

## The Relationship of Adverse Childhood Experiences to Adult Health Status

A collaborative effort of Kaiser Permanente and The Centers for Disease Control

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## The Adverse Childhood Experiences (ACE Study)

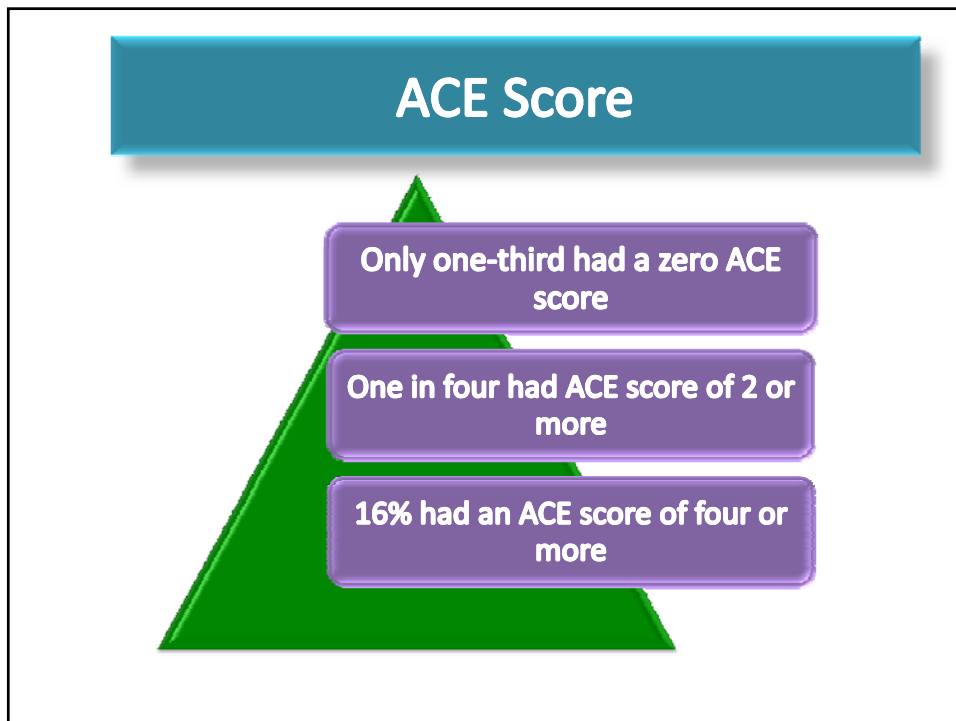
Largest study of its kind ever (almost 18,000 participants)

Examined the health and social effects of adverse childhood experiences over the lifespan

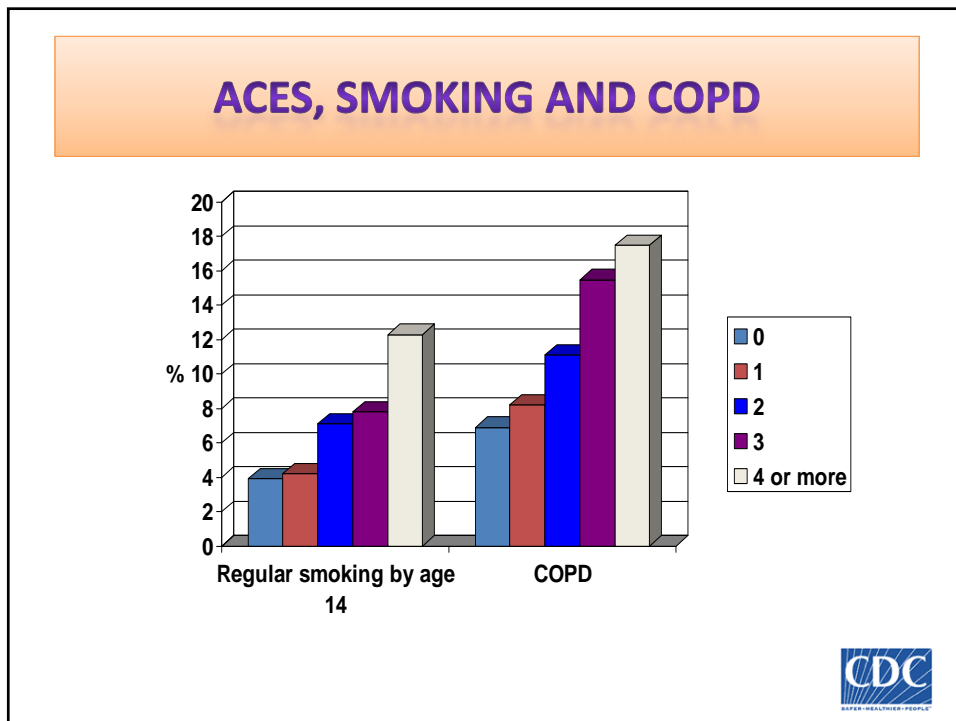
Majority of participants were 50 or older (62%), were white (77%) and had attended college (72%).

CHILDHOOD ADVERSITY BY CATEGORIES (18 years or younger)	
Abuse	Household
Psychological (by parents)	Substance Abuse
Physical (by parents)	Mental Illness
Sexual (anyone)	Parental separation/divorce
Emotional neglect	Mother Treated Violently
Physical neglect	Imprisoned Household Member


 Department of Health and Human Services  
 Centers for Disease Control and Prevention



ACE Study	
Strong, graded relation to childhood adversity	
Smoking	Attempted suicide
COPD	Revictimization
Heart Disease	Teen pregnancy
Diabetes	Fractures
Obesity	Promiscuity
Hepatitis	Sexually transmitted disease
Alcoholism	Poor job performance
Other substance abuse	Poor self-rated health
Depression	Violent relationships



