



A Free Research Publication Dealing with the Effects of Adverse Childhood Experiences on Adult Health and Well Being



Co-Principal Investigators

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Dr. Anda earned his MD from Chicago's Rush Medical College in 1979, and is Board Certified in Internal Medicine. After earning an MS in Epidemiology from the University of Wisconsin School of Medicine in 1984, he served for 2 years as an Epidemic Intelligence Service Officer for the Centers for Disease Control and Prevention (CDC). At the CDC, Dr. Anda has served as an Epidemiologist in the Nutrition Division, the Behavioral Risk Factor Surveillance Branch, the Cardiovascular Health Studies Branch, and on the Task Force on Genetics in Public Health. From 1992 to 1994, he was the Chief of Epidemiology and the Surveillance Section in Cardiovascular Health. Since 1993, Dr. Anda has been a Co-Principal Investigator of the ACE Study. He has authored and co-authored numerous publications on the health and social implications of adverse childhood experiences.



Origins and Essence of the Study

The Adverse Childhood Experiences (ACE) Study is a decade-long and ongoing collaboration between Kaiser Permanente's Department of Preventive Medicine in San Diego and the Centers for Disease Control and Prevention (CDC). However, some of the concepts for the ACE Study had their beginnings in 1985 when, as a specialist in Preventive Medicine, Dr. Felitti initially set out to help obese people lose weight through the Positive Choice programs. To his amazement, those people most likely to drop out of the weight loss program were those who were successfully losing weight!

On digging more deeply, in a careful study of 286 such patients, Dr. Felitti learned that many had been unconsciously using obesity as a shield against unwanted sexual attention, or as a form of defense against physical attack, and that many of them had been sexually and/or physically abused as children. That is to say, although obesity was conventionally viewed as the problem, it was often found to be the unconscious solution to other, far more concealed, problems. The prevalence and severity of these problems was totally unexpected. Many, like childhood sexual abuse or suicidality, were shielded by social taboos against freely discussing these topics, even in medical settings.
(Continued on page 2.)

Dr. Felitti, is a graduate of Johns Hopkins Medical School (1962), and a Physician in the Department of Preventive Medicine, Southern California Permanente Medical Group. He founded the Department of Preventive Medicine for Kaiser Permanente in San Diego, California, 28 years ago, and served as Chief of Preventive Medicine until March 2001. Under Dr. Felitti's leadership, the Health Appraisal Division of the Department of Preventive Medicine provided Comprehensive Medical Evaluation to 1.1 million people; and during his career, the health risk abatement programs expanded from three (weight loss, smoking cessation and stress management) to a wide range of cutting-edge risk abatement programs offered to over 1,000 patients per month at one facility. Dr. Felitti is also Clinical Professor of Medicine at University of California, San Diego, and a Fellow of The American College of Physicians, licensed to practice medicine in Maryland, California, and Arizona.



HIGHLIGHTS Among the Initial ACE Study Findings:

ACEs Are Common

Two-thirds of participants reported at least one ACE (see page two for the prevalence of individual ACEs).

ACEs Tend to Occur in Groups

Of persons who reported at least one ACE, 87% reported at least one other ACE.

70% reported 2 or more others, and more than half had 3 or more others!

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Origins and Essence of the Study, continued

It also became evident that many obese patients had previously used tobacco, alcohol, and street drugs to moderate stress and feelings of despair before turning to food. ***In many instances, obesity – although the most noticeable finding – was less important than other concurrent problems that were less obvious.*** Simultaneously with the work that Dr. Felitti was doing, Dr. Robert Anda, of the CDC, was studying multiple medical and public health problems including smoking, alcohol abuse, obesity, and numerous chronic diseases. His interest in, and study of, the psychosocial origins of health-related behaviors and diseases dovetailed with the clinical observations of Dr. Felitti. Moreover, the CDC has programs that deal with obesity, alcohol related problems, and the use of illicit street drugs, and high-risk sexual behaviors are well known to play an important role in the spread of the Human Immunodeficiency Virus (HIV) which causes AIDs. Therefore, Dr. Felitti’s observations and the research priorities of the CDC came together. The CDC teamed up with Kaiser Permanente to develop a large-scale epidemiologic study of the influence of stressful and traumatic childhood experiences on the origins of behaviors that underlie the leading causes of disability, social problems, health-related behaviors, and causes of death in the United States. Unlike most prior studies in this area which had tended to focus on single types of childhood abuse (especially

