

Predictors of health,
emotional and behavioral
problems in children,
adolescents and adults

The following data were compiled from studies that were largely independent of ACEs research

suicide

Substance abuse
Suicidal ideation
Previous attempts
caregiver attempts
school problems
Depression
social isolation
poor communication
peer rejection
low self-esteem
low serotonin levels
stressful event
perceived lack of support

sexual abuse
early victimization
frequent criticism
separation from
parents
parent-child
relationship
poor early attachment

Violence & delinquency

Gender = male
attention/learning probs
antisocial behavior
Hopelessness
Witnessing violence
Victimization
Alcohol/drug use
Association w/ delinq. peers
Fighting & weapon carrying
Poverty
Community disorganization
Avail. of drugs & firearms
disadvant. neighborhoods
Culture of violence
Impulsivity/risk taking
Low academic achievement
Early puberty
Drug selling/using
Poor parent/child relat.
Affiliation w/ deviant peers
Affiliation with gangs
Peer antisocial behavior
low empathy
avail of drugs and weapons
negative attitudes
impulsivity

parental conflict
absence of parent super.
Familial rejection & hostility
Parent criminality
Parent antisocial behavior
Intrparental violence
Family disruption/conflict
Parent loss
parental disruption
early abuse
neglect
physical abuse
sexual abuse & neglect
Family/parent aggression

Self-harm

Interpersonal problems
poor verbal & problem
solving skills
Peer victimization and
marginalization
Demographic factors
Gender=Female
Emotion dysregulation
Mental health problems
Behavioral disorders
Substance misuse

Family breakdown
Suicide in family
Suicidal
behavior/ideation
Adverse childhood
experiences
Childhood abuse
(Sexual or physical)

Mental illness

Learning disabilities
Physical illness
Academic failure
Low self-esteem
Specific developmental
delay
Communication problems
Genetic influences
Lower intelligence
Difficult temperament
Hostile and rejecting
relationships
Poverty (SES hardship)
Disaster
Discrimination

Physical Abuse
verbal abuse
sexual abuse
(witnessing or
experiencing)
Neglect
Inconsistent or unclear
discipline
Familial dysfunction
Mentally ill parents
Incarcerated parents
Parental
separation/divorce
Parental psychiatric
disorder
Parental substance use
Death/loss

Anti-social behavior

Intellectual disability
Gender
Hyperactivity/attention
problems
Academic underachievement
Familial poverty
Neighborhood poverty
Social deprivation
Early signs of disruptive
behavior
Poor emotional awareness
Aggression

Childhood neglect
Family conflict
Harsh or inconsistent
discipline regimes
Parental depression
Absent parent
Parents with poor child
rearing skills
Poverty (low SES)
Parental criminality
Family dysfunction
Familial hostility
family adversity
Domestic violence

Teen pregnancy

History of MH dx
Lack of environ support
Poverty
Early age of sex activity
Poor academic perf.
Engagement in prob beh.
Antisocial behaviors
Easily influenced by peers

Weak parental bonding
Trauma
Violence
Threats to emotional
and physical security
Neglect
Familiar dysfunction
Mentally ill parents
Incarcerated parents
Parental
separation/divorce
Witnessing domestic
violence

Sex offenses

Substance abuse
Gender = male
Co-occurring psych. Dx
Learning problems
Repeated grade

sexual abuse
Absent parent
Physical abuse
Harsh criticism

Fire setting

Substance abuse
Gender = male
SES = middle class
Ethnicity = white
Poor academic per
Truancy hx
Poor peer relations
Disruptive behavior
Unable to form relationship

sexual abuse
Lax discipline
Absent parent
family conflict
neglect

School dropout

Low SES
Poor academic achievement
Suspensions from school
Deviant behavior/ delinquency
Increased school absences
Highest education of mother
Number of school attended
Peer influence (how many peers
had higher education plans)
Sexual activity
Lack of optimism
Age (older)
Gender = male
MH issues

Increased # of fam. Memb.
Single parent
Parent unemployed

Adverse childhood events research and the ACEs scale

<http://acestoohigh.com>

The first research results [were published in 1998, followed by 57 other publications through 2011](#).

Undertaken through the CDC

Childhood trauma was very common, even in employed white middle-class, college-educated people with great health insurance;

there was a direct link between childhood trauma and adult onset of chronic disease, as well as depression, suicide, being violent and a victim of violence;

more types of trauma increased the risk of health, social and emotional problems.

people usually experience more than one type of trauma – rarely is it only sex abuse or only verbal abuse.

Two thirds of the 17,000 people in the ACE Study had an ACE score of at least one – [87 percent of those](#) had more than one. Eighteen states have done their own ACE surveys; their results are similar to the CDC's ACE Study.

As your ACE score increases, so does the risk of disease, social and emotional problems. With an ACE score of 4 or more: The likelihood of

- chronic pulmonary lung disease [increases](#) 390 percent;
- hepatitis, 240 percent;
- depression 460 percent;
- suicide, 1,220 percent.

While you were growing up, during your first 18 years of life:

1. Did a parent or other adult in the household **often or very often**... Swear at you, insult you, put you down, or humiliate you?

or

Act in a way that made you afraid that you might be physically hurt?

Yes No If yes enter 1 _____

2. Did a parent or other adult in the household **often or very often**... Push, grab, slap, or throw something at you?

or

Ever hit you so hard that you had marks or were injured?

Yes No If yes enter 1 _____

3. Did an adult or person at least 5 years older than you **ever** Touch or fondle you or have you touch their body in a sexual way?

or

Attempt or actually have oral, anal, or vaginal intercourse with you?

Yes No If yes enter 1 _____

4. Did you **often or very often** feel that No one in your family loved you or thought you were important or special?

or

Your family didn't look out for each other, feel close to each other, or support each other?

Yes No If yes enter 1 _____

5. Did you **often or very often** feel that You didn't have enough to eat, had to wear dirty clothes, and had no one to protect you?

or

Your parents were too drunk or high to take care of you or take you to the doctor if you needed it?

Yes No If yes enter 1 _____

6. Were your parents **ever** separated or divorced?

Yes No If yes enter 1 _____

7. Was your mother or stepmother: **Often or very often** pushed, grabbed, slapped, or had something thrown at her?

or

Sometimes, often, or very often kicked, bitten, hit with a fist, or hit with something hard?

or

Ever repeatedly hit at least a few minutes or threatened with a gun or knife?

