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Selected Teen-Reported Adverse Childhood Experiences (ACEs) and Mental Health Care Use

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Abstract

Background and Objectives: Previous work has highlighted associations between Adverse Childhood Experiences (ACEs) and mental health care use, but few studies use nationally representative data self-reported by teenagers.

Method: Data came from the cross-sectional National Health Interview Survey (NHIS)– Teen (July 2021–December 2023), an online follow-back survey of teenagers whose parents answered the child portion of the main NHIS. Multivariate logistic regression models estimated associations between selected ACEs and a summed ACEs score (4 or more ACEs vs. 3 or less), and mental health care use in the past 12 months: (1) took prescription medication, (2) received therapy, and (3) unmet mental health care need due to (4) cost, (5) stigma, and (6) not knowing where to go, among teenagers aged 12–17 (N=1,677).

Results: One-tenth of teenagers (11.5%) had four or more selected ACEs. 15.2% of teenagers took prescription medication for their mental health in the past 12 months, while 18.7% received therapy. Having four or more ACEs (adjusted prevalence ratio, APR: 1.43, 95% confidence interval, CI:1.02–2.01), being a victim or witnessing violence in the neighborhood (APR: 1.41, 95% CI: 1.06–1.88), experiencing emotional abuse (APR: 1.50, 95% CI: 1.12–2.02), and experiencing racism (APR: 1.46, 95% CI: 1.10–1.94) were related to taking prescription medication. Most selected ACEs were related to higher prevalence of receiving therapy (e.g. household mental illness, APR:1.97; 95% CI:1.50–2.58).

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Conclusions: ACEs were related to greater use of mental health care and selected barriers for unmet mental health care need. Future work may examine the underlying mechanisms of these associations.

Keywords

adverse childhood experiences; mental health; health care use; National Health Interview Survey; National Health Interview Survey – Teen

Introduction

Adverse Childhood Experiences (ACEs) are potentially traumatic events that occur in childhood (0–17 years) that include different forms of abuse, neglect, and other household challenges, such as witnessing violence or living with someone with mental illness.¹ These experiences are associated with increased rates of various mental health conditions, including depression, anxiety and substance use disorders, in both childhood and adulthood.^{2,3} Previous work suggests that access to mental health care, including therapy, is effective in reducing mental health symptoms among teenagers.⁴ Despite this, about half of teenagers with a mental health disorder have an unmet mental health need in the U.S.⁵

The current evidence base shows that an individual's history of ACEs is associated with both increased use of mental health services and increased barriers to use of mental health services.^{6–9} Children and teenagers with ACEs have an increased odds of mental health service use and use of psychotropic medications,^{7,8} and ACEs have been linked with difficulties accessing mental health treatment.⁹ That is, while individuals with ACEs may have greater use of mental health care, they may also experience more obstacles with getting treatment. Additionally, having a high number of cumulative ACEs, or having high distress symptoms have been associated with a lack of receipt of behavioral health services.⁶

Apart from associations between ACEs and mental health care use, there is limited nationally representative data that examines the underlying reasons for unmet mental health care need among teenagers. Qualitative research among teenage populations both inside and outside the U.S. suggest that teenagers may forgo mental health care because they do not want their parents to know, or are unsure how to access services.^{10–12} Apart from these reasons, prior works also suggests that systemic barriers, including a lack of available providers and waiting times for appointments may also impact the likelihood of teenagers accessing mental health services.¹³ There is a gap in the literature as to whether these reasons may be related to the associations between ACEs and unmet mental health care. Yet, most of the extant literature examining ACEs and use of mental health care relies on parent report or guardian report on the child's experience of ACEs, which typically excludes items on abuse or neglect where the parent or guardian is more likely to be the perpetrator (e.g. emotional abuse),^{7,8} potentially leading to under-reporting of ACEs. Lower parent-teen concordance on ACEs reporting may also be related to teenagers having experiences outside the home that their parents are unaware of and therefore are unable to report on (e.g. discrimination due to race/ethnicity). Additionally, teenagers may be reluctant to disclose

their need or receipt of mental health care services to their parents, leading to possible underreporting on the part of the parents.

To address current gaps in knowledge, this analysis uses a nationally representative sample of teenagers (12–17 years old) to examine associations between a wide range of ACEs and mental health care use, as well as selected reasons for delaying or not getting mental health care. Thus, this design may help corroborate prior work that relied on parent or guardian reporting of ACEs and expands our understanding about barriers to mental health care.

Methods

Data Source

This study used data collected as part of the National Health Interview Survey – Teen (NHIS-Teen), a follow-back cross-sectional study to the July 2021–December 2023 National Health Interview Survey (NHIS). Parent-reported covariates are drawn from the Sample Child portion of the NHIS, while study independent and dependent variables are based on NHIS-Teen.

