



12-16-2022

## **Adverse Childhood Experiences Screening Among Adults in an Inpatient Behavioral Health Unit**

Erika Y. Bales

*The University of Tennessee Knoxville, eyoungqu@vols.utk.edu*

Allyson Neal

*The University of Tennessee Knoxville, Aneal7@utk.edu*

Brittany McGill

*The University of Tennessee Knoxville, bmcgill6@vols.utk.edu*

Follow this and additional works at: <https://trace.tennessee.edu/dnp>



Part of the [Psychiatric and Mental Health Nursing Commons](#), and the [Quality Improvement Commons](#)

---

### **Recommended Citation**

Bales, Erika Y.; Neal, Allyson; and McGill, Brittany, "Adverse Childhood Experiences Screening Among Adults in an Inpatient Behavioral Health Unit" (2022). *Graduate Publications and Other Selected Works - Doctor of Nursing Practice (DNP)*.

<https://trace.tennessee.edu/dnp/58>

This Presentation is brought to you for free and open access by the Nursing at TRACE: Tennessee Research and Creative Exchange. It has been accepted for inclusion in Graduate Publications and Other Selected Works - Doctor of Nursing Practice (DNP) by an authorized administrator of TRACE: Tennessee Research and Creative Exchange. For more information, please contact [trace@utk.edu](mailto:trace@utk.edu).



Adverse Childhood  
Experiences Screening Among  
Adults in an Inpatient  
Behavioral Health Unit

Erika Bales BSN, RN  
The University of Tennessee,  
Knoxville



# Introduction



# Clinical Problem

- ACEs study showed that potentially traumatic events in childhood (0-17 years) negatively impact health and well-being across a lifetime
- Two-thirds of the study participants reported at least one ACE, and more than one in five participants reported three or more ACEs
- As the number of ACEs a participant has experienced increases, so does their risk for negative health outcomes

(Felitti et al., 1998)

# Clinical Problem Continued

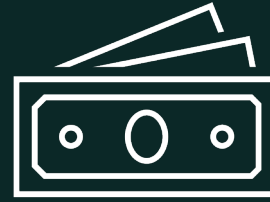
- Childhood adversity affects how our stress response functions, even how our DNA is read and transcribed, leading to long-term changes in our bodies and causing health problems as we age. (Danese & McEwen, 2012).
- When high ACE scores are left untreated, you can see a decreased life expectancy of up to 20 years (Brown et al., 2009).
- Experiencing four or more ACEs significantly increases the risk for seven out of the ten leading causes of death including:
  - stroke, diabetes, heart disease, cancer, COPD, suicide, and Alzheimer's disease (Bellis et al., 2019).



## Clinical Problem Continued

- In North America, ACEs were attributed to 40% of depression cases and 30% of anxiety cases (Bellis et al., 2019).
- Children that experienced four or more ACEs are:
  - Approximately 12 times more likely to attempt suicide (Felitti et al., 1998).
  - More than seven times more likely to become alcoholics in adulthood (Felitti et al., 1998).

# Clinical Problem Continued



- Total annual cost for ACEs attributable conditions in 2019 for North America was \$748 billion
- 82% of the ACE attributed costs were connected to people who had experienced two or more ACEs
- Estimated that a 10% reduction in ACEs prevalence could lead to an annual savings of \$105 billion

(Bellis et al., 2019)

# Clinical Significance

- In order to help decrease their negative effects and costs, practitioners must work to raise awareness of ACEs in adults and pediatric patients and begin to routinely screen patients for them.
- The site of this DNP scholarly project is an inpatient behavioral health unit that does not screen for ACEs and has no process for implementing ACEs screening.
- By implementing screening rates at this site, providers can intervene with proper treatment.





# Purpose and Goals

- The purpose of this project is to help practitioners identify adults with positive ACE screens so that they can provide appropriate treatment to mitigate negative outcomes.
- Goals:
  - Short-term: providers will incorporate ACEs screening into the assessment process; identification of ACEs will then allow providers to refer patients for appropriate treatment.
  - Long-term: identification and intervention can help reduce rates of mental health disease, suicide attempts, drug abuse, and other chronic diseases.



