



# Adverse Childhood Experiences in South Carolina:

## A Summary of Demographics and Individual 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 collected data. Fourth in the series, this brief provides a summary of 2014-2016 ACE survey results for the eight ACE types (abuse: physical, sexual, emotional; household dysfunction: mental illness, household substance use, incarceration, divorce, domestic violence) assessed by 2014 BRFSS South Carolina ACE survey items.

### ACE Survey Items

In 2014-2016, the ACE Survey items were collected in South Carolina via the 2014 BRFSS and modeled the original ACE Study survey questions (See CDC, 2014a and Morse & Stropolis, 2016a, 2016b 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 each of the 11 survey items administered to South Carolina adults (18 and older). Two items assessed household substance use (alcohol, drugs), and three

items assessed contact sexual abuse (inappropriate touch, involuntary sexual intercourse). Items for these types 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. Thus, 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 ACE Types

Overall ACE prevalence for South Carolina was 60% (see Morse, Strompolis, Priestler, & Wooten, 2016). Table 2 presents the prevalence for ACE types. Parental separation/divorce was the most frequently reported, while incarceration was the least frequently reported.

**Parental separation/divorce.** Table 3 reports the prevalence of parental separation/divorce by demographic variables. Prevalence of parental separation/divorce did not vary by sex, but there were differences in the prevalence of parental separation/divorce by racial and ethnic groups. Multiracial South Carolinians who identify as Other Race experienced the highest percentage of parental separation/divorce (44%) followed by Black (40%) and Hispanic (33%) South Carolinians. All three groups reported parental separation/divorce at rates above the state average (31%; see Table 3).

Table 2

Prevalence of ACE Types	
ACE	PREVALENCE
Any ACE	60%
Parental Separation/Divorce	31%
Emotional Abuse	30%
Household Substance Use	28%
Household Domestic Violence	19%
Household Mental Illness	16%
Physical Abuse	14%
Sexual Abuse	12%
Household Incarceration	9%

**Emotional abuse.** Interestingly, emotional abuse remained constant across several demographic categories (see Table 3). Specifically, emotional abuse remained constant across sex, household income, and educational attainment. For example, prevalence of emotional abuse was fairly consistent across levels of annual household income, with 34% of South Carolinians earning less than \$10,000 annually and 30% earning \$75,000 or more annually experiencing emotional abuse.

**Household substance use.** Table 3 reports the prevalence of household substance use by demographic variables. Women were more likely than men to have experienced living with someone who used alcohol and/or drugs (31% versus 26%). Similarly, there were differences among the racial and ethnic groups in household substance use. Those who identified as Multiracial (44%) and American Indian/Alaska Native (38%) experienced household substance use most frequently, while those of Asian descent (8%) reported household substance use the least frequently.

**Household domestic violence.** There were significant differences in the prevalence of household domestic violence witnessed by racial and ethnic groups (see Table 3). Thirty-four percent of Hispanic South Carolinians reported household domestic violence, compared to only 17% of White South Carolinians. Those with less education (i.e., did not graduate high school) experienced higher rates of exposure to domestic violence (28%) than individuals with more education (i.e., graduated college or technical school; 13%).

**Household mental illness.** Younger South Carolinians (i.e., ages 18-29) experienced the highest prevalence of household mental illness (23%), however, only 7% of older adults (ages 70-80) reported living with a person with mental health challenges prior to the age of 18 (see Table 7). Approximately 28% of persons identifying as American Indian/Alaska Native reported experiencing household mental illness, whereas Asian South Carolinians had the lowest prevalence (9%) of household mental illness.

**Physical abuse.** Table 3 reports the prevalence of physical abuse by demographic variables. For annual household income, prevalence increased as income decreased. Physical abuse prevalence was highest among individuals reporting an annual household income of less than \$10,000 (22%). A similar trend was observed for respondent education, such that individuals with the least education reported the highest prevalence (20%) of physical abuse.