sexual abuse) and specific health problems (usually mental health issues), the ACE Study was designed to simultaneously assess childhood exposure to multiple types of abuse, neglect, domestic violence, and types of serious household dysfunction such as substance abuse. Moreover, the ACE Study included assessment of a wide array of high priority health and social problems ranging from adolescence to adulthood. Thus, the ACE Study is the largest study of its kind ever conducted (more than 17,000 study participants) and the range of adverse childhood experiences and health related outcomes studied was unprecedented. The Study determined that an unexpectedly high number of these people – adults who came to the Department of Preventive Medicine for comprehensive medical screening – had experienced significant abuse or household dysfunction during their childhoods. For the purposes of the ACE Study, adverse childhood experiences were defined as emotional, physical, or sexual abuse, emotional or physical neglect, and growing up in a household where someone was an alcoholic, a drug user, mentally ill, suicidal, where the mother was treated violently, or where a household member had been imprisoned during the patient’s childhood. Additionally, they included contact sexual abuse and serious physical and emotional abuse. The Study found the following burden of individual ACEs:

<u>Abuse:</u>	
Emotional	10%
Physical	26%
Sexual	21%
<u>Neglect:</u>	
Emotional	15%
Physical	10%

Household Dysfunction

Mother treated violently	13%
Mental illness	20%
Substance abuse	28%
Parental separation or divorce	24%
Household member imprisoned	6%

Because the ACE Study research team found that ***in most cases, not just one, but several, of these ACEs existed in the child’s home,*** a simple scoring system was used (called the ACE score), in which each participant was attributed one point for each category of adverse childhood experience occurring prior to age 18. The percentage of Kaiser members with each ACE score is shown below. Note that ***only 1/3 of persons reported no ACEs.***

ACE score:	
0	33%
1	26%
2	16%
3	10%
4	6%
5	5%
6	6%

Using the ACE score as a measure of the burden of traumatic childhood exposures, the ACE Study team found that as the ACE score increased the chances of being a user of street drugs, tobacco or having problems with alcohol abuse increased in a stepwise fashion. Thus, ***ACEs were not only unexpectedly common, but their effects were found to be cumulative.*** The first publication from

the ACE Study examined the relationship of the ACE Score to many of the leading causes of death in the United States. Major risk factors for these causes of death – such as smoking, alcohol abuse, obesity, physical inactivity, use of illicit drugs, promiscuity, and suicide attempts – were all increased by ACEs. Among the more notable findings were that ***compared to persons with an ACE score of 0, those with an ACE score of 4 or more were twice as likely to be smokers, 12 times more likely to have attempted suicide, 7 times more likely to be alcoholic, and 10 times more likely to have injected street drugs.***

The behaviors such as alcohol or drug abuse, smoking, or sexual promiscuity are likely the result of the effects of ACEs on childhood development, which we now know to be neurodevelopment. In many, if not most, cases the behaviors may act to alleviate the emotional or social distress that results from ACEs. Thus, these behaviors, typically considered to be *problems*, continue because they function as short-term solutions, even though they have detrimental, long-term effects. The findings from the ACE Study suggest that problems such as addiction frequently have their origins in the traumatic experiences of childhood (Continued on Page 3.) ***Origins and Essence of the Study, continued***

The True Nature of Preventive Medicine



Mechanisms By Which Adverse Childhood Experiences Influence Adult Health Status

—and that the molecular structure of various chemicals or the physiologic effects of certain behaviors (e.g. overeating, sexual behaviors) — while ultimately leading to disease and disability, may be particularly effective in ameliorating their effects.