## PICOT Question

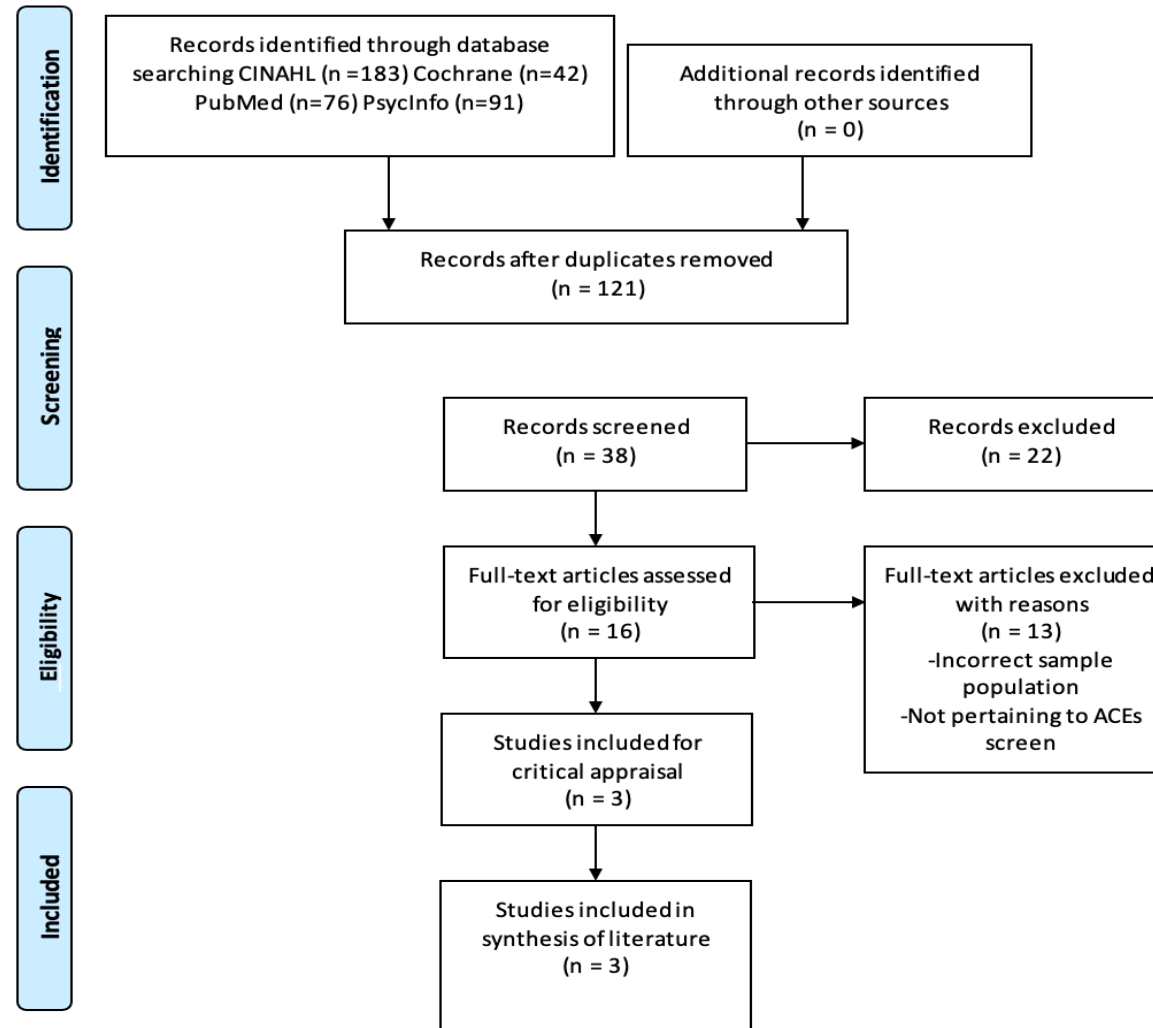
"Among adults in an inpatient behavioral health unit, how does standardized Adverse Childhood Experiences (ACEs) screening affect length of stay over two months?"

# Literature Search



Figure 1

Adapted PRISMA Flow Diagram



From: Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. *PLoS Med* 6(7): e1000097. doi:10.1371/journal.pmed.1000097

For more information, visit [www.prisma-statement.org](http://www.prisma-statement.org).

# Critical Appraisal

- Literature individually assessed with Johns Hopkins Nursing Evidence-based Practice (JHNEBP) tools
- Following individual appraisal, each article was assigned an evidence level and quality grade

(Dang & Dearholt, 2018)

# Synthesis of Evidence



- ACEs screening tool is one of the only ones available to assess childhood trauma.
- ACEs screening tool is recommended for implementation in adults as it is affordable, feasible, and effective at identifying childhood adversity (Kalmakis et al., 2018).
- Kalmakis & Chandler (2015) concluded providers should implement ACEs screening and utilize its results to create appropriate care plans and minimize negative health outcomes.
- Pardee et al. (2017) revealed practitioners should screen for ACEs and provide secondary and tertiary interventions to reduce the severity and consequences of ACEs.