**Sexual abuse.** Table 3 reports the prevalence of sexual abuse by demographic variables. Sexual abuse prevalence was higher among women compared to men (17% versus 7%). Annual household income was again associated with a discouraging trend—as income decreased, sexual abuse increased. Eighteen percent of South Carolinians who made less than \$10,000 reported sexual abuse, yet among those in the highest income group (\$75,000 or more), only 10% reported sexual abuse.

**Household incarceration.** Despite being the least frequently reported ACE in South Carolina, there were still a number of disparities in reporting of household incarceration by demographic categories. Region 4 (see Appendix) had the highest prevalence (11%) of household incarceration and Region 2, while Regions 1 and 8 had the lowest percentage (7%; see Table 3). Prevalence of household incarceration increased as both education and annual household income decreased. To illustrate, 14% of South Carolinians who did not graduate high school lived with a person who was incarcerated, but only 5% of South Carolinians who graduated college or technical school experienced this ACE.

## Conclusions

Although ACEs are common in South Carolina (Morse, Strompolis, Priestler & Wooten, 2016), some ACEs varied by demographic factors, yet other ACEs remained relatively stable. For example, women and men showed similar prevalence rates for most types of ACEs, but annual household income and education demonstrated an inverse relationship - those with lower income and less education reported higher frequencies for some ACE types (parental separation/divorce, household substance use, household domestic violence, physical abuse, sexual abuse, and household incarceration). These findings indicate that ACE prevention efforts in South Carolina should focus on minimizing regional disparities and individual-level barriers to education (see Haskins, Holzer & Lerman, 2009), supporting working families in meeting basic needs

(e.g., earned income tax credit; see Children’s Trust of South Carolina, 2016), and allocating resources where families need them most (e.g., self-sufficiency standard; see Children’s Trust of South Carolina, 2016).

Emotional abuse and household mental illness did not vary across every demographic variable. These findings suggest that emotional abuse and household mental illness may be more ubiquitous concerns, potentially representing social and/or political causes as opposed to individual and/or family origins. Future research briefs in this series will highlight associations between ACEs and preventable chronic disease, healthcare access, and health risk behaviors, as well as the prevalence of ACEs among South Carolina veterans.