Yes No If yes enter 1 _____

8. Did you live with anyone who was a problem drinker or alcoholic or who used street drugs?

Yes No If yes enter 1 _____

9. Was a household member depressed or mentally ill, or did a household member attempt suicide?

Yes No If yes enter 1 _____

10. Did a household member go to prison?

Yes No If yes enter 1 _____ Now add up your total. This is your ACES score _____

ACEs has been 'normed' on adults

- retrospective survey – collaborative ongoing study between CDC and Kaiser Permanente
- scores ≥ 2 indicate probable difficulty
- Scores ≥ 4 indicate significant difficulty
- NSCAW II did national longitudinal survey of childhood well-being with sample of 6000 children who were flagged by FCS (substantiated and unsubstantiated)
 - 90% of children reported 2 or more
 - 50% reported 4 or more
 - Suggests that adult symptoms begin in childhood

| ACES Construct | ACES Definition | NSCAW Equivalent |
|---|---|--|
| Physical Neglect | Respondents were asked whether they had enough to eat, if their parents' alcohol drinking interfered with their care, if they ever wore dirty clothes, and if someone was available to take them to the doctor. | Parent report of child neglect, ^a or caseworker report of failure to supervise or provide for the child. |
| Emotional Neglect | Respondents were asked whether their families made them feel special and loved, and were asked if their family was a source of strength, support, and protection. | Caregiver reported that, in the past 12 months, "many times were you so caught up with problems that you were not able to show or tell your child that you loved him/her?" |
| Physical Abuse | Sometimes, often, or very often a parent or other adult in the household pushed you, grabbed you, slapped you, threw something at you, or ever hit you so hard that you had marks or were injured. | Parent report of severe assault or caseworker report of physical abuse, such as shaking an infant or hitting an older child. ^a |
| Sexual Abuse | An adult or person at least 5 years older ever touched or fondled you in a sexual way, or had you touch their body in a sexual way, or attempted oral, anal, or vaginal intercourse with you or actually had oral, anal, or vaginal intercourse with you. | Parent or caseworker report of sexual abuse ^a or forced sex reported by the child. |
| | 2 | |
| Emotional Abuse | Often or very often a parent or other adult in the household swore at you, insulted you, or put you down and sometimes, often or very often acted in a way that made you think that you might be physically hurt. | Parent report of psychological aggression, such as threatening the child or calling him/her names. ^a |
| Mother treated violently | Mother or stepmother was sometimes, often, or very often pushed, grabbed, slapped, or had something thrown at her and/or sometimes often, or very often kicked, bitten, hit with a fist, or hit with something hard, or ever repeatedly hit over at least a few minutes or ever threatened or hurt by a knife or gun. | Caregiver or caseworker report of any domestic violence such as slapping, hitting, or kicking (includes both male and female caregivers who reported domestic violence). |
| Household Substance Abuse | Lived with anyone who was a problem drinker or alcoholic or lived with anyone who used street drugs. | Caseworker report of active alcohol or drug abuse by the primary or secondary caregiver, or caregiver report of current alcohol abuse. ^b |
| Household Mental Illness | A household member was depressed or mentally ill or a household member attempted suicide. | Caseworker report of a caregiver having a serious mental health problem, or caregiver elevated mental health symptoms. ^{c,d} |
| Parental Separation or Divorce ^e | Parents were ever separated or divorced. | Child was placed out of home currently or at baseline, or caseworker report of abandonment, or caregiver's current marital status is divorced or separated, or mother or father is deceased. |
| Incarcerated Household Member | A household member went to prison. | Caregiver reports spending time in prison as result of an arrest, or parent currently in a jail or detention center. |

^a Revised Conflicts Tactics Scale.¹⁴

^b Assessed by the Alcohol Use Disorders Identification Test¹⁵ or the Drug Abuse Screening Test.¹⁶

^c NSCAW does not collect information on suicide attempts; thus, this portion of the ACES construct was not assessed.

^d Mental health symptoms based on the World Health Organization Composite International Diagnostic Interview, CIDI-SF.¹⁷ ^e For the NSCAW sample, parental divorce or separation was broadly conceptualized as any type of family separation.

**The following Graphs are reprinted from
“The Hidden Epidemic: The Impact of Early Life Trauma
on Health and Disease” R. Lanius & E. Vermetten editors.
Cambridge University Press, 2009**

**Chapter: The Relationship of Adverse Childhood Experiences to Adult Medical
Disease, Psychiatric Disorders, and Sexual Behavior: Implications for Healthcare**