# Recommendations for Practice Change



I **recommend** implementation of ACEs screening in adults to identify those at risk for negative health outcomes



I **recommend** implementation of trauma informed treatment referral for patients that screen positive for ACEs to improve health outcomes



## Aims of Recommendation

- Implement the screening of ACEs during the admission process of adults in an inpatient behavioral health unit to increase the identification of those that have suffered from childhood trauma.



# Clinical Expertise

- CDC has identified ACEs as one of the largest public health crises and recognizes the long-lasting negative impact that ACEs have on health and well-being
- CDC has also identified ACEs as preventable if identified and treated appropriately
- CDC recommends implementing ACEs screening and treatment referral to lessen the harms of ACEs and prevent health problems



# Patient Preferences

The slide features several decorative olive green shapes: a semi-circle at the top center, a horizontal pill shape below it, a vertical pill shape on the left, a vertical pill shape in the lower left, and a diagonal pill shape in the center.

- Routine ACEs screening promotes healthcare equity
- ACEs screening is associated with improved outcomes for patients
- Screening is time and cost-effective and can easily be disseminated throughout entire populations



# Guiding Framework

Johns Hopkins Nursing Evidence-Based  
Practice (JHNEBP) Model



© The Johns Hopkins Hospital/The Johns Hopkins University

Figure 3.3 JHNEBP PET process.

## Setting and Population

---

East Tennessee inpatient  
behavioral health hospital

---

Adult patients aged 18+  
both voluntary and  
involuntary admissions

---

Treatment is targeted for  
substance use & psychiatric  
issues




# SWOT Analysis


**Figure 2**

*SWOT Analysis*

Internal Factors- Inpatient Behavioral Health Unit Implementation Site	
Strengths	Weaknesses
<ul style="list-style-type: none"> <li>- Few resources required</li> <li>- Cost-effective implementation</li> <li>- Backed by government- affiliated programs</li> <li>- Opportunity for implementation in various behavioral health units and hospitals</li> <li>- Small hospital structure increases ease of communication</li> <li>- Chance to determine new procedural norms</li> <li>- Specific adult population that is easy to isolate</li> </ul>	<ul style="list-style-type: none"> <li>- Trauma therapy varies by therapy provider</li> <li>- Requires retrospective review of patient charts</li> <li>- Need to study screening techniques/forms</li> <li>- Stigma concerning past trauma</li> <li>- Requires patient participation</li> <li>- Requires multi-disciplinary approach for treatment</li> </ul>
External Factors- Inpatient Behavioral Health Unit Implementation Site	
Opportunities	Threats
<ul style="list-style-type: none"> <li>- Work with vulnerable psychiatric population</li> <li>- Build relationship with unit to determine standardized procedures</li> <li>- Improve behavioral health procedures</li> <li>- Reduce patient burden and increase quality of care</li> <li>- Increase access to trauma therapy for psychiatric patients</li> <li>- Decrease need for secondary and tertiary treatment</li> </ul>	<ul style="list-style-type: none"> <li>- Dependent upon voluntary participation by patients</li> <li>- Screening administration requires ability of patient to read and write</li> <li>- Dependent upon healthcare provider time/ willingness to facilitate proposed intervention</li> <li>- Psychiatric screening procedures in inpatient facilities are limited</li> <li>- Cultural barriers (re: willingness to be vulnerable and discuss past trauma)</li> </ul>