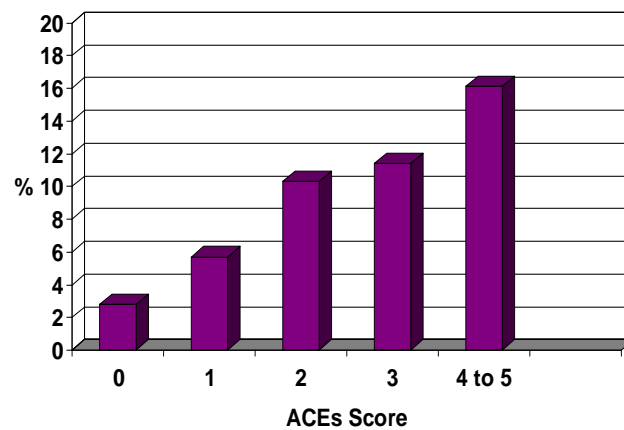
## ACES AND ISCHEMIC HEART DISEASE

*We found a dose-response relation of ACEs to IHD and a relation between almost all individual ACEs and IHD. Psychological factors appear to be more important than traditional risk factors in mediating the relation of ACEs to the risk of IHD.*

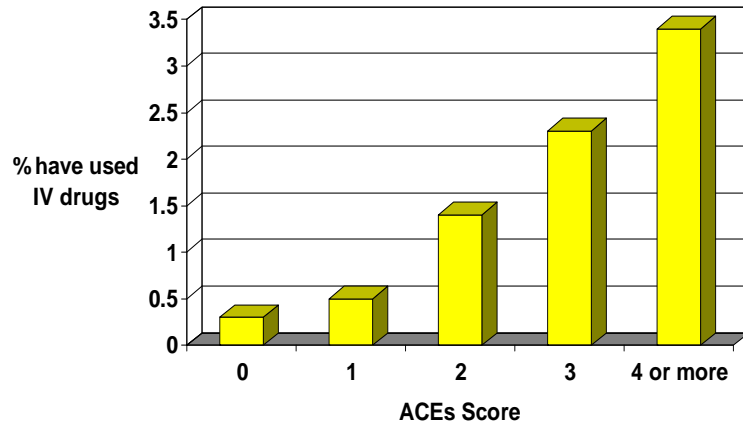
[Dong M](#), [Giles WH](#), [Felitti VJ](#), [Dube SR](#), [Williams JE](#), [Chapman DP](#), [Anda RF](#).

Insights into causal pathways for ischemic heart disease: adverse childhood experiences study.  
Circulation. 2004 Sep 28;110(13):1761-6. Epub 2004 Sep 20.

