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Homelessness in Childhood and Adverse Childhood Experiences (ACEs)

Elizabeth Radcliff[1] · Elizabeth Crouch[1] · Melissa Strompolis[2] · Aditi Srivastav[2]

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Abstract
Objectives Research on adverse childhood experiences (ACEs) has provided a valuable framework for understanding associations between childhood maltreatment and family dysfunction and later poor health outcomes. However, increasing research suggests the number and types of childhood adversities measured warrants further examination. This study examines ACE exposure among adults who experienced homelessness in childhood, another type of childhood adversity. *Methods* This cross-sectional, descriptive study used the 2016 South Carolina (SC) Behavioral Risk Factor Surveillance System (BRFSS) survey and additional ACE modules to examine ACE exposure among SC adults and childhood homelessness. Standard descriptive statistics were calculated for each variable. Bivariate analysis compared types and number of ACEs by childhood homeless status. All analyses used survey sampling weights that accounted for the BRFSS sampling strategy. *Results* Data from 7490 respondents were weighted for analyses. Among the 215 respondents who reported homelessness in childhood, 68.1% reported experiencing four or more ACEs. In contrast, only 16.3% of respondents who reported no homelessness in childhood reported experiencing four or more ACEs. The percent of respondents was significantly higher for each of 11 ACEs among those who reported childhood homelessness, compared to those who did not. *Conclusions for Practice* Adults who reported homelessness in childhood also reported significantly greater exposure to higher numbers and types of ACEs than adults reporting no childhood homelessness. Study findings can be important in informing additional indicators important to the assessment of ACEs and to program developers or organizations that provide housing assistance to at-risk families and children.

Keywords ACEs · Adverse childhood experiences · Homelessness

Significance

What is already known about this subject? Adverse childhood experiences (ACEs) provide a valuable framework for understanding associations between childhood maltreatment and family dysfunction and later poor well-being outcomes. Research suggests further examination is needed on the scope of childhood adversities measured in the context of ACEs.

What does this study add? This study examines ACE exposure in the context of childhood homelessness. Among adults who reported any homelessness in childhood, 68.1% reported exposure to four or more ACEs, compared to 16.3% exposure among adults with no homelessness in childhood. The percent experiencing each individual ACE was significantly higher among adults who experienced childhood homelessness compared with those who did not.

Introduction

Since publication of the seminal Adverse Childhood Experiences (ACEs) Study in 1998 (Felitti et al. 1998), numerous studies have confirmed the association between ACEs (the experience of neglect, abuse, and family dysfunction during childhood) and later poor health and well-being outcomes (Crouch et al. 2017a; Chung et al. 2010; Douglas et al. 2010;

✉ Elizabeth Radcliff
radclife@mailbox.sc.edu

[1] Department of Health Services Policy and Management, Rural and Minority Health Research Center, Arnold School of Public Health, University of South Carolina, 220 Stonebridge Drive, Suite 204, Columbia, SC 29210, USA

[2] Children's Trust of South Carolina, Columbia, SC, USA

Dube et al. 2002; Felitti et al. 1998; Ford et al. 2011; Hillis et al. 2001). Specific ACEs included in the original ACE study were physical, emotional, or sexual abuse or neglect, or living in a household where domestic violence, substance abuse, or mental illness was present, or living in a home in which parents were divorced or separated or in which a family member was incarcerated (Table 1) (Felitti et al. 1998). Negative outcomes associated with ACES that present in adulthood can include chronic conditions such as ischemic heart disease, chronic lung disease, liver disease, cancer, and mental health problems, such as depression and suicide attempts, reduced educational attainment, and behavioral risk-taking (Brown et al. 2009, 2010, 2013; Chapman et al. 2004; Chung et al. 2010; Douglas et al. 2010; Dube et al. 2003, 2002; Felitti et al. 1998; Ford et al. 2011; Gilbert et al. 2015; Hillis et al. 2001). Research has also shown that ACEs, as measured by the original ACE questionnaire, are common, inter-related, and affect outcomes in a dose–response manner (i.e., negative outcomes increase as ACE exposure increases) (Anda et al. 2006; Crouch et al. 2017a; Dong et al. 2004; Rich-Edwards et al. 2012; Roy et al. 2010; US Centers for Disease Control and Prevention (CDC) 2016; Waite et al. 2013).

