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| **First Author (year)**  **Sample Size, Population/Study** | **Year(s) of Data Collection**  **Mean Participant Age (SD)**  **Gender (% female)**  **Race (% white)**  **Ethnicity (% Hispanic)** | **Analytic approach** | **ACE Variable(s) Used in Analyses**   * **Types of ACEs Measured** | **Outcome of interest** | **Associations Reported in Fully Adjusted Models (when conducted)** |
| **Alcohol (59 studies)** |  |  |  |  |  |
| Agorastos (2014)[1]  N=1,254  Never-deployed, young male Marines participating in the Marine Resiliency Study | 2008-2012  21.5 years (2.4)  0% female  83.8% White | Logistic regression | Summary child maltreatment (CM) score based on the following variables:   * Emotional abuse * CPA * CSA * Emotional neglect * Physical neglect | Current alcohol consumption | No significant associations found in adjusted models. |
| Allem (2015)[2]  N=1,420  Young Hispanic adults in Southern California participating in Project RED study | 2012-2013  22.6 years (0.02)  59% female  100% Hispanic | Logistic regression | Summary adversity score and individual exposure to the following variables:   * Verbal abuse * Child physical abuse (CPA) * Child sexual abuse (CSA) * Battered mother * Household substance abuse * Household mental illness * Incarcerated household member * Parental separation or divorce | Past-month binge drinking | Increase in adversity score was associated with binge drinking (OR = 1.24, 95% CI [1.13, 1.35]).  CSA, Verbal abuse, CPA, Household substance abuse, Incarcerated household member, and Household mental illness were associated with binge drinking. ORs not reported. |
| Anderson (2010)[3]  N=153  Community sample of right-handed, healthy, not medicated young adults. | Year not reported  21.9 years (2.2)  65% female  70.6% White  7.9% Hispanic | Linear mixed effect modeling | Summary physical CM score based on the following variables:   * Physical violence * Corporal punishment   Summary emotional CM score based on the following variables:   * Witnessing domestic violence * Emotional abuse | * Alcohol quantity during typical drinking occasions * Monthly frequency of alcohol consumption | Physical CM (vs. no Physical CM and Emotional CM) was associated with:   * Consumption of hard liquor   (*F2, 150* = 14.07, *p* < .001)   * Alcohol use (*F 2, 150*= 5.19, *p* = .012)   No CM types were associated with consumption of wine or beer. |
| Banducci (2014)[4]  N=280  Majority African American sample recruited from a residential substance use treatment center in inner city Washington D.C. | Year not reported  43.3 years (9.8)  30.3% female  <13% White | Hierarchical linear regression; Logistic regression, Chi square | Summary abuse score based on the following variables:   * CSA * CPA * Emotional abuse | Lifetime alcohol dependence | Abuse score was associated with alcohol dependence (OR = 1.05, 95% CI [1.02, 1.07]). |
| Blanco (2013)[5]  N= 34,653  (6,780 included in analyses)  National Epidemiologic Survey on Alcohol and Related Conditions (NESARC); Wave 2 | 2004-2005  Demographics not reported for entire sample. | Logistic regression | Summary adversity score and individual exposure to the following variables:   * Verbal abuse * CPA * CSA * Neglect * Parental absence or separation from a biological parent * Parental divorce * Parental substance abuse * Parental behavioral problem * Partner with alcohol problem | Lifetime Alcohol Dependence | Individuals with PTSD-AD (compared to PTSD only) were more likely to have experienced:   * Verbal abuse (OR = 2.55, 95% CI [2.01, 3.24]) * CPA (OR = 2.23, 95% CI [1.77, 2.81]) * CSA (OR = 1.91, 95% CI [1.50, 2.44]) * Neglect (OR = 1.89, 95% CI [1.48, 2.40]) * Parental absence (OR = 1.72, 95% CI [1.36, 2.17]) * Parental divorce (OR = 1.86, 95% CI [1.42, 2.43]) * Parental behavioral problem (OR = 2.15, 95% CI [1.60, 2.89]) * Parental substance abuse (OR = 2.31, 95% CI [1.82, 2.94]) |