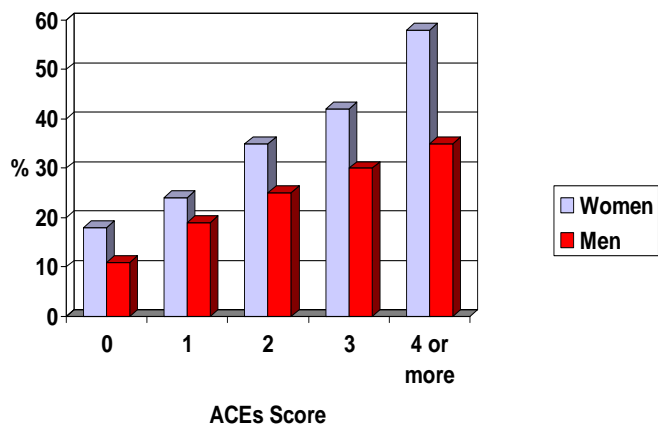
## ACES AND ADULT ALCOHOLISM



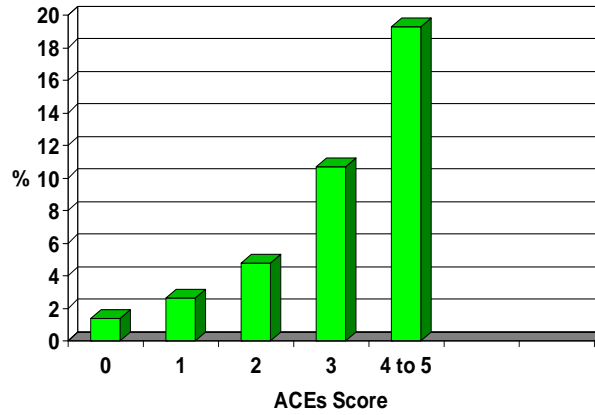
## ACES AND IV DRUGS



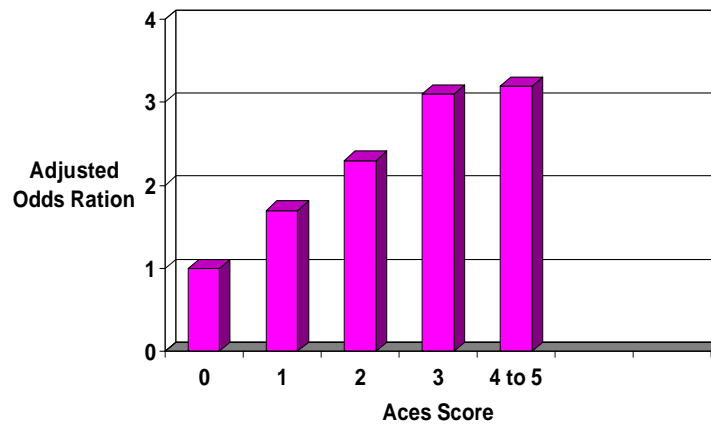
## ACES AND CHRONIC DEPRESSION

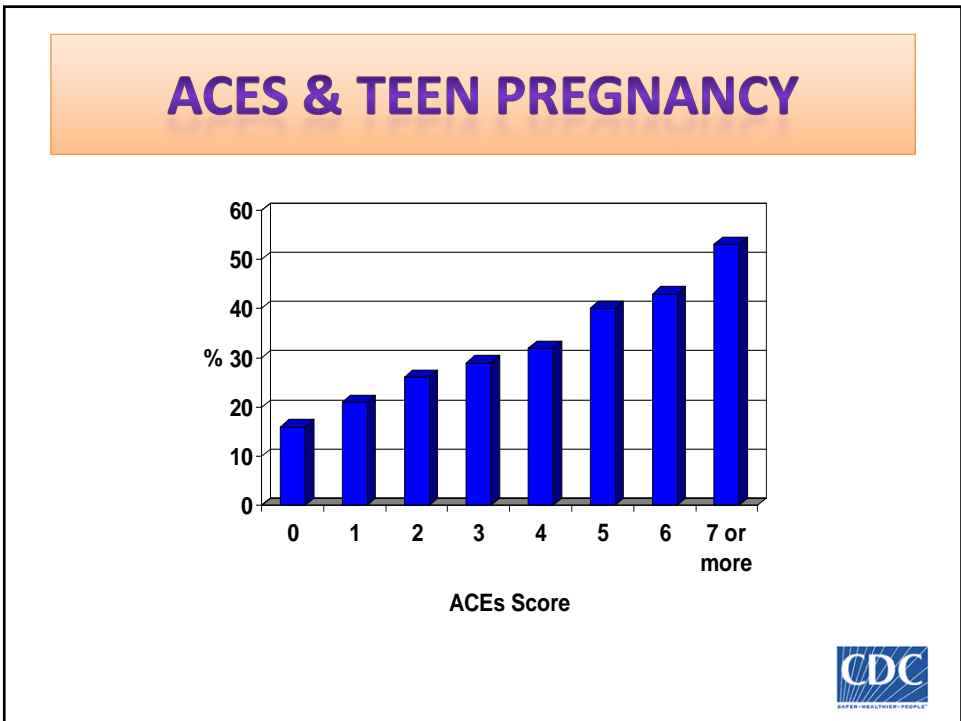
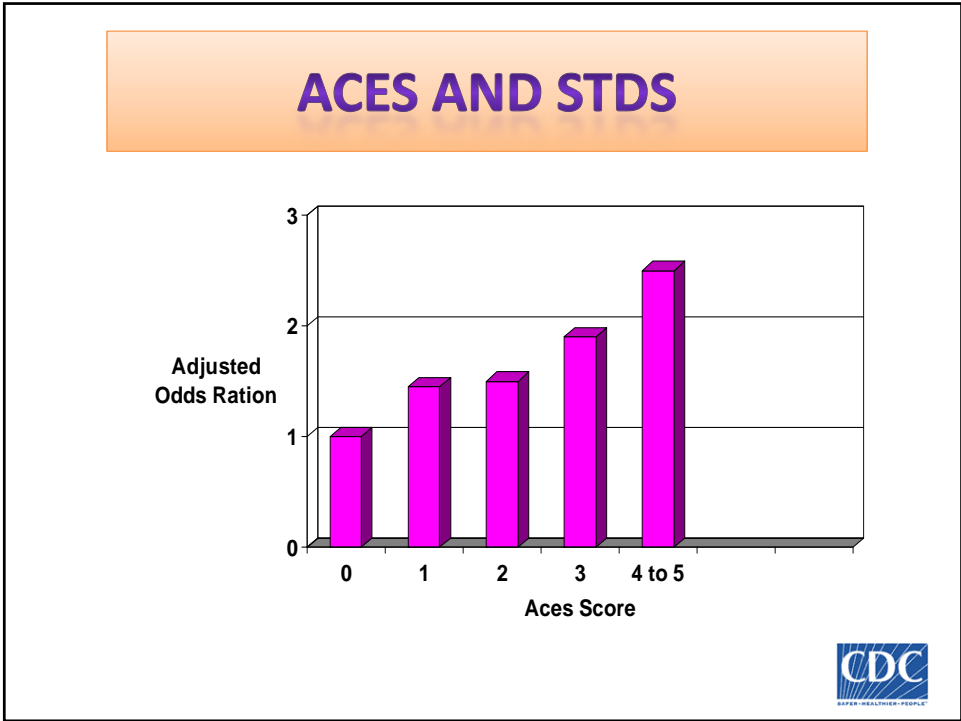


## ACES AND ATTEMPTED SUICIDE



## ACES AND >50 SEXUAL PARTNERS





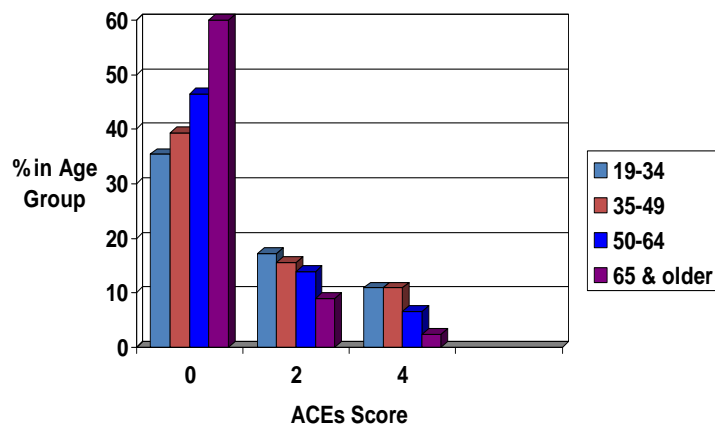
## ACES AND HEALTH CARE

The higher the ACEs score the higher the number of:

- Doctor office visits in the past year
- Number of unexplained symptoms



## EFFECT OF ACES ON MORTALITY

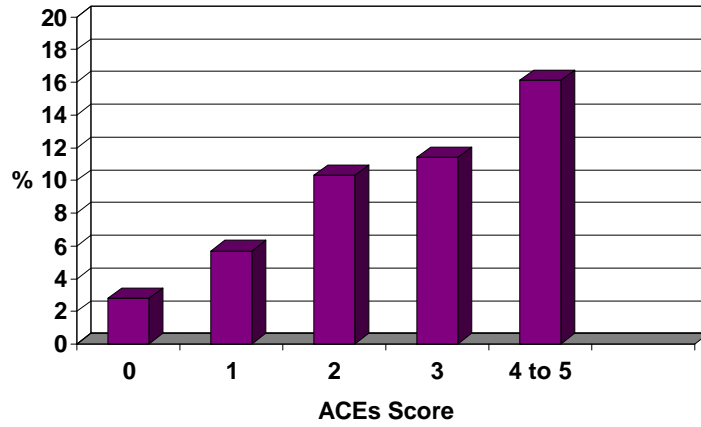


Many chronic diseases in adults are determined decades earlier, in childhood.