Although the current body of literature on ACEs provides a valuable framework for understanding the association between maltreatment and family dysfunction experienced in childhood with later poor health and well-being outcomes, growing evidence suggests that the scope of childhood adversity warrants further examination (Cronholm et al. 2015; Finkelhor et al. 2013, 2015; Mersky et al. 2017). Additional predictors of long-term health and well-being such as low socioeconomic status or experiences outside the context of the household, including exposure to community violence, were not reported in the original ACE Study (Finkelhor et al. 2013; Lee et al. 2017); however, growing evidence suggests that these factors may have effects on long-term health that are similar to those measured in the original ACEs Study (Finkelhor et al. 2013; Mersky et al. 2017). This is not surprising, given the known role of social determinants of health, or socio-environmental factors on an individual's health and well-being (Marmot 2005; Braveman and Barclay 2009). Exposure to community violence in childhood has been found to be significantly associated with poor adult mental health and other outcomes (Lee et al. 2017). Low socioeconomic status as a long-term predictor of poor outcomes is also

Table 1 Eleven-question ACE module and homeless question included in the 2016 SC BRFSS survey

Childhood experience	Survey question(s)[a]
Household dysfunction	
Household mental illness	1. Did you live with anyone who was depressed, mentally ill, or suicidal?
Household substance use1	2. Did you live with anyone who was a problem drinker or alcoholic?
Household substance use2	3. Did you live with anyone who used illegal street drugs or who abused medications?
Household incarceration	4. 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	5. Were your parents separated or divorced?
Witness household violence	6. Did your parents or adults in your home ever slap, hit, kick, punch, or beat each other up?
Physical and emotional abuse	
Physical abuse	7. Did a parent or adult in your home ever hit, beat, kick, or physically hurt you in any way?
Emotional abuse	8. Did a parent or adult in your home ever swear at you, insult you, or put you down?
Sexual abuse	
Sexual abuse1	9. Did anyone at least five years older than you or an adult ever touch you sexually?
Sexual abuse2	10. Did anyone at least five years older than you or an adult try to make you touch them sexually?
Sexual abuse3	11. Did anyone at least five years older than you or an adult force you to have sex?
Homelessness in childhood	
"How often were you homeless when you were growing up? By "homeless" we mean that your family could not afford a place to live."	

ACE adverse childhood experience, *SC* South Carolina, *BRFSS* Behavioral Risk Factor Surveillance System

[a]All questions refer to the time period before respondent was 18 years of age and were prefaced with the phrase "Now, looking back before you were 18 years of age..."

well-documented: a child who grows up in poverty and deprivation has a higher long-term risk of negative health and well-being outcomes than a child who does not grow up in poverty (Aber et al. 1997; Duncan and Brooks-Gunn 2000; Duncan et al. 2010; Evans and Kim 2007; Finkelhor et al. 2015; Holzer et al. 2007; Melchior et al. 2007). Thus, there is a need to understand how socio-environmental factors may operate as childhood adversities, in order to further our efforts in preventing and mitigating the long-term impact of ACEs.

Homelessness, a status in which an individual or family sleeps outside or in a shelter provided by a homeless assistance program, is a notable indicator of poverty and deprivation (National Alliance to End Homelessness, The Homelessness Research Institute (HRI) 2016). In 2015, an estimated 64,200 families and 37,000 unaccompanied children and youth were homeless at some point in the reporting year, with an estimated 13,000 families being chronically homeless, meaning they were homeless continuously for a year or at least four times in the prior 3 years (National Alliance to End Homelessness, HRI 2016). Although each family and child may experience homelessness differently, in general, homelessness may be associated with multiple stressors, including poverty, poor family functioning, instability, contact with illicit substances, exposure to community violence, risks related to general safety and well-being, and loss of opportunities such as education and routine health care (Masten et al. 1997; Morrison 2009; Panter-Brick 2004; Shelton et al. 2015). Homelessness or housing insecurity can be particularly detrimental to children and adolescents (American Academy of Pediatrics 2013). Studies suggest that homelessness may be linked to child developmental, behavioral, and academic problems that may result from the toxic stress associated with homelessness itself, in addition to the cumulative stressors resulting from homelessness (Cutts et al. 2011; Fantuzzo and Perlman 2007; Grant et al. 2013).

