The Repressed Role of Adverse Childhood Experiences in Adult Well-being, Disease, and Premature Death:

*Turning gold into lead*

A collaborative effort between

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The ACE Study Summary of Findings:

• Adverse Childhood Experiences (ACEs) are *very* common, and mostly unrecognized.

• They are powerful predictors of adult social malfunction, distress, health risks, disease, and premature death.

• This combination makes ACEs *the leading* determinant of the health, psychosocial well-being, and economy of the nation.
What is the Core Diagnosis Here?

In 51 weeks:

408 → 132 lbs.

Which photo represents the patient’s problem?
>400 lbs. (185 Kg) in a shorter period of time than the weight was lost.
If Obesity is not the core problem, weight-loss is not going to be the solution.

In < 1 year
back over 400 lbs.

1986

1987
The THREAT of ‘Success’ 12 Years Later
Molestation in Childhood

Is Obesity genetic? It’s certainly familial.
Functional aspects of ‘dysfunctional’ behavior

Lost 158 pounds in Program.
But, why did he gain it?
The Hidden Threat of Weight Loss

Ella H. says "No" to Bariatric Surgery
A Former Pediatric Patient Speaks Clearly

Frontiers of Treatment in Obesity and Smoking
A Public Health Paradox

Many of our most common and intractable public health problems are unconsciously attempted solutions to personal experiences occurring in childhood, lost in time, and concealed by shame, by secrecy, and by social taboo against exploring certain topics.
ACE Study Design

Survey Wave 1
n=13,000
71% response
All medical evaluations abstracted

Survey Wave II
n=13,000
All medical evaluations abstracted

Present Health Status
17,337 adults

VS.

Mortality
National Death Index

Morbidity & Cost
Hospital Discharges
Doctor Office Visits
Emergency Room Visits
Pharmacy Costs

(20 year follow-up)
## Categories of Adverse Childhood Experiences

### Abuse, by Category
- Psychological (by parents): 11%
- Physical (by parents): 28%
- Sexual (anyone): 22%

### Neglect, by Category
- Emotional: 15%
- Physical: 10%

### Household Dysfunction, by Category
- Alcoholism or drug use in home: 27%
- Loss of biological parent <18: 23%
- Depression or mental illness in home: 17%
- Mother treated violently: 13%
- Imprisoned household member: 5%
### Adverse Childhood Experiences Score

Number of categories (not events) is summed...

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<th>ACE Score</th>
<th>Prevalence</th>
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<td>0</td>
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<td>11%*</td>
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- 67% experienced at least one category of ACE.
- If any one ACE is present, there is an 87% chance at least one other category of ACE is present, and 50% chance of 3 or >.

* Women are 50% more likely than men to have a Score >5.
Nicotine to Self-Medicate

Is he describing dysfunctional behavior, or is it functional in realms of which we are ignorant?
Depression:

Most people say depression is a disease. Many say depression is genetic. Some say it is due to a chemical imbalance.
What if depression were *not* a disease, but a *normal response* to abnormal life experiences?
Childhood Experiences Underlie Chronic Depression

Well-being
Childhood Experiences Underlie Suicide Attempts
ACE Score and Rates of Antidepressant Prescriptions

approximately 50 years later

Costs

Prescription rate per 100 person-years

ACE Score

0
1
2
3
4
5 or more
ACE Score and Impaired Memory of Childhood

ACE Score

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%
ACE Score and Rates of Anxiolytic Prescriptions

Prescription rate (per 100 person-years)

ACE Score

0 1 2 3 4 >=5
ACE Score and Hallucinations

*Adjusted for age, sex, race, and education.
ACE Score and Rates of Antipsychotic Prescriptions

A half-century later, on average

![Diagram showing the relationship between ACE Score and prescription rates of antipsychotic prescriptions.](chart.png)
Health risks

Adverse Childhood Experiences vs. Likelihood of > 50 Sexual Partners

![Bar chart showing the adjusted odds ratio for likelihood of > 50 sexual partners by ACE score.](chart.png)
Childhood Experiences Underlie Later Being Raped
ACE Score vs. Unintended Pregnancy or Elective Abortion

Health risks
ACE Score and Later Liver Disease (Hepatitis/Jaundice)
ACE Score vs. Smoking or COPD

Biomedical Disease
ACEs Increase Likelihood of Heart Disease*

- Emotional abuse 1.7x
- Physical abuse 1.5x
- Sexual abuse 1.4x
- Domestic violence 1.4x
- Mental illness 1.4x
- Substance abuse 1.3x
- Household criminal 1.7x
- Emotional neglect 1.3x
- Physical neglect 1.4x

*After correction for age, race, education, and conventional risk factors like smoking and diabetes.

Circulation, Sept. 2004
A Complex Point
Resilience?

Mary
Elizabeth
Bullock

Judging Me
Social function:

ACE Score and the Risk of *Perpetrating* Domestic Violence

![Graph showing the relationship between ACE Score and the risk of perpetrating domestic violence for women and men. The x-axis represents the ACE Score, and the y-axis represents the risk of perpetration (%). The graph shows that higher ACE scores are associated with a higher risk of perpetrating domestic violence.]
Social function:

ACE Score and Indicators of Impaired Worker Performance

Prevalence of Impaired Performance (%)

- Absenteeism (>2 days/month)
- Serious Financial Problems
- Serious Problems Performing job

ACE Score
- 0
- 1
- 2
- 3
- 4 or more

Graph showing the relationship between ACE Score and various indicators of impaired worker performance.
Adverse Childhood Experiences determine the likelihood of the ten most common causes of death in the United States.