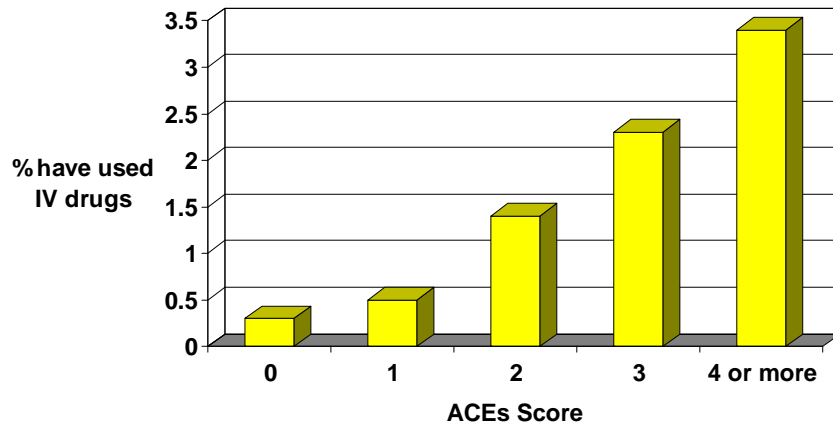




## ACES AND ADULT ALCOHOLISM



## ACES AND IV DRUGS



## ACES AND SUBSTANCE ABUSE

Each of the individual ACEs was associated with a higher risk alcohol abuse as an adult.

Compared to persons with no ACEs, the risk of:

- heavy drinking,
- self-reported alcoholism, and
- marrying an alcoholic

were increased twofold to fourfold by the presence of multiple ACEs, regardless of parental alcoholism.

Dube SR, Miller JW, Brown DW, Giles WH, Felitti VJ, Dong M, Anda RF. J Adolesc Health. 2006 Apr;38(4):444

## ACES AND SUBSTANCE ABUSE

Each ACE increased the likelihood for early initiation 2- to 4-fold.

The ACE score had a strong graded relationship to initiation of drug use in all 3 age categories (14, 15-18, older than 19) as well as to drug use problems, drug addiction, and IV drug use.

Compared with people with "0" ACEs, people with  $\geq 5$  ACEs were 7- to 10-fold more likely to report illicit drug use problems, addiction to illicit drugs, and IV drug use.

For each of the 4 birth cohorts examined, (dating back to 1900) the ACE score also had a strong graded relationship to lifetime drug use.

Dube SR, Felitti VJ, Dong M, Chapman DP, Giles WH, Anda RF. Pediatrics. 2003 Mar;111(3):564-72

## ACES AND SUBSTANCE ABUSE

The persistent graded relationship between the ACE score and initiation of drug use for 4 successive birth cohorts dating back to 1900 suggests that the effects of adverse childhood experiences transcend secular changes such as

- increased availability of drugs,
- social attitudes toward drugs, and
- recent massive expenditures and public information campaigns to prevent drug use.

Because ACEs seem to account for one half to two third of serious problems with drug use, progress in meeting the national goals for reducing drug use will necessitate serious attention to these types of common, stressful, and disturbing childhood experiences by pediatric practice.

Dube SR, Felitti VJ, Dong M, Chapman DP, Giles WH, Anda RF. Pediatrics. 2003 Mar;111(3):564-72

## ACEs and Risk of Revictimization

ACE Score	Intimate Partner Violence	Rape
0	1.0	1.0
1	1.9	2.0
2	2.1	2.8
3	2.7	4.2
4	4.5	5.3
5 or more	5.1	8.9



## ACEs & Interpersonal Violence

Given an exposure to one category, there is 80% likelihood of exposure to another.



As the number of ACE increases the number of co-occurring or "co-morbid" conditions increases.



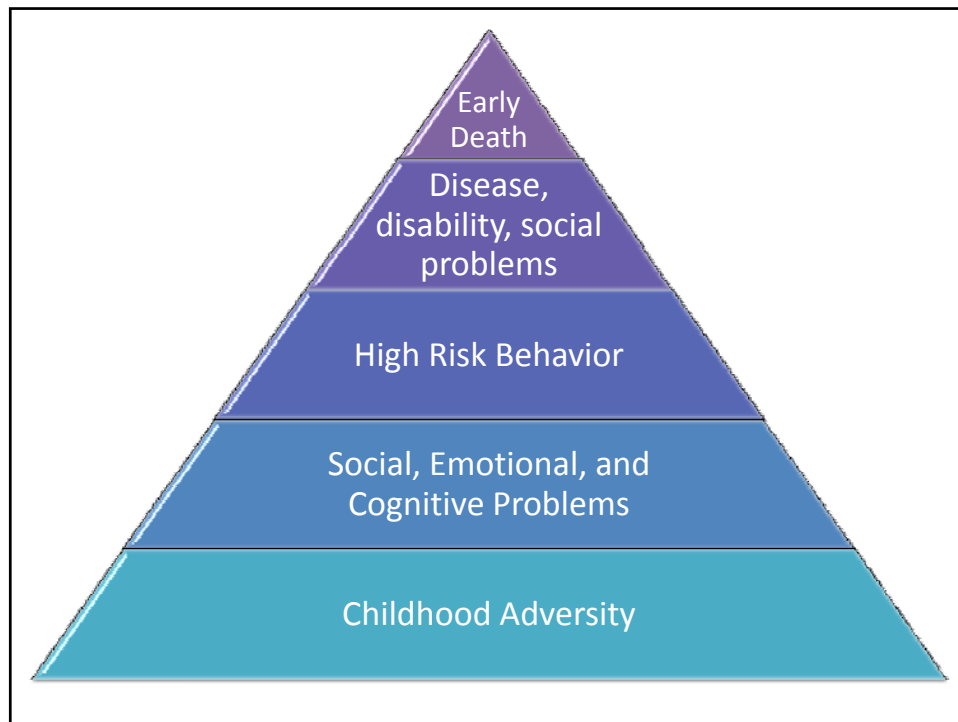
As the number of violent experiences increases, the risks of victimization among women and perpetration by men also increase by about 60% to 70%.