Associations between homelessness and ACEs have been studied; however, most research has focused on ACE exposure as a predictor of homelessness in adulthood (Herman et al. 1997; Montgomery et al. 2013; Roos et al. 2013; Stein et al. 2002). To our knowledge, only two studies have examined homelessness experienced in childhood as an ACE (Finkelhor et al. 2013; Mersky et al. 2017). The Finkelhor study (2013) measured the correlation of a range of childhood adversities with current mental health symptoms. Childhood homelessness was included in the adversities measured; however, the experience of homelessness in childhood itself made no significant contribution to the study outcome, which was the Trauma Symptoms Checklist for Children, a child distress scale (Finkelhor et al. 2013). The 2017 Mersky study used multiple analytic methods, including exploratory factor analysis, to suggest six new ACEs, one of which was the experience of homelessness during childhood.

To our knowledge, no published research has specifically studied the prevalence and distribution of ACEs among a representative population of adults who experienced homelessness or housing insecurity during childhood. An understanding of ACE exposure among this particularly high-risk group of individuals can inform future measurement of ACEs, including the need for inclusion of measures related to deprivation and poverty in the assessment of childhood adversity. A broader understanding of ACEs and their intersection with other measures of childhood adversities can also be important to the mitigation or prevention of potential poor outcomes in adulthood.

Using the 2016 South Carolina (SC) Behavioral Risk Factor Surveillance System (BRFSS) data that included an ACE survey module and supplemental questions related to poverty and neglect, this study examined ACE exposure among adults who report being homeless during childhood. We expected to find that ACE exposure was greater among individuals who reported being homeless during childhood, both by number and type of ACEs experienced, compared to those who did not report homelessness during childhood.

Methods

Study Design and Data Source

This study is a cross-sectional analysis of 2016 data collected by the SC BRFSS survey. The BRFSS survey, which collects information on chronic conditions and health-related risk behaviors nationwide, was originally developed by the US Centers for Disease Control and Prevention (CDC) (CDC 2017). In SC, the Department of Health and Environmental Control (DHEC) works with the CDC to manage the administration of the BRFSS, and the University of South Carolina's Institute of Public Service and Policy Research administers the survey for the state. The survey is conducted using random digit dialing to reach landlines or cell phones of non-institutionalized SC adults 18 years of age or older. Further information on the BRFSS methodology, weighting procedures, and other details of the survey are publicly available (CDC 2017).

In 2016, Children's Trust of South Carolina, a nonprofit organization focused on strengthening families and leading communities to prevent child maltreatment, partnered with DHEC to add an 11-question ACE module to the SC BRFSS (Morse et al. 2016). These ACE questions were adapted from the previously validated ACE survey (Felitti et al. 1998) and provide data on type and number of ACEs reported by a survey respondent; however, the survey did not obtain data related to the frequency or severity of any

specific ACE (Table 1). Children's Trust and DHEC also added eight supplemental ACE questions related to childhood experiences of poverty, neglect, and resilience. The supplemental questions had been developed previously by the CDC and the Wisconsin Children's Trust Fund to address additional social factors that may be related to childhood adversity (Children's Trust of South Carolina 2018). For the purposes of this study, we examined all 11 ACE module questions and one question related to homelessness from the supplemental questions (Table 1). All survey questions related to housing status in childhood and ACE exposure were answered retrospectively.

In 2016, when the ACE and supplemental questions related to childhood experiences of poverty, neglect, and resilience were included in the SC BRFSS, 11,236 SC adults participated in the BRFSS. Our analytic sample was comprised of the 7490 participants who agreed to answer the ACE and supplemental questions. A sensitivity analysis was conducted and found no significant demographic differences between the 11,236 original BRFSS survey participants and the analytic sample of 7490 who participated in the BRFSS survey and ACE question modules.

