October 2023

ADVERSE AND POSITIVE CHILDHOOD EXPERIENCES DATA REPORT: BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM (BRFSS)

2015 - 2021

An Overview of Adverse and Positive Childhood Experiences in California

California Department Public Health, Injury and Violence Prevention Branch; California Department of Social Services, Office of Child Abuse Prevention; California Essentials for Childhood Initiative; All Children Thrive, California. (2023, October). *Adverse and Positive Childhood Experiences Data Report: Behavioral Risk Factor Surveillance System (BRFSS), 2015-2021: An Overview of Adverse and Positive Childhood Experiences in California.*

Table of Contents

Acknowledgements ... 3
Purpose, Use, and Development ... 4
Revisions Included in 2023 Report and Data Limitations ... 4
Background ... 5
Overview of ACEs ... 5
Overview of PCEs ... 7
Introduction ... 8
Prevalence of ACEs ... 8
Distribution of ACEs Scores ... 8
New ACE Variable 2021 ... 8
Prevalence of Individual Types of ACEs ... 9
Demographic Disparities ... 10
ACEs by Race and Ethnicity ... 10
ACEs by Sexual Orientation ... 10
ACEs by Educational Attainment ... 11
ACEs by Income Level ... 11
ACEs by Insurance Coverage ... 12
Health Behaviors and Outcomes ... 12
ACEs by Overall Health Status ... 12
ACEs by Lifetime Experience of Chronic Illness ... 13
ACEs by Smoking and Alcohol Use ... 14
Positive Childhood Experiences (PCEs) ... 15
Distribution of PCE Scores in 2021 ... 15
PCEs by Overall Health Status ... 16
PCEs by Lifetime Experience of Chronic Illness ... 17
Next Steps ... 17
Additional Resources and Tools ... 18
References ... 19

Acknowledgments

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The EfC Initiative is a project funded by the Centers for Disease Control and Prevention (CDC) and is led in partnership by the California Department of Public Health's, Injury and Violence Prevention Branch (CDPH/IVPB) and the California Department of Social Services, Office of Child Abuse Prevention (CDSS/OCAP). The EfC Initiative seeks to address child maltreatment and Adverse Childhood Experiences (ACEs) as public health issues; aims to raise awareness and commitment to promote safe, stable, nurturing relationships, and environments (SSNR&E); creates the context for healthy children and families through social norms change, programs, and policies; and utilizes data to inform actions.

The mission of All Children Thrive - California (ACT) is to prevent childhood trauma and shift power in local government by empowering youth and adult residents to create sustainable policy change that center children and their families. With funding from the California Department of Public Health (CDPH) and technical support from Public Health Advocates and the University of California, Los Angeles (UCLA) Center for Healthier Children, Families, and Communities, ACT builds capacity through training and coaching that democratizes data, raises awareness around ACEs prevention and social determinants of health, develops resources, and connects individuals within and across the state.

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- California Essentials for Childhood Initiative Data Subcommittee Members
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- CDPH Office of Planning and Policy

Purpose, Use, and Development

The Adverse and Positive Childhood Experiences Data Report: Behavioral Risk Factor Surveillance System (BRFSS), 2015-2021: An Overview of Adverse and Positive Childhood Experiences resource was developed to provide an overview of the 2015-2021 Positive and Adverse Childhood Experiences (PACEs) data from the California Behavioral Risk Factor Surveillance System (BRFSS). It is for use by PACEs stakeholders including community coalitions and community-based organizations, decision-makers, and state and local government representatives to support their efforts to educate about the prevalence of Adverse Childhood Experiences (ACEs) and Positive Childhood Experiences (PCEs) in California.

A key function for governmental public health and social services agencies in addressing child maltreatment and ACEs and promotion of PCEs is to collect and analyze data to better understand these phenomena, identify risk and protective factors, and support the development of data-informed interventions that reduce risk factors and support protective factors, including policy and systems changes. Access to relevant and up-to-date data is essential in the development of targeted, effective, and sustainable child adversity prevention strategies. The BRFSS ACEs module was adapted from the original CDC-Kaiser ACE Study and collects information about abuse and household challenges experienced during the respondent's first 17 years of life.[1]

This data report provides a broad overview of the prevalence and burden of retrospectively reported ACEs among adults in California from 2015 through 2021 and is a follow-up to the previous iteration published in 2022, "Adverse Childhood Experiences Data Report: Behavioral Risk Factor Surveillance System (BRFSS), 2013-2019: An Overview of Adverse Childhood Experiences in California", which included California ACEs data from 2013 to 2019.

Aggregate data from the 2015, 2017, 2019, and 2021 California Behavioral Risk Factor Surveillance System is included in this report. The BRFSS is an annual, state-level, random-digit dial telephone survey of non-institutionalized U.S. adults aged 18 and over regarding health conditions and behaviors. In California, BRFSS is implemented in a collaboration with the CDC and CDPH.

Included in this report:

- The impact of ACEs
- Statewide prevalence and trends
- Demographic disparities
- Health disparities
- Statewide prevalence of PCEs

In California, the BRFSS is used along with other data from sources such as the National Survey of Children's Health (NSCH) and the California Health Interview Survey (CHIS), which includes adult retrospective and adolescent non-retrospective ACE surveillance, to understand ACEs. These additional sources present a rich perspective on childhood adversity across the lifespan (i.e., data for children, pregnant women, and all adults), and provide complementary data to inform and facilitate interventions. (See KidsData – Childhood Adversity and Resilience topic for more information).

Revisions Included in 2023 Report and Data Limitations

A new addition to this report is the inclusion of PCEs. PCEs have been associated with improved mental health, and social and emotional wellbeing in adulthood.[2] As 2021 was the first year that PCEs have been included in BRFSS for California, there is not a large enough sample size to aggregate and compare PCE data to the several years of ACEs BRFSS data that are available. Therefore, PCEs will be featured in this report, but not to the same degree as ACEs. No hypothesis testing was undertaken within analysis of these data; what is described within is descriptive in nature. Additionally, while it is understood that the term "mentally ill" perpetuates harmful labels, the term is used in this report when referencing prior research and the initial methods used to define ACEs, as well as to describe the BRFSS survey methods and results, which include reference to having a "parent/guardian who was mentally ill."

The total number of respondents included in this report was 18,240, which is a 34.4% increase from the 13,983 respondents included in the 2022 report. Estimates were weighted to be representative of the adult population in California based on age, sex, and race.

Some figures in this report that refer to relative prevalence of specific ACEs are not comparable to prior ACEs BRFSS data reports for several reasons. First, the data included in this report are from 2015, 2017, 2019, and 2021. Data from the year 2013 was not included, and data from the year 2021 was added. Secondly, childhood emotional abuse was only coded as “yes” if it had occurred more than once in analyses prior to 2022 but was coded as “yes” if it occurred one or more times in 2022 Report and 2023 Report. This coding change was made in 2022 to align with standard methods for coding the BRFSS ACEs module, as outlined by the CDC.[3] This coding change dichotomizes responses to capture exposure status, ensuring that this variable (i.e., childhood emotional abuse) follows the same response convention as other items in the BRFSS ACEs module.[4]

Limitations of BRFSS data include that the data is self-reported and retrospective in nature and thus subject to response and recall bias. Another limitation is that the BRFSS ACEs module does not include other important measures that children may experience that contribute to poor long-term health.

