



# Adverse Childhood Experiences in South Carolina:

## A Summary of Demographics and Prevalence and Cumulative ACEs

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Children's Trust of South Carolina has produced a series of research briefs on adverse childhood experiences (ACEs). The research brief topics include the data collection process, an overview of ACEs, the prevalence of ACEs in various populations, and the relationship between ACEs and health and social outcomes.

In 2014, Children's Trust of South Carolina (herein Children's Trust) partnered with South Carolina's Department of Health and Environmental Control (SC DHEC) to collect data from SC adults on exposure to adverse childhood experiences (ACEs). This partnership developed because, as the state leader in prevention of child abuse and neglect, Children's Trust values data-driven decision-making to improve the environments of vulnerable children and families. Currently, ACE data is being collected annually via the Behavioral Risk Factor Surveillance System (BRFSS; Centers for Disease Control and Prevention [CDC], 2014a).

Children's Trust has developed a series of research briefs to outline the ACE data collection process and to highlight important findings from the data collected. Third in the series, this brief provides a summary of 2014-2016 ACE survey results for South Carolina. First, an overview of ACE survey items is provided. Then, results by socio-demographics are reported for ACE prevalence (yes or no to any ACE) and cumulative ACE (e.g., 0, 1, 2, 3, or 4+ ACEs reported) data.

### ACE Survey Items

In 2014-2016, ACE Survey items were collected via the BRFSS in South Carolina and modeled the original ACE Study survey questions (see Morse & Stropolis, 2016a, and Morse, Stropolis, & Srivastav 2016 for additional information). Eight ACE types were assessed (abuse: physical, sexual, emotional; household dysfunction: mental illness, household substance use, incarceration, divorce, domestic violence). Table 1 outlines the 11 survey items administered to South Carolina adults (age 18 or older). Two items assessed household substance use (alcohol, drugs), and three items assessed contact sexual abuse (inappropriate touch, involuntary

sexual intercourse). Items in these categories were collapsed for analytic purposes and are consistent with previous ACE research (e.g., Anda et al., 2006; Felitti et al., 1998). Item responses only indicated whether a participant had experienced a particular ACE. The survey does not capture intensity or frequency of ACE exposure, but it does measure cumulative exposure to ACEs.

Table 1

ACE Types and Survey Items	
ACE TYPE	SURVEY ITEM(S)
Household Mental Illness	Did you live with anyone who was depressed, mentally ill, or suicidal?
Household Substance Use	Did you live with anyone who was a problem drinker or alcoholic? or Did you live with anyone who used illegal street drugs or abused prescription medications?
Household Incarceration	Did you live with anyone who served time or was sentenced to serve time in a prison, jail, or other correctional facility?
Parental Separation/Divorce	Were your parents separated or divorced?
Household Domestic Violence	How often did your parents or adults in your home ever slap, hit, kick, punch, or beat each other up?
Physical Abuse	How often did a parent or adult in your home ever hit, beat, kick, or physically hurt you in any way? Do not include spanking.
Emotional Abuse	How often did a parent or adult in your home ever swear at you, insult you, or put you down?
Sexual Abuse	How often did anyone at least 5 years older than you or an adult, ever touch you sexually? or try to make you touch them sexually? or force you to have sex?

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ACEs and other BRFSS data are weighted by the CDC so that the data is representative of the adult population of South Carolinians who have land line and cellular telephones. Weighting ensures that groups who are under-represented in the data can be accounted for during data analysis. BRFSS data is weighted to ensure unbiased population estimates by accounting for complex sampling, nonresponse, and noncoverage (e.g., landline versus cell phone data collection; CDC, 2014b). Thus, a “weight” is assigned to every survey respondent. Under-represented respondents have a higher weight, whereas over-sampled or represented respondents have a lower weight (Kish, 1990). Modified Rao-Scott chi-square estimates (Rao & Scott, 1984) were used to interpret ACE findings. See *Weighting of BRFSS Data* (CDC, 2014b) for more information.