The NHIS is a nationally representative household survey of noninstitutionalized U.S. civilians conducted annually by the National Center for Health Statistics. NHIS interviews are initiated in-person with telephone follow-up as needed. One adult (known as the “Sample Adult”) and one child (known as the “Sample Child”) were randomly selected from each household; adults responded to questions about themselves, while a knowledgeable adult (typically a parent), responded to questions on behalf of the Sample Child. From July 2021 – December 2023, in cases where the Sample Child was between 12–17 years of age, herein referred to as teenagers, interviewers asked for parent permission to invite the Sample Child to complete a survey on their own health (NHIS-Teen). NHIS-Teen was a self-administered survey that collected information directly from teenagers. Web-based surveys were the primary mode, however, mailed paper questionnaires were sent to non-respondents to increase coverage and improve sample size. Survey content topics on NHIS-Teen were similar to that of the NHIS Sample Child interview, with some questions unique to NHIS-Teen (e.g. reasons for unmet mental health care needs). NHIS-Teen and data collection procedures were approved by the NCHS Ethics Review Board.

Approximately 60.4% of parents provided permission for their teen to participate in NHIS-Teen during the NHIS Sample Child Interview (response rate ranged from 49.9% in 2021 to 44.9% in 2023). Among teens with permission, the participation rate was 46.2%, resulting in an overall NHIS-Teen interview rate of 27.9%. More detailed information about NHIS-Teen and its methodology have been previously published.¹ Survey weights were developed to account for non-permission and nonresponse and are calibrated to be representative of the US population of children ages 12–17¹⁵. Data used in this analysis are available via the National Center for Health Statistics Research Data Center (<https://www.cdc.gov/rdc/index.html>).

Analyses were restricted to teenagers with responses to all ACEs, covariates, and at least one outcome of interest, resulting in a total sample size of 1,677 (14.4% of respondents excluded). Missing data ranged from 0.1% for sex to 7.8% for family structure.

Variables of Interest

Selected Adverse Childhood Experiences: Teen respondents were asked whether they had ever: (1) been a victim of or witnessed violence in the neighborhood; (2) been separated from a parent or guardian because the parent or guardian went to jail, prison, or a detention center (parental incarceration); (3) lived with anyone who was mentally ill or severely depressed (household mental illness); (4) lived with anyone who had a problem with alcohol or drugs (household substance use); (5) had a parent or guardian die; (6) had parents that divorced or separated; (7) lived with a parent or adult who frequently swore at them, insulted them, or put them down (emotional abuse); (8) experienced a time when their basic needs were not met, such as having enough to eat, being able to go to a doctor when they were sick, or having a place to stay (unmet basic needs); or (9) been treated or judged unfairly because of their race or ethnic group (racism). All items were binary, with yes/no response options. This is consistent with prior work that shows that individual ACE items may or may not be associated with specific health outcomes.^{16–18} Given that prior work shows a cumulative burden of ACEs, a summed ACEs score was also created, indicating the number of ACEs the teenager had experienced. This score was dichotomized for analyses based on previous work and the distribution of ACEs within our sample (four or more ACEs vs. three or less) (Supplemental Table 1).^{3,19}

Receipt of Mental Health Care: Use of prescription medication and receipt of mental health therapy in the past 12 months were ascertained using the following questions: “During the past 12 months, did you take any prescription medication to help with your emotions, concentration, behavior, or mental health?” and “During the past 12 months, did you receive counseling or therapy from a mental health professional such as a psychiatrist, psychologist, psychiatric nurse, or clinical social worker?”. Both questions had binary response options (yes vs. no).

Reasons for Unmet Mental Health Care: Reasons for unmet mental health care need included: cost, stigma and not knowing where to go. Reasons were ascertained using three separate questions: “During the past 12 months, was there any time when you needed counseling or therapy from a mental health professional, but did not get it because of... (1) cost?, (2) because you were afraid of what others would think of you (ie. stigma)? and (3) because you didn’t know where to go or how to get help?”. All three questions had binary response options (yes vs. no), and respondents could endorse multiple reasons.

Covariates: Covariates were selected based on previous research showing associations with mental health care use, and data availability.^{7,20,21} Sociodemographic characteristics were parent-reported and included sex (male vs. female), age group (young teens, 12–14 vs. older teens, 15–17), race and Hispanic origin (Hispanic, Non-Hispanic White, Non-Hispanic Black, Non-Hispanic Asian, and Non-Hispanic Other or Multiple Race), family structure (two parents vs. single parent or non-parental care), health insurance coverage

(private, public, and uninsured or other health insurance), and family income (less than 100% of the federal poverty level (FPL), 100–199% FPL, and 200% FPL or greater). Family income was based on a percentage of the FPL, which was calculated from the family's income in the previous calendar year and family size using the U.S. Census Bureau's poverty thresholds.²² Imputed income files created by NCHS were used to account for missing data for family income.^{23,24} Health status (fair or poor vs. excellent, very good, or good), anxiety or depression symptoms (depression or anxiety symptoms vs. no depression or anxiety symptoms) were teen-reported. Depression and anxiety symptoms were defined as a score of 3 or more on the well-validated Patient Health Questionnaire (PHQ-2)²⁵ and Generalized Anxiety Disorder Scale (GAD-2)²⁶, respectively. Additionally, lifetime diagnosis of attention-deficit/hyperactivity disorder (ADHD) diagnosis based on parent-report was included.