Background

Overview of ACEs

ACEs are traumatic events, including child maltreatment and other household and community challenges, that occur before age 18. ACEs can disrupt healthy brain development, alter the immune and endocrine systems and change how the body responds to stress.[5] ACEs can also negatively impact education, employment, earnings, and health outcomes over the life course and across generations.[5] Experiencing four or more ACEs is strongly associated in a dose-response relationship (i.e., cumulative manner) with elevated risk for several leading causes of death in adulthood, including heart disease, cancer, chronic obstructive pulmonary disease (COPD), diabetes, Alzheimer’s, and suicide.[6, 7] In other words, increased exposure to multiple ACEs is more likely to contribute to these negative outcomes.

The Adverse Childhood Experiences Study (ACE Study) was a groundbreaking research study conducted from 1995 to 1997 by Kaiser Permanente and the Centers for Disease Control and Prevention (CDC).[7] It was the first large scale study to look at the relationship between adversity in childhood and health outcomes in adulthood. The original study included 9,508 Kaiser Health Plan members from Southern California and measured nine specific childhood exposures, including three categories of abuse (physical, emotional, and sexual), four categories of household challenges (untreated mental illness, substance use, domestic violence, and incarceration of a loved one), and two measures of neglect (physical and emotional).[7] Note that the original sample was largely homogenous (e.g., 79.4% of the study participants were White). Later studies added divorce or family separation as a tenth ACE, which is included in the BRFSS ACEs module. While it is understood that the term “mentally ill” perpetuates harmful labels, the term is used in this report only when referencing prior research on ACEs and the initial methods used when defining ACEs.[7] Key findings from the initial Kaiser study were published in the American Journal of Preventive Medicine in 1998 and highlighted the following :[7]

- ACEs were very common; two-thirds of Kaiser’s study participants had experienced at least one ACE category, and one in eight individuals had experienced four or more ACEs.

- There is a link between the number of ACEs and higher risk for developing several long-term health problems, such as heart disease, and cancer.[7]

Since the original ACE study was published, other studies have identified additional childhood adversities, including systemic factors and community-level indicators, often referred to as social determinants of health, that may also influence long-term health.[8 - 13] These additional childhood adversities include witnessing violence, experiencing discrimination, living in an unsafe neighborhood, being bullied, experiencing poverty, and involvement in the foster care system.[8 - 13] These forms of adversity and others are included in commonly used screening tools like the Traumatic Events Screening Inventory (TESI)[14] and Culturally Informed Adverse Childhood Experiences Framework (C-ACE)[15] but are not included in the BRFSS ACEs module.[1]

In California, the BRFSS ACEs module has been included on a biennial basis since 2009. The current scoring methodology calculated a total ACEs score (range: 0-8) that denotes the number of ACEs categories to which an individual was exposed.

Eight of the 10 ACEs from the CDC-Kaiser ACE Study are included in the BRFSS ACEs module, while emotional and physical neglect are not, as these were not available for all of the years of data that were aggregated. Exposure was determined if an individual answered “yes” or at least “once,” before the age of 18, to one or more of the following questions:[1]

- Lived with anyone who was depressed, mentally ill, or suicidal.
- Lived with anyone who was a problem drinker or alcoholic, or anyone who used illegal street drugs or abused prescription drugs.
- Lived with anyone who served time or who was sentenced to serve time in a prison, jail, or other correctional facility.
- Witnessed parents or adults in the home slap, hit, kick, punch, or beat each other up.
- Parents were separated or divorced.
- Parent or adult in the home hit, beat, kick, or physically hurt you in any way (not including spanking).
- Parent or adult swore at, insulted, or put you down.
- If anyone at least 5 years older or an adult ever touched you sexually, tried to make you touch them sexually or forced you to have sex.

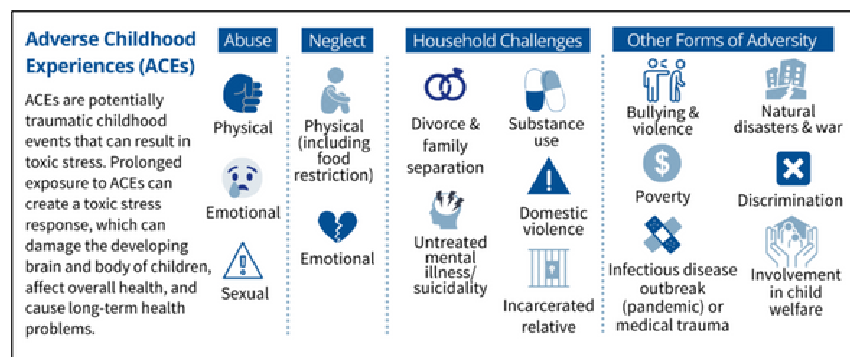

Figure 1: Types of ACEs and ACE Categories. *Image adapted from the Robert Wood Johnson Foundation.*[7 - 15]

Overview of Positive Childhood Experiences (PCEs)

Positive Childhood Experiences (PCEs) have been shown to counter the harmful effects of ACEs and toxic stress. PCEs have been associated with improved mental health and social emotional wellbeing in adulthood.[2] Safe, Stable, Nurturing Relationships and Environments (SSNR&Es) promote resilience among youth and pave the way to healthy development.[16] Local Health Departments and child and family service providers can contribute to creating positive experiences and improving wellbeing in their communities by connecting families with resources, educating partners and organizations about policies that improve child wellbeing, and supporting strategies that improve resiliency.[17]

The PCEs score includes seven items which ask respondents to report how often or how much as a child, before the age of 18, they:

- Felt their family stood by them during difficult times
- Had at least two non-parent adults who took a genuine interest in them
- Felt safe and protected in their home
- Felt a sense of belonging in high school
- Felt supported by friends
- Felt able to talk to their family about feelings
- Enjoyed participating in community traditions

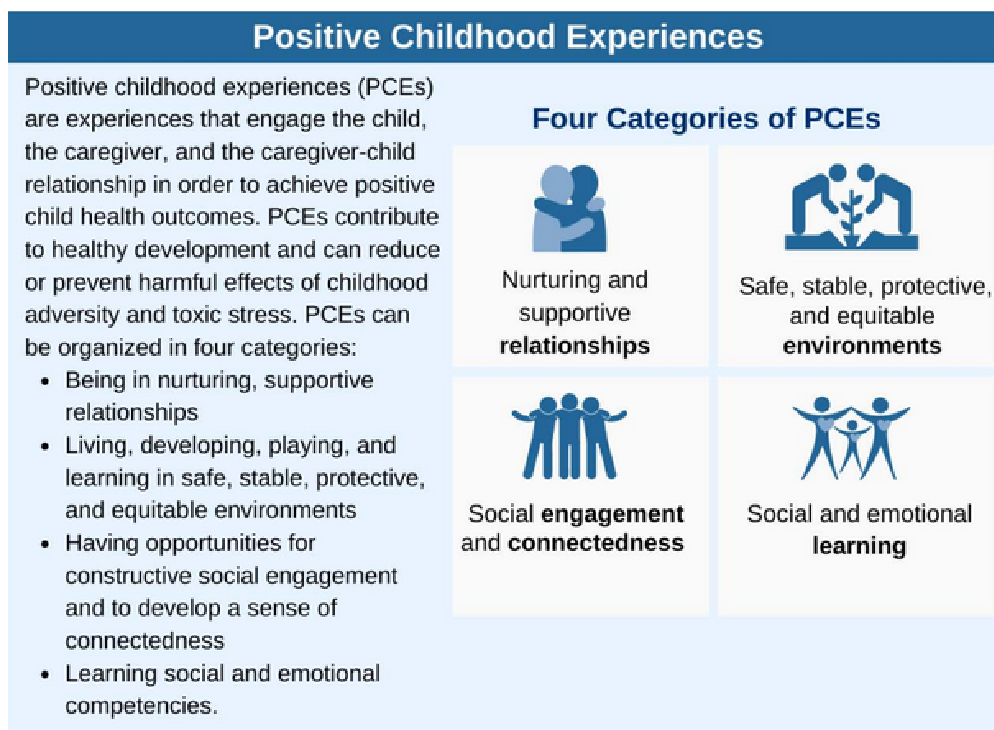

Figure 2: Four categories of PCEs.

