

## The Lifelong Impacts of ACEs and Toxic Stress

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### Abstract

*Many individuals are affected by adverse childhood experiences, or ACEs. ACEs have been declared a public health concern, displaying their prevalence. This literature review serves to provide an understanding of the effects of ACEs on the human lifespan on a biopsychosocial framework. Displaying the impact of the issue, it examines the long-lasting impacts of ACEs and toxic stress on biological development system, as well as the connection between ACEs and the fight or flight system. Additionally, the impact of ACEs the immune and hormonal systems is examined. In regard to evidence-based practice, the trauma-informed approach and trauma-informed care is discussed. Implications discussed next include trauma-based education for professionals and possible changes to the ACE scale. Upon examination of all factors, it can be concluded that there is much currently being done to treat and prevent ACEs in the social work and medical fields. Since ACEs are such a salient issue, research should be continued to find best practices and best preventions to improve the overall wellness of the community.*

Exposure to adverse childhood experiences, or ACEs, has a direct impact on the developing brains and bodies of children and can lead to negative life development (Liming, Grube, 2007). Research shows ACEs to have “pernicious effects across mental and physical domains” (Sachs-Ericsson, Sheffler, Stanley, Piazza, Preacher, 2017, pg. 1). ACEs are common. According to the CDC, at least 1 in 7 children have experienced neglect and/or abuse within the past year, and this statistic is likely an understatement (Centers for Disease Control and Prevention, 2019). The medical profession is concerned about ACEs and have labeled them as a “public health concern” (Chang, Jiang, Mkandarwire, Shen, pg. 2, 2019). The original ACEs study reports

that in cases of high exposure to childhood adversity, there is a 20-year difference in life expectancy compared to someone who was not exposed to high doses of adversity (Felitti, Anda, Nordenberg et al., 1998). Accumulating evidence supporting the negative impact of ACEs in adult health outcomes is so significant that ACEs are now being forced to be considered in everyday medicine (Chang, Jiang, Mkandarwire, 2019). Medical professionals are considering abuse and neglect a health problem rather than only labeling abuse or neglect as a social problem or mental health problem (Harris, 2014).

### **Physical Impacts of ACEs**

ACEs have a direct impact on the development of the immune and hormonal systems and impact the way human DNA is read and transcribed (Harris, 2014). Toxic stress caused by ACEs is stored in the body and results in a multitude of health problems. Due to the repeated shutting down of the digestive system during the fight or flight response, toxic stress can result in stomach issues and problems with digestion (Frederiksen, 2018) such as Irritable Bowel Syndrome (Park, 2016). Additionally, the increased heart rate caused by the fight or flight response can lead to future heart problems (Frederiksen, 2018). Research by Chang, Jiang, Mkandarwire, and Shen (2019) show that higher ACE scores are associated with insufficient sleep, diabetes, heart disease, comorbid conditions, and cancers. Exposure to ACEs is so damaging that there is a dramatic increased risk for 7 out of 10 of each of the leading causes of death in the United States (Harris, 2014), as well as elevated rates of morbidity and mortality from chronic diseases of aging (Sachs-Ericsson et al., 2017). Additionally, toxic stress causes migraines and muscle pain (Frederiksen, 2018).

### **ACEs in the Medical Field**

Routine ACE testing is becoming more common with many health providers and is highly recommended. Routine testing can catch ACEs earlier, making intervention possible (Harris, 2014) and increasing the chances of building resilience (Forstadt, Cooper, Andrews, 2015). Due to the personal relationship between a medical professional and patient, physicians are “instrumental” in intervention, prevention, and community education regarding ACEs (Forstadt, Cooper, Andrews, pg. 1, 2015). Health professionals are often a trusted source for a patient and have a unique opportunity to provide a listening ear and share compassion and

empathy. The interactions between professionals in the medical field and the patient can help to lower the chances for negative health consequences in adulthood (Forstadt, Cooper, Andrews, 2015).