| Campbell (2016)[6]  N=48,526  Behavioral Risk Factor Surveillance System (BRFSS), 2011: Minnesota, Montana, Vermont, Washington, and Wisconsin | 2011  Mean age and SD not reported  (26.8% 18-34 years  37.1% 35-54 years  17.3% 55-64 years  18.8% 65+ years )  50.4% female  85.2% White  4.8% Hispanic | Multiple logistic regression | Summary ACE score and individual exposure to the following:   * CPA * CSA * Verbal abuse * Witnessing domestic violence * Household substance abuse * Household mental illness * Parental separation/ divorce * Incarcerated household member | * Binge drinking * Heavy drinking | ACE score of 4+ (compared to 0) was associated with:   * Binge drinking (AOR = 1.50, 95% CI [1.24, 1.80]) * Heavy drinking (AOR = 1.80, 95% CI [1.39, 2.32])   Verbal abuse was associated with binge drinking (AOR = 1.29, 95% CI [1.04, 1.44]) only.  No ACEs were associated with heavy drinking. |
| Carlson, Harden (2015)[7]  N=367  University of Texas Experience (UTE) study | 2004(baseline) - 2012 Wave 11  26.9 years at Wave 1 (SD not reported)  65% female  62% White  14% Hispanic | SEM | Summary adversity score based on the following variables:   * CPA * CSA | Alcohol dependence | Adversity was associated with higher mean alcohol dependence symptoms (b = 0.24, *p* < .05). |
| Carlson, Oshri (2015)[8]  N=361  Undergraduate students in a U.S. public university | Year not reported  19.1 years (1.7)  62% female  87.2% White | SEM | Summary CM score based on the following variables:   * CSA * CPA * Emotional abuse * Verbal abuse | Binge drinking | Path between CM and binge drinking was not significant. |
| Corstorphine (2007)[9]  N=102  Participants who met DSM-IV criteria for an eating disorder | Year not reported  29.3 years (9)  99% female  R/E not reported | Chi square | Exposure to the following:   * Emotional abuse * CSA * CPA * Bullying by peers | Alcohol abuse | CSA was associated with alcohol abuse (*χ*² = 4.21, *p* = .02). |
| Drabble (2013)[10]  N=11,169  National Alcohol Survey (NAS) ; women participants only | 2000-2010  Heterosexual  (n=10, 723)  45.8 years  (SD not reported)  Bisexual (n=140)  33.6 years  (SD not reported)  Lesbians (n=122)  40.3 years  (SD not reported)  Heterosexual reporting same-sex partners (n=184)  40.6 years  (SD not reported)  100% female  R/E not reported | Chi square; ANOVA | Exposure to the following:   * CPA * CSA | * Alcohol consumption in previous year * Drinking to intoxication in previous year * Lifetime alcohol-related dependence symptoms * Lifetime hazardous drinking | CPA was associated with hazardous drinking (AOR = 1.5; 95% CI [1.2, 1.8]).  CSA was associated with hazardous drinking (AOR = 1.8, 95% CI [1.3-2.5]).  Experiencing both CPA and CSA was associated with hazardous drinking (AOR = 3.3, 95% CI [2.5, 4.5]). |