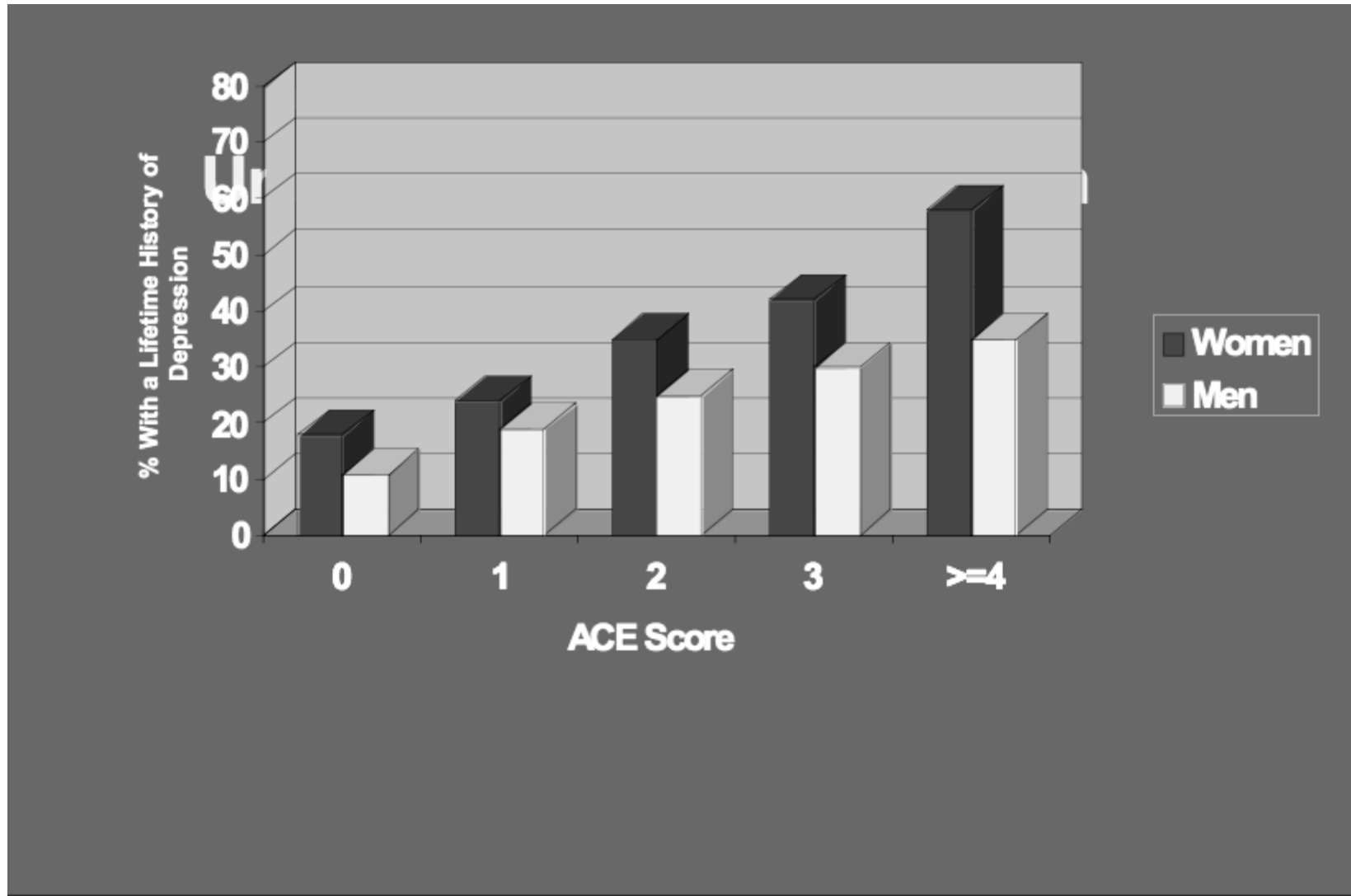
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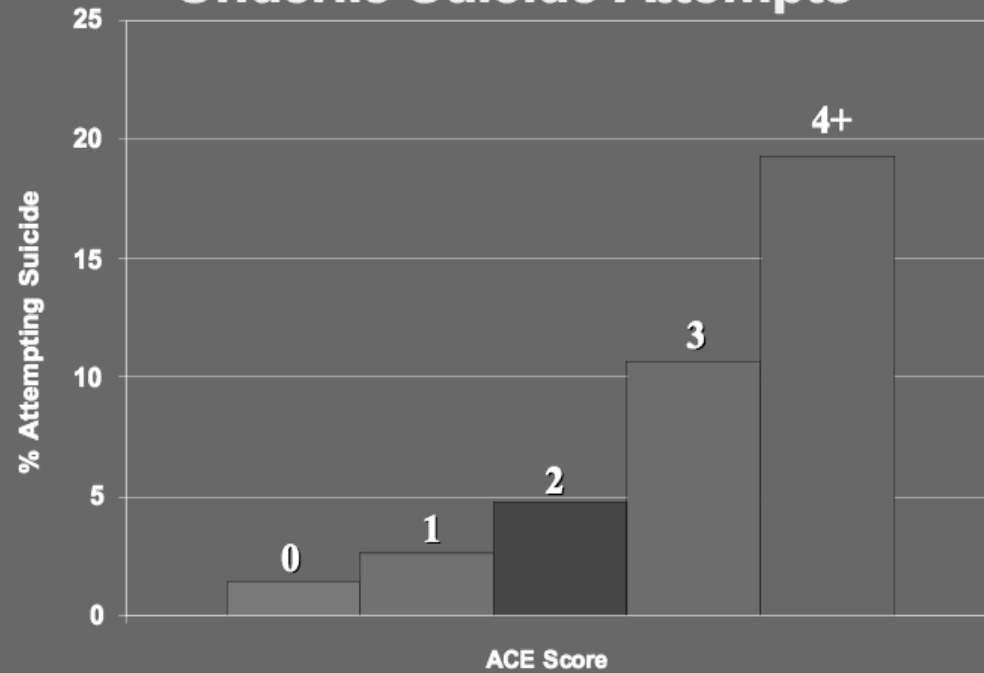
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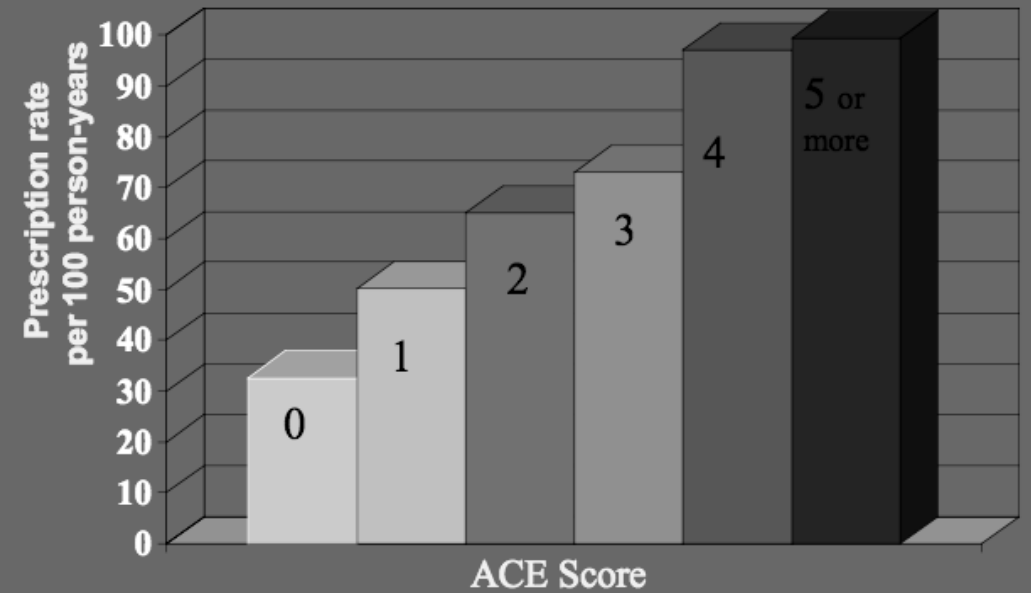
ACE Score and chronic depression



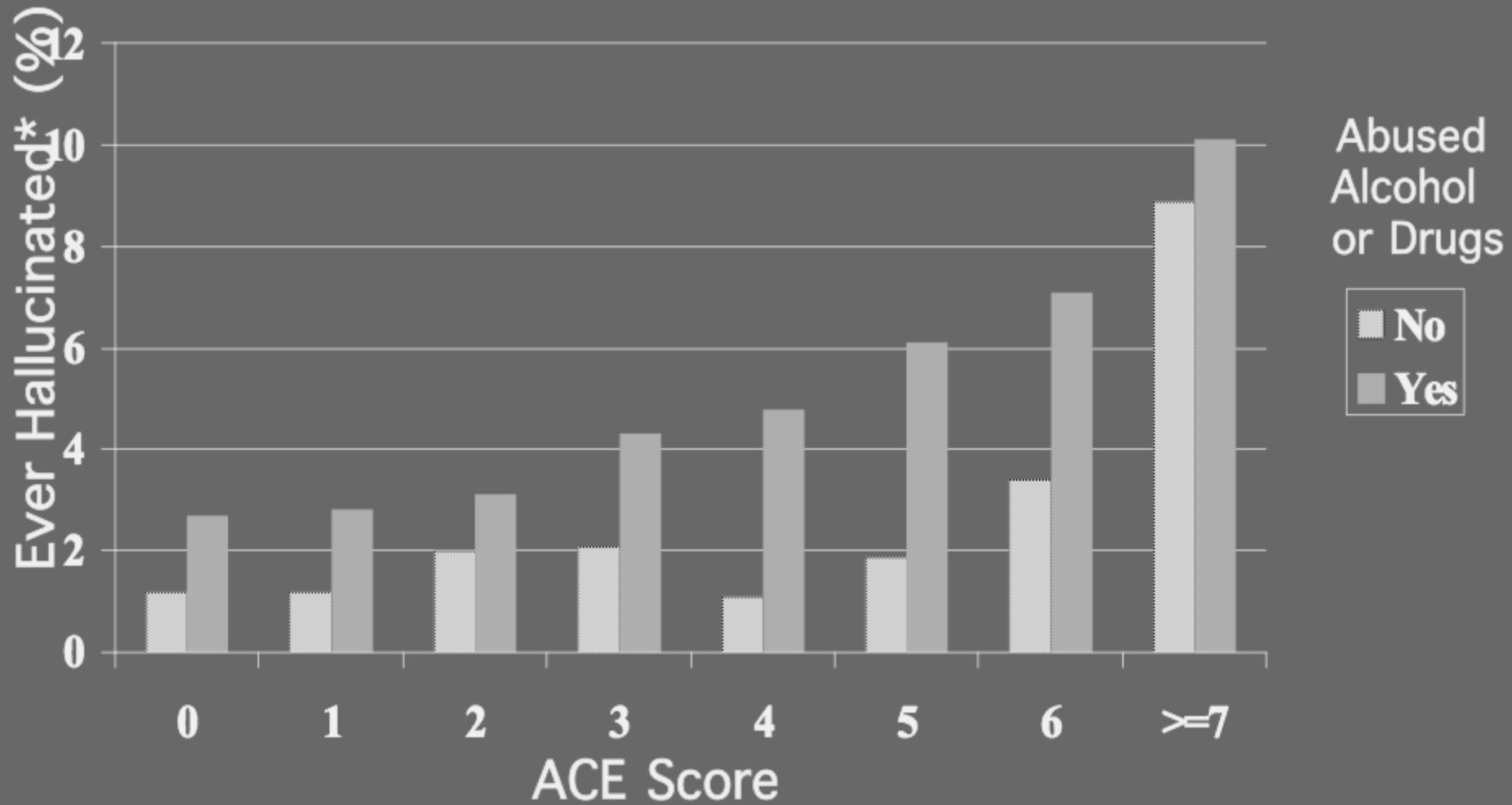
Childhood Experiences Underlie Suicide Attempts