Introduction

Prevalence of ACEs

Distribution of ACEs Scores

Between 2015 and 2021, 18,240 California residents aged 18 and over completed the BRFSS ACEs module and retrospectively reported on ACEs they faced before the age of 18. Between 2015 and 2021, 66% of respondents to the BRFSS ACEs module indicated having experienced one or more ACEs before age 18; 17% of which indicated having experienced four or more ACEs. This shows that having experienced at least one ACE before the age of 18 is relatively common among adult residents in California.

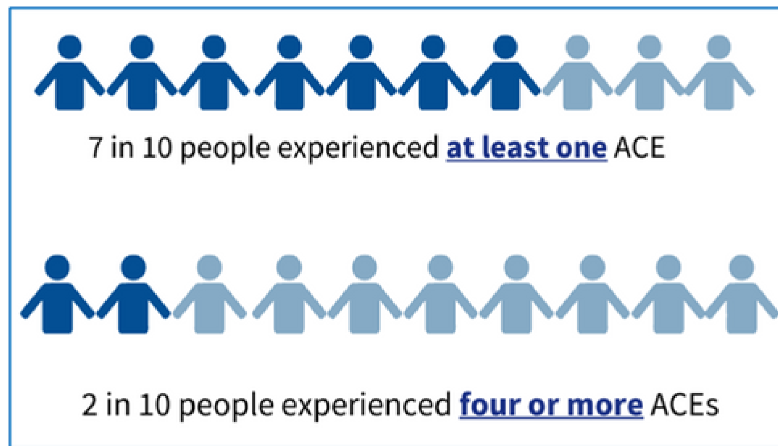

Figure 3: Between 2015 and 2021, 66% of respondents to the BRFSS ACEs module indicated having experienced one or more ACEs before age 18 and 17% indicated having experienced four or more ACEs before age 18.

New ACE Variable 2021

In 2021, the BRFSS ACEs module included a new ACE measure, asking respondents: *(Looking back at your childhood, before age 18) did you feel that no one in your family loved you or thought you were special?* Because this variable is only available for 2021, we did not include it in our wider ACEs analysis that included multiple years of data. In 2021, 13% of respondents answered “yes” to this question.

Prevalence of Individual Types of ACEs

Figure 4 displays the prevalence of each individual type of ACE reported among adult BRFSS respondents, 2015-2021 (n=18,240). About 40% indicated experiencing verbal abuse (a parent or adult in the home either swearing, insulting, or putting them down) once or more than once in their childhood. Thirty-one percent of those surveyed reported experiencing parental separation or divorce before age 18, and 28% reported living with an adult who abused alcohol and/or drugs at some point in their childhood. Twenty-three percent reported experiencing physical abuse from a parent/guardian (being hit, kicked, beat, or physically hurt, not including spanking) and 21% of those surveyed reported witnessing domestic violence between adults in the home at least once during childhood. The lowest prevalence rates were living with a parent/guardian who was depressed, mentally ill, and/or suicidal (16%), experiencing sexual abuse (experiencing unwanted sexual contact from someone at least 5 years older at least once, 12%), and living with someone who had served time or was sentenced to serve time in a jail, prison, or correctional facility (9%) **(Figure 4).**

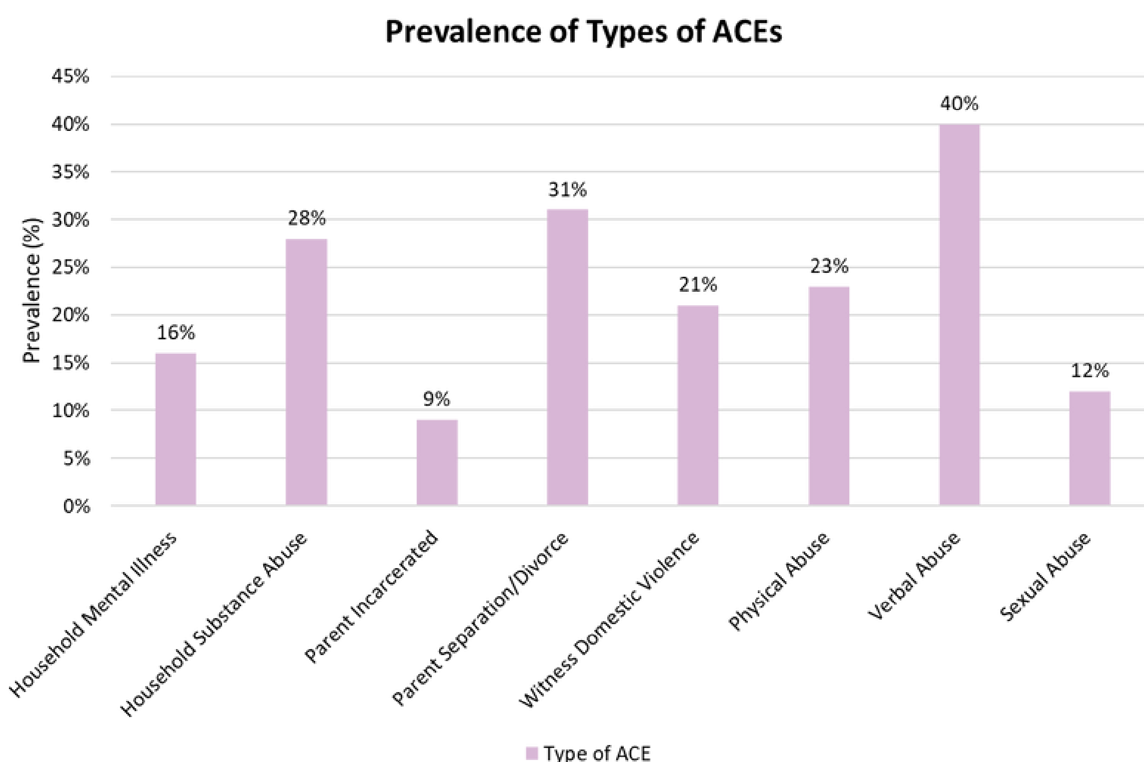

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Figure 4: Prevalence of individual ACEs experienced among BRFSS respondents, 2015-2021 (n=18,240).

Demographic Disparities

ACEs by Race and Ethnicity

Clear differences exist in the prevalence of ACEs among racial and ethnic groups in California. Among the 18,240 Californian adults sampled between 2015-2021, 22% of Black respondents reported experiencing four or more ACEs; a similarly high prevalence of experiencing four or more ACEs were those who identified as American Indian/Alaska Native, Pacific Islander, or Other (noted in Figure 5 as "Other") at 22%. White respondents showed a prevalence of 20% and Hispanic respondents showed 19% prevalence of experiencing four or more ACEs. The lowest prevalence was seen among Asian respondents (9%) (**Figure 5**).

