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Abstract

Adverse Childhood Experiences (ACEs) contribute to shorter, less healthy, and less productive lives. ACEs result from growing up in households with addiction, mental illness, abuse, or loss, all of which expose children to chronic toxic stress, and produce measurable structural changes in children's developing brains that last a lifetime. These changes, which include an overdeveloped stress response system that impairs learning and planning and results in underdeveloped self-regulatory systems, impact performance in the workplace, especially in institutions of higher education.

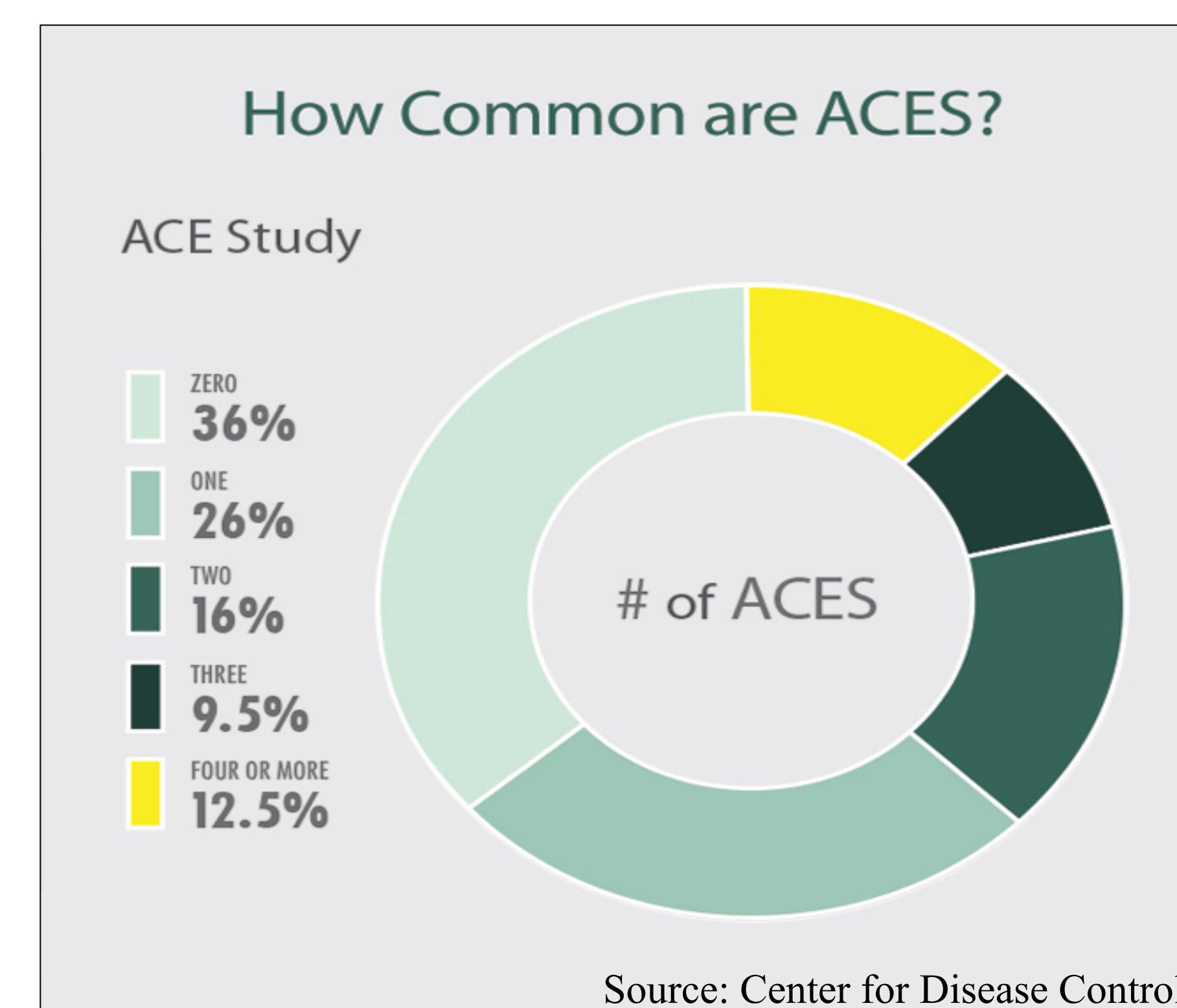
ACEs in East Tennessee and at ETSU are higher than the national average. About 1 in 4 East Tennesseans have 3+ ACEs. To help mitigate the local impact of ACEs, 20 ETSU faculty and associates from 11 academic departments and all 8 academic colleges have collaborated to form the Strong BRAIN (Building Resilience through ACEs-Informed Networking) Institute. Among other objectives, the Strong BRAIN Institute (SBI) strives to collaborate with ETSU administration to transform institutional culture through prioritizing and implementing Resilience-Informed practices and procedures, including the establishment of rampant psychological safety, radical transparency, and brutal authenticity. The SBI hopes to position ETSU as a national model for providing Resilience-informed higher education.

