

## About the CDC-Kaiser ACE Study

The CDC-Kaiser Permanente Adverse Childhood Experiences (ACE) Study is one of the largest investigations of childhood abuse and neglect and later-life health and well-being.

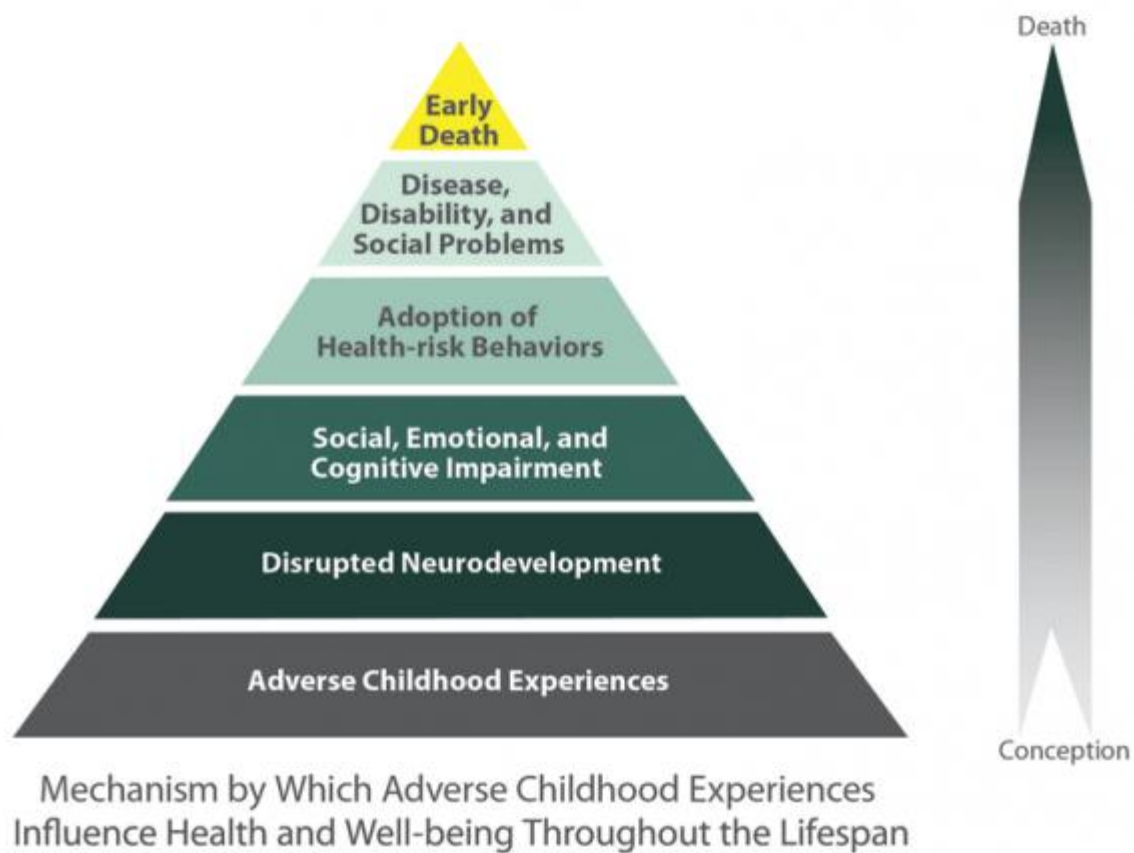
The original ACE Study was conducted at Kaiser Permanente from 1995 to 1997 with two waves of data collection. Over 17,000 Health Maintenance Organization members from Southern California receiving physical exams completed confidential surveys regarding their childhood experiences and current health status and behaviors.

The CDC continues ongoing surveillance of ACEs by assessing the medical status of the study participants via periodic updates of morbidity and mortality data.

More detailed information about the study can be found in the links below or in "[Relationship of Childhood Abuse and Household Dysfunction to Many of the Leading Causes of Death in Adults](#)," published in the *American Journal of Preventive Medicine* in 1998, Volume 14, pages 245–258.

### The ACE Pyramid –

The ACE Pyramid represents the conceptual framework for the ACE Study. The ACE Study has uncovered how ACEs are strongly related to development of risk factors for disease, and well-being throughout the life course.



## Study Questionnaires –

The Family Health History and Health Appraisal questionnaires were used to collect information on child abuse and neglect, household challenges, and other socio-behavioral factors in the original CDC-Kaiser ACE Study.\*

The questionnaires are not copyrighted, and there are no fees for their use. If you include the ACE Study questionnaires in your research, a copy of the subsequent article(s) is requested (send to [dvpinquiries@cdc.gov](mailto:dvpinquiries@cdc.gov)).

