

Pediatric adverse childhood experiences and related life events screener (PEARLS) as an individual predictor of child executive function

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BACKGROUND

The PEARLS tool screens for Adverse Childhood Experiences (ACEs) and Related Life Events experienced by youth 19 and under. Studies report ACEs are associated with adverse health outcomes and as good predictors of mean group differences. In the current project we examined whether the PEARLS tool is associated with children who have persistently poor or worsening child executive function.

METHODS

- 1. Data from participants enrolled in the Pediatric ACEs Screening and Resiliency Study (age 3 months to 11 years)
- 2. Collected baseline PEARLS, and baseline and 9-month follow-up Behavior Rating Inventory of Executive Function (BRIEF) T-scores
- 3. Assessed PEARLS continuously and by quartiles, with a score of 5+ indicating the highest quartile
- 4. Assessed BRIEF as a continuous variable and dichotomized according to clinical significance (score >65% indicates poor executive function)
- 5. Analysis: Linear and logistic regression models
- 6. Covariates: age, gender, race, caregiver education

RESULTS

A PEARLS quartile score of 5 or more is significantly associated with higher BRIEF scores and a greater than 3 times the odds of high/worsening trend of executive function at 9 months follow-up in children ages 11 and under enrolled in the study with those compared with a PEARLS score of 0. Each unit increase in baseline PEARLS is also associated with a 29% increase in odds of persistently high or worsening BRIEF score at 9 months follow-up.

DISCUSSION

PEARLS tool can be a predictor of poor executive function in children. PEARLS can be used as a screening tool to identify children at high risk and who may benefit from targeted interventions.

ACKNOWLEDGEMENTS

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Screening for adverse childhood experiences and related life events can help identify children with poor or worsening executive function in pediatric primary care