The ACE Study also showed that as the ACE score increased the number of risk factors for the leading causes of death increased. Thus, persons with high ACE scores are later at much higher risk for health and medical conditions resulting from their choice of remedies for their pain. While these approaches are effective in the short term, they often have dire long-term consequences such as serious chronic health and social problems.

In addition, the underlying causes of these problems — *adverse childhood experiences* — would typically go undetected because of *shame, secrecy and social taboo*, which prevent people from talking about such things. These same social taboos prevent physicians and other health care providers — those best poised to help victims of child abuse — from asking the very questions that would help identify these underlying causes of major impediments to Americans' health and well being.

In combination, the fallout from various forms of child abuse and household dysfunction is monumental, costing Americans untold sums of money because of the health risks such as the use of street

drugs, tobacco, alcohol, overeating and sexual promiscuity. Not the least of these high-ticket medical costs is due to: cardiovascular disease, cancer, AIDS and other sexually transmitted diseases, unwanted often-high-risk pregnancies, chronic obstructive pulmonary disease, and a legacy of self-perpetuating child abuse.



Speaking of ACEs -- 2003

Presentations by Dr. Felitti:

- Jan 7**, San Diego, CA; State Health Dept Conference on Adolescent Obesity. "Adverse Childhood Experiences and Adolescent Obesity."
- Feb 5**, San Diego, CA; San Diego Children's Hospital International Conference. "Adverse Childhood Experiences and Adult Health."
- Feb 15**, Denver, CO; National Meeting of American Association for the Advancement of Science (AAAS), "Adverse Childhood Experiences and their Relationship to Adult Health."
- Feb 15**, Denver, CO; Interview about ACE Study with German Public Radio.
- Mar 3**, San Diego, CA; Fox Television Network Interview on ACE Study and its Implications for Adolescent Health.
- Mar 10**, San Diego, CA; Presentation of ACE Study at San Diego State University School of Public Health.
- Mar 25**, San Diego, CA; Presentation of ACE Study results at Cities of the Future Conference.
- Apr 2**, St. Louis, MO; Keynote address National Conference on Child Abuse.
- Apr 4**, Boston, MA; Interviews with press & TV
- Apr 5**, Boston, MA; Keynote address, Massachusetts Citizens for Children Conference.
- Apr 11**, Chico, CA; Keynote at Child Abuse Prevention Council Annual Meeting.
- Apr 13-17**, Germany; Daily Workshop on Relationship of ACEs to Obesity.
- Apr 15**, Germany; Plenary Presentation of ACE Study to Annual Lindau Psychotherapy Conference.
- Apr 29**, San Diego, CA; Presentation of ACE Study at Positive Choice.
- May 16**, San Francisco, CA; Presentation of ACE Study to AMA Committee on Family Violence.

May 17, Vallejo, CA; Keynote address at Children's Network of Solana County.

Jun 7, San Diego, CA; ACE Study presentation at Wexler Conference on the Family.

Jun 27, San Diego, CA; ACE presentation at San Diego Academy of Family Practice Annual Conference.

Presentations by Dr. Anda:

Apr 3, Portland ME; University of New England. Symposium on Domestic Violence. "The Wide Ranging Effects of Adverse Childhood Experiences."

Apr 6, Bethesda, MD; Walter Reed Army Medical Center. Plenary Speaker. Forensics Symposium: Families, Violence and Trauma. "The Role of Domestic Violence and Related Adverse Childhood Experiences on Health."

Apr 17; Seattle, WA; Ft. Lewis Army Center. Keynote Speaker. "The Wide Ranging Health and Social Impact of Adverse Childhood Experiences."

May 10. Columbus, OH; Ohio Community Forum on Child Abuse. Plenary Speaker. "The Numerous Effects of Childhood Abuse and Related Adverse Childhood Experiences."

Jun 9. Washington, DC; Annual Leadership Conference of the National Children's Alliance. Plenary Speaker. "The Wide-Ranging Health and Social Impact of Adverse Childhood Experiences".