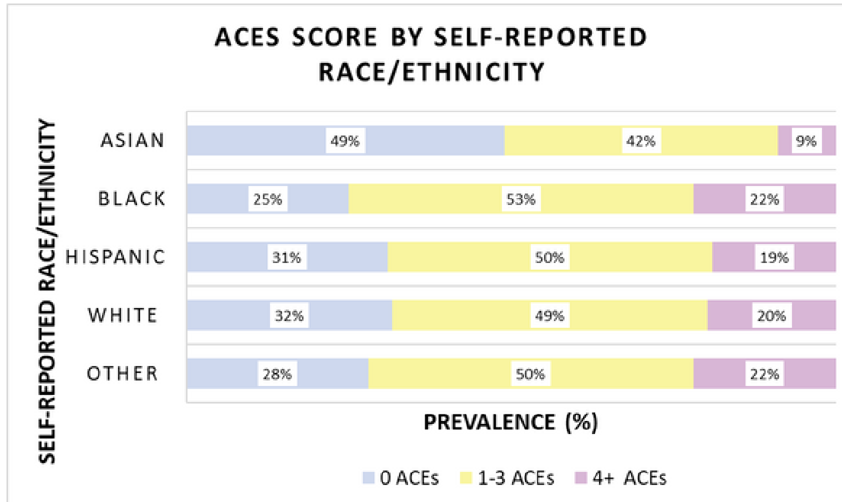

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Figure 5: Prevalence of number of ACEs experienced, by race/ethnicity, among BRFSS respondents, 2015-2021 (n=18,240).

ACEs by Sexual Orientation

Stark disparities were found in the number of ACEs reported by sexual orientation. Those who reported their sexual orientation as "homosexual or bisexual" or reported their sexual orientation as "other/don't know/not sure" had the highest prevalence of experiencing four or more ACEs (34% and 28% respectively). Those who reported their sexual orientation as heterosexual showed the lowest prevalence of experiencing four or more ACEs at 17% (Figure 6).

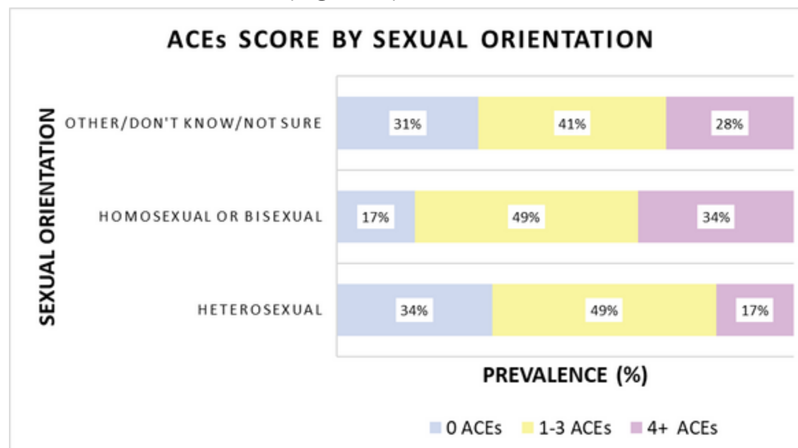

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Figure 6: Prevalence of number of ACEs experienced, by sexual orientation, among BRFSS respondents, 2015-2021 (n=18,240).

ACEs by Educational Attainment

The number of ACEs experienced was distributed more evenly across levels of educational attainment. When stratified by highest level of education achieved, Californians who attended some college without graduating, attained a high school degree or GED, and those who did not finish high school had the highest prevalence of experiencing four or more ACEs (23%, 19%, and 18%, respectively). The lowest prevalence of experiencing four or more ACEs were found among those with the highest education level (12%). The prevalence of experiencing one to three ACEs ranged from 48%-49% across all education levels (**Figure 7**).

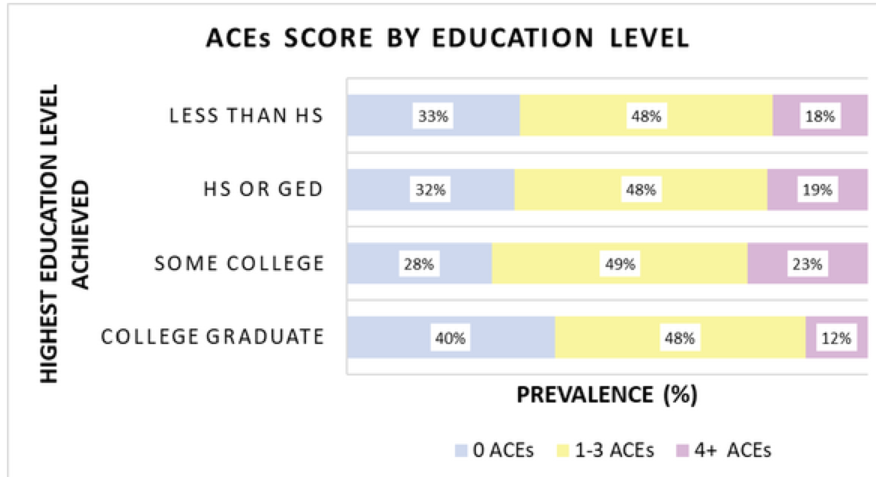

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Figure 7: Prevalence of number of ACEs experienced, by highest level of education achieved, among BRFSS respondents, 2015-2021 (n=18,240).

ACEs by Income Level

The highest prevalence of experiencing four or more ACEs was among those with a household income of less than $25,000 at 22%, while the lowest prevalence of experiencing four or more ACEs was among those with a household income of $100,000 or more at 15%. The prevalence of one to three ACEs remained relatively constant across income levels, with rates ranging from 48-50% across levels of household income. (**Figure 8**).

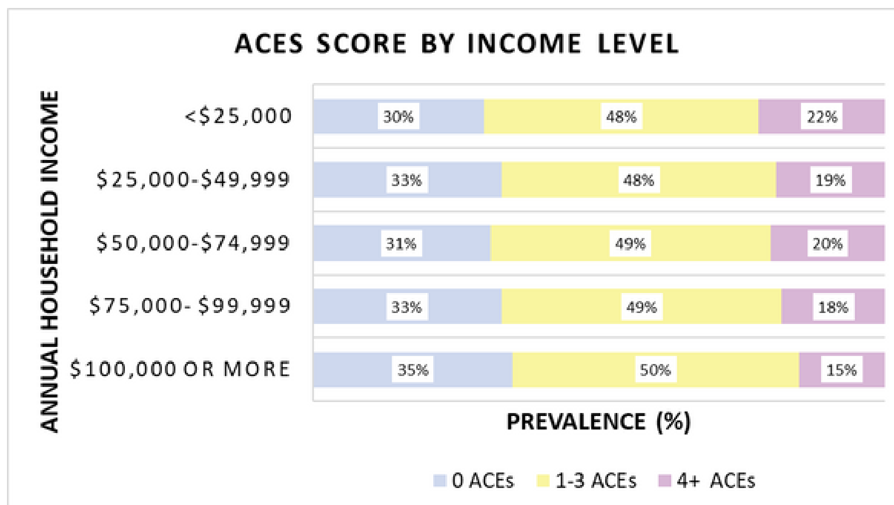

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Figure 8: Prevalence of number of ACEs experienced, by highest level of education achieved, among BRFSS respondents, 2015-2021 (n=18,240).