## ACE Study

Adverse Childhood Experiences play a significant role in determining the likelihood of the ten most common causes of death in the United States.

ACE Score of 0 - majority of adults have few, if any, risk factors for these diseases.

ACE Score of 4 or more - majority of adults have multiple risk factors for these



## URBAN EXPOSURE TO VIOLENCE

Detroit, Chicago, Los Angeles, and New Orleans - suggest that about a quarter of youth surveyed have witnessed someone shot and or killed during their **lifetime** (Bell & Jenkins, 1993; Jenkins & Thompson, 1986; Osofsky, Wewer, Hann, & Fick, 1993; Pynoos, 1985; Schubiner, Scott, & Tzelepis, 1993).

Children at pediatric clinic in Boston: 1 out of every 10 children witnessed a shooting or stabbing before the age of 6 (Groves, Zuckerman, Marans, & Cohen, 1993).

**JUSTICE DEPARTMENT RELEASES SURVEY FINDINGS OF THE  
NATURE AND EXTENT OF CHILDREN'S EXPOSURE TO VIOLENCE**

More than 60 percent of the children surveyed were exposed to violence within the past year, either directly or indirectly

Nearly one-half of the children and adolescents surveyed were assaulted at least once in the past year, and more than 1 in 10 were injured as a result

Nearly one-quarter of the respondents were the victim of a robbery, vandalism, or theft

One-tenth of respondents were victims of child maltreatment (including physical and emotional abuse, neglect, or a family abduction)

1 in 16 were victimized sexually

# ACES Study Publications (2010)

## Overview/Commentaries

### Commentary

Anda RF, Brown DW. Root Causes and Organic Budgeting: Funding Health from Conception to the Grave. *Ped Health*. 2007;1(2):141–143.

Foegen WH. [Adverse childhood experiences: A public health perspective](#) (editorial). *American Journal of Preventive Medicine*, 1998;14:354–355.

Weiss JS, Wagner SH. [What explains the negative consequences of adverse childhood experiences on adult health? Insights from cognitive and neuroscience research](#) (editorial). *American Journal of Preventive Medicine*, 1998;14:356–360.

Whitfield CL. [Adverse Childhood Experiences and Trauma](#) (editorial). *American Journal of Preventive Medicine*, 1998;14:361–363.

Edwards, VJ, Dube SR, Felitti VJ, Anda RF. [It's OK to ask about past abuse](#). *American Psychologist*. 2007 62(4):327–328.

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### Overview

Edwards, VJ, Anda, RF, Dube, SR, Dong, M, Chapman, DF, & Felitti, VJ. (2005). The wide-ranging health consequences of adverse childhood experiences. In Kathleen Kendall-Tackett and Sarah Giacomoni (eds.) *Victimization of Children and Youth: Patterns of Abuse, Response Strategies*, Kingston, NJ: Civic Research Institute.

Felitti VJ, Anda RF, Nordenberg D, Williamson DF, Spitz AM, Edwards V, Koss MP, Marks JS. [Relationship of Childhood Abuse and Household Dysfunction to Many of the Leading Causes of Death in Adults: The adverse childhood experiences \(ACE\) study](#). *American Journal of Preventive Medicine*. 1998;14:245-258.

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## Chronic Disease

### Autoimmune disease

Dube SR, Fairweather D, Pearson WS, Felitti VJ, Anda RF, Croft JB. [Cumulative childhood stress and autoimmune disease](#). *Psychom Med*. 2009;71, 243-250.

### Health-Related Quality of Life

Edwards VJ, Anda RF, Felitti VJ, Dube SR. Adverse childhood experiences and health-related quality of life as an adult. In: K Kendall-Tackett, ed. *Health Consequences of Abuse in the Family: A Clinical Guide for Evidence-Based Practice*. Washington, DC: American Psychological Association; 2003:81-94

### Ischemic Heart Disease

Dong M, Giles WH, Felitti VJ, Dube, SR, Williams JE, Chapman DP, Anda RF. [Insights into causal pathways for ischemic heart disease: Adverse Childhood Experiences Study](#). *Circulation*, 2004;110:1761–1766.

### **Liver Disease**

Dong M, Anda RF, Dube SR, Felitti VJ, Giles WH. [Adverse Childhood Experiences and Self-reported Liver Disease: New Insights into a Causal Pathway](#). *Archives of Internal Medicine*, 2003;163:1949–1956.

Corso, PS, Edwards, VJ, Fang, X, Mercy, JA.. [Health-related quality of life among adults who experienced maltreatment during childhood](#). *Am J Public Health*, 2008;98:1094-1100.

### **Chronic Obstructive Pulmonary Disease**

Anda RF, Brown DW, Dube SR, Bremner JD, Felitti VJ, Giles WH. [Adverse Childhood Experiences and Chronic Obstructive Pulmonary Disease in Adults](#). *Am J Prev Med*. 2008;34(5):396-403.

