



# The Relationship of Adverse Childhood Experiences, Protective and Compensatory Experiences and Children's Flourishing

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## Background

### Adverse Childhood Experiences (ACEs)

- Include: abuse, neglect, domestic violence, parental divorce, household mental illness, incarceration and substance abuse (Felitti et al., 1998).
- Each additional ACE increases a person's risk of having serious health problems such as cancer, diabetes, heart disease, risk for stroke, depression, alcoholism and drug use.

### Protective and Compensatory Experiences (PACEs)

- Focus on factors that build resilience and were developed as a comparable measure to ACEs.
- PACEs include 10 categories of positive experiences (1) unconditional love; (2) having a best friend; (3) volunteering in the community; (4) being a part of a group; (5) having a mentor; (6) living in a clean, safe home with enough food; (7) getting an education; (8) having a hobby; (9) regular physical activity; and (10) having rules and routines. (Morris et al., 2021).

## Research Questions

- 1.) Is there a relationship between the number of ACEs, the number of PACEs, and flourishing when controlling for race, gender, federal poverty level, and family structure?
- 2.) Does the number of PACEs moderate the relationship between the number of ACEs and flourishing when controlling for race, gender, federal poverty level, and family structure?

Figure 1. PACEs connected to NSCH 2019 variables

### Unconditional Love

- When your family faces problems you talk together about what to do [TALKABOUT]
- work together to solve your problems [WKTOSOLVE]
- know you have strengths to draw on [STRENGTHS]
- stay hopeful even in difficult times [HOPEFUL]

### Having a Best Friend

- Making or keeping friends [MAKEFRIEND]

### Volunteering in the Community

- Participation in any type of community service or volunteer work at school, church or in the community [K7Q37]

### Being a Part of a Group

- Participation in any clubs or organizations after school or on weekends [K7Q31]

### Having a Mentor

- Child has at least one adult in the school, neighborhood, or community he or she can rely on for advice or guidance [K9Q96]

### Living in a Clean, Safe Home with Enough Food

- Lives in a safe neighborhood [K10Q40\_R]
- Ability to afford food [FOODSIT]

### Getting an Education

- Child cares about doing well in school [K7Q82\_R]
- Child does all required homework [K7Q83\_R]

### Having a Hobby

- Participation in any other organized activities or lessons, such as music, dance, language, or other arts [K7Q32]

### Regular Physical Activity

- Participation in physical activity, exercise or sport [PHYSACTIV]

### Having Rules and Routines

- Participate in sports teams or sports lessons after school or on weekends [K7Q30]

## Methods

Data obtained from the National Survey of Children's Health (NSCH) 2019. Each survey was administered to a primary caregiver in order to obtain information about a child in the home.

### Dependent Variable:

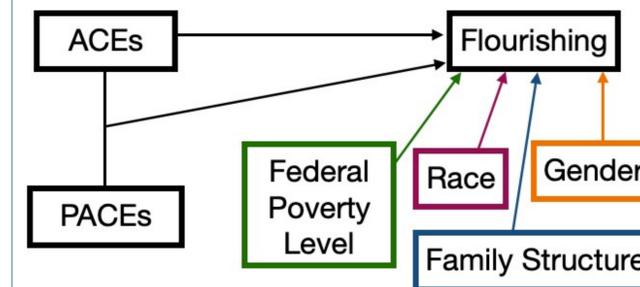
*Flourishing* is calculated based on the number of positive responses to the following items.

- (1) shows interest and curiosity in learning new things
- (2) works to finish tasks
- (3) stays calm and in control when faced with a challenge

### Study Design & Analysis

- Descriptive Correlational
- 18,714 surveys for children 6-17 years old included in the analysis.
- Survey-Weighted Linear Regression using R Software

## Conceptual Model



## Results

The final model, including all covariates, accounted for 24% of the variance in children's flourishing. (see Table 1 for all results)

Significant variables in the model include:

### ACEs

- As the number of ACEs increase, flourishing decreases ( $B = -0.14$ ,  $t(18,649) = -4.05$ ,  $p < 0.001$ ).

### PACEs

- As the number of PACEs increase, flourishing increases ( $B = 0.15$ ,  $t(18,649) = 20.68$ ,  $p < 0.001$ ).

### Interaction of ACEs and PACEs

- The interaction of ACEs and PACEs on flourishing is significant ( $B = 0.01$ ,  $t(18,649) = 2.25$ ,  $p = 0.025$ )