Analytic Strategy: Weighted percentages and standard errors for sociodemographic characteristics and health conditions were calculated. Separate multivariable logistic regression models were constructed to assess associations between each ACE exposure (individual ACEs or the summed score) and the prevalence of each mental health care outcome using prevalence ratios. Model 1 included bivariate associations between each exposure and outcome, and Model 2 subsequently adjusted for all selected covariates (sociodemographic, health status, anxiety or depression symptoms, ADHD). All analyses were conducted by using SAS-Callable SUDAAN and all estimates presented meet NCHS data presentation standards for proportions.²⁷

Results

Table 1 presents weighted descriptive statistics. Teenagers were split approximately evenly by age group (12–14 years: 49.1%; 15–17 years: 50.9%), and sex (male: 51.1%, female: 48.9%). Most teenagers were Non-Hispanic White (50.9%), lived in two-parent families (70.7%), and had private insurance (59.1%) and family incomes that were greater than 200% FPL (65.6%). Less than one-tenth of teenagers reported fair or poor health (8.7%), about a quarter reported depression or anxiety symptoms (25.6%), and just over 1/10 had been diagnosed with ADHD (12.1%).

Among the selected ACEs measured in the current analysis, the percentage of parental divorce or separation was the highest (27.9%), followed by household mental illness (20.3%), racism (17.6%), household substance abuse (15.9%), emotional abuse (15.5%), being a victim of or witnessing violence in the neighborhood (13.2%), parental incarceration (9.7%), death of a parent or guardian (6.8%), and unmet basic needs (6.0%) (Figure 1). Just over 1 in 10 teenagers had four or more selected ACEs (11.5%), while 1 in 5 had 2–3 ACEs (20.2%), 23.7% had 1 ACE, and 44.7% did not have any ACEs (Supplemental Table 1).

In respect to mental health care use, the percentage was highest for receiving therapy for mental health in the past 12 months (18.7%), followed by taking prescription medication (15.2%), and delaying or not getting mental health care due to (1) not knowing where to go (12.2%), (2) stigma (11.4%), or (3) cost (5.3%) (Figure 2).

Table 2 presents associations between each ACE and receipt of therapy or prescription medication for mental health. In unadjusted models, each ACE was related to a higher prevalence of taking prescription medication for mental health in the past 12 months. Following adjustment for covariates, four or more ACEs (APR: 1.43, 95% CI: 1.02–2.01), being a victim of or witnessing violence in the neighborhood (APR: 1.41, 95% CI: 1.06–1.88), experiencing emotional abuse (APR: 1.50, 95% CI: 1.12–2.02), and experiencing racism (APR: 1.46, 95% CI: 1.10–1.94) were related to a higher prevalence of taking prescription medication for mental health in the past 12 months. Each ACE was also related to a higher prevalence of receiving therapy for mental health in the past 12 months in unadjusted models. In adjusted models, four or more ACEs (APR: 2.24, 95% CI: 1.64–3.05), being a victim of or witnessing violence in the neighborhood (APR: 1.62, 95% CI: 1.20–2.19), parental incarceration (APR: 2.08, 95% CI: 1.52–2.85), household mental illness (APR: 1.97, 95% CI: 1.50–2.58), household substance use (APR: 1.53, 95% CI: 1.15–2.03), death of a parent or guardian (APR: 1.79, 95% CI: 1.21–2.66), parental divorce or separation (APR: 1.44, 95% CI: 1.04–1.99), and experiencing emotional abuse (APR: 1.93, 95% CI: 1.48–2.52) were related to a higher prevalence of receiving therapy for mental health in the past 12 months.

Multivariable logistic regression models examining associations between ACEs and reasons for unmet mental health care are presented in Table 3. In unadjusted models, each ACE, except for experiencing the death of a parent or guardian, was related to a higher prevalence of unmet mental health care due to cost. Following adjustment for covariates, four or more ACEs (APR: 2.46, 95% CI: 1.59–3.83), household mental illness (APR: 2.56, 95% CI: 1.60–4.09), household substance use (APR: 1.74, 95% CI: 1.12–2.69), experiencing emotional abuse (APR: 2.50, 95% CI: 1.66–3.78), experiencing unmet basic needs (APR: 1.98, 95% CI: 1.14–3.45), and experiencing racism (APR: 2.58, 95% CI: 1.64–4.05) were related to higher prevalence of unmet mental health care due to cost.

Unadjusted for covariates, four or more ACEs (PR: 2.41, 95% CI: 1.61–3.59), being a victim of or witnessing violence in the neighborhood (PR: 2.07, 95% CI: 1.42–3.00), household mental illness (PR: 3.04, 95% CI: 2.17–4.27), household substance use (PR: 2.36, 95% CI: 1.64–3.38), experiencing emotional abuse (PR: 3.91, 95% CI: 2.82–5.41), and experiencing racism (PR: 1.95, 95% CI: 1.32–2.87) were related to higher prevalence of unmet mental health care need due to stigma. After adjustment for covariates, only household mental illness (APR: 1.57, 95% CI: 1.06–2.32), household substance use (APR: 1.60, 95% CI: 1.05–2.45), and experiencing emotional abuse (APR: 2.14, 95% CI: 1.47–3.10) were still related.