### **Lung Cancer**

Brown DW, Anda RF, Felitti VJ, Edwards VJ, Malarcher AM, Croft JB, Giles WH. [Adverse Childhood Experiences and the Risk of Lung Cancer](#). *BMC Public Health*. 2010;10:20.

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## **Health Risk Behaviors**

### **Alcohol Abuse**

Dube SR, Miller JW, Brown DW, Giles WH, Felitti VJ, Dong M, Anda RF. [Adverse childhood experiences and the association with ever using alcohol and initiating alcohol use during adolescence](#). *Journal of Adolescent Health*. 2006;38(4):444.e1-444.e10.

Anda RF, Whitfield CL, Felitti VJ, Chapman D, Edwards VJ, Dube SR, Williamson DF. [Adverse childhood experiences, alcoholic parents, and later risk of alcoholism and depression](#). *Psychiatric Services*, 2002;53(8):1001–1009.

Dube SR, Anda RF, Felitti VJ, Edwards VJ, Croft JB. [Adverse Childhood Experiences and personal alcohol abuse as an adult](#). *Addictive Behaviors*, 2002;27(5):713–725.

Dube SR, Anda RF, Felitti VJ, Croft JB, Edwards VJ, Giles WH. [Growing up with Parental alcohol abuse: Exposure to Childhood Abuse, Neglect and Household Dysfunction](#). *Child Abuse and Neglect*, 2001;25(12):1627–1640.

### **Drug Abuse**

Dube SR, Felitti VJ, Dong M, Chapman DP, Giles WH, Anda RF. [Childhood Abuse, Neglect and Household Dysfunction and the Risk of Illicit Drug Use: The Adverse Childhood Experience Study](#). *Pediatrics*, 2003;111(3):564–572.

### **Obesity**

Williamson DF, Thompson, TJ, Anda, RF., Dietz, WH, Felitti VJ. [Body Weight, Obesity, and Self-Reported Abuse in Childhood](#). *International Journal of Obesity*, 2002;26:1075–1082.



## Sexual Risk Behavior

Hillis SD, Anda RF, Felitti VJ, Marchbanks PA. [Adverse childhood experiences and sexual risk behaviors in women: a retrospective cohort study](#). *Family Planning Perspectives*, 2001;33:206–211.

## Smoking

Edwards, VJ, Anda RF, Gu D, Dube, S R, Felitti, VJ. [Adverse childhood experiences and smoking persistence in adults with smoking-related symptoms and illness\\*](#). *Permanente Journal*2007;11:5–7.

Anda RF, Croft JB, Felitti VJ, Nordenberg D, Giles WH, Williamson DF, Giovino GA. [Adverse childhood experiences and smoking during adolescence and adulthood](#). *Journal of the American Medical Association*, 1999; 282:1652–1658.

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## Mental Health

### Autobiographical Memory Disturbances

Brown DW, Anda RF, Felitti VJ. [Self-Reported Information and Pharmacy Claims Were Comparable for Lipid-Lowering Medication Exposure](#). *J Clin Epidemiol*. 2007 60(5):525–529.

Edwards, VJ, Fivush, R, Anda, RF, Felitti, VJ, and Nordenberg, DF. Autobiographical memory disturbances in childhood abuse survivors. In J.J. Freyd and A.P. DePrince (Eds.) *Trauma and Cognitive Science: A meeting of minds, science, and human experience*. Binghamton, NY: Haworth Press. Also published in *Aggression, Maltreatment, and Trauma* (2001).

### Depression/Depressed Affect

Anda RF, Brown DW, Felitti VJ, Bremner JD, Dube SR, Giles WH. [Adverse childhood experiences and prescribed psychotropic medications in adults](#). *Am J Prev Med*. 2007 May;32(5):389–94.

Chapman DP, Anda RF, Felitti VJ, Dube SR, Edwards VJ, Whitfield CL. [Epidemiology of Adverse Childhood Experiences and Depressive Disorders In a Large Health Maintenance Organization Population](#). *Journal of Affective Disorders*, 2004;82:217–225.

Edwards, VJ, Holden, GW, Anda, RF, & Felitti, VJ. [Experiencing Multiple Forms of Childhood Maltreatment and Adult Mental Health: Results from the Adverse Childhood Experiences \(ACE\) Study](#). *American Journal of Psychiatry*, 2003;160(8):1453–1460.

Anda RF, Whitfield CL, Felitti VJ, Chapman D, Edwards VJ, Dube SR, Williamson DF. [Adverse childhood experiences, alcoholic parents, and later risk of alcoholism and depression](#). *Psychiatric Services*, 2002;53(8):1001–1009.

Edwards, VJ, Dube SR, Felitti VJ, Anda RF. It's OK to ask about past abuse. *American Psychologist*. 2007 62(4):327–328.

### Hallucinations

Whitfield CL, Dube SR, Felitti VJ, Anda RF. [Adverse childhood experiences and hallucinations](#). *Child Abuse and Neglect*. 2005;29(7):797-810.

## Neurobiology

Anda RF, Felitti VJ, Bremner JD, Walker JD, Whitfield C, Perry BD, Dube SR, Giles WH. [The enduring effects of abuse and related adverse experiences in childhood A convergence of evidence from neurobiology and epidemiology](#). *European Archives of Psychiatry and Clinical Neuroscience*. 2005; [Epub ahead of print]

Anda RF, Felitti VJ, Walker J, Whitfield, CL, Bremner JD, Perry BD, Dube SR, Giles WH. [The Enduring Effects of Abuse and Related Adverse Experiences in Childhood: A Convergence of Evidence from Neurobiology and Epidemiology](#). *European Archives of Psychiatry and Clinical Neurosciences*, 2006; 56(3):174–86.