| Eames (2014)[11]  N=77  Alcohol-dependent males recruited from a residential treatment center for alcohol dependence at the Dallas Veterans Administration Medical Center and from Homeward Bound, Inc. | Year not reported  41.9 years (9.9)  0% female  71.8% White  7.0% Hispanic | Partial correlations; Regression analysis | Summary CM score based on the following variables:   * Emotional abuse * CPA * CSA * Emotional neglect * Physical neglect | Drinks per drinking day prior to treatment | CM was associated with alcohol consumption prior to treatment (*r* = .32, *p* < .01).  Among men with high ongoing stress in adult life, higher CM (compared to no/low CM) was associated with higher alcohol consumption prior to treatment (*t* = 2.71, *p* = .011).  Among men with high romantic relationship stress in adult life, higher CM (compared to no/low CM) was associated with higher alcohol consumption prior to treatment (*t* = 3.59, *p* = .002). |
| Elliott (2016)[12]  N=1,172  NESARC, Waves 1 & 2;  Alcohol dependent sample | 2001-2002 (Wave 1);  2004-2005 (Wave 2)  Mean age and SD not reported (75.2% aged < 40 years)  32% female  69.9% White  13.7% Hispanic | SEM | Summary CM score based on the following variables:   * Emotional abuse * CPA * CSA * Emotional neglect * Physical neglect | * Alcohol dependence * Alcohol persistence | One standard deviation increase in CM predicted an 8.7% (95% CI [5.7-11.7]) increase in the risk of persistent alcohol dependence. |
| Elliott (2014)[13]  N= 1,172  NESARC, Waves 1 & 2;  Alcohol dependent sample | 2001-2002(Wave 1);  2004-2005 (Wave 2)  Mean age and SD not reported (75.2% aged < 40 years)  32% female  69.9% White  13.7% Hispanic | Logistic regression | Summary CM score and individual exposure to the following:   * Emotional abuse * CPA * CSA * Emotional neglect * Physical neglect | * Alcohol dependence * Alcohol persistence | CM score had an incremental effect on alcohol persistence (AOR = 1.31, 95% CI [1.15, 1.48]).  In fully adjusted models, CSA was associated with alcohol persistence (AOR = 2.62, 95% CI [1.62, 4.23]). |
| Fenton (2013)[14]  N=27,712  NESARC, Waves 1 & 2 | 2001-2002(Wave 1);  2004-2005 (Wave 2)  Mean age and SD not reported (61.3% aged < 40 years)  56.9% female  68.3% White  12.6% Hispanic | Logistic regression | Exposure to the following:   * CPA * CSA * Emotional abuse * Physical neglect * Emotional neglect | Lifetime alcohol dependence | CSA was associated with alcohol dependence (AOR = 2.28, 95% CI [2.00, 2.60]).  CPA was associated with alcohol dependence (AOR = 2.28, 95% CI [2.05, 2.54]).  Emotional abuse was associated with alcohol dependence (AOR = 2.29, 95% CI [2.06, 2.55]).  Physical neglect was associated with alcohol dependence (AOR = 1.90, 95% CI [1.70, 2.14]).  Emotional neglect was associated with alcohol dependence (AOR = 1.45, 95% CI [1.25, 1.68]). |
| Fetzner (2011)[15]  N=34,160  NESARC, Waves 1 & 2 | 2001-2002(Wave 1);  2004-2005 (Wave 2)  No Alcohol Use Disorder (n=23,350)  Mean age and SD not reported (41% aged < 44 years)  61.7% female  67.1% White  13% Hispanic  Alcohol Use Disorder (n=11, 303)  Mean age and SD not reported ( 53.9% aged < 44 years )  33.8% female  78.1% White  8.9% Hispanic | Logistic regression | Exposure to the following:   * CPA * CSA * Emotional abuse * Physical neglect * Emotional neglect | Lifetime alcohol-use disorder (AUD) | Any CM was associated with AUD (OR = 1.31, 95% CI [1.23, 1.40]).  CPA was associated with AUD (OR = 1.31, 95% CI [1.21, 1.42]).  Emotional abuse was associated with AUD (OR = 1.29, 95% CI [1.15, 1.45]).  CSA was associated with AUD (OR = 1.16, 95% CI [1.03, 1.29]).  Physical neglect was associated with AUD (OR = 1.16, 95% CI [1.03, 1.29]).  Emotional neglect was associated with AUD (OR = 1.26, 95% CI [1.17, 1.36]).  Among participants with PTSD:   * Any CM was associated with AUD (OR = 1.40, 95% CI [1.08, 1.83]) * CSA was associated with AUD (OR = 1.47, CI [1.11-1.94]) |