In unadjusted models, four or more ACEs (PR: 3.39, 95% CI: 2.42–4.74), being a victim of or witnessing violence in the neighborhood (PR: 2.39, 95% CI: 1.67–3.44), household mental illness (PR: 4.20, 95% CI: 3.11–5.67), household substance use (PR: 2.91, 95% CI: 2.10–4.05), parental divorce or separation (PR: 1.86, 95% CI: 1.34–2.58), experiencing emotional abuse (PR: 3.83, 95% CI: 2.80–5.23), experiencing unmet basic needs (PR: 2.35, 95% CI: 1.46–3.77), and experiencing racism (PR: 2.69, 95% CI: 1.91–3.79) were related to higher prevalence of unmet mental health care need due to not knowing where to go. Following adjustment for covariates, four or more ACEs (APR: 1.72, 95% CI: 1.11–2.67),

household mental illness (APR: 2.08, 95% CI: 1.47–2.95), household substance (APR: 1.75, 95% CI: 1.20–2.53), parental divorce or separation (APR: 1.60, 95% CI: 1.08–2.37), experiencing emotional abuse (APR: 1.77, 95% CI: 1.25–2.53), and experiencing racism (APR: 1.62, 95% CI: 1.16–2.27) were still related to higher prevalence of unmet mental health care need due to not knowing where to go.

Discussion

This study provides insights into how selected ACEs impact mental health care utilization by teenagers. Results of this study were broadly consistent with prior work that shows that selected ACEs are associated with higher rates of using mental health services and prescription medications to treat mental health conditions among children and teenagers.^{8,28} Prior work suggests that people with mental health conditions are more likely to both need and use mental health services, including those with selected ACEs.^{22–23} The present study built upon this literature by presenting associations between ACEs and mental health care use beyond adjustment of multiple measures of potential need for health services, such as the presence of specific mental health symptoms (i.e. anxiety and depression), lifetime ADHD diagnosis, and health status. Therefore, the elevated use of therapy among those with selected ACEs may be explained by other factors like severity or complexity of mental health conditions or number of mental health conditions. Future work may help to understand how ACEs shape mental health symptoms and subsequent outcomes after receiving health care services.

The specific findings of the present study align with prior work that examined prescription medication use among children. For example, prior work using the National Survey of Children's Health (NSCH) examined the association between ACEs and psychotropic medication use among children and found that most ACEs were not associated with use of medication after accounting for demographic characteristics and need.⁸ These results were similar to the present study, which found that the majority of selected ACEs were not related to taking prescription medication in the past 12 months, following adjustment for covariates.

Prior work had also established that ACEs are associated with forgoing mental health care among children.²⁹ The present study expanded on this by looking at reasons for delaying or forgoing care, revealing that, after adjustment, teenagers with the majority of selected ACEs are more likely to report not receiving services they needed but did not get (i.e. have unmet mental health care needs) due to cost and not knowing where to go for care. These findings align with previous work among adults and children that individuals with ACEs are more likely to be of lower socioeconomic status and lack health literacy, which have been shown to increase barriers to mental health care.^{30–33}

Findings of multivariate models also highlighted that not all ACEs are associated with mental health care use in the same way. For example, while many measures of household challenges were not associated with taking prescription medication, these same measures were associated with increased use of therapy. Living with someone who suffered from mental illness was significantly associated with most study outcomes after adjustment, and emotional abuse was related with all study outcomes, suggesting that there may be

something unique about these experiences in contrast to other ACEs. In general, associations between ACEs and mental health care use may highlight the importance of routine ACEs screenings during clinical visits, which have been found to help providers identify patients in need of mental health care.³⁴

This study benefits from self-reported data collected from a nationally representative sample of teenagers, linked to parent-reported measures of sociodemographic characteristics. Bridging existing gaps in the literature, these analyses present associations between ACEs, mental health care, and selected reasons for forgoing mental health care. However, in respect to limitations, all data are self-reported and may be affected by recall bias or social desirability bias, especially if teenagers perceive that their parents may learn of their responses, despite assurances that study protocol does not allow for it. The NHIS may also underestimate unmet need, as it fails to capture individuals that need care but have not attempted to access it, and only measures unmet need in the past 12 months.

Further, the NHIS measure is not comprehensive of all potential reasons for unmet need, as it does not include systemic barriers to care like transportation or health care access. This additional information may be important for informing interventions focused on improving mental health care use among children with ACEs. Given that the study period (July 2021–December 2023) began during the aftermath of the height of the COVID-19 pandemic, reporting on mental health care use and ACEs may have been affected. Additionally, important ACEs, including physical and sexual abuse, were not fielded as part of NHIS-Teen, and were therefore not included in this analysis. The exclusion of these items may underestimate the composite ACEs score examined. However, it should also be noted that, due to sensitivity concerns, these items have also not been fielded on other national surveys that support existing literature in this area.

The sample size of NHIS-Teen limited our ability to examine sociodemographic differences, which may be important for identifying the most groups that are disproportionately affected. The binary ACEs items also lack information on the severity and timing of events, which may also influence their impact.