ACE Score and Rates of Antidepressant Prescriptions approximately 50 years later

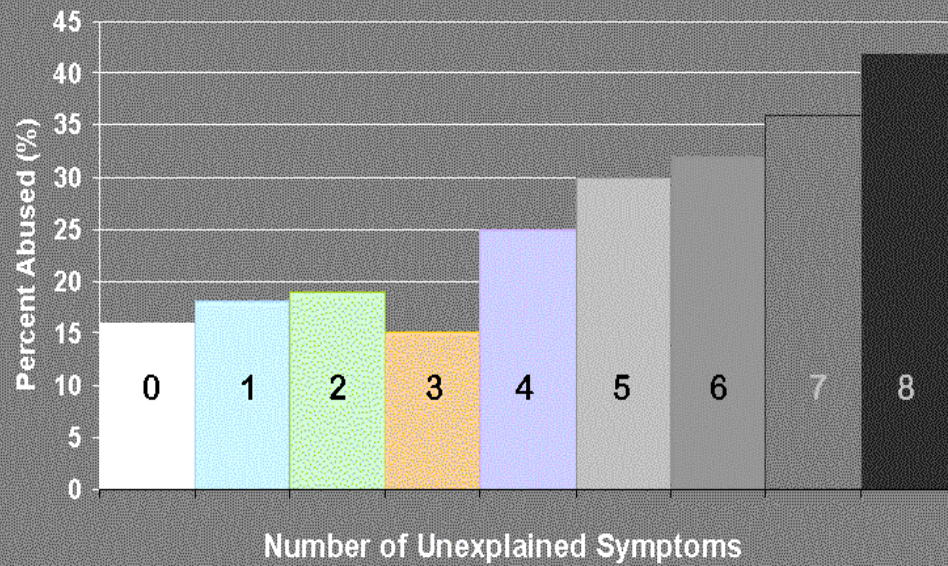


ACE Score and Hallucinations

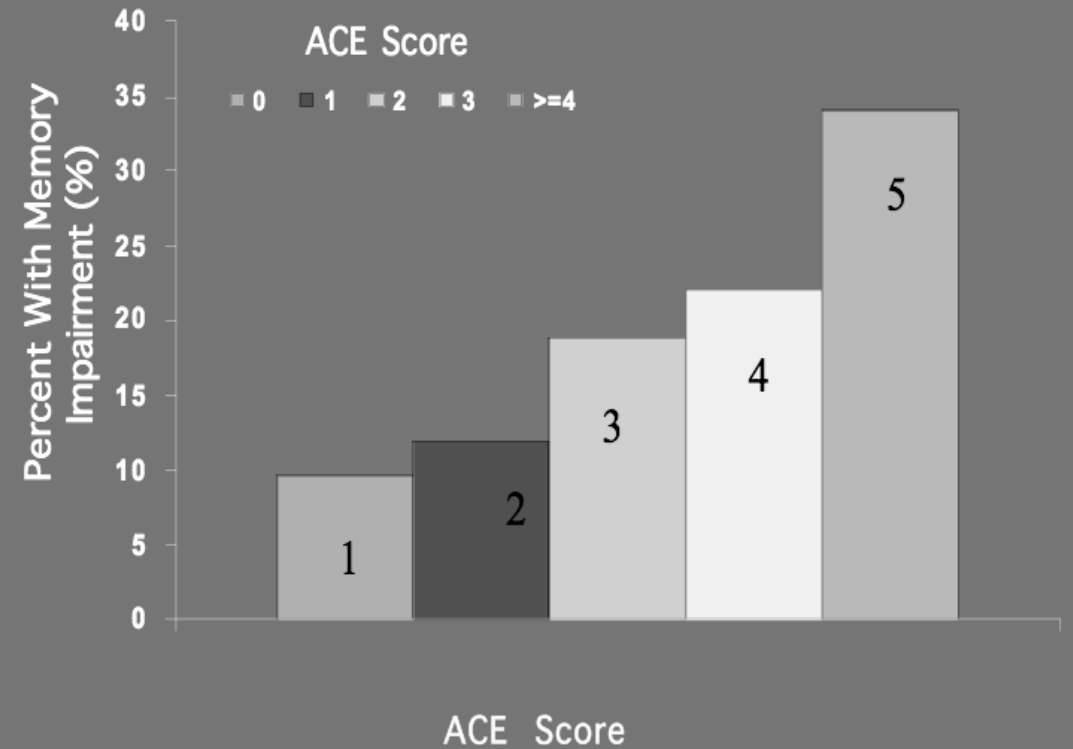


*Adjusted for age, sex, race, and education.