Variable Construction

Exposure Variable

The primary exposure variable was the experience of homelessness during childhood. This variable was measured using the BRFSS survey question that read: "How often were you homeless when you were growing up? By "homeless" we mean that your family could not afford a place to live." Response options to the supplemental homeless/housing insecurity question were a five-point Likert scale ranging from "never" to "very often" homeless in childhood. For the descriptive and bivariate analyses, we collapsed homelessness in childhood into a binary variable (yes/no). If a survey participant responded "never" to the question "how often were you homeless when you were growing up? By "homeless" we mean that your family could not afford a place to live", we counted them as not experiencing homelessness in childhood. If a survey participant responded "rarely", "sometimes", "often", or "very often" to the question, we counted them as experiencing homelessness in childhood.

Outcome Variables

The outcome variable of interest was ACE exposure. Response options to the ACE module questions were binary, yes or no. We tabulated individual exposure by each of the 11 ACEs and then collapsed ACE exposure to three categories: no exposure, exposure to 1–3 ACEs, or exposure to four or more ACEs. These categories were determined by previous research that has shown that individuals with four or more ACES consistently have the highest risk of chronic health problems and overall poor health outcomes, thus providing a meaningful cut point for ACE exposure (Felitti et al. 1998; Dube et al. 2003; Crouch et al. 2017a, b).

Covariates

We also reported other characteristics of the study participants, including age, race and ethnicity, education, and income. Age categories were 18–29, 30–39, 40–49, 50–59, 60–69, and 70–79 years old. Race and ethnicity were reported as non-Hispanic White, non-Hispanic Black, Hispanic, or other race/ethnicity. Education was reported as a binary variable: high school diploma/equivalent or less versus at least some college. Income was reported in the categories < $25,000, $25,000–$49,999, $50,000 or more per year, or don't know/refused/missing. As in previous work, participants with no income information were included in the analysis to capture as much ACEs-related information as possible and maintain analytic power (Crouch et al. 2017a, b). In sensitivity analyses, there were no significant differences between those who reported demographic characteristics and ACE information and those who did not. We did not conduct a sensitivity analysis for income because those respondents were not excluded from analyses.

Analysis

We used standard descriptive statistics to report weighted percentages for each categorical variable. Using bivariate analyses, we assessed for statistical differences in types and counts of ACEs by the experience of homelessness during childhood. Chi square tests were considered significant at $\alpha = 0.05$.

All analyses used survey sampling weights that accounted for the sampling strategy used by the BRFSS study. While we report actual numbers for the full sample, analytic sample, and number of respondents reporting homelessness in childhood, we only report percentages for other outcomes because they are based on weighted calculations. The weights assigned by the CDC corrected for under- or oversampling and non-response or non-coverage (CDC 2017; Morse et al. 2016). All analyses were conducted with statistical software (SAS, version 9.3; SAS Institute Inc.).

Ethical Approval

The Institutional Review Board at the relevant institution reviewed this evaluation research and deemed it exempt. No approval was needed, as data were collected anonymously from a public health surveillance system in which adults voluntarily consented to interviews.

Results

Among our analytic sample of 7490, just over half were female (52.1%) and had at least some college education (58.1%); 48.2% had an income of < $50,000 per year (Table 2). Over two-thirds of the sample were non-Hispanic White (68.6%) and under the age of 40 (53.5%).

Of the 7490 respondents, an unweighted number of 215 respondents reported experiencing some level of homelessness/housing insecurity in childhood. Respondents who reported housing insecurity in childhood were significantly younger ($p < .0001$) and more likely to have a high school diploma or less ($p = .005$) and a lower income level (.0002) compared to those respondents who reported never being homeless in childhood.

ACE exposure among all respondents varied: 35.8% of the weighted analytic sample reported experiencing no ACEs during childhood, 45.7% reported experiencing 1–3 ACEs, and 18.5% reported experiencing four or more ACEs (Table 3). The most frequently reported ACEs were the experience of parental separation or divorce (32.1%), followed by emotional abuse (31.7%), and living with a problem drinker or alcoholic (24.1%).