| Font (2016)[16]  N=29,229  BRFSS; 2012: Iowa, North Carolina, Wisconsin, Tennessee, and Oklahoma | 2012  47.7 years (0.33)  50.3% female  80.5% White  4.7% Hispanic | SEM | Summary ACE score and individual exposure to the following:   * CPA * Emotional abuse * CSA * Witnessing domestic violence * Household substance abuse * Household mental illness * Parental divorce * Incarcerated household member | Binge drinking in previous month | ACE scores were associated with recent binge drinking:   * 1 ACE (β =.0.22, *p* < .05) * 2-3 ACEs (β = 0.033, *p* < .001) * 4+ ACEs (β = 0.031, *p* < .01)   Household mental illness and substance abuse was associated with recent binge drinking (β = 0.017, *p* < .05).  Physical and emotional abuse were directly associated with binge drinking (β = 0.025, *p* < .01). |
| Gilmore (2014)[17]  N=1,094  Lesbian and bisexual women aged 18 to 25 | Year not reported  20.88 years (2.11)  100% female  70.5% White  11.1% Hispanic | SEM | Severity of CSA exposure | Daily drinking frequency | CSA Severity was associated with drinking  (*r* =.13, *p* < .001). |
| Gjelsvik (2013)[18]  N=81,910  BRFSS; 2009 & 2010: Arkansas, Hawaii, Louisiana, Maine, Nevada, New Mexico, Pennsylvania, Vermont, Washington, and Wisconsin. | 2009-2010  Mean age and SD not reported  No Incarcerated Household Member (n=78,193)  47.1% < 40 years  51.9% female  82.9% White  4.5% Hispanic  Incarcerated Household Member (n=3,717)  73.3% < 40 years  47.6% female  68.5% White  8.1% Hispanic | Logistic regression | Exposure to an Incarcerated household member | * Heavy drinking in previous 30 days * Binge drinking in previous 30 days | Household incarceration was not significantly associated with binge drinking.  Among Hispanic participants, Household incarceration was associated with heavy drinking (AOR = 3.01, 95% CI [1.45, 6.25]), but not for non-Hispanic white or black participants. |
| Goldstein (2010)[19]  N=218  College student drinkers | Year not reported  20.3 years (3.9)  60.6% female  50.2% White  3.7% Hispanic | Bivariate correlations | Summary abuse and neglect score based on the following:   * CPA * CSA * Emotional abuse * Physical neglect * Emotional neglect | * Alcohol consumption * Alcohol consequences | Among men:   * Abuse was associated with alcohol consequences (*r* = 0.32, *p* < .01), but not consumption * Neglect was associated with alcohol consequences (*r* = 0.28, *p* < .05), and consumption (*r* = 0.22, *p* < .05)   Among women:   * Abuse was associated with alcohol consequences (*r* = 0.20, *p* < .05), but not consumption * Neglect was not associated with alcohol consequences |
| Grayson (2005)[20]  N=697 (1327 original sample)  Participants from a metropolitan area on the West Coast | Year not reported  Mean age and SD not reported (40% aged: 45-55 years)  100% female  71% White  9% Hispanic | SEM | Exposure to CSA | * Alcohol-related problems * Past year drinking frequency | History of CSA was associated with alcohol-related problems (27% vs 13% of women with no CSA; *χ* 2 (1, N = 697) = 17.40, *p* < .001).  History of CSA was associated with being drunk in the last year (43% vs. 27% of women with no CSA; *χ* 2 (1, N = 477) = 11.48, *p* < .01).  CSA had significant direct paths to alcohol problems (b = 0.10 & β = 0.08, *p* < .05). |
| Horan (2015)[21]  N=896 (at second follow-up)  Cases with substantiated CAN and matched controls from a metropolitan area in the Midwest | 1967-1971 (cases and controls identified); 1987-1998 & 1994 (criminal arrest records); 1989-1995 (first follow-up interview); 2000-2002 (2nd follow-up)  39.5 years at  2nd follow-up  (SD not reported)  52.8% female  59.3% White | Mediation analyses; Bivariate associations; SEM | Summary CM score based on substantiated reports of the following:   * CPA * CSA * Neglect | Alcohol use | Substantiated CM (compared to non-abused controls) was not associated with alcohol use. |