### **Trauma-Informed Approach**

One approach that social workers and medical professionals are taking to build resilience in clients and patients with ACEs is a trauma-informed approach. Many fields are urging their workers to take universal precautions with trauma, as it is invisible and many individuals struggle with the effects of trauma (Fleishman, Kamsky, Sundborg, 2019). The trauma-informed approach is being integrated into existing models of evidence-informed services across all populations (Leveson, 2017). The trauma informed approach aims to incorporate safety collaboration, empowerment of the client, a healthy helping relationship (Leveson, 2017), and aims to create a safe and welcoming environment for the client (Fleishman, Kamsky, Sundborg, 2019). Trauma informed care requires the professional to consider the lived experiences of the client or patient and use this knowledge to base their approach around the experiences of the client, also called a patient-centered approach (Fleishman, Kamsky, Sundborg, 2019). Research by Modi and Hai (2019) shows that in order to effectively treat a client struggling with trauma, the trauma must be acknowledged when supporting the client. In the trauma-informed approach, workers implement strengths-based therapy, where the worker focuses on the strengths of the client to help facilitate posttraumatic growth (Modi, Hai, 2019, Leveson, 2017).

### **Implications**

Although a trauma-informed approach is being implemented in social work, health care, and other helping professions, there is still a need for trauma education and research

on how to improve the ACE test and treatments. Making improvements and changes to the ACE test can help professionals to better assess and treat patients. Social work and healthcare professionals should also work to understand

trauma as a universal precaution. Such action, along with continual research, will help to better understand the long-lasting and prevalent impact of ACEs on our society and better protect, support, and serve the community.

## References

- Centers for Disease Control and Prevention. (n.d.). Adverse Childhood Experiences (ACEs). Retrieved December 11, 2019, from <https://www.cdc.gov/violenceprevention/childabuseandneglect/acestudy/index.html>
- Chang, X., Jiang, X., Mkandarwire, T., & Shen, M. (2019). Associations between adverse childhood experiences and health outcomes in adults aged 18–59 years. *PLoS ONE*, *14*(2), 1–11. <https://doi.org/10.1371/journal.pone.0211850>
- Fleishman, J., Kamsky, H., & Sundborg, S. (2019). Trauma-Informed nursing practice. *Online Journal of Issues in Nursing*, *24*(2), N.PAG. <https://doi.org/10.3912/OJIN.Vol24No02Man03>
- Forstadt, L., Cooper, S., & Andrews, S. M. (2015). Changing medicine and building community: Maine's adverse childhood experiences momentum. *The Permanente Journal*, *19*(2), 92–95. doi:10.7812/TPP/14-169
- Frederiksen, L. (2018, April 26). The developing brain & Adverse Childhood Experiences (ACEs). Retrieved December 11, 2019, from <https://www.acesconnection.com/blog/the-developing-brain-and-adverse-childhood-experiences-aces>
- Harris, Nadine B. (September 2014). *How childhood trauma affects health across a lifetime* [video file]. Retrieved from [https://www.ted.com/talks/nadine\\_burke\\_harris\\_how\\_childhood\\_trauma\\_affects\\_health\\_across\\_a\\_lifetime?language=en#t-555515](https://www.ted.com/talks/nadine_burke_harris_how_childhood_trauma_affects_health_across_a_lifetime?language=en#t-555515)
- Levenson, J. (2017). Trauma-Informed social work practice. *Social Work*, *62*(2), 105–113. <https://doi.org/10.1093/sw/swx001>
- Liming, K. W., & Grube, W. A. (2018). Wellbeing Outcomes for Children Exposed to Multiple Adverse Experiences in Early Childhood: A Systematic Review. *Child & Adolescent Social Work Journal*, *35*(4), 317–335. <https://doi.org/10.1007/s10560-018-0532-x>
- Modi, K., & Hai, K. (2019). Trauma Informed Care for Adverse Childhood Experiences among Out-of- Home-Care Children - Developing an understanding through Case Studies from India. *Scottish Journal of Residential Child Care*, *18*(1), 57–66. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=sih&AN=136268922&site=ehost-live&scope=site>

Sachs-Ericsson, N. J., Sheffler, J. L., Stanley, I. H., Piazza, J. R., & Preacher, K. J. (2017). When Emotional Pain Becomes Physical: Adverse Childhood Experiences, Pain, and the Role of Mood and Anxiety Disorders. *Journal of Clinical Psychology, 73*(10), 1403–1428. doi:10.1002/jclp.22444

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