- **Family Health History Questionnaire**
  - [Male Version](#)[PDF 183KB]
  - [Female Version](#)[PDF 196KB]
- **Health Appraisal Questionnaire**

- o [Male Version](#)[PDF 208KB]
- o [Female Version](#)[PDF 109KB]

\*More detailed information about the ACE Study’s methodology, including survey development, can be found in “[Relationship of Childhood Abuse and Household Dysfunction to Many of the Leading Causes of Death in Adults,](#)” published in the *American Journal of Preventive Medicine* in 1998, Volume 14, pages 245–258.

**Data and Statistics**

Adverse Childhood Experiences (ACEs) are categorized into three groups: abuse, neglect, and family/household challenges. Each category is further divided into multiple subcategories. Participant demographic information is available by gender, race, age, and education. The prevalence of ACEs is organized by category.

**ACEs Definitions collapsed**  
**Participant Demographics collapsed**  
**ACEs Prevalence collapsed**

The prevalence estimates reported below are from the entire ACE Study sample (n=17,337).

**Prevalence of ACEs by Category for CDC-Kaiser ACE Study Participants by Sex, Waves 1 and 2.**

ACE Category	Women	Men	Total
	Percent (N = 9,367)	Percent (N = 7,970)	Percent (N = 17,337)
<b>ABUSE</b>			

<b>Emotional Abuse</b>	13.1%	7.6%	10.6%
<b>Physical Abuse</b>	27%	29.9%	28.3%
<b>Sexual Abuse</b>	24.7%	16%	20.7%
<b>HOUSEHOLD CHALLENGES</b>			
<b>Mother Treated Violently</b>	13.7%	11.5%	12.7%
<b>Household Substance Abuse</b>	29.5%	23.8%	26.9%
<b>Household Mental Illness</b>	23.3%	14.8%	19.4%
<b>Parental Separation or Divorce</b>	24.5%	21.8%	23.3%
<b>Incarcerated Household Member</b>	5.2%	4.1%	4.7%
<b>NEGLECT</b>			
<b>Emotional Neglect<sup>3</sup></b>	16.7%	12.4%	14.8%
<b>Physical Neglect<sup>3</sup></b>	9.2%	10.7%	9.9%

Note: <sup>3</sup>Collected during Wave 2 only (N=8,629). Research papers that use Wave 1 and/or Wave 2 data may contain slightly different prevalence estimates.

### **ACE Score Prevalence for CDC-Kaiser ACE Study Participants by Sex, Waves 1 and 2.**

<b>Number of Adverse Childhood Experiences (ACE Score)</b>	<b>Women Percent(N = 9,367)</b>	<b>Men Percent (N = 7,970)</b>	<b>Total Percent (N = 17,337)</b>
0	34.5%	38.0%	36.1%
1	24.5%	27.9%	26.0%
2	15.5%	16.4%	15.9%
3	10.3%	8.5%	9.5%
4 or more	15.2%	9.2%	12.5%

Note: Research papers that use Wave 1 and/or Wave 2 data may contain slightly different prevalence estimates.

Source: Centers for Disease Control and Prevention, Kaiser Permanente. The ACE Study Survey Data [Unpublished Data]. Atlanta, Georgia: U.S.

Department of Health and Human Services, Centers for Disease Control and Prevention; 2016.

## Major Findings –

Adverse Childhood Experiences (ACEs) are common. Almost two-thirds of study participants reported at least one ACE, and more than one in five reported three or more ACEs.

The ACE score, a total sum of the different categories of ACEs reported by participants, is used to assess cumulative childhood stress. Study findings repeatedly reveal a graded dose-response relationship between ACEs and negative health and well-being outcomes across the life course.

As the number of ACEs increases so does the risk for the following\*:

Dose-response describes the change in an outcome (e.g., alcoholism) associated with differing levels of exposure (or doses) to a stressor (e.g. ACEs). A graded dose-response means that as the dose of the stressor increases the intensity of the outcome also increases.

- Alcoholism and alcohol abuse
- Chronic obstructive pulmonary disease
- Depression
- Fetal death
- Health-related quality of life
- Illicit drug use
- Ischemic heart disease
- Liver disease
- Poor work performance
- Financial stress
- Risk for intimate partner violence
  
- Multiple sexual partners

- Sexually transmitted diseases
- Smoking
- Suicide attempts
- Unintended pregnancies
- Early initiation of smoking
- Early initiation of sexual activity
- Adolescent pregnancy
- Risk for sexual violence
- Poor academic achievement

\*This list is not exhaustive. For more outcomes see [selected journal publications](#).