



Elissa Sarah Epel

Award for Distinguished Scientific Early Career Contributions to Psychology

Citation

“For groundbreaking research on the mind–body connection. Rooted in health psychology, Elissa S. Epel has incorporated knowledge from neuroendocrinology and molecular biology to provide convincing evidence of the impact of stress and psychological vulnerability on important outcomes including obesity, fat deposition, and cellular aging. Her innovative studies of caregivers and controls reveal how chronic stress may accelerate biological aging through the telomere/telomerase maintenance system. She has shown imagination and rigor in the lab, in the field, and through interventions. Her passion for science is exceeded only by her generosity, effectiveness as a mentor, and commitment to improving the lives of others.”

Biography

Elissa Sarah Epel was born in Carmel, California, the third daughter of her father, a biology professor, and her mother, a psychotherapist. Given her father’s research in marine biology, she spent most childhood summers in Woods Hole, Massachusetts, on Cape Cod, looking for sea animals and attending science camp. After graduating from Carmel High School in 1986, she attended Pitzer College in Claremont, California, for two years, where she enjoyed social science and premed classes. In pursuit of more research experience, she transferred to Stanford University. At Stanford, she met three strong influences on her career choice, Albert Bandura, Philip Zimbardo, and Robert Sapolsky,

each of whom showed aspects of the power of psychology or physiology to change behavior. For her senior thesis, Epel forged an unlikely collaboration between Bandura and Zimbardo while examining the roles of self-efficacy and time perspective in promoting the ability of homeless parents to find housing. Twenty years later, she is still using psychological principles such as social learning theory and behavioral biology to, for example, help introduce behavioral medicine into the University of California, San Francisco (UCSF) medical school curriculum.

Epel intended to become a doctor. After graduation from Stanford, she worked as a research assistant at UCSF, where the nascent field of health psychology was blooming. She had always been fascinated with the interface between psychology and physiology and realized she was far more interested in the creative research process than in practicing medicine. She stopped studying for the Medical College Admission Test and applied to graduate school instead.

In 1992, Epel moved to New Haven, Connecticut, and began a doctoral program in clinical psychology at Yale University (with her then boyfriend, and now husband, Jack Glaser, who studied social psychology at Yale). The department’s role in the history of psychology, and the faculty’s research programs, which had an impact far beyond the walls of the ivory tower, made it an inspiring place. Neal Miller, one of the luminary founders of behavioral medicine, still walked the halls of Kirtland Hall then and joined health psychology seminars. Epel was exposed to many other great role models—such as Jeannette Ickovics, Kelly Brownell, Robert Kerns, Peter Salovey, Sheila Woody, and Judy Rodin. At Yale, Epel saw that bringing the insights of psychology to medical schools could play a crucial role both in training physicians and in furthering mind–body research.

Judy Rodin, then provost, was finishing her last studies, which were on stress and fat distribution (with Anne Moyer). Epel was fascinated with this connection and continued this line of research, trying to unravel the relationships between psychological processes, neuroendocrine and metabolic mediators, and abdominal fat distribution. This interest evolved into her dissertation, which examined the associations between body composition (where individuals store their fat) and habituation to repeated stress exposure.

In 1999, Epel completed a clinical internship focusing on behavioral medicine at the Veterans Affairs Palo Alto Health Care System and then a postdoctoral fellowship in psychology and medicine at UCSF with Nancy Adler. At UCSF, Epel found her academic home. Nancy Adler had created the Center for Health and Community, a nexus for transdisciplinary research highlighting the role of psychological and social factors in health. Under Adler’s guidance, it offered Epel a place to follow her research dream of integrating psychosocial and medical research, to receive

excellent mentoring, and in turn to mentor postdoctoral students in health psychology. One of the unique aspects of being at an academic medical center was the opportunity to learn from more biologically oriented colleagues, such as Owen Wolkowitz (neuroendocrinology of depression), Mary Dallman (hypothalamic-pituitary-adrenal axis and metabolism), and Elizabeth Blackburn (cell aging). In 2002, Epel became an assistant professor in the Department of Psychiatry at UCSF, where she continues to do research.