ACEs by Insurance Coverage

The prevalence of the number of ACEs experienced before age 18 varied by current type of health insurance coverage. Prevalence of experiencing one to three ACEs ranged from 44% to 52%, indicating that experiencing 1-3 ACEs by age 18 is common across insurance coverage types. The highest prevalence of experiencing four or more ACEs was found among respondents with Tricare, Veterans Affairs (VA), or Military insurance plans (24%), MediCal or Children's Health Insurance Program (CHIP) (24%) and no insurance (23%). Respondents covered by employer or purchased plans or Medicare/Medigap showed a prevalence of four or more ACEs of 18% or below. Respondents with healthcare coverage by Alaska Native, Indian Health, or Tribal Health were included in "some other insurance" due to small sample sizes **(Figure 9).**

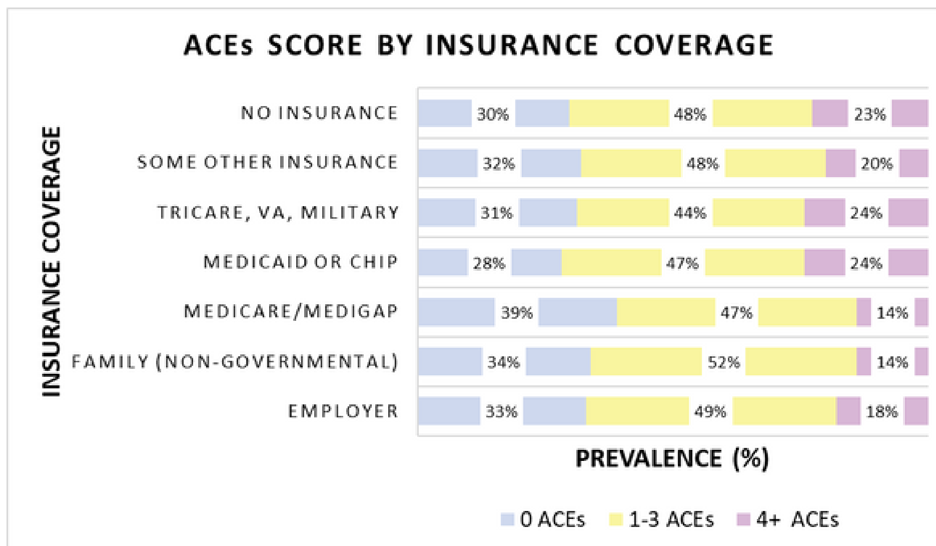

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Figure 9: Prevalence of number of ACEs experienced, by insurance coverage, among BRFSS respondents, 2015-2021 (n=18,240).

Health Behaviors and Outcomes

ACEs by Overall Health Status

The prevalence of ACEs was notably higher among those who self-reported a lower overall health status. While the prevalence of experiencing one to three ACEs before age 18 was relatively consistent across categories of health status (ranging from 48%-49%), the prevalence of experiencing four or more ACEs before age 18 increased as self-reported overall health status decreased, demonstrating a dose-response relationship. Of those who reported their health to be "excellent," 13% also reported experiencing four or more ACEs, a prevalence lower than the overall state average of 17%. In contrast, 24% of those who reported "fair" health and 25% of those who reported "poor" health experienced four or more ACEs. These results appear to support the link between experiencing ACEs in childhood and

experiencing negative mental and physical health outcomes in adulthood that has been found in studies of the relationship between ACEs and health outcomes (Figure 10).[7]

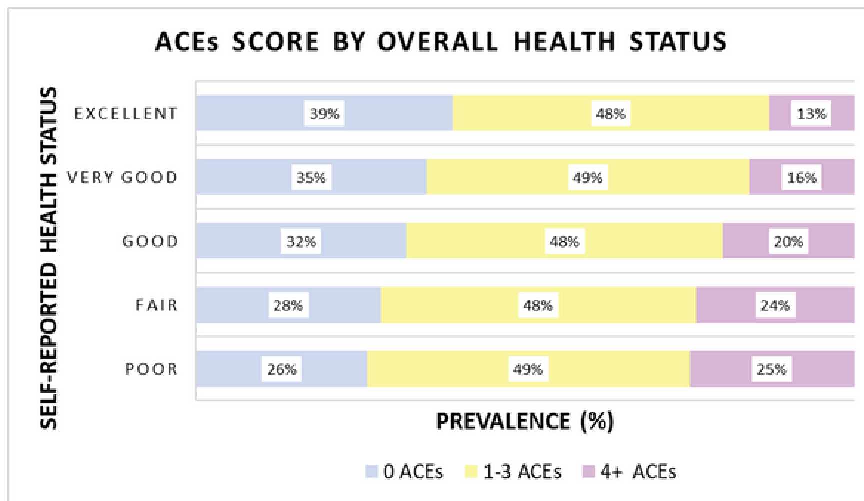

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Figure 10: Prevalence of number of ACEs experienced, by self-reported overall health status, among BRFSS respondents, 2015-2021 (n=18,240).

ACEs by Lifetime Experience of Chronic Illness

Several lifetime variables of chronic health conditions are found in the BRFSS. Those who reported ever being told by a doctor that they had depression had the highest prevalence of experiencing four or more ACEs among chronic illnesses analyzed (39%). This is more than twice the overall prevalence among adult Californians reporting zero ACEs(15%). Across included health conditions except for diabetes, those who reported being diagnosed at some point with a health condition had a higher prevalence of experiencing four or more ACEs **(Figure 11).**

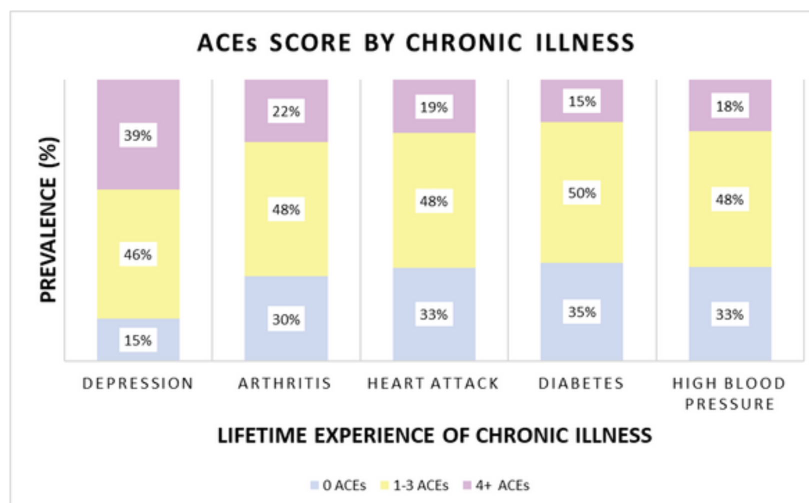

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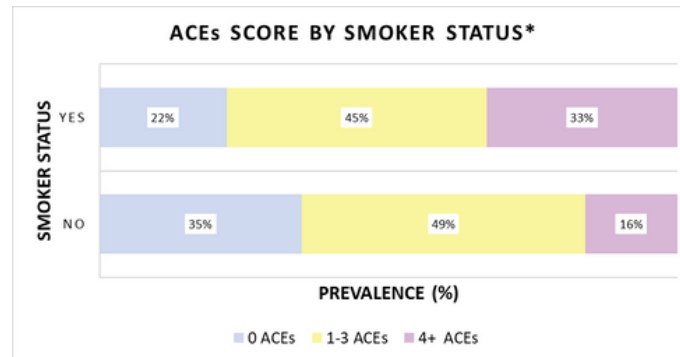
Figure 11: Prevalence of number of ACEs experienced, by lifetime experience of depression, arthritis, heart attack, diabetes, and high blood pressure, among BRFSS respondents, 2015-2021 (n=18,240).

