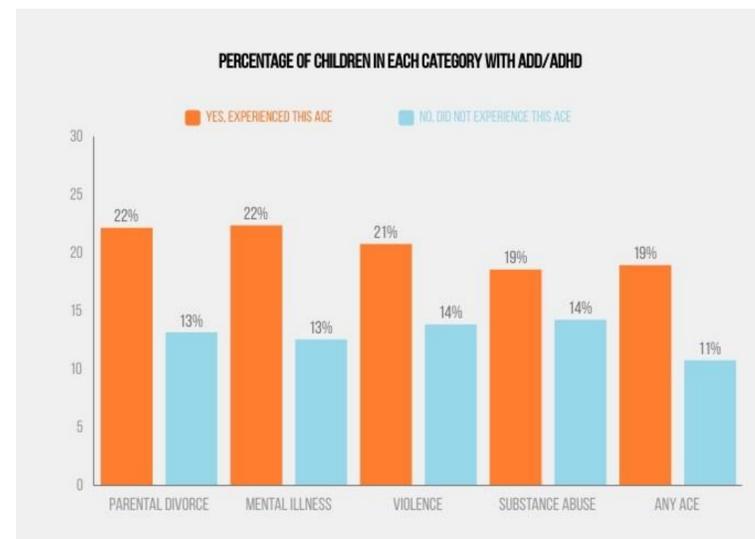
• **Substance abuse in the household:** caregiver had used any illegal substances or had lived with someone who had a drug or alcohol problem.

• **Parental divorce or separation:** caregiver was either separated or divorced.

• **ADD or ADHD:** child had been diagnosed with ADD or ADHD by a professional since the first grade during the final phase of the study.

Data Analysis: Chi-square tests and a Logistic Regression were run on the data.

## Results



### Chi-Square:

• Of the variables studied, exposure to any ACE, mental illness in the household, witnessing violence, and parental divorce or separation all had a significant relationship to diagnosis of ADD or ADHD. Children with these variables were found to be more likely to have ADD or ADHD.

• Substance abuse in the household did not significantly predict ADD or ADHD diagnosis.

### Logistic Regression:

• Mental illness in the household significantly and positively predicted ADD or ADHD diagnosis (OR = 2.04).

• Additionally, participants who were Black (OR = 3.6) were more likely to have an ADD or ADHD diagnosis, while female participants (OR = .31) were less likely.

## Discussion

• The data supported the first hypothesis, as children exposed to at least one ACE were more likely to have ADD or ADHD than children who were not.  
• This finding supports previous research that has shown a link between the experience of ACEs and diagnosis of ADD or ADHD.

• Contrary to the second hypothesis, mental illness in the household was found to be the best predictor of ADD or ADHD diagnosis, rather than substance abuse or witnessing violence.  
• The substance abuse and witnessing violence variables may be underreported, as caregivers may have been reluctant to share this sensitive information  
• This finding addresses gaps in the literature, as there has been little to no research regarding which specific ACEs are more significantly associated with ADD or ADHD diagnosis.  
• A possible explanation for the relationship between mental illness in the household and increased risk of ADD or ADHD is that the caregiver might also have ADD or ADHD, as it has been found to be hereditary, and is also commonly comorbid with depression.

• A surprising finding was that Black children were more likely to be diagnosed with ADD or ADHD.  
• A possible explanation is racial bias leading to Black children being diagnosed for developmentally appropriate behavior that would be dismissed in their peers.  
• This is an area where Social Work needs more research to really understand the connection.

• **Strengths:** the study had a large and diverse pool of participants, the study utilized longitudinal data collection, and the current study filled a gap in the literature.  
• **Limitations:** only four of the nine ACE categories were included, caregiver self-report leaves the possibility of bias, and the sample only included low-income families.

• The data from this study suggests that social workers need to pay special attention to the link between trauma exposure and ADD or ADHD diagnosis in their clinical work with clients.  
• Practitioners who work with children with ADHD will need to maintain a trauma-informed perspective in their work with these clients.

## Acknowledgements

I would especially like to thank Dr. Brittany Eghaneyan for her encouragement, patience, and guidance throughout this process. I would also like to thank my colleagues in the MSW program for all of the memories and coffee breaks from these past two years. Thank you also to Glenda and Michelle for taking time out of your day to give me so much help and advice as I completed this project. And thank you to my boyfriend for being my cheerleader during this difficult process and for motivating me to keep pushing on. I would like to thank my family for encouraging me to pursue this degree, and for all of the advice and support they have given me. Thank you especially to my mom for always being a listening ear. And finally to my nieces, thank you for the much needed smiles these last two years.