Maternal Adverse and Protective Factors on Infant Social-Emotional Problems

Melissa Dobson[1], Amanda Morris[1], Devin Barlaan[1], Lana Beasley[2], Jens Jespersen[1] & Jennifer Hays-Grudo[2]

[1]Oklahoma State University, [2]Oklahoma State University Center for Health Sciences

PACEs Lab
Protective and Compensatory Experiences

Introduction

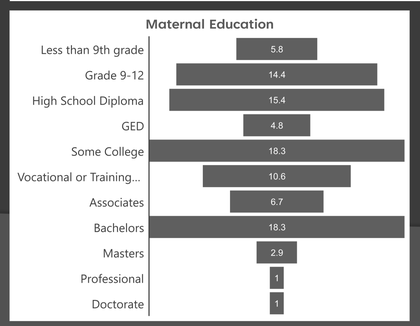
- Children experience higher rates of adversity when their parents have experienced adversity, known as intergenerational transmission of trauma.[1]
- Infants are more likely to have poorer social-emotional development when mothers report high Adverse Childhood Experiences (ACEs).[1,2]
- Protective and Compensatory Experiences (PACEs) may buffer the negative relationship between ACEs and negative developmental outcomes for infants.

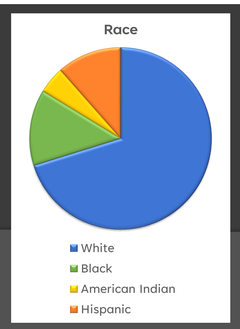
Aim & Hypothesis

- The purpose of the study was to understand interactions between ACEs and PACEs and their impact on infant social emotional development among low-income families.
- **Hypothesis:** Mothers with high PACEs will buffer the negative relationship between high ACEs and poorer infant social-emotional development.

Participants

- Participants (*N*=102) were mothers enrolled in the Oklahoma Baby (OKBaby) Study, based on the Legacy for Children™ program developed by the Centers for Disease Control and Prevention.
- OKBaby was a longitudinal study conducted in two cities in Oklahoma across seven time points when babies were between 1-36 months old.[3]
- Legacy for Children™ is a group-based evidence-based parenting program focused on strengthening the parent-child relationship, social support, and promoting children's health and social emotional development by examining change over time and developmental trajectories.[3]
- All mothers qualified for Women, Infants, and Children (WIC) resources.
- 34% of participants were living in rural areas.
- Babies were between 12-33 months old during Wave 2 and 24-36 months old during Wave 3 for analyses.





PACEs Information

Legacy for Children

ACEs and PACEs

Adverse Childhood Experiences (ACEs)

10 potentially traumatic adverse childhood experiences linked to adulthood negative mental and physical outcomes[4]

Abuse	Neglect	Household Dysfunction
Emotional	Emotional	Domestic violence
Physical	Physical	Substance abuse
Sexual		Mental illness
		Divorce
		Incarceration

Protective and Compensatory Experiences (PACEs)

10 positive childhood experiences increasing resilience and decreasing negative mental and physical outcomes[5]

Relationships	Environmental
Unconditional love	Basic needs met
Trusted mentor	Fair rules & routines
Best friend	Learning opportunities
Social group	Physical activity
Volunteering	Hobbies

Means, Standard Deviations, and Correlations

Variable	M	SD	1	2	3	4	5	6
1. ACEs	2.24	2.55	—					
2. PACEs	8.03	2.04	-.29**	—				
3. BITSEA Wave 2	9.76	5.92	.26*	-.24*	—			
4. BITSEA Wave 3	9.15	6.38	.28*	-.21*	.51**	—		
5. Maternal Age	30.03	5.34	-.07	.08	-.19	-.11	—	
6. Race	—	—	-.17	-.40	.01	.21*	-.01	—
7. Education	—	—	.07	.37**	-.18	-.07	.25*	-.24*

