



BACKGROUND

- Prolonged activation of physiologic stress response occurs when children are exposed to physical, emotional or verbal abuse, neglect, and/or household dysfunction. These events are known as adverse childhood experiences (ACEs).
- Toxic stress can lead to permanent changes in brain’s architecture during infancy and early childhood; can lead to chronic physical and mental health conditions.
- Adults with ACEs may demonstrate limited parenting skills and maladaptive responses to their children which affects children’s emotional and behavioral health.
- Pediatrics Symptoms Checklist (PSC) is a screening tool which aids in the detection of psychosocial dysfunction in children. It screens for internalizing, externalizing, and attention-related behavior symptoms.
- A positive PSC triggers a diagnostic evaluation for mental health conditions.

OBJECTIVE

To determine if there is a correlation between parental ACE scores and the likelihood of a positive PSC-17 screen in their children.

METHODS

Cross-sectional convenience sample study in three university-affiliated community health clinics in the Bronx. Caregivers of children ages 4-16 at well visits completed an ACEs screen about themselves and a PSC-17 for their child.

RESULTS

Table 1. PSC-17 scores (n=71)

	Positive screen (%)	Negative screen (%)	P Value
Total ACEs	5.6	94.4	0.021
Internalizing symptoms	5.6	94.3	0.002
Externalizing symptoms	2.8	97.2	0.010
Attention Symptoms	11.3	88.7	NS

Figure 1. Sample ACEs questionnaire

Adverse Childhood Experience (ACE) Questionnaire
Finding your ACE Score ra.bbr.10.24.06

While you were growing up, during your first 18 years of life:

1. Did a parent or other adult in the household often ...
Swear at you, insult you, put you down, or humiliate you?
or
Act in a way that made you afraid that you might be physically hurt?
Yes No If yes enter 1 _____

2. Did a parent or other adult in the household often ...
Push, grab, slap, or throw something at you?
or
Ever hit you so hard that you had marks or were injured?
Yes No If yes enter 1 _____

3. Did an adult or person at least 5 years older than you ever ...
Touch or fondle you or have you touch their body in a sexual way?
or
Try to or actually have oral, anal, or vaginal sex with you?
Yes No If yes enter 1 _____

4. Did you often feel that ...
No one in your family loved you or thought you were important or special?
or
Your family didn't look out for each other, feel close to each other, or support each other?
Yes No If yes enter 1 _____

5. Did you often feel that ...
You didn't have enough to eat, had to wear dirty clothes, and had no one to protect you?
or
Your parents were too drunk or high to take care of you or take you to the doctor if you needed it?
Yes No If yes enter 1 _____

6. Were your parents ever separated or divorced?
Yes No If yes enter 1 _____

7. Was your mother or stepmother:
Often pushed, grabbed, slapped, or had something thrown at her?
or
Sometimes or often kicked, bitten, hit with a fist, or hit with something hard?
or
Ever repeatedly hit over at least a few minutes or threatened with a gun or knife?
Yes No If yes enter 1 _____

8. Did you live with anyone who was a problem drinker or alcoholic or who used street drugs?
Yes No If yes enter 1 _____

9. Was a household member depressed or mentally ill or did a household member attempt suicide?
Yes No If yes enter 1 _____

10. Did a household member go to prison?
Yes No If yes enter 1 _____

Now add up your "Yes" answers: _____ This is your ACE Score

Figure 2. Sample PSC-17 questionnaire

Child ID#: _____ Child age _____
Caregiver: _____ Date: _____

Pediatric Symptom Checklist-17 (PSC-17)

INSTRUCTIONS: Emotional and physical health go together in children. Because caregivers are often the first to notice a problem with their child's behavior, emotions or learning, you may help your child get the best care possible by answering these questions. Please mark under the heading that best fits your child.

Does your child:	Please mark under the heading that best fits your child			For Office Use		
	Never	Sometimes	Often	I	A	E
1. Feel sad.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
2. Feel hopeless.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
3. Feel down on him/herself.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
4. Worry a lot.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
5. Seem to be having less fun.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
6. Fidget, is unable to sit still.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
7. Daydream too much.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
8. Distract easily.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
9. Have trouble concentrating.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
10. Act as if driven by a motor.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
11. Fight with other children.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
12. Not listen to rules.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
13. Not understand other people's feelings.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
14. Tease others.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
15. Blame others for his/her troubles.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
16. Refuse to share.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
17. Take things that do not belong to him/her.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
TOTAL						

To Score:
Fill in the unshaded box on the right: "Never" = 0, "Sometimes" = 1, "Often" = 2.
Sum the columns.
PSC17-Internalizing score is the sum of column I.
PSC17-Attention is the sum of column A.
PSC17-Externalizing is the sum of column E.
PSC-17 Total Score is the sum of PSC17-I + PSC17-A + PSC17-E.

Positive Scores:
PSC17-I ≥ 5
PSC17-A ≥ 7
PSC17-E ≥ 7
Total Score ≥ 15

PSC 17 Gardner W, Murphy M, Childs G et al. (1999)

RESULTS

- 71 caregivers of children ages 4-16 years participated in the study.
- Significant relationship between caregivers with higher ACE scores and an overall positive PSC-17 and positive internalizing and externalizing subsets in their children.
- No significant correlation between parental ACEs and a positive attention subset.

CONCLUSION/LIMITATIONS

- ACEs in primary caregivers correlate with a positive screen for behavior problems in their children. Based on these findings, primary care practitioners should consider using PSC-17 as an initial screening tool at well child visits in communities where ACEs are prevalent to detect pediatric mental health disorders and initiate treatment.
- Limitations to this study: single-center study with convenience sample.

REFERENCES

- “About the CDC-Kaiser ACE Study.” Centers for Disease Control and Prevention. www.cdc.gov/violenceprevention/acestudy/about.html.
- Shonkoff, J. P., et al. “The Lifelong Effects of Early Childhood Adversity and Toxic Stress.” Pediatrics, vol. 129, no. 1, 2011, doi:10.1542/peds.2011-2663.
- ACEs and the Lifelong Consequences of Trauma. www.aap.org/en-us/Documents/ttb_aces_consequences.pdf.