

Adverse Childhood Experiences and Mental Health, Chronic Medical Conditions, and Development in Young Children



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ABSTRACT

OBJECTIVE: To determine the relationships between adverse childhood experiences (ACEs) and mental health, chronic medical conditions, and social development among young children in the child welfare system.

METHODS: This cross-sectional study used a nationally representative sample of children investigated by child welfare (National Survey of Child and Adolescent Well-Being II) from 2008 to 2009. Our analysis included caregiver interviews and caseworker reports about children aged 18 to 71 months who were not in out-of-home care ($n = 912$). We examined the associations between ACEs and mental health (measured by the Child Behavior Checklist [CBCL]), reported chronic medical conditions, and social development (measured by the Vineland Socialization Scale) in bivariate and multivariate analyses.

RESULTS: Nearly all children (98.1%) were reported to have had an ACE in their lifetime; the average number of ACEs was 3.6. For every additional reported ACE, there was a 32%

increased odds of having a problem score on the CBCL (odds ratio [OR] 1.32, 95% confidence interval [CI] 1.14, 1.53) and a 21% increased odds of having a chronic medical condition (OR 1.21, 95% CI 1.05, 1.40). Among children aged 36 to 71 months, for every additional reported ACE, there was a 77% increased odds of a low Vineland Socialization score (OR 1.77, 95% CI 1.12, 2.78).

CONCLUSIONS: ACEs were associated with poor early childhood mental health and chronic medical conditions, and, among children aged 3 to 5, social development. Efforts are needed to examine whether providing early intervention to families with multiple stressors mitigates the impact of ACEs on children's outcomes.

KEYWORDS: ACE; adverse childhood experience; child welfare; mental health

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WHAT'S NEW

Adverse childhood experiences (ACEs) were prevalent in 18- to 71-month-olds in child welfare and were associated with poor mental health and chronic medical conditions, and, among 36- to 71-month-olds, social development. This suggests that ACEs may have short-term effects on young children.

TOXIC STRESS HAS been defined as exposure to chronic, severe, and prolonged stress, occurring in the absence of protective factors.¹ Excessive stress in early childhood is a particular risk because it can disrupt developing brain circuits and increase levels of stress hormones, both of which can lead to problems lasting into adulthood.²

The Adverse Childhood Experiences (ACE) study, a collaboration between the US Centers for Disease Control

and Prevention and Kaiser Permanente, was a retrospective study examining the long-term impact of adverse experiences, such as childhood abuse, neglect, and household dysfunction, that may cause stress.³ This study demonstrated that greater numbers of stressors experienced early in life were associated with later-in-life risk taking and unhealthy lifestyles, as well as with disease,⁴ suggesting that cumulative stress, or allostatic load,⁵ can have lifetime effects on health. Subsequent research has shown ACEs to be linked to neurobiologic changes, as well as both structural and functional alterations in the brain.^{6,7} However, most ACE research has occurred retrospectively among individuals already living with exposure to stress for years.^{8–10} Although some research has found relationships between adverse experiences and health outcomes among children,^{11–14} the literature is unclear as to whether early exposure to multiple stressors has relatively immediate

and measurable consequences among young children at risk for removal from the home. Further, although there is research showing that more than half of children in the child welfare system have experienced 4 or more ACEs,¹⁵ little attention has been specifically paid to the prevalence of ACEs among the at-risk group of children who have been referred to child welfare services but not removed from the home.

In this study, we examine the adverse experiences of young children investigated by US child welfare agencies using data from the National Survey of Child and Adolescent Well-Being (NSCAW) II. Specifically, we examined the prevalence of ACEs among young children who have remained in their homes, as well as the relationships between ACEs and mental health, chronic medical conditions, and social development among those children. The ability to identify the children most at risk in this highly vulnerable population will better enable limited resources to be appropriately targeted.