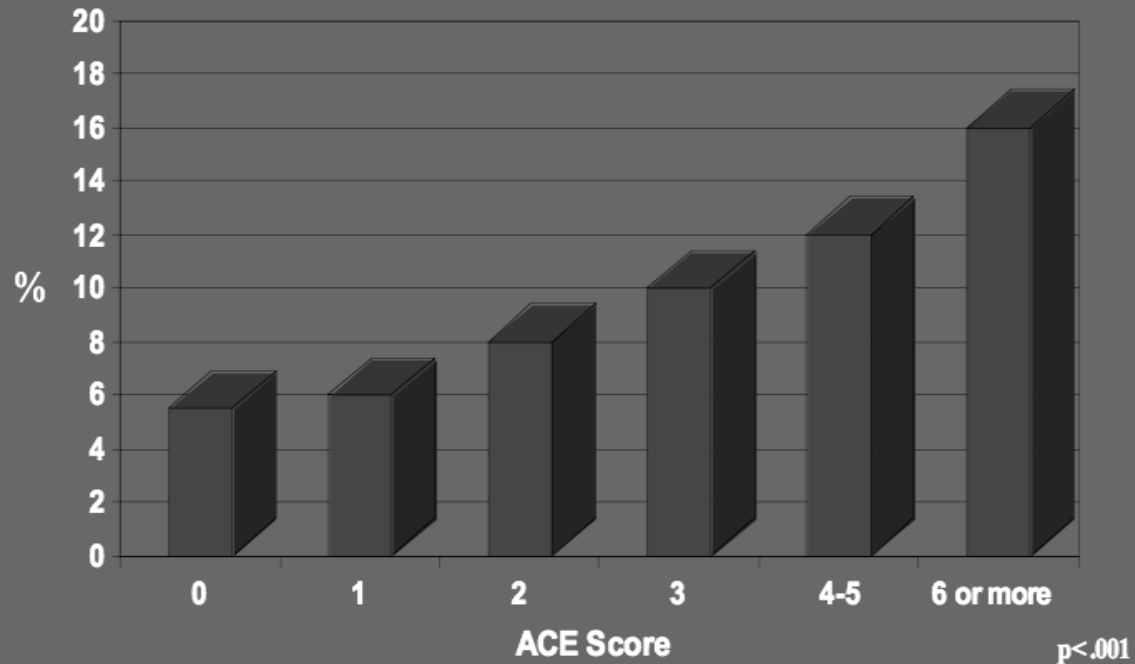
Likelihood of Childhood Sexual Abuse vs. Number of Unexplained Symptoms



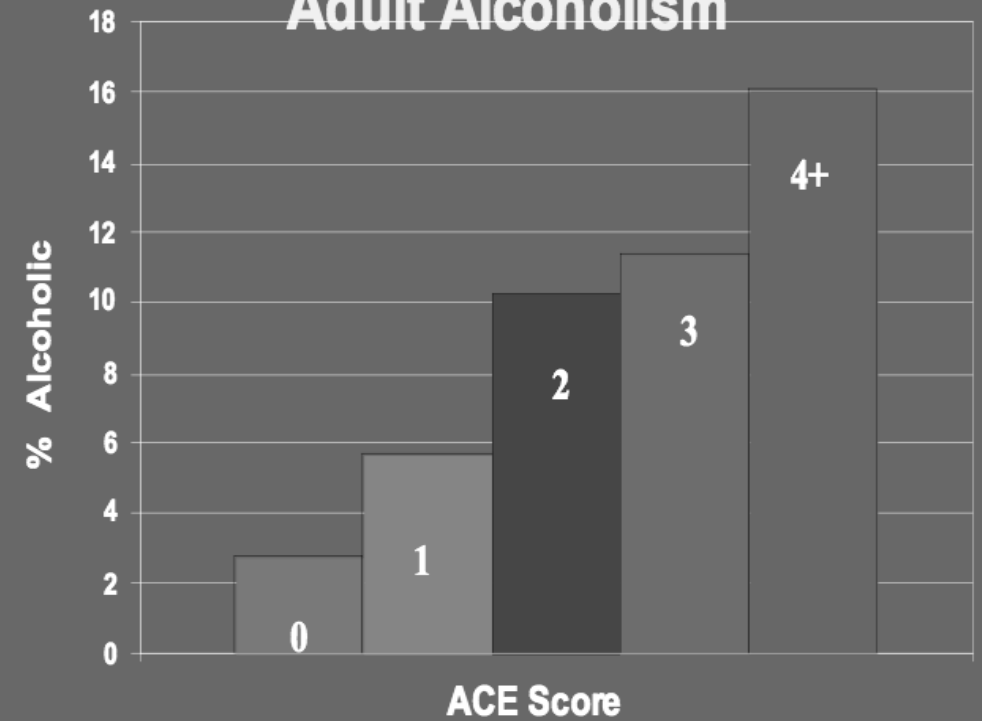
ACE Score and Impaired Memory of Childhood



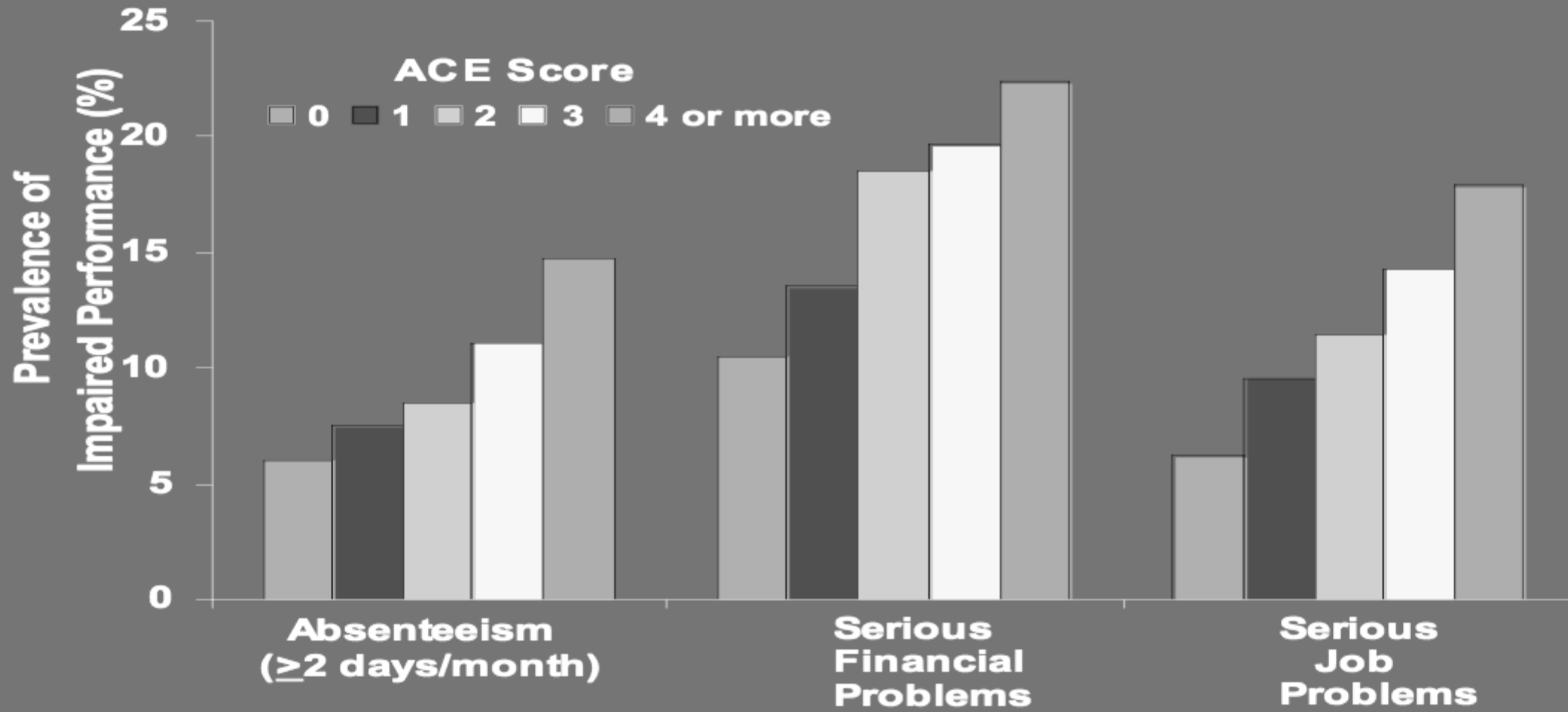
Adverse Childhood Experiences vs. Smoking as an Adult