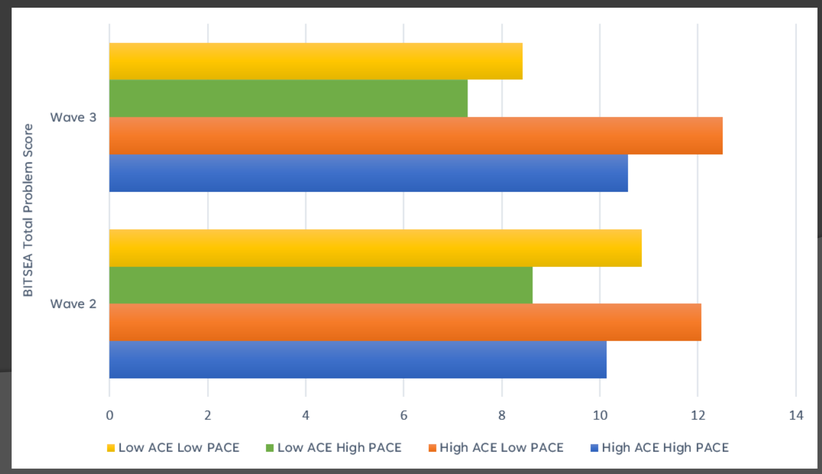
*p<.05. **p<.01.

Means, Standard Deviations, and One-Way Analyses of Variance for BITSEA Problem Scores by Wave

Measure	High ACEs High PACEs		High ACEs Low PACEs		Low ACEs High PACEs		Low ACEs Low PACEs		*F*	η^2
	M	SD	M	SD	M	SD	M	SD		
Wave 2	10.14	6.98	12.07	6.23	8.70	5.41	10.86	5.73	1.29	.50
Wave 3	10.20	6.56	12.20	8.72	7.49	5.33	10.45	5.92	2.91*	.81

*p<.05.

Maternal ACEs and PACEs on Infant Social Emotional Problems Across Time



Procedure

- Mothers completed self-report measures of their risk and protective factors using the ACE questionnaire[2] and the Protective and Compensatory Experiences (PACEs) scale.[3]
- Mothers self-reported their infant's social-emotional development using the Brief Infant-Toddler Social and Emotional Assessment (BITSEA).[6]
- Higher BITSEA Problem scores indicate greater levels of social-emotional or behavioral problems while lower Competence scores indicate a possible deficit in competence.
- Mothers also completed a videotaped interaction between mom and baby and an interview with the mother asking about her relationship with her baby.
- One-way ANOVAs were conducted to determine if BITSEA total problems scores were different for groups of mothers with high and low ACEs and PACEs.

4 Groups of Mothers Profile High ACEs = 4 or more; High PACEs = 8 or more			
High ACE, Low PACE	*n*=15	High ACE, High PACE	*n*=14
Low ACE, Low PACE	*n*=20	Low ACE, High PACE	*n*=53

Results

- BITSEA problem scores were statistically different for different groups of mothers of children 24-36 months during Wave 3, $F(3, 99)=2.91$, $p=04$.
- Mothers with high ACEs and low PACEs ($M=12.20$, $SD=8.72$) had infants with significantly higher BITSEA total problems than mothers with low ACEs and high PACEs ($M=7.49$, $SD=5.33$).
- There were no statistically significant differences in BITSEA competence scores between mothers with high and low ACEs and PACEs.

Conclusion & Limitations

- Mothers with a history of childhood adversity and fewer early protective factors are more likely to experience problems in their infant's social-emotional development.
- Promotive protective experiences can have intergenerational implications beginning with mothers and their children.
- Future research should assess caregivers' current PACEs, as current data were limited to retrospective PACEs.

Selected References

1. McDonald, S. W., Madigan, S., Racine, N., Benzies, K., Tomfohr, L., & Tough, S. (2019). Maternal adverse childhood experiences, mental health, and child behaviour at age 3: The all our families community cohort study. *Preventive medicine*, *118*, 286-294.
2. McDonnell, C. G., & Valentino, K. (2016). Intergenerational effects of childhood trauma: evaluating pathways among maternal ACEs, perinatal depressive symptoms, and infant outcomes. *Child maltreatment*, *21*(4), 317-326.
3. Centers for Disease Control and Prevention. (2021, February 22). *Legacy for Children™*. Centers for Disease Control and Prevention.
4. Hays-Grudo, J. & Morris, A. S. (2020). *Adverse and protective experiences: A developmental perspective*. American Psychological Association.
5. Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., Koss, M. P., & Marks, J. S. (1998). *Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults.* American Journal of Preventive Medicine, 14(4), 245–258.
6. Briggs-Gowan, M. J., Carter, A.S., Irwin, J.R., Wachtel, K., & Cicchetti, D.V. (2004). The Brief Infant-Toddler Social and Emotional Assessment: screening for social-emotional problems and delays in competence. *Journal of pediatric psychology*, *29*(2), 143-155.