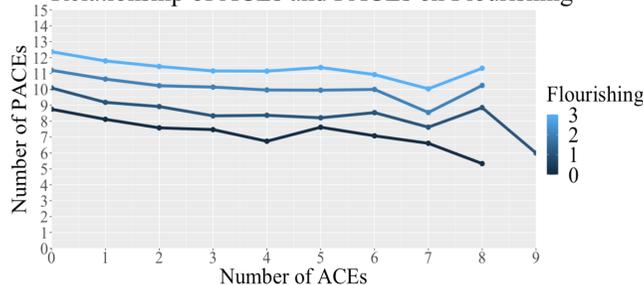
### Significant Covariates

- **Gender** – Females have higher flourishing than males ( $B = 0.08$ ,  $t(18,649) = 3.60$ ,  $p < 0.001$ )
- **Family Structure** – Other family types have less flourishing in comparison to two parents-married family structures ( $B = -0.23$ ,  $t(18,649) = -2.12$ ,  $p < 0.03$ )
- **Race** – Compared to White non-Hispanic individuals: (i) Hispanics have higher flourishing ( $B = 0.08$ ,  $t(18,649) = 2.10$ ,  $p < .04$ ) and (ii) Other/Multiracial individuals have higher flourishing ( $B = 0.07$ ,  $t(18,649) = 2.35$ ,  $p < 0.02$ ).

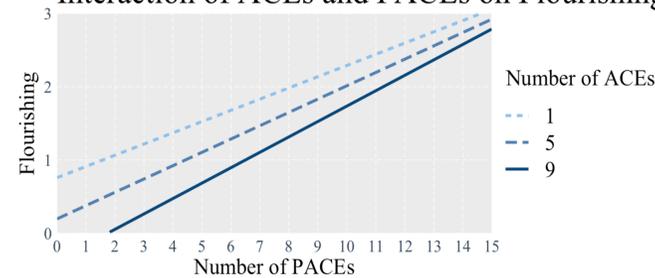
Table 1. Survey-Weighted Linear Regression Coefficient Table

Parameter Name	B	Standard Error	t-Statistic	p >  t
ACEs	-0.14	0.03	-4.05	< 0.00
PACEs	0.15	0.01	20.68	< 0.00
Gender: Females	0.08	0.02	3.60	< 0.00
Two Parents-Not Married	0.01	0.05	0.19	0.85
Single Parent	0.01	0.04	0.18	0.86
Grandparent Household	0.07	0.06	1.15	0.25
Other Family Type	-0.23	0.11	-2.12	0.03
Federal Poverty Level 100-199%	-0.03	0.05	-0.61	0.54
Federal Poverty Level 200-399%	-0.02	0.04	-0.60	0.55
Federal Poverty Level 400% or greater	-0.01	0.04	-0.33	0.74
Hispanic	0.08	0.04	2.10	0.04
Black, non-Hispanic	0.04	0.04	1.15	0.25
Other/Multi-Racial	0.07	0.03	2.35	0.02
ACEs Score*PACEs Score	0.01	0.00	2.25	0.02

Relationship of ACEs and PACEs on Flourishing



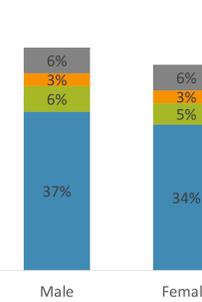
Interaction of ACEs and PACEs on Flourishing



## Sample Demographics

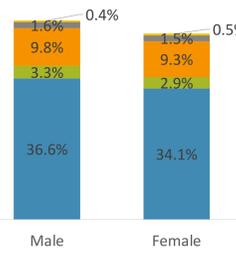
### Gender vs. Race

- Other/Multi-racial
- Black
- Hispanic
- White



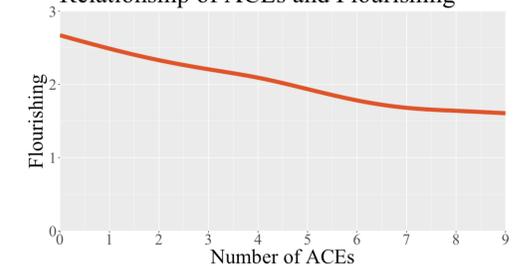
### Gender vs. Family Structure

- Other Family Type
- Grandparent
- Single Parent
- Two Parents-Not Married
- Two Parents-Married

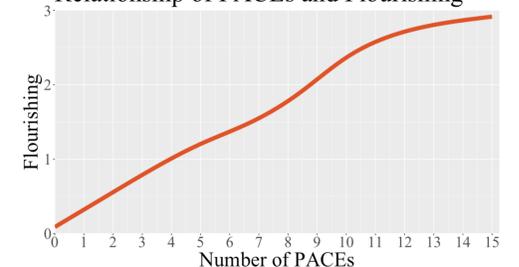


## Visualizing the Simple Relationships

Relationship of ACEs and Flourishing



Relationship of PACEs and Flourishing



## Discussion & Recommendations

- Findings support PACEs as a moderator of the relationship between ACEs and flourishing. Additionally, results indicated an increased number of PACEs is correlated with improved flourishing at all level of ACEs.
- Future research could further explore PACEs as a comparable measure to ACEs. The National Survey of Children's Health could consider adding variables specifically designed to measure PACEs in order to improved ongoing analysis of the relationship between adversity, measured by ACEs, and resilience, measured by PACEs.
- The significance of gender, race, and family structure in regards to ACEs and PACEs could be further explored in future studies.

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## References

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## Acknowledgments

Child and Adolescent Health Measurement Initiative: Data Resource Center for Child & Adolescent Health