

Adverse Childhood Experiences Study (ACEs Study) & Allostatic Load

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ACES Connection: ACES Connection is a social network that accelerates the global movement toward recognizing the impact of adverse childhood experiences in shaping adult behavior and health, and reforming all communities and institutions -- from schools to prisons to hospitals and churches -- to help heal and develop resilience rather than to continue to traumatize already traumatized people. The network achieves this by creating a safe place and a trusted source where members share information, explore resources and access tools that help them work together to create resilient families, systems and communities. A companion site, ACEsTooHigh.com, provides news to the general public as part of the ACES Connection Network.

CDC ACES Webpage: The Adverse Childhood Experiences (ACE) Study is one of the largest investigations ever conducted to assess associations between childhood maltreatment and later-life health and well-being. The study is a collaboration between the Centers for Disease Control and Prevention and Kaiser Permanente's Health Appraisal Clinic in San Diego.



Dr. Vincent Felitti

The *Adverse Childhood Experiences* study – or ACEs Study as it is frequently referred to – was authored by Dr. Vincent Felitti and Dr. Robert Anda and funded by the Centers for Disease Control and Kaiser Permanente. This important research helps to clarify the underlying, long-term, and multigenerational impact of seven categories of adverse childhood experiences: physical, sexual or psychological abuse as a child, or living as a child in a household with a member who was: mentally ill, imprisoned, a victim of domestic violence, or a substance abuser. In the

largely middle-aged, middle-class, educated population who were the subjects of this study, - the largest study of its kind ever done to examine the effects of childhood adversity over the lifespan - only 48% of the population had no categories of adverse childhood experiences. Two-thirds

of the women in the study reported at least one childhood experience involving abuse, violence or family strife. One in four was exposed to two categories of abusive experience, and one in 16 to four categories.



Dr. Robert Anda

The authors found a strong, graded relationship to the number of adverse childhood experience categories and a wide range of physical, emotional, and social problems including: smoking, chronic obstructive pulmonary disease, hepatitis, heart disease, fractures, diabetes, obesity, alcoholism, fifty or more sexual intercourse partners, other substance abuse including IV drug use, depression and attempted suicide, teen pregnancy (including paternity), sexually transmitted diseases, rape, hallucinations, poor occupational health and poor job performance. According to the authors – and to a growing body of research – adverse childhood experiences lead to disrupted neurodevelopment in early childhood which then leads to emotional, cognitive, and social impairment in childhood and

adolescence. These impairments leave children vulnerable to the adoption of many different health risk behaviors which lead directly or indirectly to a variety of diseases, various forms of disabilities, and social problems – and eventually early death. The bottom line is that adverse childhood experiences play a significant role in determining the likelihood of the ten most common causes of death in the United States. With an ACE Score of 0, the majority of adults have few, if any, risk factors for the diseases and problems mentioned above. However, with an ACE Score of 4 or more, the majority of adults have multiple risk factors for these problems or the diseases themselves.

As the authors of the study state, *“The findings of the Adverse Childhood Experiences (ACE) Study provide a credible basis for a new paradigm of medical, public health, and social service practice that would start with comprehensive biopsychosocial evaluation of all patients at the outset of ongoing medical care. We have demonstrated in our practice that this approach is acceptable to patients, affordable, and beneficial in multiple ways. The potential gain is huge. So too is the likelihood of clinician and institutional resistance to this change. Actualizing the benefits of this paradigm shift will depend on first identifying and resolving the various bases for resistance to it. In reality, this will require far more planning than would be needed to introduce a purely intellectual or technical advance. However, our experience suggests that it can be done”*[1].

For More about ACEs Study

Allostatic Load

In understanding the impact of trauma, chronic stress and adversity on body, brain, mind, and social context, it is important to recognize that the interactions between the individual, the social environment and the stressors themselves are interactive and complex. Two concepts are helpful in registering this complexity: allostasis and allostatic load. (1) *Allostasis*, defined as a dynamic regulatory process wherein homeostatic control and balance is maintained by an active process of adaptation during exposure to physical and behavioral stressors, and (2) *Allostatic load*, is defined as the consequence of allodynamic regulatory wear-and-tear on the body and brain promoting ill health, involving not only the consequences of stressful experiences themselves, but also the alterations in lifestyle that result from a state of chronic stress [2]. Using these bridging concepts, researchers are becoming able to calculate the various kinds and components of stress and its impact on the individual including the impact of socioeconomic factors and the various kinds of exposure to childhood adversity that far too many children experience.

Hurt People, Hurt People

In a way, it is simple, “Hurt people, hurt people” and the solution is to stop the infliction of pain on children. The road from childhood adversity to adult disease is a complex one, and the solutions to the problem of child maltreatment will be similarly complex because the solutions must successfully address virtually every social problem we have. The solutions are not only medical and social – they are economic and political. The ACEs study has received so little attention because it is so straightforward and clear in the enormity of its implications. What we need is a “Manhattan Project”, this time not directed toward creating weapons of mass destruction but towards minimizing childhood adversity.

References

1. Felitti, V.J. and R.F. Anda, *The Relationship of Adverse Childhood Experiences to Adult Medical Disease, Psychiatric Disorders, and Sexual Behavior: Implications for Healthcare* in *The Hidden Epidemic: The Impact of Early Life Trauma on Health and Disease* R. Lanius and E. Vermetten, Editors. 2010, Cambridge University Press: New York. p. 77-87.
2. McEwen, B.S. and P.J. Gianaros, *Central role of the brain in stress and adaptation: Links to socioeconomic status, health, and disease* *Annals of the New York Academy of Sciences*, 2010. **1186**: p. 190-222.