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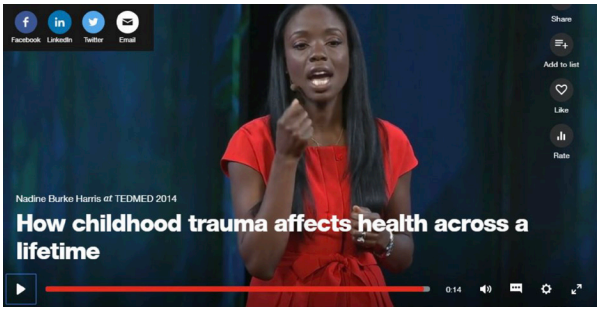

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Oprah Segment on *60 Minutes*

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KEY TERMINOLOGY

Dr. Robert Anda–Co-principal investigator of the original ACE Study, while working as a Sr. Scientist at the CDC.

Dr. Vincent Felitti–Co-principal investigator of the ACE Study, while working at Kaiser Permanente in California.

Central Nervous System–consists of the brain and spinal cord that integrate all of our senses and information from receptors located throughout the human body. It regulates body functions and manages elaborate chemical and electrical signaling.

Neurons–cells in the nervous system that process and transmit information.

Synaptic Density–density of functional connections in a human brain.

Arborization–the process that nerve cells go through to form connections and networks between cells.

Pruning–process during puberty where the least experienced connections tend to withdraw from the neural networks.

Adaptations–a change or process of change by which one becomes better suited to their environment.

Toxic Stress–continuous stress, trauma, and episodic unpredictable stress in the ABSENCE of support and connection. Toxic stress can be hardwired into biology.

Limbic System–The part of our brain that responds to danger with a "fight or flight" response. The limbic system is the region of the brain that controls many things such as physical balance, internal temperature regulation, and digestion. It also regulates hormones, mood, heartbeat and behavior and is vital for learning, memory and reward reinforcement processes.

Hippocampus–center in the brain for affect and attention, helps us to make meaning from social cues and language, and helps us to remember verbal and spatial information. This region regulates panic, fear, and emotional responses- and help us put on the breaks on emotional outbursts when we need to.

Cerebellar Vermis–connects the two halves of the cerebellum It helps us to move through our physical environment and enables us to perceive peripheral details in the world around us. It is also the part of the brain that regulates our norepinephrine and dopamine. This region is subject to reduced size, blood flow and functionality as a result of abuse. It is considered to be the seat of mental health with a role in virtually every mental illness that we are only beginning to understand.

Corpus Callosum–the superhighway that connects the right and left hemispheres of the brain. It helps us interpret and apply symbols as well as integrate language and mathematics- ie the part of the brain we use when given "story problems" in school.

Sensitive Developmental Periods–the timeframe for each brain region when experience has powerful effects on brain mass and functioning. These periods are also windows of opportunity for building resilience.

Executive Skills–coordinated in the brain's frontal lobe and involve many brain regions. These are the skills we need to participate in complex tasks that require complex thinking and carefully sequenced action. It is normal to experience executive skills dysfunction during highly stressful times, but through practice we can improve these skills.

Epigenetics–a new scientific field that studies how genes are expressed. Epigenetics involves the attachment of chemicals to the DNA at a particular gene. The attachment of that chemical (methylation) can prevent the gene's message from being available to be read. Other types of chemical attachments can cause the gene to be open so instructions can be read by the cell.

The ACE Study–A large epidemiological study originated in the 1990's by Dr. Rob Anda and Dr. Vincent Felitti. It looked at multiple types of childhood stressors and found an impact on a wide array of health and societal problems.

Epidemiology–the study of the origins of disease, disability, productivity and health in a population, with a focus on issues and processes that will make the most difference for the well-being of everyone.

Neuroscience–multidisciplinary discipline of science that seeks to understand how the brain works, and how does the brain produce observed behavior.

Historical Trauma–Experiences shared by a specific cultural, racial or ethnic group that can result in cumulative emotional and psychological wounds that are carried across generations.

Core protective systems–powerful systems that interact and guide positive adaptation.

Individual Capabilities–personal attributes that help us all weather life's storms such as positive view one's life, self- efficacy, and self-regulation. These often do not develop well when experiencing toxic stress.

Positive View–lets me know I am important and valuable, closely related to hope and together help one not give up.

Self-Efficacy–the belief that what I do influences what happens to me.

Self-Regulation–our ability to gauge our state of min and emotions and keep these under control while in a social situation.

Belonging–people in our lives who recognize and encourage our unique talent, interests and strengths.