Comparing types of ACE exposure by childhood housing status, the three most frequently reported ACEs were the similar for both groups (parental separation or divorce, emotional abuse, and living with a problem drinker or alcoholic); however, the experience of individual ACEs was significantly higher in each of the 11 ACE categories among adults who reported homelessness in childhood compared to those who did not. For example, 30.6% of adults who reported no childhood homelessness also reported living in a home where parents were divorced or separated. In comparison, 66.5% of adults who reported childhood homelessness also reported living in a family where parents were divorced or separated. Similar contrasts were reported for the experience of emotional abuse: 30.2% of adults with no

Table 2 Characteristics of 2016 SC BRFSS respondents who participated in the ACE module of questions, total and by homeless status in childhood, unweighted n = 7490, unweighted homeless n = 215

Characteristics	Total % of sample[a]	Never homeless in childhood % = 95.8	Ever experienced homeless in childhood % = 4.2	*p*-value[b]
Sex				
Male	47.9	48.1	41.9	0.19
Female	52.1	51.9	58.1	
Age in years				
18–29	19.4	18.7	35.5	**< 0.0001**
30–39	17.0	17.0	18.0	
40–49	15.2	15.3	13.1	
50–59	18.5	18.5	17.9	
60–69	18.7	19.1	9.6	
70–79	11.2	11.4	6.1	
Race/ethnicity				
White, non-Hispanic	68.6	69.0	61.6	0.56
Black, non-Hispanic	24.2	24.0	29.8	
Hispanic	4.3	4.2	5.6	
Other non-Hispanic	2.9	2.9	2.9	
Education				
High school diploma/GED or less	41.9	41.3	54.5	**0.0053**
At least some college	58.1	58.7	45.5	
Income				
< $25,000	24.3	23.7	36.9	**0.0002**
$25,000–$49,999	23.9	23.9	23.4	
≥ $50,000	39.5	40.3	21.3	
Don't know/refused/missing	12.4	12.1	18.5	

Columns may not add to 100% because of rounding

SC South Carolina, *BRFSS* Behavioral Risk Factor Surveillance System, *ACE* adverse childhood experience, *GED* general education development

Bold indicates significance at $p < 0.05$

[a]Values presented are weighted

[b]*p*-value compares homeless in childhood versus not homeless in childhood

Table 3 Number and type of ACE exposure reported by 2016 SC BRFSS respondents who participated in the ACE module of questions, in total and by childhood homeless status

ACE exposure in childhood	Total sample %[a]	Not homeless in childhood % = 95.8	Homeless in childhood % = 4.2	*p*-value[b]
By number of ACEs				
Experienced no ACES	35.8	37.2	2.7	< **.0001**
Experienced 1–3 ACES	45.7	46.5	29.2	
Experienced ≥ 4 ACES	18.5	16.3	68.1	
By type of ACEs				
Household dysfunction ACEs				
Household mental illness	16.6	15.4	44.1	< **.0001**
Household substance use1	24.1	22.9	52.2	< **.0001**
Household substance use2	10.8	9.8	34.3	< **.0001**
Household incarceration	8.4	7.2	35.7	< **.0001**
Parental separation/divorce	32.1	30.6	66.5	< **.0001**
Witness household violence	19.0	17.3	58.3	< **.0001**
Physical and emotional abuse ACEs				
Physical abuse	13.5	12.2	43.9	< **.0001**
Emotional abuse	31.7	30.2	66.4	< **.0001**
Sexual abuse ACEs				
Sexual abuse1	11.3	10.4	32.7	< **.0001**
Sexual abuse2	8.4	7.6	26.7	< **.0001**
Sexual abuse3	5.2	4.5	22.4	< **.0001**

Columns may not add to 100% because of rounding or because multiple individual types of ACEs may be reported by one person. Childhood homeless status collapsed to binary response (never response = not homeless; rarely, sometimes, often, very often response = homeless in childhood)

SC South Carolina, *BRFSS* Behavioral Risk Factor Surveillance System, *ACE* adverse childhood experience, *GED* general education development

Bold indicates significance at $p < 0.05$

[a]Values presented are weighted

[b]*p*-value compares homeless in childhood versus not homeless in childhood

homelessness reported emotional abuse in childhood, while 66.4% reporting homelessness also reported emotional abuse in childhood.