### Prevalence of ACEs

Sixty percent of South Carolinians report experiencing at least one ACE. Examining ACE prevalence by demographic variables revealed a number of disparities. Individuals in the 18-29 year-old age group reported the highest ACE prevalence (72%), whereas only 43% of adults ages 70-80 reported experiencing any ACE.

There were also differences in ACE prevalence by region, with 64% of adults in Region 4 reporting at least one ACE compared to 58% of adults in Region 8 reporting at least one ACE (see Appendix). For ACE prevalence by demographic variables see Table 2.

### Cumulative ACEs

Research has shown that there is a dose-response relationship between ACEs and health and social outcomes, this means that as the number of ACEs experienced increase, the number of negative outcomes experienced also increases. Given this relationship, we examined cumulative ACE exposure to identify the proportion of individuals reporting zero, one, two, three, and four or more ACEs prior to age 18. The results were striking—approximately 40% of South Carolinians reported experiencing multiple ACEs (see Table 3).

Individuals of American Indian/Alaskan Native descent had the highest prevalence of 4 or more ACEs (24%), while those of Asian descent had the lowest prevalence of 4+ ACEs (4%). In general, as socioeconomic status decreased, the prevalence of 4+ ACEs increased. South Carolinians who did not graduate high school had the highest prevalence of 4+ ACEs (16%). Individuals who graduated high school or technical college had the lowest prevalence (9%) of 4+ ACEs. Table 4 presents cumulative ACEs by demographic variables.

Table 2

ACE Prevalence by Demographic Variables			
	DEMOGRAPHIC VARIABLES	ACE	NO ACE
Sex	Male	59%	41%
	Female	62%	38%
Age Group (in years)	18-29	72%	28%
	30-39	70%	30%
	40-49	67%	33%
	50-59	61%	39%
	60-69	51%	49%
	70-80	43%	57%
Region <sup>1</sup> (by counties)	1	59%	41%
	2	59%	41%
	3	63%	37%
	4	64%	36%
	5	60%	40%
	6	63%	37%
	7	59%	41%
	8	58%	42%
	9	59%	41%
Race/Ethnicity	White	58%	42%
	Black	65%	35%
	Asian	37%	63%
	American Indian/Alaskan Native	70%	30%
	Hispanic	67%	33%
	Other Race	76%	24%
Annual Household Income	\$0 - \$9,999	68%	32%
	\$10,000 - \$14,999	66%	34%
	\$15,000 - \$19,999	65%	35%
	\$20,000 - \$24,999	67%	33%
	\$25,000 - \$34,999	63%	37%
	\$35,000 - \$49,999	62%	38%
	\$50,000 - \$74,999	59%	41%
	\$75,000 or more	56%	44%
Educational Attainment	Did not graduate high school	65%	35%
	Graduated high school	61%	39%
	Attended college or technical school	64%	36%
	Graduated college or technical school	53%	47%

1. Counties represented in each region are reported in the Appendix.  
2. Additional information is reported in a research brief on veterans.



Table 3

South Carolinians' Cumulative ACE Exposure					
Cumulative ACEs	0 ACE	1 ACE	2 ACEs	3 ACEs	4+ ACEs
	40%	25%	14%	9%	12%