## Suicidality

Dube SR, Anda RF, Felitti VJ, Chapman D, Williamson DF, Giles WH. [Childhood abuse, household dysfunction and the risk of attempted suicide throughout the life span: Findings from Adverse Childhood Experiences Study](#). *Journal of the American Medical Association*, 2001;286:3089–3096.

## Work Absenteeism

Anda RF, Felitti VJ, Fleisher VI, Edwards VJ, Whitfield CL, Dube SR, Williamson DF. Childhood Abuse, Household Dysfunction and Indicators of Impaired Worker Performance in Adulthood. *The Permanente Journal*, 2004;8(1):30–38.

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## Methodological Issues

### Age Cohort Differences

Dube SR, Felitti VJ, Dong M, Giles WH, Anda RF. [The Impact of Adverse Childhood Experiences on Health Problems: Evidence from Four Birth Cohorts Dating Back to 1900](#). *Preventive Medicine*, 2003;37(3):268–277.

### Assessment of Mediating Pathways

Anda RF, Felitti VJ, Fleisher VI, Edwards VJ, Whitfield CL, Dube SR, Williamson DF. Childhood Abuse, Household Dysfunction and Indicators of Impaired Worker Performance in Adulthood. *The Permanente Journal*, 2004;8(1):30–38.

Dong M, Giles WH, Felitti VJ, Dube, SR, Williams JE, Chapman DP, Anda RF. [Insights into causal pathways for ischemic heart disease: The Adverse Childhood Experiences Study](#). *Circulation*, 2004;110:1761–1766.

Anda RF, Chapman DP, Felitti VJ, Edwards V, Williamson DF, Croft JP, Giles WH. [Adverse Childhood Experiences and Risk of Paternity in Teen Pregnancy](#). *Obstetrics and Gynecology*, 2002;100(1): 37–45.

Dube SR, Anda RF, Felitti VJ, Chapman D, Williamson DF, Giles WH. [Childhood abuse, household dysfunction and the risk of attempted suicide throughout the life span: Findings from Adverse Childhood Experiences Study](#). *Journal of the American Medical Association*, 2001;286:3089–3096.

### Basis For ACE Score

Dong M, Anda RF, Felitti, VJ, Dube SR, Williamson DF, Thompson TJ, Loo CM, Giles WH. [The Interrelatedness of Multiple Forms of Childhood Abuse, Neglect, and Household Dysfunction](#). *Child Abuse and Neglect*, 2004;28(7):771–784.

Felitti VJ, Anda RF, Nordenberg D, Williamson DF, Spitz AM, Edwards V, Koss MP, Marks JS. [Relationship of Childhood Abuse and Household Dysfunction to Many of the Leading Causes of Death in Adults: The adverse](#)

[childhood experiences \(ACE\) study.](#)

*American Journal of Preventive Medicine.* 1998;14:245-258.

### **Bias Assessment**

Brown DW, Anda RF, Felitti VJ. [Self-Reported Information and Pharmacy Claims Were Comparable for Lipid-Lowering Medication Exposure.](#) *J Clin Epidemiol.* 60(5):525–529.

Dube SR, Williamson DF, Thompson T, Felitti VJ, Anda RF. [Assessing the Reliability of Retrospective Reports of Adverse Childhood Experiences Among Adult HMO Members Attending a Primary Care Clinic.](#) *Child Abuse and Neglect,* 2004;28(7):729–737.

Edwards VJ, Anda RF, Nordenberg DF, Felitti VJ, Williamson DF, Howard N, Wright JA. [Bias assessment for child abuse survey: factors affecting probability of response to a survey about child abuse.](#) *Child Abuse & Neglect.* 2001;25:307-312.

### **Consistency by Birth Cohort**

Dube SR, Felitti VJ, Dong M, Giles WH, Anda RF. [The Impact of Adverse Childhood Experiences on Health Problems: Evidence from Four Birth Cohorts Dating Back to 1900.](#) *Preventive Medicine,* 2003;37(3):268–277.

### **Interrelation of ACEs**

Dong M, Anda RF, Felitti VJ, Dube SR, Williamson DF, Thompson TJ, Loo CM, Giles WH. . [The Interrelatedness of Multiple Forms of Childhood Abuse, Neglect, and Household Dysfunction.](#) *Child Abuse and Neglect,* 2004;28(7):771–784.

Dong M, Anda RF, Felitti VJ, Dube SR, Giles WH. [The Relationship of Exposure to Childhood Sexual Abuse to Other Forms of Abuse, Neglect and Household Dysfunction during Childhood.](#) *Child Abuse and Neglect,* 2003;27(6):625–639.

Dube SR, Anda RF, Felitti VJ, Edwards VJ, Williamson DF. [Exposure to abuse, neglect, and household dysfunction among adults who witnessed intimate partner violence as children: implications for health and social services.](#) *Violence and Victims.* 2002;17(1): 3-17.

Dube SR, Anda RF, Felitti VJ, Croft JB, Edwards VJ, Giles WH. [Growing up with Parental alcohol abuse: Exposure to Childhood Abuse, Neglect and Household Dysfunction.](#) *Child Abuse and Neglect,* 2001;25(12):1627–1640.

Felitti VJ, Anda RF, Nordenberg D, Williamson DF, Spitz AM, Edwards V, Koss MP, Marks JS. [Relationship of Childhood Abuse and Household Dysfunction to Many of the Leading Causes of Death in Adults: The adverse childhood experiences \(ACE\) study.](#) *American Journal of Preventive Medicine.* 1998;14:245-258.

### **Severity/Frequency of Violent Experience**

Whitfield CL, Anda RF, Dube SR, Felitti VJ. Violent Childhood Experiences and the Risk of Intimate Partner Violence in Adults: Assessment in a Large Health Maintenance Organization. *Journal of Interpersonal Violence,* 2003;18(2):166–185.