Epel focuses on the effects of chronic stress in two domains—aging and adiposity. One of her driving research questions is why some people are more vulnerable and others are more resilient to chronic stress. Epel was interested in the conceptual work that the MacArthur Network on Socioeconomic Status and Health was conducting on the wear and tear involved in low social status; she became a network affiliate as a student. Epel was fortunate to participate in the early discussions about allostatic load led by Bruce McEwen and Teresa Seeman. Ever since, she has been interested in identifying measures of “wear and tear,” both trait measures and dynamic functional measures, such as speed of recovery from stress in certain regulatory systems, that are not confounded with disease and that can be measured in young, healthy people. Her search brought her to read about the world of telomeres, the caps that protect the ends of chromosomes and serve as somewhat of a biological clock on the cell’s life span, and the enzyme telomerase, which replenishes telomeres and promotes cell longevity. Fortunately, the discoverer of telomeres, Elizabeth Blackburn, was at UCSF and had a strong curiosity that extended far beyond the bench of basic science. Together with Blackburn’s postdoctoral fellow Jue Lin, Epel and Blackburn demonstrated novel links between stress and stress arousal with markers of cellular aging (telomere length and telomerase activity). This study opened up a whole line of research linking the psychosocial context to cell aging and identifying the mediators of this relationship. Recently, the research group has founded an international center for telomere health dedicated to discovering novel methodologies for assessing cell aging and to understanding links with human mental and physical health.

To study chronic stress, Epel continues to use response to lab stressors as a paradigm that provides a window into psychological coping processes and physiological adaptation to stress. It allows her to measure psychological threat sensitivity, resilience to threat, and “stress signatures,” or the unique profiles of neuroendocrine response that are linked to cognitive appraisals and emotions. Epel first focused on studying parents of children with chronic conditions. She then turned to studying dementia caregivers, since stress effects are generally pronounced in the elderly. In both young and elderly caregivers, chronic stress was

found to be related to telomere length. She is now following the elderly caregivers and controls to identify predictors of accelerated biological aging. A less often asked but equally important question involves identifying who does well under chronic stress. To further understand resilience to chronic stress, Epel is working with Julienne Bower, Judy Moskowitz, and Wendy Mendes on what they call psychological and physiological thriving (work that was initially supported by the Positive Psychology Network).

Epel has continued her research on obesity as well. In early studies, she and others demonstrated relationships between stress reactivity, psychological vulnerability, and central fat distribution. With the collaboration of excellent postdoctoral fellows (now faculty), Epel has moved on to the next generation of studies looking at mechanisms. In recent studies she has attempted to examine the types of emotional responses (with Shannon McCoy) and neural mechanisms (with Tanja Adam) that lead to overeating and central fat distribution. Her current study tests whether reducing stress and increasing mindful eating (based on Jean Kristeller’s Mindfulness-Based Eating Awareness Training) can reduce overeating and central fat distribution (with Jennifer Daubenmier).

Epel is a faculty member of the UCSF postdoctoral program in health psychology, the UCSF Osher Center for Integrative Medicine, and the Robert Wood Johnson Health and Society Scholars fellowship program. She is also a co-founder and director of research for the new UCSF Center for Obesity Assessment and Treatment (COAST; <http://www.chc.ucsf.edu/coast/>), which focuses on stress pathways to obesity and metabolic disease. Epel received the Stanford Firestone Medal for excellence in undergraduate research, the Division 38 Outstanding Student Research Award, the Society of Behavioral Medicine’s Outstanding Dissertation Award, and the Division 38 Distinguished Contribution Award. She also received the Neal Miller Young Investigator Award and the Curt Richter Award (from the International Society for Psychoneuroendocrinology). Her work has been supported by the National Institute of Mental Health, the National Center for Complementary and Alternative Medicine, NARSAD, and a Hellman Foundation Award. Examining novel mind–body mechanisms requires patience, persistence, pilot funds, good mentoring, and a supportive family. In these respects, Epel feels very fortunate and grateful for the resources and people who have helped make these initial scientific explorations possible.

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