

ACEs and PACEs

In 1997, the Adverse Childhood Experiences (ACEs) study was published. Between 1995 and 1997, Dr Vince Felitti and Dr Bob Anda collected data from over 17,000 American adults, asking them to complete the ACE questionnaire. This required the participants to identify whether they had experienced any of the following in childhood:

- Verbal abuse
- Physical abuse
- Sexual abuse
- Physical neglect
- Emotional neglect
- Domestic violence
- Substance abuse in the home
- Separated/divorced parents
- Family member incarceration
- Family member mental illness/suicidal

Anda and Felitti discovered that ACEs are common in the population. Approximately 3 in every 5 participants reported at least one ACE; 1 in every 5 reported 3 or more ACEs. They also discovered that there is a dose-response relationship between the number of ACEs experienced and adult health outcomes; the more ACEs experienced, the greater the likelihood for an individual to experience negative health outcomes as an adult. In multiple studies, ACEs have predicted: risky behaviours such as smoking, obesity, and alcohol/drug abuse; chronic health problems such as heart disease, cancer, diabetes, hepatitis and fractures; and increased risk of mental health problems such as depression, anxiety and panic reactions.

The human body works to maintain homeostasis – the optimum level at which the organism may work to ensure the maintenance of optimal health. Allostasis is a term meaning a chronic state of disordered homeostasis – in other words, when the brain perceives events to be stressful, the organism's behavioural and physiological states will be primed for survival and this can, in the long term, be at the expense of long term health. If the body's endocrine and immune systems are over-exposed to stressors over a long period of time, there may be adverse effects on organ systems which in turn, lead to disease.

Trauma may be defined as repeated cycles of stressful events and the inefficient turning on or off of stress responses. When the human brain experiences a stressor, there is a decrease in blood flow to the pre-frontal cortex (PFC), the part of the brain responsible for decision making, planning,

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impulse control, moral reasoning and sense of self. Instead, our subcortical areas, specifically our limbic system, are mobilised and the automatic fight or flight response takes over. The heart and respiratory rates increase and the body is made ready for action as our pupils dilate and our muscles tense. When the body is in survival mode, the PFC is circumvented and instead, fight or flight is engaged. Activating this state of heightened stress response is a survival strategy but for those who have experienced long-term or multiple trauma, it may become their way of being. Anda and Felitti's (1997) ACEs paper therefore, suggested that those who experienced 4 or more ACEs had a higher risk of experiencing future negative health outcomes and these were directly associated with the way in which the individual physiologically managed stress.

We cannot however, assume that if an individual experiences ACEs as a child, negative health outcomes are inevitable. The likelihood of ACEs impacting future health is different in every individual and depends on a variety of factors, most particularly, levels of resilience. Research has therefore also explored what the mitigatory benefits may be if interventions are implemented for those people who have experienced adverse childhood experiences – how might we build greater resilience?

Protective and Compensatory Experiences (PACEs) are experiences which buffer trauma and stress. Developmental psychologists have identified a number of protective and compensatory experiences that can reduce the harmful impact of ACEs. These are:

- Unconditional love
- Connectedness
- Community engagement
- Security: order and predictability
- Mastery/self-efficacy

It is important to note that the wider community, extended family and friends all play a part in the creating opportunities for compensatory experiences; they are vital in buffering the damaging effects of adversity and stress. As the human brain does not reach maturity until a person is 25-30 years of age, and throughout life, undergoes changes due to plasticity, there is time to create new networks of synapses based on positive experiences. These can change the brain and can increase resilience, the most important protective factor to adverse experience.

One effective method of such rewiring is Mindfulness-Based Stress Reduction (MBSR). Recent studies have demonstrated how the human brain changes in both structure and function after engagement in MBSR, allowing increases in impulse control, self-compassion and sensory awareness. (Sevinc et al 2018, Greenberg et al 2018). Results have also shown that after following an MBSR program, participants have established greater skills in relaxation, higher self-esteem and being more resilient in the face of stressful situations.

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In their research, Morris and Hays-Grudo et al (2015) outline PACEs that help buffer ACEs. These include both direct and environmental experiences that can help support the ability to regulate the body's stress response system. Environmental factors such as engaging in hobbies, having a clean and safe living environment, having access to an available trusted adult (not a parent) and being able to access appropriate education are all highlighted as playing a part in increasing personal resilience. Direct experiences such as having had the experience of unconditional love, having had a best friend to have fun with, taking part in community projects to help others and being involved in sports and social groups also offer a myriad of opportunities to have experiences that buffer ACEs. Although these experiences may seem obvious in terms of human developmental needs, together they provide the basis for safety and security, for the development of safe and trusted relationships and the opportunity to practise and demonstrate skills and competencies with other people. All of this supports the development of a regulatory system which can manage stress effectively.

Fundamental to the well being of human beings is the ability to feel safe; this requires attuned and loving connection with other human beings. ACEs are, for some, part of the fabric of their being, but the future outcomes for health and wellbeing are not prescribed by past experience. Opportunities to live in ways that offer PACEs are in fact, opportunities for everyone to live healthy and connected lives in which the development of self-esteem, confidence and mindful regulation can be the norm for all.

References

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