| Hostinar (2015)[22]  N=1,180  National Survey of Midlife Development in the United States (MIDUS) II study | 1995-1996 (MIDUS); 2004-2005 (MIDUS II)  57.3 years (11.5)  56% female  74.9% White  3.2% Hispanic | Multiple regression; SEM | Summary ACE score based on the following variables:   * CPA * Emotional abuse * CSA * Physical neglect * Emotional neglect * Household substance abuse * Household mental illness * Parental divorce | Alcohol consumption | No significant associations found between ACE score and alcohol in a model predicting inflammation. |
| Hughes & McCabe (2010)[23]  N=34,653  NESARC, Wave 2 | 2004-2005  Mean age and SD not reported  (7.61% 20-24 years  38.47% 25-44 years  34.61% 45-64 years  19.31% 65+ years)  52% female  71% White  12% Hispanic | Multivariate analyses | Summary CM score and individual exposure to the following:   * CSA * CPA * Neglect | Alcohol abuse and dependence | Among women:   * None of the individual CM experiences were associated with alcohol abuse. * 2+ CM experiences (compared to 0) had higher odds of alcohol dependence (AOR = 2.1, 95% CI [1.4-3.0]) * Among lesbians, neglect (compared to heterosexual women exposed to neglect) was associated with alcohol dependence (AOR = 30.5, 95% CI [5.2-181.2])   Among men:   * None of the individual CM experiences were associated with alcohol abuse * 2+ CM experiences (compared to 0) had higher odds of alcohol dependence (AOR = 1.8, 95% CI [1.4-2.4]) * There were no differences by sexual orientation |
| Hughes, Szalacha (2010)[24]  N=953  National Study of Health and Life Experiences of Women (NSHLEW) & Chicago Health and Life Experiences of Women study (CHLEW) | 2000 (CHLEW); 2001 (NSHLEW)  Mean age and SD not reported (age range: 21-70 years)  100% female  R/E not reported | Multivariate analysis | Exposure to CSA | Hazardous drinking in previous 12 months | The highest levels of hazardous drinking were reported by bisexual women with histories of CSA (*M* = 2.99, *SE* = 0.02) compared to other women with CSA histories [i.e., mostly lesbian (*M* = 1.55, *SE* = 0.01), mostly heterosexual  (*M* = 1.46, *SE* = 0.07), exclusively lesbian (*M*=1.39, *SE* = 0.04), and exclusively heterosexual (*M* = 1.37, *SE* = 0.03)] and those who experienced adult SV. |
| Hughes (2007)[25]  N=447  CHLEW – sample of lesbian women | 2000  37.5 years  (SD not reported)  100% female  47% White 20% Hispanic | Multivariate analyses; Logistic regression | Exposure to the following:   * CSA * CPA | Lifetime alcohol abuse | CSA predicted lifetime alcohol abuse (β = .10, *p* < .05).  CSA was associated with:   * Lifetime alcohol dependence symptoms (70.8% vs. 58.8, *p* = .02) * Early onset of drinking (43.1% vs. 29.6%, *p* = .01)   CPA was not associated with lifetime alcohol abuse.  CPA was associated with:   * Early onset of drinking (45.4% vs. 30.1%, *p* =.005) |
| Jenkins (2011)[26]  N=1,158  Missouri Adolescent Female Twin Study | Year not reported  Mean age and SD not reported (Age range: 18–29 years)  100% female  88.2% White | Univariate and multivariate logistic regression | Exposure to the following:   * Traumatic event * CSA * CPA | Alcohol abuse and dependence | Among early-onset alcohol users with alcohol use disorders:   * Trauma was more common (OR = 1.4, 95% CI [1.1, 1.9]) * CPA was more common (OR = 2.7, 95% CI [1.6, 4.5]) * CSA was not significant   CPA was associated with alcohol abuse disorder (OR = 2.49, 95% CI [1.46, 5.35]). |