Comparing total counts of ACE exposure by childhood housing status, 37.2% of adults reporting no homelessness in childhood reported having no ACE exposure. In contrast, only 2.7% of adults who reported being homelessness during childhood reported no ACE exposure. Among adults who reported homelessness in childhood, 68.1% reported exposure to 4 or more ACEs. In contrast, only 16.3% of adults who reported no homelessness in childhood reported exposure to four or more ACEs.

Discussion

This is the first study, to our knowledge, that examines the prevalence and distribution of ACEs among a representative population of individuals who experienced homelessness during childhood. Findings showed that adults who were homeless in childhood reported exposure to a higher total number of ACEs than adults who reported no homelessness in childhood. We also found that adults who reported homelessness in childhood also reported a higher percent exposure to each of the 11 individual types of ACEs when compared to adults who reported no homelessness. The differences in the experience of ACEs were all significant and, with no known previously published work for comparison, differences were greater than we anticipated.

This notably greater exposure to ACEs among adults who reported homelessness in childhood highlights another avenue of risk by which homelessness may affect the long-term well-being of children. Of particular concern is the high percent of adults who experienced homelessness in childhood and reported exposure to four or more ACEs (73.5%). Research shows that individual ACEs can result in poor physical and mental health outcomes but also that those outcomes are affected in a dose–response manner (i.e., the higher the ACE count, the greater the likelihood of poor outcomes) (Anda et al. 2006; CDC 2016; Crouch et al. 2017a; Dong et al. 2004; Rich-Edwards et al. 2012; Roy et al. 2010; Waite et al. 2013). Thus, the burden of homelessness in childhood may be exacerbated by the additional or concurrent experience of ACEs.

Homelessness, housing insecurity, or other measures of socioeconomic deprivation have been suggested as additional measures of ACEs (Cronholm et al. 2015; Finkelhor et al. 2013, 2015; Lee et al. 2017; Mersky et al. 2017). In our study, the high prevalence of ACEs among adults who experienced housing insecurity in childhood supports this suggestion that homelessness or housing insecurity may be an ACE, in and of itself. It should also be noted that the concept of homelessness, with further study, could meet the definition of the World Health Organization's classification of ACEs, which requires that the category (1) produce a biological stress response, (2) have sensitivity to policies, (3) be common across populations, (4) be easily measured, and (5) have similar associations as other identified ACEs (Lee et al. 2017; World Health Organization (WHO) 2009). Additional work that examines homelessness as a moderator of ACE exposure or that examines the analytic and practical feasibility of including homelessness as an ACE will be important.

Limitations

Despite this study's contribution to our understanding of ACE exposure among individuals who experience homelessness in childhood, some limitations should be considered. One notable limitation is that we do not know when ACEs or homelessness occurred during the individual's childhood. From a developmental perspective, further information about the timing of the housing insecurity, for example, whether the respondent experienced trauma in childhood as part of a homeless family unit or as a runaway unaccompanied homeless adolescent, would be instructive. Although we do not examine causality in this study, ACE exposure may have preceded or contributed to the homelessness (e.g., parental separation, divorce, or incarceration may have resulted in homelessness); in other cases, the ACE exposure may have been a result of the living in a homeless situation (e.g., physical or sexual abuse). The use of qualitative research could provide a deeper understanding of the association between ACEs and homelessness.

Another limitation of this study is that adults retrospectively self-reported their exposure to ACEs and homelessness. Although retrospective responses may introduce biases, previous ACE research suggests that responses are more likely to include false negatives than false positives, and thus ACE exposure is more likely to be under-reported (Hardt and Rutter 2004). We additionally do not know the age of exposure or the intensity of exposure to ACEs.