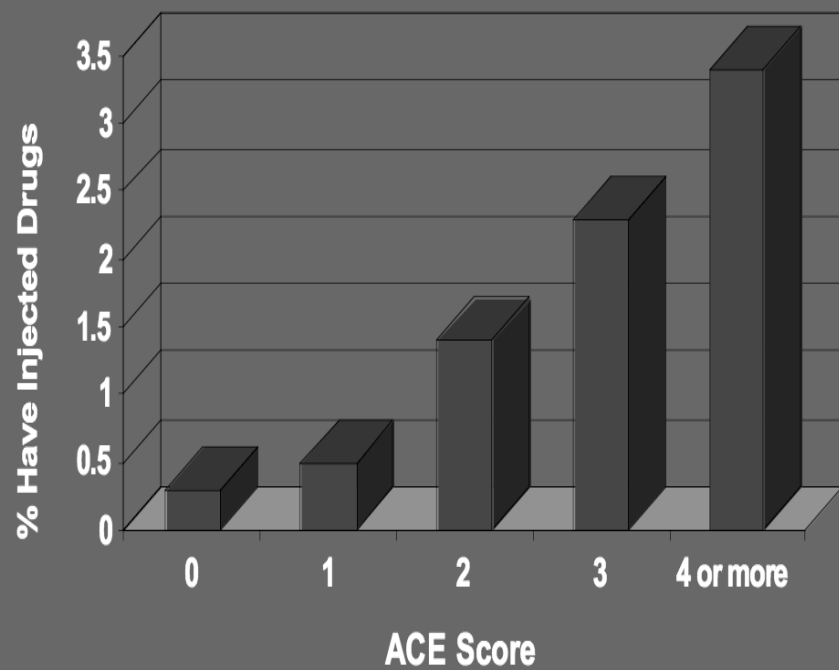
Childhood Experiences vs. Adult Alcoholism