ACEs by Smoking and Alcohol Use

Experience of ACEs before age 18 varied based on current cigarette smoking status. Experiencing four or more ACEs was twice as prevalent among those who reported being a current cigarette smoker (33%) than among those who reported either never smoking or having quit smoking prior to being surveyed (16%). Forty-five percent of those who reported being a current smoker also reported experiencing between one and three ACEs, while 49% of those who reported not being a current smoker also reported experiencing between one and three ACEs (Figure 12).



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*Note: some counts were less than 11

Figure 12: Prevalence of number of ACEs experienced, by current cigarette smoking status, among BRFSS respondents, 2015-2021 (n=18,240).

Those who engaged in binge drinking behavior more frequently also showed higher prevalence of ACEs. The CDC defines "binge drinking" as having five or more drinks (for people who identify as male) or four or more drinks (for people who identify as female) on any given day. [19] Those who reported never having five or more drinks (for people who identify as male) or four or more drinks (for people who identify as female) in the last 30 days, also reported the same prevalence of four or more ACEs as the overall prevalence for adults in California (17%). Those who reported engaging in binge drinking behavior between 1-5 days in the last 30 days had a prevalence of experiencing four or more ACEs of 22%, while that rate increased dramatically to 33% among those who reported binge drinking 6-10 days, and 42% among those who reported binge drinking 21-30 days in the last 30 days. It is important to note that most respondents did not report binge drinking (**Figure 13**).

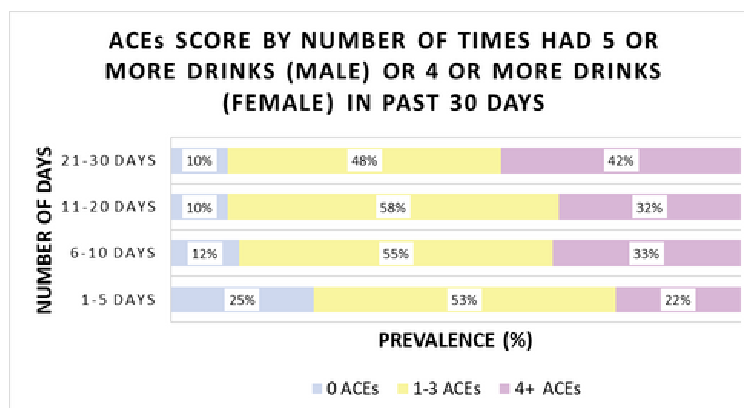

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Figure 13: Prevalence of number of ACEs experienced, by number of times consumed five or more drinks (male) or four or more drinks (female) in past 30 days, among BRFSS respondents, 2015-2021 (n=7,625).

While the BRFSS did not include other substance use variables for all years 2015-2021, the apparent trends in smoking and binge drinking behaviors support evidence from the literature that experiencing four or more ACEs before age 18 are associated with potentially harmful health behaviors in adulthood.[7]

Positive Childhood Experiences (PCEs)

New in the 2021 BRFSS were seven questions about PCEs. The highest prevalence reported by adult Californians was that, in childhood, they felt safe and protected at home "often" or "very often" at 83%. While the lowest prevalence reported by adult Californians was for the PCE "enjoyed participating in community traditions" at 55%. Prevalence was between 58% and 74% for the PCEs "felt able to talk to family about feelings" (58%), "at least two adults (other than parents) took a genuine interest in them" (60%), "felt they belonged at high school" (65%), "family stood by them during difficult times" (72%), and "felt supported by friends" (74%). (**Figure 14**).

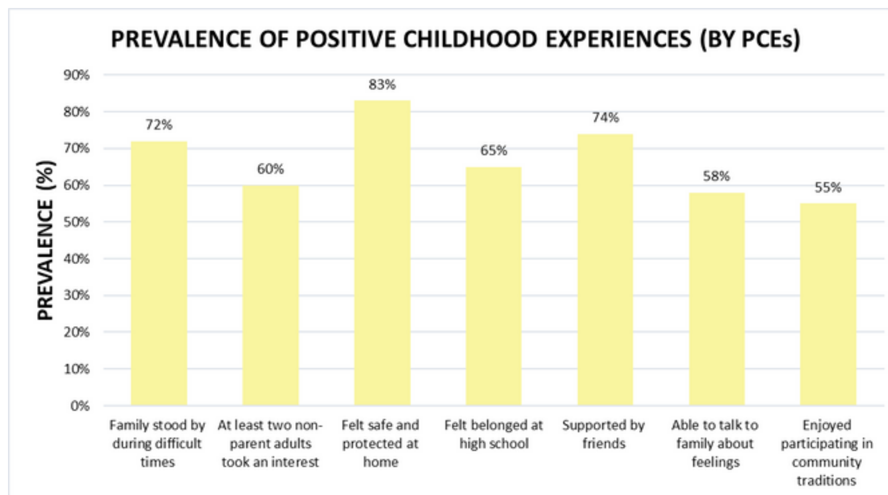

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Figure 14: Prevalence of individual PCEs experienced among BRFSS respondents, 2021 (n=2,926).

Distribution of PCE Scores in 2021

PCEs scores were determined by the distribution of the number of PCEs experienced by adults in California. Only 15% of respondents indicated only experiencing two or fewer of the above PCEs "often" or "very often" in childhood, while 37% reported experiencing three to five of the above PCEs, and 48% reported experiencing six to seven (**Figure 15**).

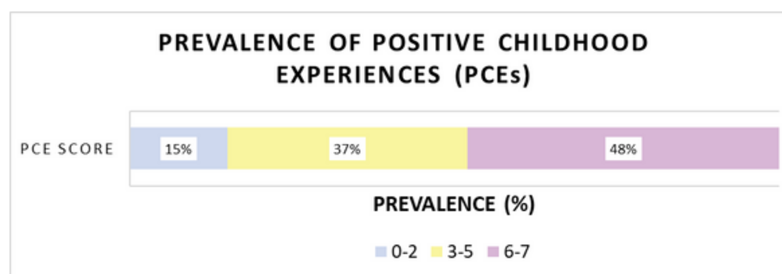

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Figure 15: Prevalence of PCEs experienced among BRFSS respondents, 2021 (n=2,926).

In the 2021 BRFSS data, 46% of those who reported experiencing between zero and two PCEs also reported experiencing four or more ACEs in childhood. In contrast, only 6% of those who reported experiencing six or seven PCEs reported experiencing four or more ACEs (**Figure 16)**.