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Single-handedly increasing the ACE Reporter list of Subscribers by at least 200, thereby helping countless others benefit from important lessons learned from the ACE Study.

For a Closer Look: ACE Publications

Data quoted in this issue came from one or more of the following publications:

First ACE Publication

Felitti VJ, Anda RF, Nordenberg D, Williamson DF, Spitz AM, Edwards V, Koss MP, et al JS. The relationship of adult health status to childhood abuse and household dysfunction. American Journal of Preventive Medicine. 1998;14:245-258.

ACEs and Alcohol Abuse

Dube SR, Anda RF, Felitti VJ, Edwards VJ, Croft JB. (2002). Adverse Childhood Experiences and personal alcohol abuse as an adult. Addictive Behaviors. 2002. 27(5), 713-725.

ACEs and Illicit Drug Use

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

ACEs - Prevalence and ACE Score Statistics

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. (In press, Child Abuse and Neglect).

ACEs and Smoking

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.

ACEs and STDs

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.

ACEs and Suicide

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.

ACEs and Teen and 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.

Anda RF, Felitti VJ, Chapman DP, Croft JB, et al. Abused boys, battered mothers, and male involvement in teen pregnancy: New insights for pediatricians. Pediatrics 2001: 107(2), e19.

ACEs and Violence, Self-perpetuating Cycle of 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.

Anda RF, Whitfield CL, Felitti VJ, Chapman D, Edwards VJ, Dube SR, Williamson DF. Alcohol-impaired parents and adverse childhood experiences: the risk of depression and alcoholism during adulthood. Journal of Psychiatric Services 2002; 53(8):1001-1009.



The Editor's Corner

This is the first of what I hope will be many editions of the *ACE Reporter*, created in response to increasing demand, from people of all walks of life, who hunger for a deeper understanding of events in their own lives and those of people near them. In short, this publication is created for *you*. I therefore encourage you to make it *yours* by telling me how the content can be improved to suit your needs.

This first edition was dedicated to the general nature of the ACE Study; subsequent issues will take a deeper look into each aspect of the Study's findings.

Wishing you peace,

Carol A. Redding
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The *ACE Reporter* is a privately-funded, independent, volunteer publication. Every reasonable effort has been made to ensure the accuracy of the information contained herein. Readers and contributors to this free publication agree to hold the Editor, and all parties in any way associated with this publication, free from every form of harm that might result from errors or omissions. Any subscriber and/or contributor who does not agree to this condition should unsubscribe by email to: caredding@cox.net or by standard mail to: C. A. Redding, POB 191015, San Diego, CA 92159.



Melissa Pierce

Melissa Pierce works with the Health Education Division of the Butte County Department of Public Health. She has a Master's degree in Counseling and provides direct client services, in addition to writing family violence prevention policy.

Initially my work with the county's public health department had been more about others and how issues of violence affect all people and our world at large. I soon recognized that my work also held significant *personal* meaning. While aware that my family of origin had been dysfunctional, I had not focused specifically on how several aspects of my early life—including having witnessed violence against my mother—may have had a significant impact on my development.

Learning about the ACE Study not only validated many of my life's experiences and those of others close to me, but it has given new richness and meaning to my work with clients. After connecting with the ACE Study through the articles in the Summer 2001 issue of the Family Violence Prevention Fund's "Health Alert" Newsletter, especially Dr. Felitti's cover article, "Reverse Alchemy in Childhood: Turning Gold Into Lead", meeting Dr. Felitti at the 8th International Conference on Family Violence Prevention in San Diego was truly a highlight of my year.

Throughout the policy writing that went on for over a year, as well as the direct client services I provide in the course of counseling and testing people for the HIV virus, the ACE Study has been in my heart and mind. Its relevance feels profound. As I speak with people about their HIV risk factors, they share about their lives. Lives with pain and histories of pain. *I wonder if they have made the connections between current and past pain*, and if they were to do this, if it might give them a sense of clarity and even perhaps restore a sense of sanity to their lives.

Melissa Pierce