ACE Score and Indicators of Impaired Worker Performance

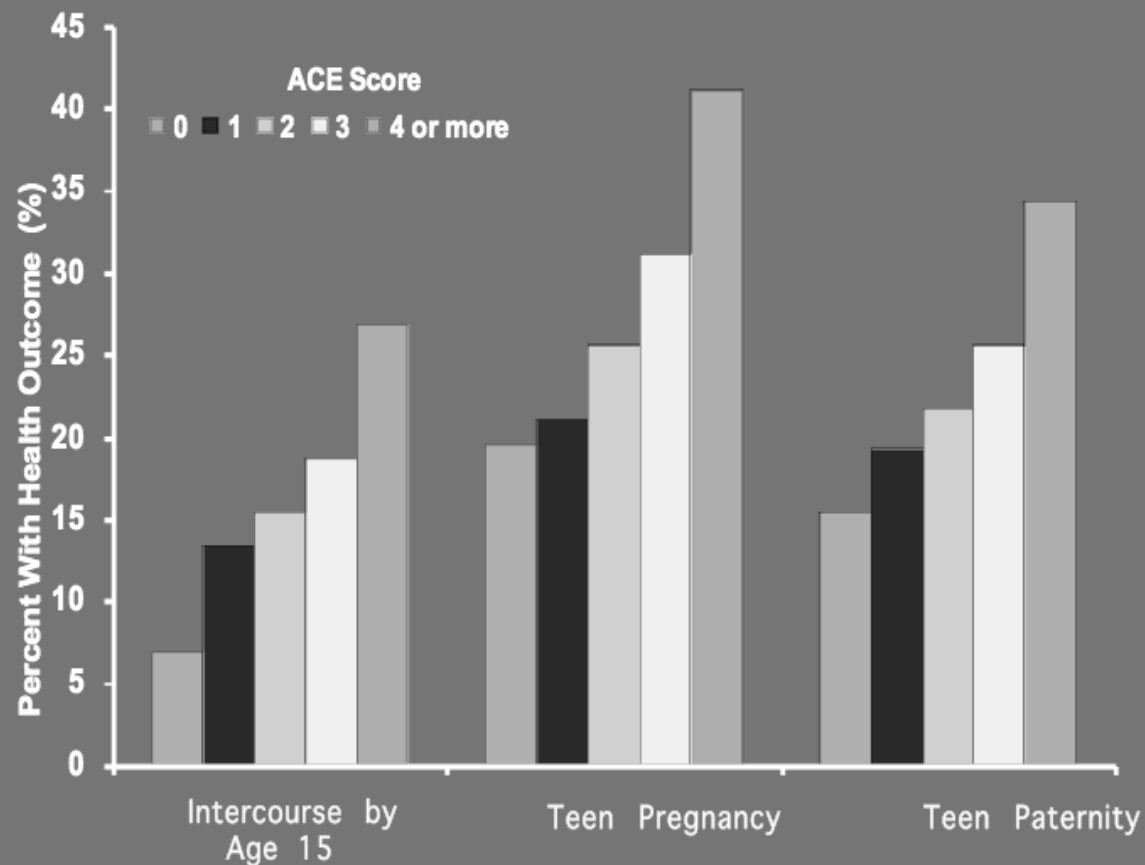


ACE Score vs Intravenous Drug Use

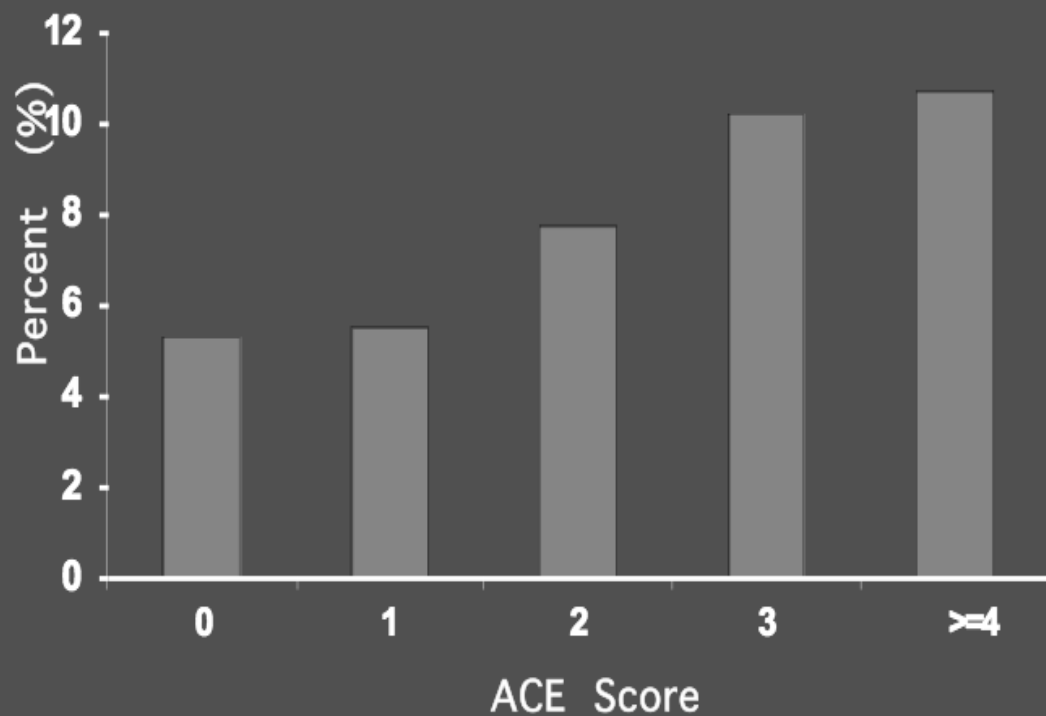


$p < 0.001$

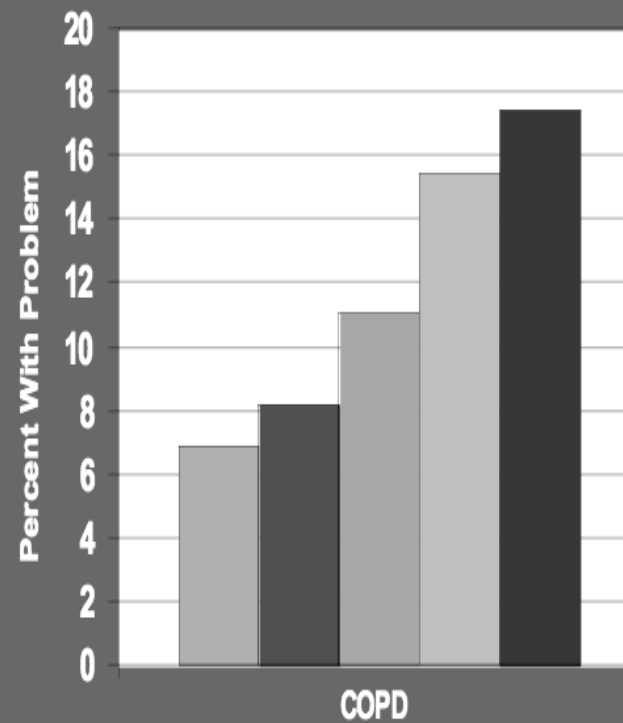
ACE Score and Teen Sexual Behaviors



The ACE Score and the Prevalence of Liver Disease (Hepatitis/Jaundice)