Also, the BRFSS question related to homelessness may present some uncertainty. Although the first part of the BRFSS question simply asks if the respondent was homeless at any time in childhood, the question continues by defining homelessness: "By "homeless" we mean that your family could not afford a place to live." This description that includes the concept of affordability could be interpreted as housing insecurity instead of homelessness (Johnson and Meckstroth 1998; Cutts et al. 2011). Depending on the respondents' interpretation of the question, the analytic sample may include both individuals who were housing insecure and individuals who were homeless in childhood.

As with any study using BRFSS survey data, the study also is limited by the fact that BRFSS does not include institutionalized adults in their survey protocol. Institutionalized adults, especially those who are incarcerated, may have disproportionally experienced ACEs compared to the non-institutionalized population (Raj et al. 2008; Roxburgh and MacArthur 2014), thus introducing additional bias or under-reporting of ACEs into the findings. Also, while our original sample included 11,236 respondents, because of non-response to the ACE-related modules and other missing data, our analytic sample was reduced to 7490. A sensitivity analyses however found no significant differences between the two groups.

Finally, because this study is cross-sectional in design, we can make no statements on causality, and because we report SC-specific findings, the findings may only be generalizable to similar southern states.

Implications for Practice, Policies, and Future Research

This study contributes to our growing understanding of the scope of childhood adversity, demonstrating that experiences outside of the home may contribute to toxic stress in children, potentially producing poor adult outcomes. Since the seminal CDC and Kaiser Permanente ACE Study, a growing interest exists in expanding the types of ACEs measured in public health efforts (Crohnholm et al. 2015). This, in part, is due to the increasing recognition that ACEs are closely aligned with social determinants of health, underscoring that experiences can be influenced by where a child lives, plays, or goes to school (Braveman and Barclay 2009; Bharmal et al. 2015).

Findings from this study can be valuable when considering the addition of social determinants such as homelessness or other childhood stressors related to poverty and deprivation to the standard ACE questionnaire. Expanding the scope of ACEs would not only promote additional research that examines linkages to negative health outcomes, but could provide continued insight on the need for upstream, systemic approaches to these outcomes. Additionally, adding temporal data would improve our understanding of the contexts that produce poor health outcomes in adulthood, which could potentially provide new opportunities for prevention and mitigation across the lifespan.

Findings from this study may also be important in informing practices and programs for agencies or organizations that provide housing assistance to today's families and children. Practices and programs that address prevention and mitigation of ACEs among individuals who are homeless may reduce the long-term burden of ACE exposure among this particularly vulnerable population of children. For example, the Safe Environment for Every Kid (SEEK™) is a short, evidence-based questionnaire used to identify parental depression, parental substance use/misuse, harsh punishment practices, major parental stressors, domestic or intimate partner violence, and food insecurity (Dubowitz et al. 2011). The use of this practice tool within infrastructures that provide housing services and programs may benefit from identify co-occurring adversities. The tool may also be a pathway to strengthening connections between housing programs and other service systems.

Outside of specific programs and services, child- and family-serving professionals and communities may benefit from educational opportunities that explain the link between childhood adversity and later adult health and social outcomes. Educational programs such as ACE Interface® can help practitioners and community members to understand the connections among childhood adversities and the importance of building safe, stable, and nurturing environments for children and families to prevent or help overcome the effects of these adversities (ACE Interface 2014).

Finally, legislative and agency policies should be strengthened to prevent children from experiencing homelessness and mitigate the impact of homelessness when it occurs. This may be especially important in the context of systems that serve homeless youth who are at high risk for experiencing ACEs, where ACEs may have occurred or be likely to occur. Policymakers and agency leaders should ensure that comprehensive and high-quality services are provided to children and families. For example, federal and state policies that reimburse tools such as the SEEK™ could not only incentivize the use of the tool, but also provide sustainability to effective programs and services. State or local policies could also provide resources for schools to support children and families that they identify as homeless. Agency policies could be more trauma-responsive, incorporating practices that respond to behaviors or outcomes associated with trauma and adversity in a way that promotes resilience and compassion.

As we continue to understand and respond to childhood adversity, communities and systems that serve homeless youth who are at high risk for experiencing ACEs can be better positioned to prevent or mitigate the life-long impacts of that trauma.

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