Adverse Childhood Experiences Study

Research on Adverse Childhood Experiences (ACEs) arose from collaborative efforts between the Center for Disease Control and Kaiser Permanente to assess the effects of early life experience on later physical and psychological wellbeing (Felitti et al., 1998). The frequency of ten ACEs was assessed:

1. Witnessing violence towards the mother
2. Household mental illness
3. Household substance abuse
4. Parental separation or divorce
5. Household incarceration
6. Abuse (emotional, physical, or sexual)
7. Neglect (emotional or physical)

It was found that ACEs were unexpectedly common (Figure 1), with over 60% of respondents indicating exposure to at least one ACE and 12.55 indicating exposure to four or more ACEs.



Impact of ACEs

ACEs have been found to have a dose-response relationship, meaning the more ACEs an individual has, the greater the likelihood and severity of health problems that will occur during the participant's adulthood. A higher ACE score has also been associated with higher rates of risky behaviors, including smoking, drug and alcohol use, obesity, and an increased number of sexual partners. However, even when controlling for these risky behaviors, participants with ACEs are more likely to have detrimental physical and mental health outcomes compared to participants with zero ACEs.

Origins and Goals of the SBI

The ETSU Strong BRAIN (Building Resilience through ACEs-Informed Networking) Institute (SBI) originates from a 5-year \$1 million gift from Ballad Health. An advisory board composed of ETSU faculty across 11 departments, Ballad Health experts, and community members guides the institute.

The SBI is designed to facilitate the development and dissemination of evidence-based practices to prevent, mitigate, or reduce the negative effects of ACEs on health. The institute also aims to translate best practices of mitigating ACEs into community action through partnership of local organizations. The SBI strives to build and sustain a psychologically safe education and work environment within ETSU and the surrounding community.

Current Projects and Future Directions

The SBI is currently involved in a pilot study that incorporates a resilience-informed training intervention within the Bill Gatton College of Pharmacy at ETSU. This intervention targets an understanding of ACEs, toxic stress, and psychological safety in both faculty and students. To date, 20 faculty and 37 students have completed this training and data is currently being analyzed. Future objectives of the SBI include:

- Developing a certificate program and other educational programs to promote trauma awareness;
- Developing a plan for transforming ETSU policies, procedures, and philosophies to better align with promoting resilience and ACEs mitigation;
- Promoting, coordinating, and spotlighting ACEs-related collaborations with multiple community sectors; and
- Providing infrastructural support for ACEs-related grant applications and grants management

For more information on the SBI visit:
<https://www.etsu.edu/institute/strong-brain>

References

- Centers for Disease Control and Prevention, Kaiser Permanente. The ACE Study Survey Data [Unpublished Data]. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention; 2016.
- American Journal of Preventive Medicine*, 14(4), 2Felitti, V.J., Anda, R.F., Nordenberg, D., Williamson, D.F., Spitz, A.M., Edwards, V., & Koss, M. P. (1998) Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The adverse childhood experiences (ACE) study. 45-258.

Acknowledgements

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