ACE Score vs. COPD

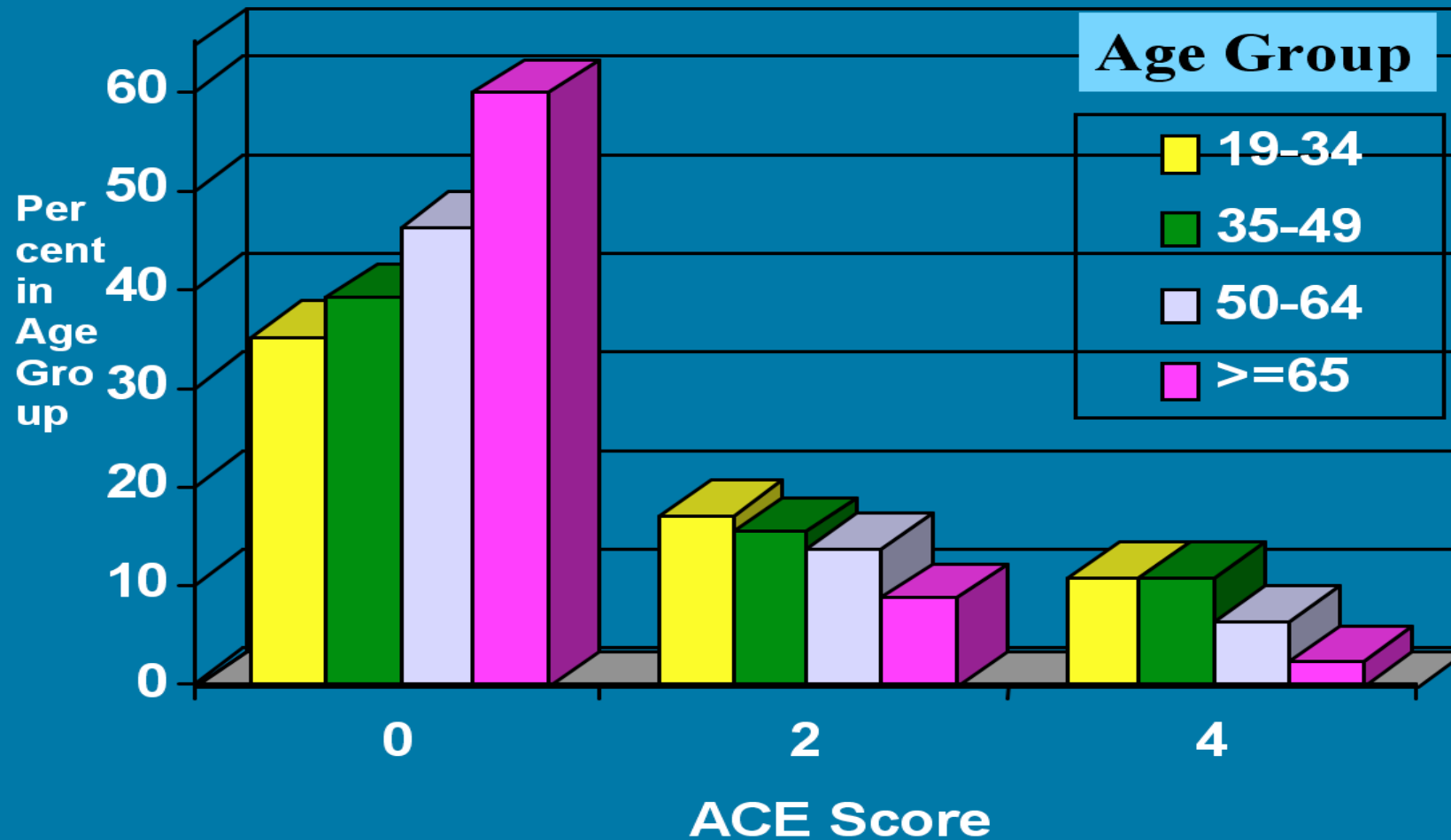


ACEs Increase Likelihood of Heart Disease *

- **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

ACE Scores Decrease with Age

Based on percentage of people who come in for health checkups



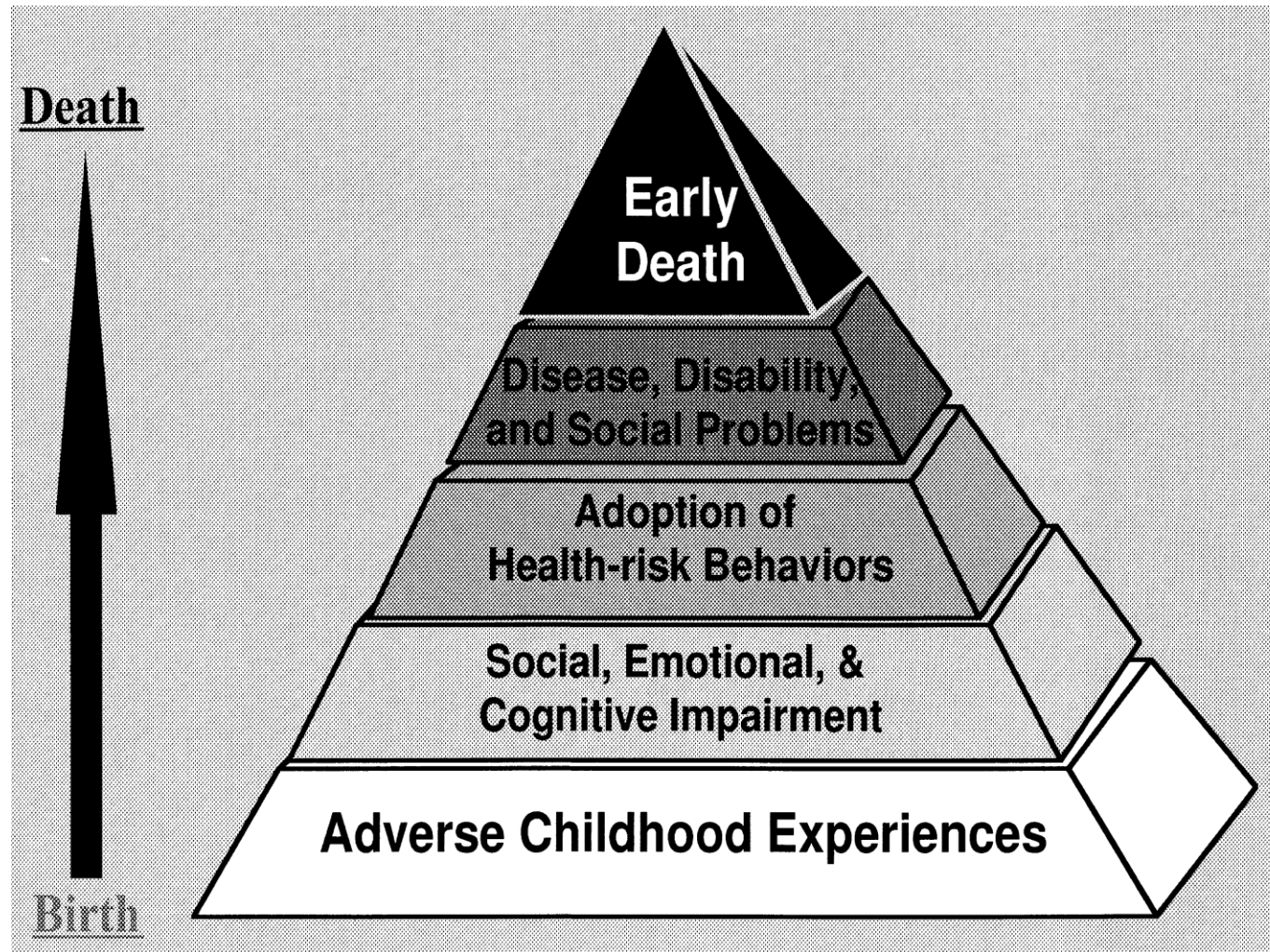
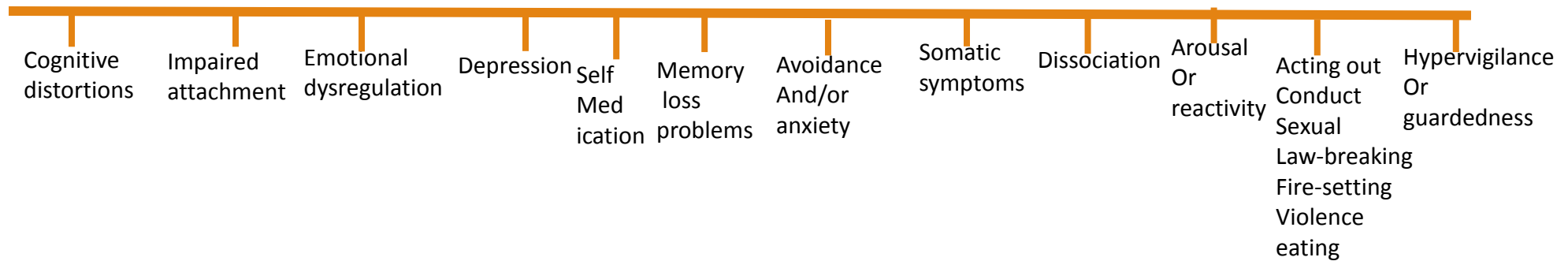


Figure 2. Potential influences throughout the lifespan of adverse childhood experiences.

Relationship of Childhood Abuse and Household Dysfunction to Many of the Leading Causes of Death in Adults: The Adverse Childhood Experiences (ACE) Study
Vincent J. Felitti, MD, FACP, Robert F. Anda, MD, MS, Dale Nordenberg, MD, David F. Williamson, MS, PhD, Alison M. Spitz, MS, MPH, Valerie Edwards, BA, Mary P. Koss, PhD, James S. Marks, MD, MPH. American Journal of preventative medicine (1998)

Evidence-based Range of symptom reactions to trauma



How to use with children, adolescents and families

1. Ask the questions as part of intake, ongoing assessment. Fold them into treatment
2. Reformulate the questions in order to ask: Number four. Did you **often or very often** feel that No one in your family loved you or thought you were important or special? **Or** Your family didn't look out for each other, feel close to each other, or support each other? = are there in your life, where you're so caught up with other issues or problems that you forget to show or tell your child that you love her? How does mom or dad show/tell you that they love you?
3. Look for signs in collateral data
4. Work backward
5. Successful Work with children and adolescents in the present is also preventive
6. Include trauma informed procedures into best practices

Possible best practices for children and adolescents

1. Must be seen within 48 hours
2. a functional risk assessment must be undertaken
3. treatment priorities should be based on functional risk
4. knowledge of assessment and tx that is trauma informed
5. family must be assessed and part of tx
6. family must be participants in varying degrees
7. ongoing communication with primary care providers must be established
8. strength-based treatment and assessment should be used
9. cultural competence essential
10. knowledge of multi-systemic tx
11. knowledge of attachment assessment and tx

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ACES too high newsletter. <http://acestoohigh.com>

Center for Disease Control and Prevention (CDC). ACEs study. <http://www.cdc.gov/violenceprevention/cestudy/index.html>