Conclusions

In all, this study highlights the increased use of mental health care among teenagers with a history of ACEs, and points to the potential barriers to mental health care among this population. This work also emphasizes how associations may present differently when using teenager self-report of ACEs, rather than parent or guardian report. Future work may investigate associations between ACEs and other health outcomes using teenager self-report, as well as additional barriers to mental health care

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

References:

1. CDC. Adverse Childhood Experiences (ACEs) Prevention Resource for Action: A Compilation of the Best Available Evidence. 2019;
2. Bomysoad RN, Francis LA. Adverse Childhood Experiences and Mental Health Conditions Among Adolescents. *Journal of Adolescent Health*. 2020;67(6):868–870. doi:10.1016/j.jadohealth.2020.04.013
3. 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: The Adverse Childhood Experiences (ACE) Study. *American Journal of Preventive Medicine*. 1998/05/01/ 1998;14(4):245–258. doi:10.1016/S0749-3797(98)00017-8 [PubMed: 9635069]
4. Das JK, Salam RA, Lassi ZS, et al. Interventions for Adolescent Mental Health: An Overview of Systematic Reviews. *Journal of Adolescent Health*. 2016;59(4, Supplement):S49–S60. doi:10.1016/j.jadohealth.2016.06.020
5. Fox DJ, Hanes D. Prevalence and Correlates of Unmet Mental Health Services Need in Adolescents With Major Depressive Episode in 2019: An Analysis of National Survey on Drug Use and Health Data. *Journal of Adolescent Health*. 2023;72(2):182–188. doi:10.1016/j.jadohealth.2022.10.001
6. Finkelhor D, Turner H, LaSelva D. Receipt of Behavioral Health Services Among US Children and Youth With Adverse Childhood Experiences or Mental Health Symptoms. *JAMA Network Open*. 2021;4(3):e211435–e211435. doi:10.1001/jamanetworkopen.2021.1435 [PubMed: 33720370]
7. Alcalá HE, Balkrishnan R. Mental Health Services in Childhood: The Role of Family Adversity. *Public Health Rep*. Mar/Apr 2019;134(2):180–188. doi:10.1177/0033354919826555 [PubMed: 30844343]
8. Alcalá HE, Horino M, Delva J. Psychotropic Medication Use in Children: What Role Does Child Adversity Play? *Social Work Research*. 2018;43(2):81–90. doi:10.1093/swr/svy031
9. Schweer-Collins M, Lanier P. Health care access and quality among children exposed to adversity: Implications for universal screening of adverse childhood experiences. *Maternal and Child Health Journal*. 2021;25:1903–1912. [PubMed: 34665356]
10. Samargia LA, Saewyc EM, Elliott BA. Foregone mental health care and self-reported access barriers among adolescents. *The Journal of School Nursing*. 2006;22(1):17–24. [PubMed: 16435926]
11. Wisdom JP, Clarke GN, Green CA. What teens want: barriers to seeking care for depression. *Administration and Policy in Mental Health and Mental Health Services Research*. 2006;33:133–145. [PubMed: 16489480]
12. Goodwin J, Savage E, O'Donovan A. “I personally wouldn't know where to go”: Adolescents' perceptions of mental health services. *Journal of Adolescent Research*. 2024;39(5):1384–1412.
13. O'Brien D, Harvey K, Howse J, Reardon T, Creswell C. Barriers to managing child and adolescent mental health problems: a systematic review of primary care practitioners' perceptions. *British Journal of General Practice*. 2016;66(651):e693–e707.
14. Zablotsky B, Black LI, Ng AE, et al. Methodology Report for the 2021–2023 National Health Interview Survey – Teen 30-month File. 2024;
15. Bramlett M, Black LI, Zablotsky B, Dahlhamer J. Weighting Procedures and Bias Assessment for the 2021–2022 National Health Interview Survey – Teen 18-month File. 2023;
16. Alcalá HE, Dellor E. Examining the Impact of Child Adversity on Use of Preventive Health Care among Children. *Health Soc Work*. 2019;44(1):22–29. doi:10.1093/hsw/hly033 [PubMed: 30561645]
17. Bellis MA, Hughes K, Cresswell K, Ford K. Comparing relationships between single types of adverse childhood experiences and health-related outcomes: a combined primary data study of eight cross-sectional surveys in England and Wales. *BMJ open*. 2023;13(4):e072916.
18. Webster EM. The impact of adverse childhood experiences on health and development in young children. *Global pediatric health*. 2022;9:2333794X221078708.
19. Alhowaymel FM, Kalmakis KA, Chiodo LM, Kent NM, Almuneef M. Adverse Childhood Experiences and Chronic Diseases: Identifying a Cut-Point for ACE Scores. *International Journal of Environmental Research and Public Health*. 2023;20(2):1651. [PubMed: 36674405]