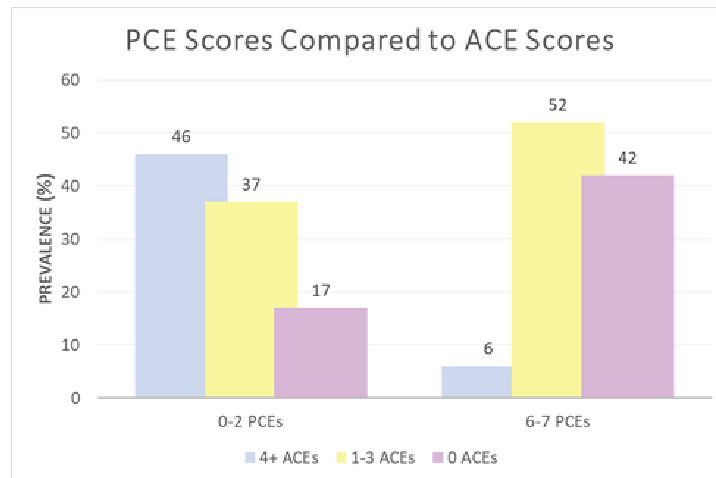

Figure 16: Prevalence of PCE Scores compared to ACE scores experienced by BRFSS respondents, 2021 (n=2,926).

PCEs by Overall Health Status

Analysis of 2021 BRFSS data showed that while only 15% of those with zero to two PCEs reported their overall health as "excellent", 24% of the group reporting six to seven PCEs reported their overall health as "excellent" **(Figure 17).**

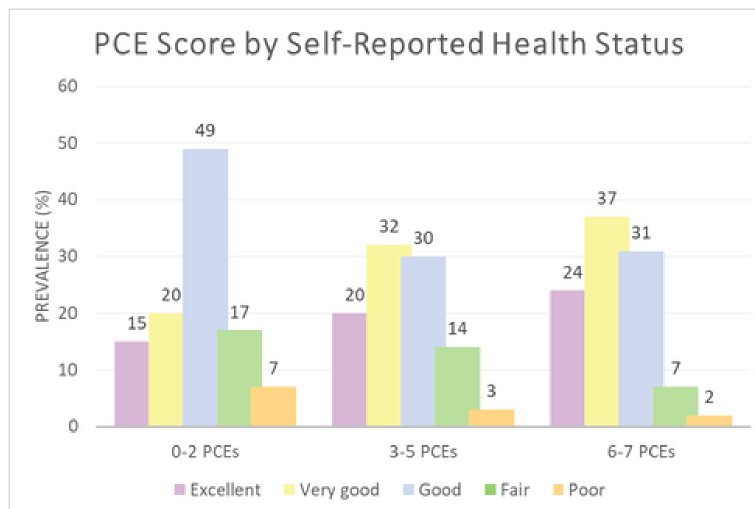

Figure 17: Prevalence of number of PCEs experienced, by self-reported overall health status, among BRFSS respondents, 2015-2021 (n=2,926).

PCEs by Lifetime Experience of Chronic Illness

Those who experienced lower numbers of PCEs in childhood also showed slightly higher proportion of ever being diagnosed with diabetes, depression, or arthritis; and reported being a current cigarette smoker more than those who had experienced higher numbers of PCEs. We did not see evidence of a possible association with high blood pressure, or whether an individual had ever experienced a heart attack **(Figure 18).** Promoting PCEs among parents and communities may be an important intervention to mitigate negative health and behavioral outcomes.

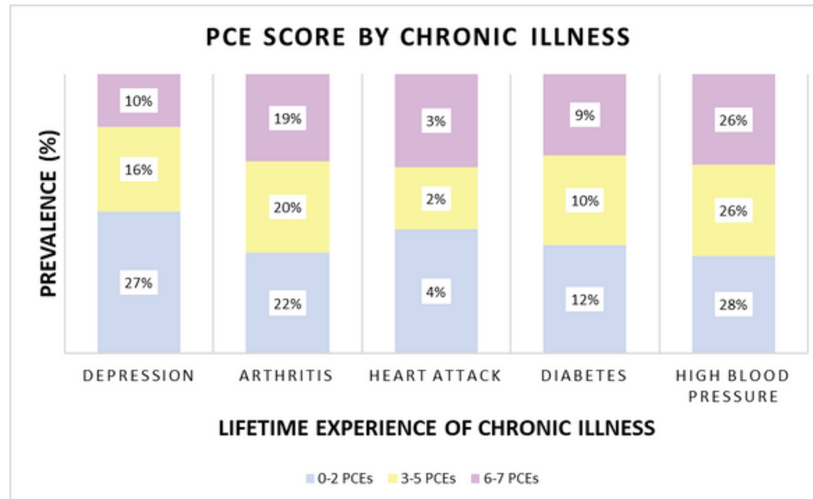

Figure 18. Prevalence of number of PCEs experienced, by lifetime experience of depression, arthritis, heart attack, diabetes, and high blood pressure, among BRFSS respondents, 2015-2021(n=2,926).

Next Steps

The literature shows that adults experiencing four or more ACEs increases the likelihood of poor mental health, risky behaviors such as acute drinking and smoking, and chronic disease, including heart disease, diabetes, stroke, COPD, obesity, and asthma, suggesting that preventing ACEs in childhood may in turn reduce many of these conditions later in the life course.[7] The BRFSS ACEs data presented in this report give insight into the prevalence of ACEs in California and can be used to encourage risk reduction and resiliency promotion as prevention efforts to support and protect the health and wellbeing of children in California, as well as support treatment and healing for adults. This report provides evidence that:

- Two thirds of adult BRFSS respondents in California experienced one or more ACEs before age 18 and almost one-fifth of respondents indicated that they had experienced four or more ACEs before age 18. These results suggest that ACEs are common in the state of California.
- Experiencing four or more ACEs is common among the following groups: Californians who are Black; those who identified as American Indian/Alaskan Native, Pacific Islander, or Other; people with lower household incomes; and people with no healthcare coverage, Medi-Cal, or with Tricare, Veterans Affairs (VA), or Military insurance plans. Experiencing four or more ACEs was particularly high among people who did not identify as heterosexual.
- Forty-six percent of those who reported experiencing between zero and two PCEs also reported experiencing four or more ACEs in childhood. In contrast, only 6% of those who reported experiencing six or seven PCEs reported experiencing four or more ACEs.
- Those who reported experiencing higher numbers of PCEs also indicated that they had lower prevalence of depression, overall poor health, diabetes, cigarette smoking, and binge drinking

than those with lower numbers of PCEs. This inverse relationship is important and consistent with the Life Course Theory as aggregated experiences, positive or negative, can impact long-term health.

Primary prevention efforts should work towards promoting PCEs and reducing occurrences of ACEs to improve life-long health and success. Interventions should include creating social norm change and policies that strengthen economic support for families.[18] Additional analyses should be conducted to better understand how ACEs and PCEs interact together, to help guide prevention efforts and identify protective factors. In California, the California Earned Income Tax Credit (CalEITC) and Paid Family Leave (PFL) programs are two examples of actions taken at the state-level to improve family access to enhanced economic stability.[20, 21] For more information about strategies that create change and improve the lives of children, please see the CDC's Technical Package, "Preventing Child Abuse and Neglect: A Technical Package for Policy, Norm, and Programmatic Activities."

California has a demographic split between people who are White and Hispanic, and health disparities are apparent between different demographic groups in our state. Children of color are typically disproportionately impacted by ACEs due to stressful environments, socioeconomic inequalities, and lack of systemic support and resources for families of color.[22, 23] This report further demonstrates these disparities, identifying racial and ethnic differences in the number of ACEs adult California residents reported experiencing in their childhoods. Socioeconomic disparities and elevated prevalence of ACEs among respondents who do not identify as heterosexual are also highlighted in this report. Primary prevention efforts to reduce the occurrence of ACEs should take these disparities into account and target communities most at risk.