ACEs and PEARLS

Abuse

PhysicalEmotionalSexual

Neglect

PhysicalEmotional

Household Challenges

Mental IllnessIPVCaregiver SeparationIncarcerationSubstance Misuse

Related Life Events

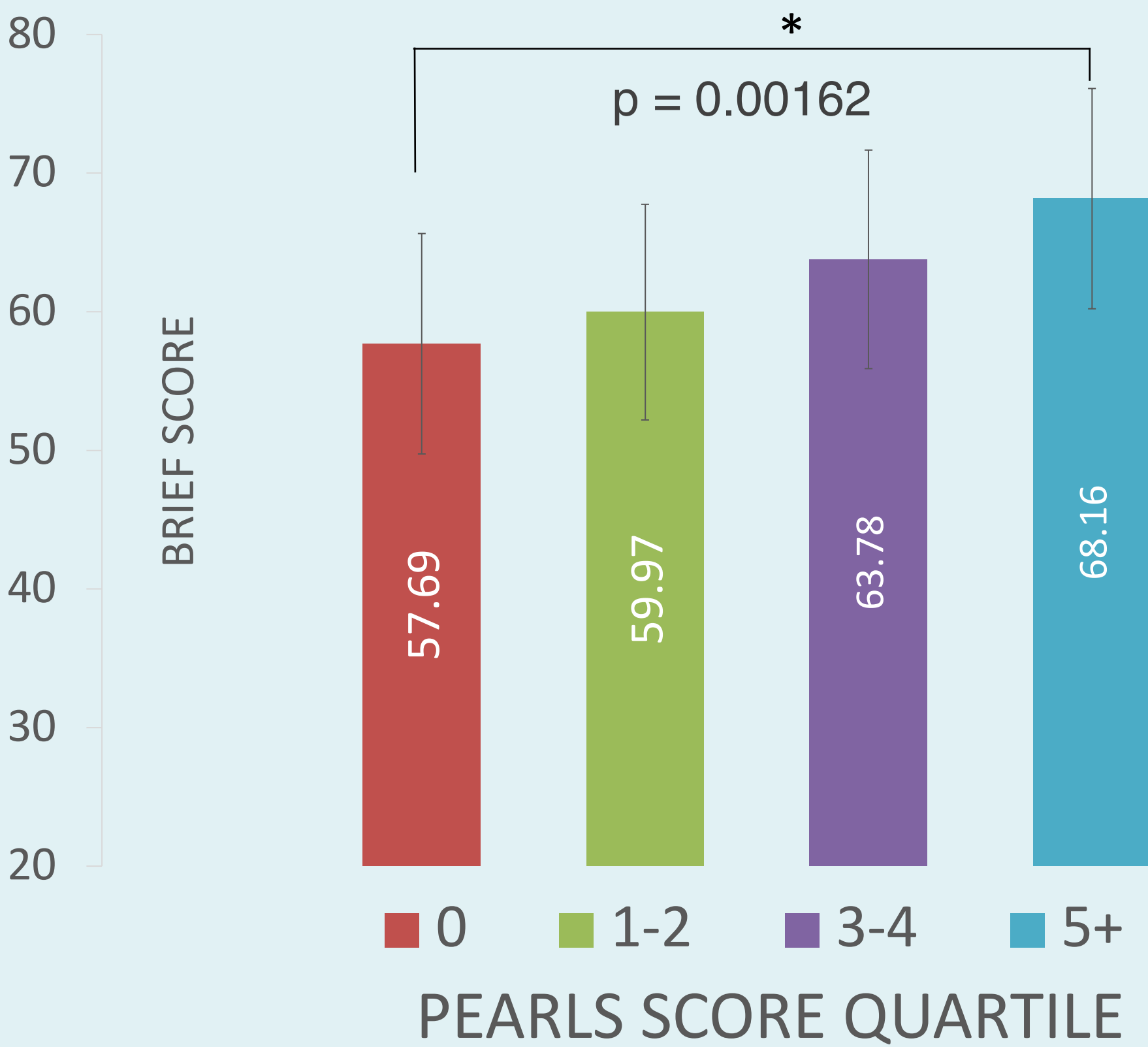
Violence/bullyingDiscriminationFood & Housing InsecurityFamily SeparationCaregiver DisabilityCaregiver Death

Adopted from the Office of CA Surgeon General

DEMOGRAPHICS

n	144	
Age, mean (SD)	6.9 (2.9)	
Sex	n	%
Male	86	59.7
Female	58	40.3
Race		
White/non-Hispanic	3	2.1
Black/non-Hispanic	86	59.7
Hispanic	28	19.4
Other	27	18.8
Caregiver Education		
Lower than high school	1	0.7
Some high school	21	14.6
High school graduate or GED	35	24.3
Some college	49	34.0
College grad or higher	38	26.4
Income		
25,000 or less	86	59.7
Greater than 25,000	46	31.9
Missing	12	8.3
Baseline BRIEF T-score, mean (SD)	56.7 (12.4)	
9-month BRIEF T-score, mean (SD)	56.8 (12.1)	
Baseline PEARLS score, mean (SD)	3.5 (3.3)	
PEARLS quartiles		
0	31	21.5
1-2	53	36.8
3-4	14	9.7
5+	46	31.9

Association between PEARLS quartiles and continuous BRIEF score



BRIEF Trends

NORMAL

- Baseline and 9-month BRIEF < 65% **OR**
- Baseline BRIEF ≥ 65% and 9-month BRIEF < 65% *[improved executive function]*

HIGH / WORSENING

- Baseline and 9-month BRIEF ≥ 65% **OR**
- Baseline BRIEF < 65%, 9-month BRIEF ≥ 65% *[worsened executive function]*



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	High/worsening BRIEF trend OR (95% CI)	p-value
PEARLS Score	1.29 (1.13, 1.50)	0.0002
PEARLS Score Quartile		
0	Reference	
1-2	0.72 (0.21, 2.56)	0.60
3-4	1.52 (0.30, 7.24)	0.60
5+	3.16 (1.06, 10.48)	0.04



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