20. Ng AE, Salam Z, Tkach N, Alcalá HE. Adverse Childhood Experiences and Family-Centered Care. *Journal of Prevention*. 2023;44(5):561–578. [PubMed: 37380896]
21. Koball AM, Domoff SE, Klevan J, Olson-Dorff D, Borgert A, Rasmussen C. The impact of adverse childhood experiences on healthcare utilization in children. *Child Abuse & Neglect*. 2020;104797. doi:10.1016/j.chiabu.2020.104797
22. U.S. Census Bureau. Poverty thresholds. <https://www.census.gov/data/tables/time-series/demo/income-poverty/historical-poverty-thresholds.html>
23. Multiple imputation of family income in 2022 National Health Interview Survey: Methods. 2023;
24. Multiple imputation of family income in 2021 National Health Interview Survey: Methods. 2022;
25. Kroenke K, Strine TW, Spitzer RL, Williams JBW, Berry JT, Mokdad AH. The PHQ-8 as a measure of current depression in the general population. *Journal of Affective Disorders*. 2009;114(1):163–173. doi:10.1016/j.jad.2008.06.026 [PubMed: 18752852]
26. Spitzer RL, Kroenke K, Williams JB, Löwe B. A brief measure for assessing generalized anxiety disorder: the GAD-7. *Archives of internal medicine*. May 22 2006;166(10):1092–7. doi:10.1001/archinte.166.10.1092 [PubMed: 16717171]
27. Parker JD, Talih M, Malec DJ, et al. National Center for Health Statistics Data Presentation Standards for Proportions. *Vital Health Stat 2*. Aug 2017;(175):1–22.
28. Alcalá HE, Balkrishnan R. Mental Health Services in Childhood: The Role of Family Adversity. *Public Health Reports®*. 2019;134(2):180–188. doi:10.1177/0033354919826555 [PubMed: 30844343]
29. Alcalá HE, Ng AE, Tkach N, Salam Z. Adverse Childhood Experiences and Utilization and forgoing of Health Care among Children: A Nationally Representative Study in the United States. *Children's Health Care*. 2023/07/03 2023;52(3):321–336. doi:10.1080/02739615.2022.2108812
30. Giano Z, Wheeler DL, Hubach RD. The frequencies and disparities of adverse childhood experiences in the US. *BMC Public Health*. 2020;20:1–12. [PubMed: 31898494]
31. Halfon N, Larson K, Son J, Lu M, Bethell C. Income Inequality and the Differential Effect of Adverse Childhood Experiences in US Children. *Academic pediatrics*. 2017;17(7, Supplement):S70–S78. doi:10.1016/j.acap.2016.11.007 [PubMed: 28865663]
32. Walsh D, McCartney G, Smith M, Armour G. Relationship between childhood socioeconomic position and adverse childhood experiences (ACEs): a systematic review. *J Epidemiol Community Health*. 2019;73(12):1087–1093. [PubMed: 31563897]
33. Miller-Cribbs JE, Jelley MJ, Foulks-Rodriguez K, Stearns J. Adverse childhood experiences and inequities in adult health care access. *International Public Health Journal*. 2016;(2):257.
34. Cohen JR, Choi JW. Is ACEs screening for adolescent mental health accurate and fair? *Prevention Science*. 2022;23(7):1216–1229. [PubMed: 35778650]

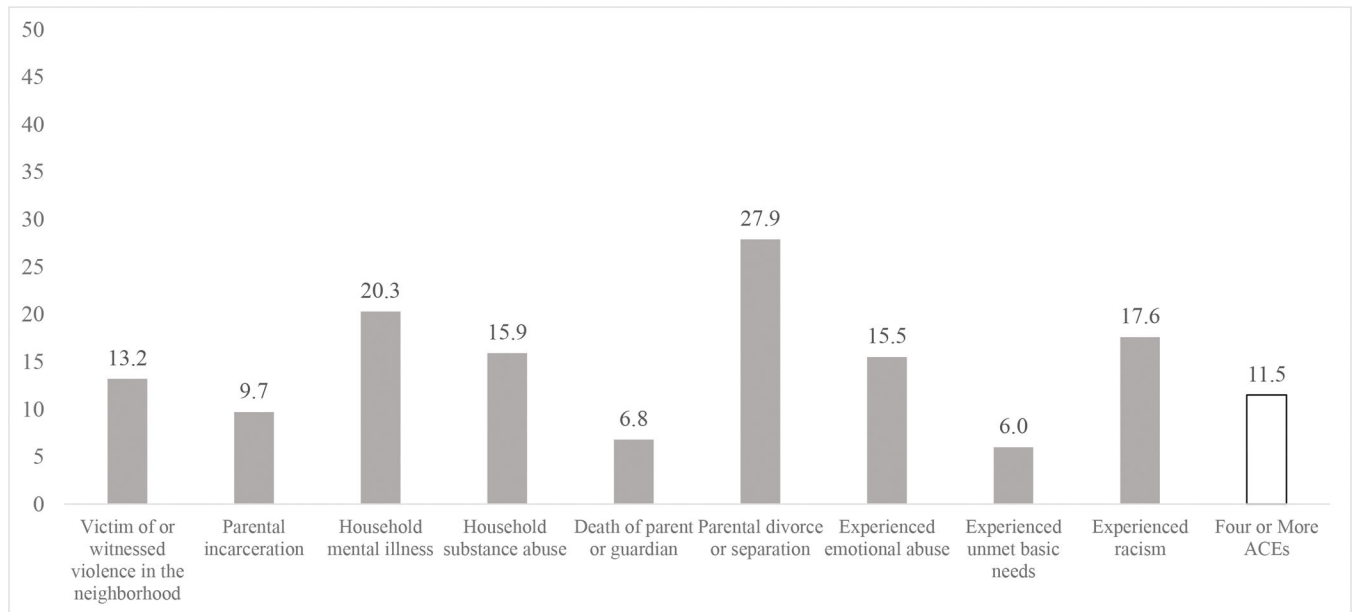


Figure 1.
Prevalence of selected Adverse Childhood Experiences among teenagers, National Health Interview Survey – Teen, July 2021-December 2023.