METHODS

DESIGN AND ANALYTIC SAMPLE

We used data from the baseline interviews of NSCAW II, a study of 5872 youth ages 0 to 17.5 years referred to US child welfare agencies for whom an investigation of potential maltreatment was completed between February 2008 and April 2009.¹⁶ Interviews were conducted with caregivers and child welfare workers. Initial interviews were conducted approximately 4 to 5 months after completed child welfare investigations.¹⁷

NSCAW II, like its predecessor, NSCAW I, used a 2-stage national probability sample. In the first stage, primary sampling units (PSUs, most often single counties) were sampled. Of the 92 original PSUs in NSCAW I, 71 were eligible and agreed to participate in NSCAW II; 10 additional PSUs were added to replace the PSUs that declined to participate or were no longer eligible.¹⁷ In the second stage, children were sampled from lists of closed child welfare investigations within participating PSUs. At the child level, only one child was sampled from each home.

MEASURES

ACEs, as defined in the original research on this topic, consist of 10 adverse events including exposure to maltreatment, and to specific caregiver and household characteristics,³ all of which were available in the NSCAW II data (Table 1). To create ACE categories that match the originals as closely as possible, we followed the categorization used by Stambaugh et al,¹⁵ with a few exceptions (Table 1). For example, although Stambaugh et al included abandonment and deceased parents in the “parental separation or divorce” ACE, we did not, based on the original definition of this ACE.³ Further, Stambaugh et al included forced sex as reported by youth, but this measure was only used among children aged >11 years in this data set, so it was not possible to analyze this variable with our young sample.

Table 1. ACE Definitions

Original CDC Study ACE Construct*	Current NSCAW II Study
Physical abuse	<ul style="list-style-type: none"> Caregiver report of physical assault ever (from CTSPC).^{**} Caseworker report of physical maltreatment.
Sexual abuse	<ul style="list-style-type: none"> Caregiver report of sexual maltreatment ever (from CTSPC).^{**} Caseworker report of sexual maltreatment.
Emotional abuse	<ul style="list-style-type: none"> Caregiver report of psychological aggression ever (from CTSPC).^{**}
Physical neglect	<ul style="list-style-type: none"> Caregiver report of child neglect ever (from CTSPC).^{**} Caseworker report of neglect (abandonment or failure to provide or supervise).
Emotional neglect	<ul style="list-style-type: none"> Caregiver report that in past 12 months he/she was not able to show child that he/she loved him/her.
Mother treated violently	<ul style="list-style-type: none"> Caregiver report of incidence of violence ever (from CTS2).^{***} Caseworker report of a history of domestic violence against the caregiver. Caseworker report of active domestic violence at the time of the investigation.
Household substance abuse	<ul style="list-style-type: none"> Caregiver report of alcohol dependence (from AUDIT >8) or substantial level of drug-related problem (DAST-20 ≥11). Caseworker report of active alcohol or drug use by primary or secondary caregiver.
Household mental illness	<ul style="list-style-type: none"> Caregiver report of depression (from CIDI-SF). Caseworker report of caregiver serious mental health or emotional problems at the time of investigation.
Parental separation or divorce	<ul style="list-style-type: none"> Caregiver report of separation or divorce.
Incarcerated household member	<ul style="list-style-type: none"> Caregiver report of time in prison. Caseworker report of caregiver recent history of arrests or detention in jail or prison.

ACE indicates adverse childhood experience; CDC, Centers for Disease Control and Prevention; NSCAW II, National Survey of Child and Adolescent Well-Being II; CTSPC, Conflict Tactics Scale—Parent–Child; CTS2, Revised Conflict Tactics Scale; AUDIT, World Health Organization Alcohol Use Disorders Identification Test; DAST-20, Drug Abuse Screening Test; and CIDI-SF, Composite International Diagnostic Interview, Short Form.

*Data from Centers for Disease Control and Prevention.³

**Parent-child conflict tactics scale.

***Conflict tactics scale.

In the NSCAW II data, current maltreatment type was based on information from the case file. Six variables representing different types of maltreatment over the

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