Anda RF, Felitti VJ, Chapman DP, Croft JB, et al. [Abused boys, battered mothers, and male involvement in teen pregnancy.](#) *Pediatrics,* 2001;107(2):e19.

## Test-Retest Reliability

Dube SR, Williamson DF, Thompson T, Felitti VJ, Anda RF. [Assessing the Reliability of Retrospective Reports of Adverse Childhood Experiences Among Adult HMO Members Attending a Primary Care Clinic.](#) *Child Abuse and Neglect*, 2004;28(7):729–737.

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## Reproductive Health/Sexual Behavior

### Fetal Death

Hillis SD, Anda RF, Dube SR, Felitti VJ, Marchbanks PA, Marks JS. [The association between adverse childhood experiences and adolescent pregnancy, long-term psychosocial outcomes, and fetal death.](#) *Pediatrics*. 2004; 113(2):320-327.

### Promiscuity

Felitti VJ, Anda RF, Nordenberg D, Williamson DF, Spitz AM, Edwards V, Koss MP, Marks JS. [Relationship of Childhood Abuse and Household Dysfunction to Many of the Leading Causes of Death in Adults: The adverse childhood experiences \(ACE\) study.](#) *American Journal of Preventive Medicine*. 1998;14:245-258.

### Sexual Risk Behaviors in Women

Hillis SD, Anda RF, Felitti VJ, Marchbanks PA. [Adverse childhood experiences and sexual risk behaviors in women: a retrospective cohort study.](#) *Family Planning Perspectives*, 2001;33:206–211.

### Sexually Transmitted Diseases

Hillis SD, Anda RF, Felitti VJ, Nordenberg D, Marchbanks PA. [Adverse childhood experiences and sexually transmitted diseases in men and women: a retrospective study.](#) *Pediatrics*, 2000;106(1):E11.

### Teen Pregnancy

Hillis SD, Anda RF, Dube SR, Felitti VJ, Marchbanks PA, Marks JS. [The association between adverse childhood experiences and adolescent pregnancy, long-term psychosocial outcomes, and fetal death.](#) *Pediatrics*. 2004; 113(2):320-327.

Anda RF, Chapman DP, Felitti VJ, Edwards V, Williamson DF, Croft JP, Giles WH. [Adverse Childhood Experiences and Risk of Paternity in Teen Pregnancy.](#) *Obstetrics and Gynecology*, 2002;100(1):37–45.

Anda RF, Felitti VJ, Chapman DP, Croft JB, et al. [Abused boys, battered mothers, and male involvement in teen pregnancy.](#) *Pediatrics*, 2001;107(2):e19.

### Unintended Pregnancy

Dietz PM, Spitz AM, Anda RF, Williamson DF, McMahon PM, Santelli JS, Nordenberg DF, Felitti VJ, Kendrick JS. [Unintended pregnancy among adult women exposed to abuse or household dysfunction during their childhood.](#) *Journal of the American Medical Association*, 1999;282:1359–1364.

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## Special Populations

### Children of Alcoholics

Anda RF, Whitfield CL, Felitti VJ, Chapman D, Edwards VJ, Dube SR, Williamson DF. [Adverse childhood experiences, alcoholic parents, and later risk of alcoholism and depression](#). *Psychiatric Services*, 2002;53(8):1001–1009.

Dube SR, Anda RF, Felitti VJ, Croft JB, Edwards VJ, Giles WH. [Growing up with Parental alcohol abuse: Exposure to Childhood Abuse, Neglect and Household Dysfunction](#). *Child Abuse and Neglect*, 2001;25(12):1627–1640.

### Child Sexual Abuse Victims

Dube SR, Anda RF, Whitfield, CL, Brown DW, Felitti VJ, Dong M, Giles WH. [Long-Term Consequences of Childhood Sexual Abuse by Gender of Victim](#). *American Journal of Preventive Medicine*. 2005;28:430–438.

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## Victimization and Perpetration

### Intimate Partner Violence

Whitfield CL, Anda RF, Dube SR, Felitti VJ. Violent Childhood Experiences and the Risk of Intimate Partner Violence in Adults: Assessment in a Large Health Maintenance Organization. *Journal of Interpersonal Violence*, 2003;18(2):166–185.

Dube SR, Anda RF, Felitti VJ, Edwards VJ, Williamson DF. [Exposure to abuse, neglect and household dysfunction among adults who witnessed intimate partner violence as children](#). *Violence and Victims*, 2002;17(1):3–17.

Anda, RF, Felitti, VJ, Brown, DW, Chapman, D, Dong, M, Dube, SR, Edwards, VJ, Giles, WH. (2006) Insights Into Intimate Partner Violence From the Adverse Childhood Experiences (ACE) Study. In PR Salber and E Taliaferro, eds. *The Physician's Guide to Intimate Partner Violence and Abuse*, Volcano, CA: Volcano Press; 2006.

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## Other Health and Social Issues

Anda RF, Brown DW, Felitti VJ, Dube SR, Giles WH. [Adverse childhood experiences and prescription drug use in a cohort study of adult HMO patients](#). *BMC Public Health*. 2008 Jun 4;8:198.

Anda RF, Dong M, Brown DW, Felitti VJ, Giles WH, Perry GS, Edwards VJ, Dube SR. [The relationship of adverse childhood experiences to a history of premature death of family members](#). *BMC Public Health* 2009; 9:106.

Anda RF, Brown DW, Dube SR, Bremner JD, Felitti VJ, Giles WH. [Adverse Childhood Experiences and Chronic Obstructive Pulmonary Disease in Adults](#). *Am J Prev Med*. 2008;34(5):396-403.

Dong M, Anda RF, Felitti VJ, Williamson DF, Dube SR, Brown DW, Giles WH. [Childhood residential mobility and multiple health risks during adolescence and adulthood: the hidden role of adverse childhood experiences](#). *Archives of Pediatrics and Adolescent Medicine*. 2005;159:1104-1110.