Additionally, the "Roadmap for Resilience: California Surgeon General's Report on Adverse Childhood Experiences, Toxic Stress, and Health" provides more information on the underlying science of how ACEs can lead to toxic stress and the associated health and social outcomes, as well as offers a blueprint for how a coordinated cross-sector response across six different sectors can function to achieve primary, secondary, and tertiary prevention and treatment strategies to enhance resilience and further equity. It also summarizes existing efforts underway within California to address ACEs and toxic stress and a shared vision for how to extend these efforts.

Additional Resources and Tools

The resources below include additional information that may be useful for PACEs stakeholders who are seeking linkage to data and prevention strategies to inform their work in preventing ACEs, promoting PCEs, and identifying risk and protective factors to create change and improve the lives of children.

1) PACEs Connection
    - Map the Movement includes information on US states that have done ACE surveys
2) CDC website on ACEs
3) CDC technical packages
    - CDC technical package on preventing ACEs
4) KidsData
5) EfC Initiative Resource List
6) American Academy of Pediatrics
7) ACEs Aware
8) Office of the Surgeon General
    - Surgeon General's Report on ACEs and Toxic Stress

References

1. Centers for Disease Control and Prevention, National Center for Injury Prevention and Control, Division of Violence Prevention. Behavioral Risk Factor Surveillance System ACE Data. Accessed June 6, 2023. https://www.cdc.gov/violenceprevention/aces/ace-brfss.html
2. Sege RD, Harper Browne C. Responding to ACEs With HOPE: Health Outcomes From Positive Experiences. Academic Pediatrics. 2017;17(7):S79-S85. doi:https://doi.org/10.1016/j.acap.2017.03.007
3. State Special Emphasis Report: Instructions for Disseminating Data on Adverse Childhood Experiences Using the Behavioral Risk Factor Surveillance System.; 2021. Accessed May 25, 2023. https://resources.cste.org/ICD-10-CM/SpecialEmphasisReports/ACEs_Special_Emphasis_Report_Instructions_2021June30.pdf
4. Ford DC, Merrick MT, Parks SE, et al. Examination of the factorial structure of adverse childhood experiences and recommendations for three subscale scores. *Psychology of Violence*. 2014;4(4):432-444. doi:https://doi.org/10.1037/a0037723
5. Centers for Disease Control and Prevention, National Center for Injury Prevention and Control, Division of Violence Prevention. Adverse Childhood Experiences Resources. Accessed June 6, 2023. https://www.cdc.gov/violenceprevention/aces/resources.html
6. Bhushan D, Kotz K, McCall J, Wirtz S, Gilgoff R, Dube SR, Powers C, Olson-Morgan J, Galeste M, Patterson K, Harris L, Mills A, Bethell C, Burke Harris N, Office of the California Surgeon General. Roadmap for Resilience: The California Surgeon General's Report on Adverse Childhood Experiences, Toxic Stress, and Health. Office of the California Surgeon General, 2020. DOI: 10.48019/PEAM8812.
7. Felitti VJ, Anda RF, Nordenberg D, et al. Relationship of Childhood Abuse and Household Dysfunction to Many of the Leading Causes of Death in Adults. *American Journal of Preventive Medicine*. 1998;14(4):245-258. doi:https://doi.org/10.1016/s0749-3797(98)00017-8
8. Robert Wood Johnson Foundation. The truth about ACEs infographic. Accessed May 5, 2022. https://www.rwjf.org/en/library/infographics/the-truth-about-aces.html
9. Cronholm PF, Forke CM, Wade R, Bair-Merritt MH, Davis M, Harkins-Schwarz M, Pachter LM, Fein JA. Adverse Childhood Experiences: Expanding the Concept of Adversity. Am J Prev Med. 2015 Sep;49(3):354-61. doi: 10.1016/j.amepre.2015.02.001. PMID: 26296440.
10. Walsh D, McCartney G, Smith M, Armour G. Relationship between childhood socioeconomic position and adverse childhood experiences (ACEs): a systematic review. *Journal of Epidemiology and Community Health*. 2019;73(12):jech-2019-212738. doi:https://doi.org/10.1136/jech-2019-212738
11. Choi KR, Stewart T, Fein E, et al. The Impact of Attachment-Disrupting Adverse Childhood Experiences on Child Behavioral Health. *The Journal of Pediatrics*. 2020;221:224-229. doi:https://doi.org/10.1016/j.jpeds.2020.03.006
12. Bernard DL, Smith Q, Lanier P. Racial discrimination and other adverse childhood experiences as risk factors for internalizing mental health concerns among Black youth. *Journal of Traumatic Stress*. Published online November 20, 2021. doi:https://doi.org/10.1002/jts.22760
13. Lemon ED, Vu M, Roche KM, Hall KS, Berg CJ. Depressive Symptoms in Relation to Adverse Childhood Experiences, Discrimination, Hope, and Social Support in a Diverse Sample of College Students. *Journal of Racial and Ethnic Health Disparities*. Published online April 9, 2021. doi:https://doi.org/10.1007/s40615-021-01038-z
14. Choi KR, McCreary M, Ford JD, Koushkaki SR, Kenan KN, Zima BT. Validation of the Traumatic Events Screening Inventory for ACEs. *Pediatrics*. 2019;143(4). doi:https://doi.org/10.1542/peds.2018-2546

15. Bernard DL, Calhoun CD, Banks DE, Halliday CA, Hughes-Halbert C, Danielson CK. Making the "CACE" for a culturally-informed adverse childhood experiences framework to understand the pervasive mental health impact of racism on Black youth. *Journal of Child & Adolescent Trauma*. 2020;14. doi:https://doi.org/10.1007/s40653-020-00319-9
16. CDC. *Preventing Adverse Childhood Experiences (ACEs): Leveraging the Best Available Evidence*.; 2019. https://www.cdc.gov/violenceprevention/pdf/preventingACEs.pdf
17. Bethell C, Jones J, Gombojav N, Linkenbach J, Sege R. Positive Childhood Experiences and Adult Mental and Relational Health in a Statewide Sample: Associations Across Adverse Childhood Experiences Levels. *JAMA Pediatr.* 2019;173(11):e193007. doi:10.1001/jamapediatrics.2019.3007
18. Frieden TR, Sosin DM, Spivak HR, et al. *Connecting the Dots: An Overview of the Links among Multiple Forms of Violence*.; 2014. https://www.cdc.gov/violenceprevention/pdf/connecting_the_dots-a.pdf
19. Centers for Disease Control and Prevention. (2022, July). *Excessive Alcohol Use.* https://www.cdc.gov/chronicdisease/resources/publications/factsheets/alcohol.htm#:~:text=Binge%20drinking%2C%20defined%20as%20consuming,or%20anyone%20younger%20than%
20. Courtin E, Aloisi K, Miller C, Allen HL, Katz LF, Muennig P. The Health Effects Of Expanding The Earned Income Tax Credit: Results From New York City. *Health Affairs*. 2020;39(7):1149-1156. doi:https://doi.org/10.1377/hlthaff.2019.01556
21. California Paid Family Leave. edd.ca.gov. https://edd.ca.gov/en/disability/paid-family-leave/
22. EPICenter - Home. epicenter.cdph.ca.gov. Accessed May 25, 2023. https://epicenter.cdph.ca.gov/
23. The 2018 California Children's Report Card. Children Now. Accessed May 25, 2023. https://www.childrennow.org/portfolio-posts/18reportcard/