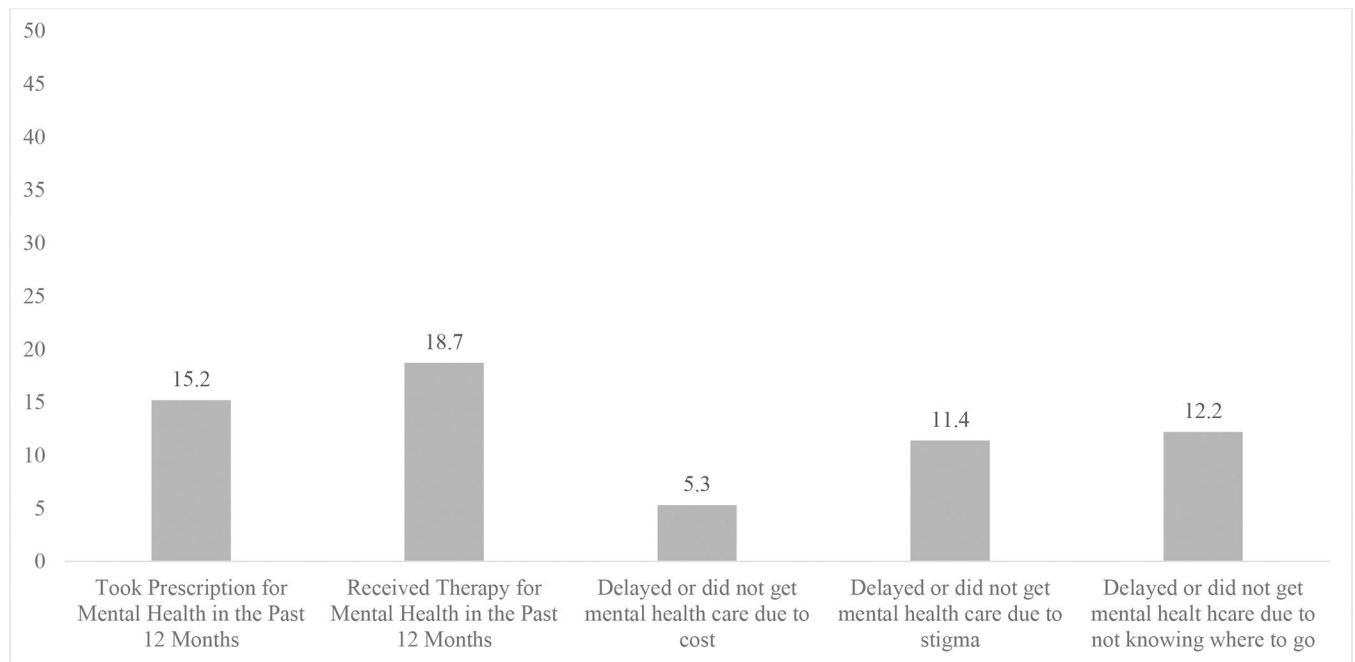


Figure 2.
Prevalence of mental health care use among teenagers, National Health Interview Survey – Teen, July 2021-December 2023.

Table 1

Percent distribution of selected sociodemographic characteristics: United States, National Health Interview Survey - Teen, July 2021–December 2023 (N = 1677)

	Percentage (95% CI)	SE
Age		
12–14	49.1 (46.1–52.2)	1.54
15–17	50.9 (47.8–53.9)	1.54
Sex		
Male	51.1 (47.9–54.3)	1.60
Female	48.9 (45.7–52.1)	1.60
Race and Hispanic Origin		
Hispanic	27.0 (24.1–30.0)	1.47
Non-Hispanic White	50.9 (47.9–54.0)	1.52
Non-Hispanic Black	12.3 (10.0–14.8)	1.19
Non-Hispanic Asian	4.2 (3.3–5.3)	0.45
Non-Hispanic Other and Multiple Race	5.6 (4.3–7.2)	0.72
Family Structure		
Single-parent, or other care	29.3 (26.2–32.4)	1.56
Two-parent family	70.7 (67.6–73.8)	1.56
Health Insurance		
Private	59.1 (55.9–62.2)	1.58
Public	34.2 (31.2–37.4)	1.54
Other/Uninsured	6.7 (5.2–8.4)	0.80
Family Income		
Less than 100% FPL	13.5 (11.0–16.4)	1.33
100–199% FPL	20.8 (18.2–23.6)	1.33
Greater than 200% FPL	65.6 (62.5–68.6)	1.53
Fair or Poor Health	8.7 (7.0–10.7)	0.92
Depression or Anxiety Symptoms	25.6 (23.0–28.3)	1.32
ADHD Diagnosis	12.1 (10.2–14.1)	0.98

NOTE: FPL=federal poverty level. All characteristics were parent-reported.

Survey weights were used to present nationally-representative estimates.

Table 2.