# Project team and Stakeholders

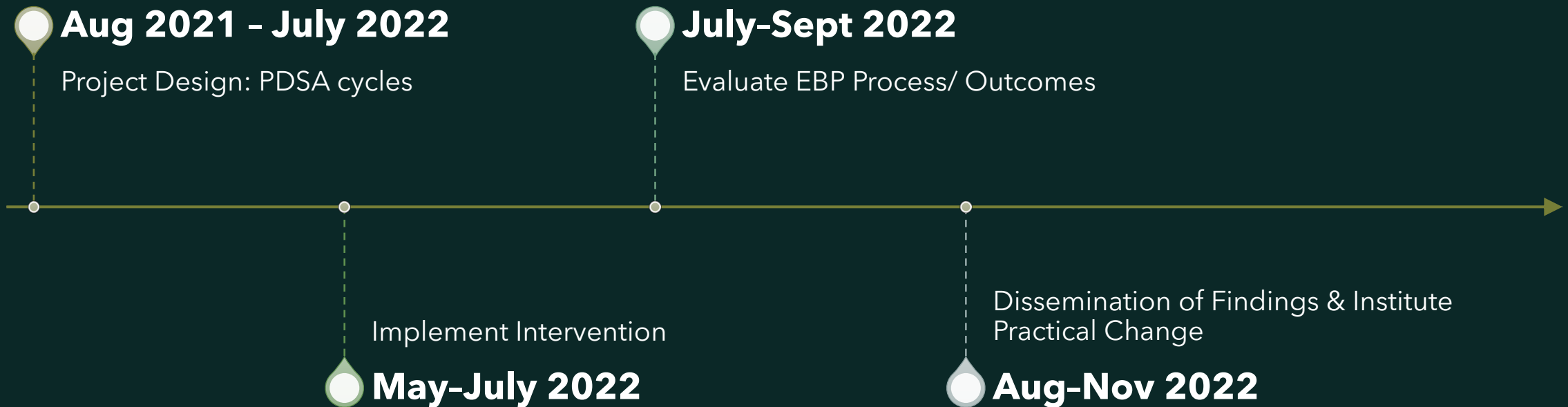


**Table 7**

*Stakeholders, Responsibilities, & Affiliated Agencies*

<b>Name/Title</b>	<b>Responsibilities</b>	<b>Agency</b>
DNP Student	Project leader, research relevant articles, apply evidence-based practice, collect data, analyze, and disseminate findings.	University of Tennessee, Knoxville
Manager of Behavioral Health Unit (BHU)	Leader of project department. Supervise the project procedures and project implementation. Facilitate data collection of treatment referral for target population.	Peninsula
Director of BHU	Supervises and approves department changes.	Peninsula
Medical Director of BHU	Ensures project is safe and appropriate for target population.	Peninsula
Manager of Access and Therapy of BHU	Supervises the access and therapy team that will facilitate implementation of project.	Peninsula
Access and Therapy staff of BHU	Responsible for assisting the administration of ACEs screening for all new admissions of the target population.	Peninsula
RN staff of BHU	Assist access staff in the collection of ACEs screening and ensures it is included in patient chart.	Peninsula
DNP Committee	Provide expertise and guidance in planning and implementing project.	University of Tennessee, Knoxville
Statistician	Provides assistance in analyzing and presenting project findings.	University of Tennessee, Knoxville

# Implementation Process and Project Design



# Intervention

**Instructions:** Below is a list of 10 categories of Adverse Childhood Experiences (ACEs). From the list below, please place a checkmark next to each ACE category that you experienced prior to your 18<sup>th</sup> birthday. Then, please add up the number of categories of ACEs you experienced and put the *total number* at the bottom.

1. Did you feel that you didn't have enough to eat, had to wear dirty clothes, or had no one to protect or take care of you?	<input type="checkbox"/>
2. Did you lose a parent through divorce, abandonment, death, or other reason?	<input type="checkbox"/>
3. Did you live with anyone who was depressed, mentally ill, or attempted suicide?	<input type="checkbox"/>
4. Did you live with anyone who had a problem with drinking or using drugs, including prescription drugs?	<input type="checkbox"/>
5. Did your parents or adults in your home ever hit, punch, beat, or threaten to harm each other?	<input type="checkbox"/>
6. Did you live with anyone who went to jail or prison?	<input type="checkbox"/>
7. Did a parent or adult in your home ever swear at you, insult you, or put you down?	<input type="checkbox"/>
8. Did a parent or adult in your home ever hit, beat, kick, or physically hurt you in any way?	<input type="checkbox"/>
9. Did you feel that no one in your family loved you or thought you were special?	<input type="checkbox"/>
10. Did you experience unwanted sexual contact (such as fondling or oral/anal/vaginal intercourse/penetration)?	<input type="checkbox"/>
<b>Your ACE score is the total number of checked responses</b>	

Do you believe that these experiences have affected your health?

Not Much  Some  A Lot

## Outcome Measures

---

ACE score

---

Impact on Health

---

Length of Stay





# Methods of Evaluation

- Data Collection:
  - Prospective chart review (post-intervention)
- Variables and Descriptive Stats
  - Demographics: Sex, Age, Race
  - Length of Stay
  - ACEs screening score
  - Impact on Health
- Data Analysis
  - Significance of ACE score & Impact on Health Data vs. Length of Stay
  - Confidence values & clinical/statistical significance of findings

81 study participants	
Male	54.3%
Female	45.7%
Caucasian	95.1%
African American	4.9%
Mean Age	38.81