Table 3

Data summary of demographics and individual ACEs																	
		SEPARATION/ DIVORCE		EMOTIONAL ABUSE		SUBSTANCE USE		DOMESTIC VIOLENCE		MENTAL ILLNESS		PHYSICAL ABUSE		SEXUAL ABUSE		INCARCERATION	
	DEMOGRAPHIC VARIABLES	ACE	NO ACE	ACE	NO ACE	ACE	NO ACE	ACE	NO ACE	ACE	NO ACE	ACE	NO ACE	ACE	NO ACE	ACE	NO ACE
SEX	Male	31%	69%	30%	70%	26%	74%	18%	82%	13%	87%	14%	86%	7%	93%	10%	90%
	Female	32%	68%	31%	69%	31%	69%	21%	79%	19%	81%	14%	86%	17%	83%	8%	92%
AGE GROUP <i>(in years)</i>	18-29	45%	55%	37%	63%	30%	70%	19%	81%	23%	77%	16%	84%	13%	87%	16%	84%
	30-39	46%	54%	37%	63%	32%	68%	23%	77%	22%	78%	16%	84%	14%	86%	14%	86%
	40-49	38%	62%	34%	66%	33%	67%	24%	76%	19%	81%	17%	83%	16%	84%	10%	90%
	50-59	27%	73%	32%	68%	30%	70%	22%	78%	15%	85%	15%	85%	14%	86%	7%	93%
	60-69	17%	83%	25%	75%	26%	74%	18%	82%	12%	88%	12%	88%	10%	90%	4%	96%
	70-80	14%	86%	17%	83%	20%	80%	12%	88%	7%	93%	9%	91%	8%	92%	2%	98%
REGION <sup>1</sup> <i>(by counties)</i>	1	31%	69%	30%	70%	29%	71%	20%	80%	15%	85%	13%	87%	13%	87%	7%	93%
	2	31%	69%	29%	71%	29%	71%	19%	81%	18%	82%	14%	86%	13%	87%	10%	90%
	3	31%	69%	32%	68%	28%	72%	18%	82%	17%	83%	16%	84%	12%	88%	9%	91%
	4	33%	67%	34%	66%	30%	70%	20%	80%	18%	82%	15%	85%	14%	86%	11%	89%
	5	30%	70%	29%	71%	29%	71%	20%	80%	15%	85%	15%	85%	12%	88%	8%	92%
	6	33%	67%	33%	67%	29%	71%	18%	82%	18%	82%	14%	86%	13%	87%	9%	91%
	7	29%	71%	31%	69%	29%	71%	21%	79%	15%	85%	16%	84%	11%	89%	8%	92%
	8	30%	70%	29%	71%	26%	74%	17%	83%	12%	88%	12%	88%	11%	89%	7%	93%
	9	31%	69%	26%	74%	26%	74%	19%	81%	13%	87%	11%	89%	12%	88%	9%	91%
RACE/ ETHNICITY	White	28%	72%	31%	69%	30%	70%	17%	83%	18%	81%	15%	85%	13%	87%	7%	93%
	Black	40%	60%	26%	74%	26%	74%	22%	78%	10%	90%	10%	90%	11%	89%	14%	86%
	Asian	9%	91%	20%	80%	8%	92%	17%	83%	9%	91%	9%	91%	6%	94%	3%	97%
	American Indian Alaskan Native	31%	69%	34%	66%	38%	62%	26%	74%	28%	72%	20%	80%	16%	84%	21%	79%
	Hispanic	33%	67%	37%	63%	29%	71%	34%	66%	12%	88%	25%	75%	17%	83%	8%	92%
	Other Race	44%	56%	46%	54%	44%	56%	30%	70%	28%	72%	26%	74%	22%	78%	18%	82%
ANNUAL HOUSEHOLD INCOME	\$0 - \$9,999	40%	60%	34%	66%	32%	68%	28%	72%	19%	81%	22%	78%	18%	82%	14%	86%
	\$10,000 -\$14,999	36%	64%	33%	67%	36%	64%	28%	72%	20%	80%	19%	81%	19%	81%	15%	85%
	\$15,000 -\$19,999	39%	61%	34%	66%	33%	67%	26%	74%	17%	83%	18%	82%	16%	84%	14%	86%
	\$20,000 -\$24,999	38%	62%	31%	69%	32%	68%	22%	78%	17%	83%	17%	83%	14%	86%	10%	90%
	\$25,000 -\$34,999	32%	68%	28%	72%	31%	69%	21%	79%	16%	84%	15%	85%	12%	88%	10%	90%
	\$35,000 -\$49,999	33%	67%	32%	68%	31%	69%	20%	80%	18%	82%	14%	86%	12%	88%	10%	90%
	\$50,000 -\$74,999	28%	72%	32%	68%	28%	72%	18%	82%	17%	83%	13%	87%	13%	87%	8%	92%
	\$75,000 or more	24%	76%	30%	70%	25%	75%	15%	85%	15%	85%	10%	90%	10%	90%	5%	95%
EDUCATIONAL ATTAINMENT	Did not graduate high school	38%	62%	28%	72%	36%	64%	28%	72%	15%	85%	20%	80%	14%	86%	14%	86%
	Graduated high school	35%	65%	29%	71%	28%	72%	20%	80%	14%	86%	14%	86%	12%	88%	10%	90%
	Attended college or technical school	33%	67%	34%	66%	30%	70%	19%	81%	19%	81%	15%	85%	14%	86%	9%	91%
	Graduated college or technical school	22%	78%	29%	71%	23%	77%	13%	87%	16%	84%	10%	90%	10%	90%	5%	95%

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



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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