

Correlation of Adverse Childhood Experiences with Children in Poverty and Concentrated Disadvantage at the State Level

Kristin Shaw, MPH, Laura Houghtaling, MPH, and Alexia Málaga, MPH, Arundel Metrics, Inc., Saint Paul, MN

Background

Adverse childhood experiences (ACEs) are stressful or traumatic events that can have a lasting impact on health and well-being into adulthood. Children who experience multiple ACEs are at increased risk of negative health outcomes.

We examined the prevalence of multiple levels of ACEs across states and the correlation with the percentage of children in poverty and concentrated disadvantage, two measures that can negatively impact physical and mental health throughout the life course.

Methodology

- ACEs (0-17 years): 2017 National Survey of Children's Health at 2 or more (2+) and 3 or more (3+) of 9 experiences (Table 1)
- Children in poverty (<18 years): 2017 American Community Survey (ACS) 1-year estimates file
- Concentrated disadvantage (households): 2017 ACS 5-year estimates file based upon the Life Course Indicators Tip Sheet (LC-06) published by the Association of Maternal & Child Health Programs (Table 2)
- Spearman rank-order correlation coefficients (rs) were calculated based on state rankings

Hard to get by on family's income-cannot afford basics
Parent or guardian divorced or separated
Parent or guardian died
Parent or guardian served time in jail
Witnessed domestic violence
Victim or witness of neighborhood violence
Lived with anyone who was mentally ill, suicidal, or severely depressed
Lived with anyone who had a problem with alcohol or drugs
Treated or judged unfairly because of his/her race or ethnic group

Percent of individuals below the poverty line
Percent of individuals receiving public assistance
Percent of female-headed households with children (less than age 18)
Percent unemployed (age 16 and older)
Percent less than age 18

Results

Children in poverty

- 18.4% of children lived below the poverty threshold (Table 3)
- Ranges from 10.3% in New Hampshire to 28.0% in Louisiana

ACEs

- 19.3% of children had 2+ and 10.0% had 3+ (Table 3)
- New Jersey had the lowest prevalence and Oklahoma had the highest prevalence at both 2+ and 3+ ACEs levels

Concentrated disadvantage

- 27.0% of households were located in areas of concentrated disadvantage (Table 3)
- Ranges from 2.5% in Vermont to 45.5% in Mississippi

Children in poverty was moderately positively correlated with 2+ and 3+ ACEs at the state level (Table 4). A few states were outliers to this trend:

- Montana and Alaska have a lower percentage of children in poverty (14.7% and 14.9%, respectively), yet a higher prevalence of ACEs at each level
- Texas has a higher percentage of children in poverty (20.9%), yet a lower prevalence of ACEs at each level
- South Carolina is in the bottom 10 for children in poverty (22.6%), yet is in the top 10 for 2+ ACEs (16.7%)

Concentrated disadvantage had negligible correlation with ACEs at any level (Table 4), however, was highly positively correlated with children in poverty (rs=0.79).

Table 3. Children in poverty, multiple adverse childhood experiences (ACEs), and concentrated disadvantage shaded by quintile

	Children in Poverty (%)	ACEs 2+ (%)	ACEs 3+ (%)	Concentrated Disadvantage (%)
New Hampshire	10.3	17.3	6.7	3.9
Utah	10.7	18.3	7.6	16.7
North Dakota	10.9	19.5	11.0	9.7
Hawaii	11.5	15.0	6.6	14.5
Minnesota	11.8	17.6	11.8	10.3
Colorado	12.0	17.9	10.2	13.1
Maryland	12.0	15.9	7.7	17.6
Iowa	12.3	17.2	9.3	10.5
Connecticut	12.6	17.3	8.6	19.9
Maine	13.1	20.4	10.5	6.2
Wyoming	13.3	24.2	11.9	3.9
Massachusetts	13.5	15.4	7.0	17.9
Vermont	13.8	23.0	11.1	2.5
New Jersey	13.9	13.0	3.8	20.2
Virginia	14.0	20.5	8.8	13.8
Nebraska	14.1	18.0	12.0	10.7
Washington	14.3	17.5	11.4	16.1
Wisconsin	14.5	23.0	12.2	13.3
Montana	14.7	25.8	15.6	7.3
Kansas	14.8	19.9	9.4	12.2
Alaska	14.9	24.4	13.7	17.7
Idaho	15.3	18.8	10.2	29.4
Oregon	16.5	24.1	11.3	25.4
Rhode Island	16.6	14.9	5.4	25.5
South Dakota	16.6	19.3	9.9	8.7
Illinois	17.0	16.7	7.5	24.8
Pennsylvania	17.0	17.2	10.2	17.6
California	18.1	13.3	7.2	35.7
Indiana	18.4	20.3	10.9	22.2
Delaware	18.5	21.3	10.2	26.2
Nevada	18.5	23.8	13.0	27.7
Missouri	18.6	24.7	14.9	18.2
Michigan	19.7	22.3	10.5	22.1
New York	19.7	16.5	8.8	26.4
Ohio	20.1	23.1	11.8	23.1
Florida	20.3	25.9	14.9	37.3
Arizona	20.8	24.0	11.8	35.1
Texas	20.9	16.0	7.8	41.6
Georgia	21.0	22.5	9.9	42.0
North Carolina	21.2	23.5	10.5	29.3
Tennessee	21.2	23.7	12.4	26.0
Oklahoma	21.5	30.4	20.5	18.3
Kentucky	22.4	24.7	11.5	28.1
Arkansas	22.5	24.4	14.3	25.5
South Carolina	22.6	16.7	11.9	33.5
Alabama	24.6	24.9	11.7	32.5
West Virginia	25.9	29.2	17.5	21.3
Mississippi	26.9	23.7	13.4	45.5
New Mexico	27.2	24.2	14.1	43.6
Louisiana	28.0	22.1	8.4	38.3
United States	18.4	19.3	10.0	27.0

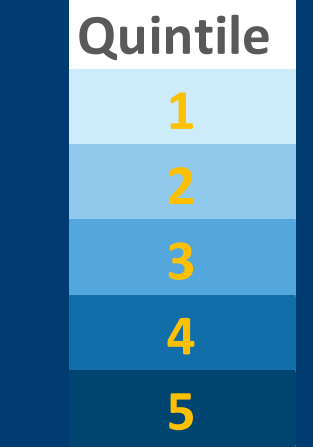


Table 4. Correlation of children in poverty and concentrated disadvantage with multiple adverse childhood experiences (ACEs)

	ACEs 2+	ACEs 3+
Children in poverty	0.50	0.44
Concentrated disadvantage	0.15	0.07

Conclusions

Nationally the percentage of children in poverty and the prevalence of 2+ ACEs was nearly 20%, while the percentage of households in areas of concentrated disadvantage approached 30%.

Children in poverty correlated more with 2+ ACEs than 3+ ACEs at the state level; it was also highly correlated with concentrated disadvantage.

Further analysis of individual ACEs by state may help shed light on the correlation between multiple ACEs and children in poverty.

Limitations

Aggregated data cannot be used to make inferences at the individual level.

Spearman rank correlation indicates only whether two variables are monotonically related.

Concentrated disadvantage is a 5-year average, while ACEs and children in poverty are 1-year estimates. This difference could have masked any correlation with ACEs, however, concentrated disadvantage was highly correlated with children in poverty.