## Findings

- ACE score vs. Length of Stay ( $\rho = -0.040, p = 0.724$ )
- Impact on Health vs. Length of Stay ( $p$ -value of 0.195)
- ACE score vs. Impact on Health ( $p$ -value of 0.002)

# Implications for Practice



- Project significance: ACEs screening and appropriate treatment may increase quality of care for patients and decrease negative health outcomes
- Sustainability: Simple and cost-effective intervention with minimal risks to patients
- Collaboration among multiple disciplines will help engage providers to provide quality care to patients and improve patient outcomes based on evidence-based practice

# Dissemination Plan



Submission of manuscript to  
peer-reviewed journal



Presentation of PowerPoint to  
stakeholders

# Ethical Issues & Principles

- ❖ Letter of support to conduct DNP project obtained from site
- ❖ IRB approval obtained before implementing project
- ❖ Security: All data de-identified, password enabled Microsoft Excel, physical copies of PHI shredded at project site
- ❖ Ethical principles associated with the DNP: social responsibility, respect for persons, do no harm, justice as fairness

# References

- Angelakis, I., Austin, J. L., & Gooding, P. (2020). Association of childhood maltreatment with suicide behaviors among young people: A systematic review and meta-analysis. *JAMA Network Open*, 3(8), e2012563. <https://doi-org.proxy.lib.utk.edu/10.1001/jamanetworkopen.2020.12563>
- Barnes, A. J., Anthony, B. J., Karatekin, C., Lingras, K. A., Mercado, R., & Thompson, L. A. (2020). Identifying adverse childhood experiences in pediatrics to prevent chronic health conditions. *Pediatric Research*, 87(2), 362–370. <https://doi-org.proxy.lib.utk.edu/10.1038/s41390-019-0613-3>
- Bryant, C., & VanGraafeiland, B. (2020). Screening for adverse childhood experiences in primary care: A quality improvement project. *Journal of Pediatric Healthcare*, 34(2), 122–127. <https://doi-org.proxy.lib.utk.edu/10.1016/j.pedhc.2019.09.001>
- Centers for Disease Control and Prevention. (2021). *Adverse Childhood Experiences*. Centers for Disease Control and Prevention. <https://www.cdc.gov/violenceprevention/aces/index.html>
- Felitti, V. J., et. al. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: the adverse childhood experiences (ACE) study. *American Journal of Preventative Medicine*, 14(4), 245-258. <https://www.ncbi.nlm.nih.gov/pubmed/9635069>.
- Hughes, K., Bellis, M. A., Sethi, D., Andrew, R., Yon, Y., Wood, S., Ford, K., Baban, A., Boderseova, L., Kachaeva, M., Makaruk, K., Markovic, M., Povilaitis, R., Raleva, M., Terzic, N., Veleminsky, M., Włodarczyk, J., & Zakhozha, V. (2019). Adverse childhood experiences, childhood relationships and associated substance use and mental health in young Europeans. *European Journal of Public Health*, 29(4), 741–747. <https://doi-org.proxy.lib.utk.edu/10.1093/eurpub/ckz037>
- Kalmakis, K. A., & Chandler, G. E. (2015). Health consequences of adverse childhood experiences: A systematic review. *Journal of the American Association of Nurse Practitioners*, 27(2015), 457-465. <https://onlinelibrary-wiley-com.utk.idm.oclc.org/doi/pdfdirect/10.1002/2327-6924.12215>
- Kalmakis, K.A., Shafer, M.B., Chandler, G.E., Aponte, E.V., & Roberts, S.J. (2018). Screening for childhood adversity among adult primary care patients. *Journal of the American Association of Nurse Practitioners*, 30(4), 193-200. <https://doi-org.proxy.lib.utk.edu/10.1097>
- Karatekin, C. (2018). Adverse Childhood Experiences (ACEs), stress and mental health in college students. *Stress & Health: Journal of the International Society for the Investigation of Stress*, 34(1), 36–45. <https://doi-org.proxy.lib.utk.edu/10.1002/smi.2761>
- Pardee, M., Kuzma, E., Dahlem, C. H. (Gina) Y., Boucher, N., & Darling-Fisher, C. S. (2017). Current state of screening high-ACE youth and emerging adults in primary care. *Journal of the American Association of Nurse Practitioners*, 29(12), 716–724. <https://doi-org.proxy.lib.utk.edu/10.1002/2327-6924.12531>
- U. S. Department of Health and Human Services [USDHHS]. (2020). Mental health and mental disorders. <https://www.healthypeople.gov/2020/topics-objectives/topic/mentalhealth-and-mental-disorders/objectives>