Table 4

ACE Cumulative by Demographic Variables						
	DEMOGRAPHIC VARIABLES	0 ACE	1 ACE	2 ACEs	3 ACEs	4+ ACEs
Sex	Male	41%	27%	14%	8%	10%
	Female	38%	24%	14%	9%	16%
Age Group (in years)	18-29	28%	27%	18%	11%	16%
	30-39	30%	28%	14%	11%	18%
	40-49	33%	26%	15%	10%	15%
	50-59	39%	24%	15%	10%	15%
	60-69	49%	22%	12%	7%	13%
	70-80	57%	22%	10%	5%	3%
	Region <sup>1</sup> (by counties)	1	41%	25%	14%	9%
2		41%	24%	13%	8%	13%
3		37%	27%	14%	10%	12%
4		36%	25%	15%	10%	14%
5		40%	26%	13%	9%	12%
6		37%	25%	15%	10%	12%
7		41%	25%	14%	8%	12%
8		42%	26%	15%	7%	10%
9		41%	28%	13%	8%	10%
Race/Ethnicity	White	42%	23%	14%	9%	13%
	Black	35%	32%	15%	9%	9%
	Asian	63%	20%	9%	4%	4%
	American Indian/Alaskan Native	30%	26%	8%	15%	20%
	Hispanic	33%	28%	15%	13%	11%
	Other Race	24%	22%	14%	16%	24%
Annual Household Income	\$0 - \$9,999	32%	25%	17%	9%	18%
	\$10,000 - \$14,999	34%	25%	14%	8%	24%
	\$15,000 - \$19,999	35%	25%	13%	11%	17%
	\$20,000 - \$24,999	33%	27%	15%	11%	13%
	\$25,000 - \$34,999	37%	27%	14%	11%	11%
	\$35,000 - \$49,999	38%	26%	13%	10%	14%
	\$50,000 - \$74,999	41%	24%	14%	8%	12%
	\$75,000 or more	44%	26%	14%	8%	8%
Educational Attainment	Did not graduate high school	35%	26%	14%	9%	16%
	Graduated high school	39%	27%	14%	8%	11%
	Attended college or technical school	36%	25%	14%	11%	14%
	Graduated college or technical school	47%	25%	13%	7%	9%

1. Counties represented in each region are reported in the Appendix.

2. Additional information is reported in a research brief on veterans.



## Conclusions

There is a high prevalence of ACEs among South Carolina adults. Nearly two-thirds of our state's residents are living with the effects of ACEs. The association between ACEs and negative health and social outcomes later in life has been well-documented (e.g., Anda, Tietjen, Schulman, Felitti, & Croft, 2010; Brown, Anda, Tiemeir, Felitti, Edwards, Croft, & Giles, 2009; Dube, Fairweather, Pearson, Felitti, Anda, & Croft, 2009). Additionally, given that 38% of South Carolinians experienced more than one ACE, there is no surprise that there is a prevalence of poor health and social outcomes in adulthood. In order to address and mitigate the impact of ACEs in the population, South Carolinians need to understand the impact of childhood adversity and place an emphasis on prevention. Understanding prevalence by demographics, including by region provides an opportunity to

develop community specific prevention strategies that meet the needs of each population.

There is currently a nationwide movement to incorporate ACE-informed programs into schools, mental health treatment, correctional facilities, and other settings ([www.aceresponse.org](http://www.aceresponse.org)). However, key researchers have argued that the most advantageous approach to addressing ACEs lies in simultaneously targeting ACEs across multiple domains and settings (e.g., Larkin, Shields, & Anda, 2012). As such, Children's Trust works with partners across the state to mitigate the effects of ACE exposure and prevent ACEs from occurring in future generations. The next research brief in the series will highlight demographic variables and Individual ACEs.

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## Appendix

South Carolina Behavioral Risk Factor Surveillance System Regions

- **Region 1** – Cherokee, Greenville, Pickens, Spartanburg
- **Region 2** – Abbeville, Anderson, Greenwood, Laurens, McCormick, Oconee
- **Region 3** – Aiken, Barnwell, Edgefield, Newberry, Saluda
- **Region 4** – Fairfield, Kershaw, Lexington, Richland
- **Region 5** – Chester, Lancaster, York
- **Region 6** – Berkeley, Charleston, Dorchester
- **Region 7** – Allendale, Bamberg, Beaufort, Calhoun, Colleton, Hampton, Jasper, Orangeburg
- **Region 8** – Georgetown, Horry, Williamsburg
- **Region 9** – Chesterfield, Clarendon, Darlington, Dillon, Florence, Lee, Marion, Marlboro, Sumter