Prevalence Ratios estimating associations between Adverse Childhood Experiences and mental health care use, National Health Interview Survey - Teen, July 2021–December 2023

Adverse Childhood Experiences (ACEs)	Took Prescription Medication for Mental Health in Past 12 Months (N=1673)	Received Therapy for Mental Health in Past 12 Months (N=1674)
	PR (95% CI)	APR (95% CI) ^a
Four or More ACEs	2.79 (2.02–3.84) *	2.24 (1.64–3.05) *
Victim of or witnessed violence in the neighborhood	2.14 (1.54–2.98) *	1.62 (1.20–2.19) *
Parental incarceration	2.34 (1.63–3.34) *	2.08 (1.52–2.85) *
Household mental illness	2.52 (1.89–3.35) *	1.97 (1.50–2.58) *
Household substance use	1.83 (1.32–2.52) *	1.53 (1.15–2.03) *
Death of parent or guardian	1.55 (1.01–2.38) *	1.79 (1.21–2.66) *
Parental divorce or separation	1.65 (1.23–2.21) *	1.44 (1.04–1.99) *
Experienced emotional abuse	2.57 (1.92–3.43) *	1.93 (1.48–2.52) *
Experienced unmet basic needs	2.49 (1.67–3.70) *	1.36 (0.88–2.10)
Experienced racism	1.51 (1.08–2.11) *	1.36 (0.98–1.89)

Abbreviations: ACEs, adverse childhood experiences; PR, prevalence ratios; APR, adjusted prevalence ratios.

^a Adjusted prevalence ratios are adjusted for parent-reported age, sex, race and Hispanic origin, family structure, health insurance, family income, and lifetime diagnosis of ADHD, and teen-reported health status, anxiety or depression symptoms.

^b All outcomes are teen-reported.

* $p < 0.05$.

Table 3.

Prevalence Ratios estimating associations between Adverse Childhood Experiences and reasons for delaying or not getting mental health care, National Health Interview Survey - Teen, July 2021-December 2023

Adverse Childhood Experiences	Delayed or did not get mental health care due to cost (N=1665)		Delayed or did not get mental health care due to stigma (N=1659)		Delayed or did not get mental health care due to not knowing where to go (N=1661)	
	PR (95% CI)	APR (95% CI) ^a	PR (95% CI)	APR (95% CI) ^a	PR (95% CI)	APR (95% CI) ^a
Four or More ACEs	6.32 (4.14–9.65) [*]	2.46 (1.59–3.83) [*]	2.41 (1.61–3.59) [*]	1.40 (0.83–2.35)	3.39 (2.42–4.74) [*]	1.72 (1.11–2.67) [*]
Victim of or witnessed violence in the neighborhood	3.35 (2.06–5.45) [*]	1.60 (0.98–2.60)	2.07 (1.42–3.00) [*]	1.34 (0.93–1.93)	2.39 (1.67–3.44) [*]	1.30 (0.88–1.92)
Parental incarceration	2.35 (1.22–4.52) [*]	1.57 (0.84–2.94)	1.02 (0.58–1.77)	0.88 (0.47–1.67)	1.49 (0.89–2.48)	1.27 (0.76–2.12)
Household mental illness	6.29 (4.06–9.75) [*]	2.56 (1.60–4.09) [*]	3.04 (2.17–4.27) [*]	1.57 (1.06–2.32) [*]	4.20 (3.11–5.67) [*]	2.08 (1.47–2.95) [*]
Household substance use	3.69 (2.37–5.74) [*]	1.74 (1.12–2.69) [*]	2.36 (1.64–3.38) [*]	1.60 (1.05–2.45) [*]	2.91 (2.10–4.05) [*]	1.75 (1.20–2.53) [*]
Death of parent or guardian	0.78 (0.32–1.90)	0.55 (0.22–1.34)	1.05 (0.50–2.22)	1.01 (0.46–2.19)	1.54 (0.88–2.73)	1.39 (0.75–2.60)
Parental divorce or separation	2.59 (1.60–4.21) [*]	1.43 (0.94–2.17)	1.41 (0.98–2.03)	1.38 (0.79–2.42)	1.86 (1.34–2.58) [*]	1.60 (1.08–2.37) [*]
Experienced emotional abuse	6.33 (4.14–9.68) [*]	2.50 (1.66–3.78) [*]	3.91 (2.82–5.41) [*]	2.14 (1.47–3.10) [*]	3.83 (2.80–5.23) [*]	1.77 (1.25–2.53) [*]
Experienced unmet basic needs	4.48 (2.50–8.00) [*]	1.98 (1.14–3.45) [*]	1.41 (0.82–2.44)	0.68 (0.36–1.26)	2.35 (1.46–3.77) [*]	1.19 (0.74–1.91)
Experienced racism	4.49 (2.90–6.94) [*]	2.58 (1.64–4.05) [*]	1.95 (1.32–2.87) [*]	1.39 (0.93–2.08)	2.69 (1.91–3.79) [*]	1.62 (1.16–2.27) [*]

Abbreviations: ACEs, adverse childhood experiences; PR, prevalence ratios; APR, adjusted prevalence ratios.

^a Adjusted prevalence ratios are adjusted for parent-reported age, sex, race and Hispanic origin, family structure, health insurance, family income, and lifetime diagnosis of ADHD, and teen-reported health status, anxiety or depression symptoms.

^b All outcomes are teen-reported.

^{*} $p < 0.05$.