Top 10 Risk Factors: smoking, severe obesity, physical inactivity, depression, suicide attempt, alcoholism, illicit drug use, injected drug use, 50+ sexual partners, h/o STD.
With an ACE Score of 4 or more, the majority of adults have multiple risk factors for these diseases, the diseases themselves, or have died early.
Many chronic diseases of adults are determined decades earlier, in childhood. Not by childhood diseases, but by life experiences.
The risk factors underlying these adult diseases often are effective short-term coping devices.
Coping Behaviors

Smoking
Overeating and Obesity
Physical inactivity
Withdrawal
Promiscuity
Teen pregnancy
Suicide attempts
Alcoholism
Illicit drug use
Repetition of the original trauma
Self-injury, self-cutting
Evidence from the ACE Study Indicates:

Adverse childhood experiences are the main cause of health risk behaviors, and hence of disease, disability, premature death, and healthcare costs.
**Healthy Brain**

This PET scan of the brain of a normal child shows regions of high (red) and low (blue and black) activity. At birth, only primitive structures such as the brain stem (center) are fully functional; in regions like the temporal lobes (top), early childhood experiences wire the circuits.

**Front**

- Temporal lobes

**Back**

**An Abused Brain**

This PET scan of the brain of a Romanian orphan, who was institutionalized shortly after birth, shows the effect of extreme deprivation in infancy. The temporal lobes (top), which regulate emotions and receive input from the senses, are nearly quiescent. Such children suffer emotional and cognitive problems.
Improving the Future

Child health and well-being as it stands today.

Acknowledgment that these problems exist.

Recognition of cases in medical practice.

Improving parenting.

Adult health and well-being as it could be.
Interventions

Translating Research into Practice

a beginning

1.3 million comprehensive medical evaluations since 1975

6th Floor
An Individual, Population-based Health Appraisal System: A Biopsychosocial Concept

- Comprehensive history (not symptom-initiated) obtained at home by detailed questionnaire, better by Internet.

Includes ACE Questions
Extract from an actual case

**GENERAL HEALTH**
- Her health limits activity to some degree.
- Limitations are mostly due to shortness of breath or difficulty breathing.
- Limitations are mostly due to fatigue, tiredness, or lack of energy.
- Her stress level: large
- Doctor visits during the past 12 months: 1 - 4 times
- Hospitalizations over the past 12 months: 0 times
- Patient regularly uses seat belts.
- Patient believes she is more tired and has less energy compared to others.
- She often has trouble falling asleep or staying asleep.
- She often awakens tired after adequate sleep.
- She is more sensitive than other people.
- She is often worried about being ill.
- She often feels hopeless or down in the dumps.
- She has difficulty saying no, or sticking up for herself.
- She has problems controlling her anger.
- She has difficulty caring for herself.
- Patient is having serious problems with her family.
- Patient is having serious problems with her job.
- Patient is having serious problems with her finances.
- Patient has used street drugs.
- Patient would like an HIV (AIDS) test.

**WOMEN'S HEALTH**
- Patient does a breast exam: at least once a month
- Patient’s last mammogram was: never.
- Patient is still having menstrual periods.
- Patient currently has irregular periods.
- Patient currently has a lot of pain with her periods.
- She has not been sexually active within the past year.
- She is no longer sexually active.
- Type of birth control used: tubal ligation
- Number of pregnancies: four or more
- Number of live births: three
- Patient has been physically abused as a child.
- Patient has been verbally abused as a child.
- Patient has been sexually molested as a child or adolescent.
- Patient has been threatened or abused as an adult by a sexual partner
- Her partner has threatened, pushed, or shoved her.
- Her partner has threatened or abused her children.

**DIGESTIVE**
- Patient has had a distinct weight gain during the last year.
- Patient has had indigestion or heartburn during the past year.
- Patient has had recurrent nausea or vomiting during the past year.
- She has recurrent abdominal pain.
- Patient has been diagnosed with esophagitis or esophageal reflux.
- Patient is likely to have some form of alcohol: never.
Economics of a Biopsychosocial Preventive Approach

Biomedical evaluation: 11% reduction in DOVs in subsequent year (700 patient sample)

Biopsychosocial evaluation: 35% reduction in DOVs (130,000 patient sample)
Practice Implications of the ACE Study

• Routinely incorporating childhood life experiences as part of the comprehensive medical evaluation of adults has been demonstrated to be affordable, acceptable, and **powerfully** beneficial.

• It is realistic to move from our current symptom-reactive mode of practice, to start dealing with **basic causes**, and thereby improve care while markedly reducing its costs.

• A trauma-oriented, comprehensive medical history has been demonstrated to have major benefits and is proposed as the routine entry mechanism into all ongoing care: medical, psychological, or institutional.
Final Insights from the ACE Study

- Adverse childhood experiences are common but overwhelmingly unrecognized.
- Their link to major problems later in life is strong, proportionate, and logical.
- They are the nation’s most basic public health problem.
- It is comforting to mistake intermediary mechanism for basic cause.
- What presents as the ‘Problem’ may be a patient’s attempted solution.
- Treating their solution may be threatening and cause flight from treatment.
- Primary prevention is presently the only realistic population approach.
- Change has been resisted, by us, in spite of enormous benefits.
Further Information

Search “ACE Study” on Internet and YouTube

www.ACEsTooHigh.com

ww.AVAHealth.org  (Major current 4-hour DVD on ACE Study)

info@CavalcadeProductions.com  (Documentary ACE  DVDs)

Books: Nakazawa’s “Childhood Disrupted”, Garbarino’s “Lost Boys”, Karr-Morse’s “Scared Sick”

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