| Keyes (2012)[27]  N=1,013  Detroit Neighborhood Health Study | 2008-2009 (Wave 1);  2010 (Wave 2)  Mean age and SD not reported (27.5% aged < 44 years)  60.4% female  11% White | Bivariate and multivariate associations | Summary CM score and individual exposure based on the following:   * CPA * Emotional abuse * CSA | * Maximum drinks in previous 30 days * Binge drinking  in previous 30 days | Increase in CM score was associated with binge drinking (OR = 1.1, 95% CI [1.01, 1.23]).  CSA was associated with binge drinking  (OR = 3.1, 95% CI [1.04, 9.35]).  CM score and individual CM types were not significantly associated with mean maximum drinks. |
| Kim (2014)[28]  N=22,147  NESARC, Wave 2 | 2004-2006  Mean age and SD not reported  (17% 18-29 years  35% 30-45 years  35% 44-65 years  14% 65+ years)  53% female  63.3% White  17.4% Hispanic | Bivariate association; multivariable logistic regression | Summary CM score based on the following:   * CPA * Emotional abuse * CSA * Emotional neglect * Physical neglect | Alcohol craving | CM was associated with:   * Moderate craving of alcohol (AOR = 1.32, 95% CI [1.05, 1.67]) * Severe craving of alcohol (AOR = 1.88, 95% CI [1.21, 2.91]) |
| Klanecky (2015)[29]  N=200  Undergraduate students from a private Midwestern university | Year not reported  19.45 years (1.62)  62% female  72.2% White  5.2% Hispanic | Multiple hierarchical regression | Summary adversity and trauma scores based on the following:   * CPA * CSA * Emotional abuse * General trauma (witnessing trauma, natural disasters, etc.) | Problem drinking | Adversity score and trauma score were not significantly associated with problem drinking. |
| Klanecky (2012)[30]  N=298  Midwestern undergraduate students | Year not reported  19.9 years (1.9)  54% female  88.6% White  2.0% Hispanic | Multiple hierarchical regression | Summary trauma score based on the following:   * CPA * Emotional abuse * General trauma (witnessing trauma, natural disasters, etc.)   Exposure to CSA | Problematic alcohol use | CSA and trauma score were not directly associated with problematic alcohol use in adjusted models. |
| La Flair (2013)[31]  N=11,750  NESARC, Waves 1 & 2; women participants only | 2001-2002 (Wave 1); 2004-2005 (Wave 2)  Mean age and SD not reported  (17% 18-35 years  47% 36-49 years  36% 50+ years)  100% female  65.2% White  18.4% Hispanic | Latent class analysis; Latent transition analysis | Summary CM score and individual exposure to the following:   * CSA * CPA * Witnessed domestic violence * Neglect | * Alcohol dependence * Alcohol abuse | Increased risk of transition to hazardous use from no alcohol problems at Wave 1 was observed among those who experienced:   * Any CM (AOR = 1.6, 95% CI [1.2, 2.0])   Increased risk of transition from hazardous use to severe at Wave 1 was observed among those who experienced:   * CSA (AOR = 1.8, 95% CI [1.4–2.4])   Increased risk of transition to severe from no problems at Wave 1 was observed among those who experienced:   * CSA (AOR = 4.8, 95% CI [1.9, 12.0]) * CPA (AOR = 5.0, 95% CI [1.7, 14.5]) * Witnessing domestic violence (AOR = 2.6, 95% CI [1.0, 6.6]) * Neglect (AOR = 6.2, 95% CI [2.1, 17.9]) * Poly-victimization (1+ CM) (AOR = 4.6, 95% CI [1.8, 11.8]) * Any CM (AOR = 3.9, 95% CI [1.8, 8.5]) |
| Lown (2011)[32]  N=3,680  NAS, 2005; women participants only | 2005  Mean age and SD not reported  (30% 18-34 years  38% 35-54 years  30% 55+ years)  100% female  71% White  11.4% Hispanic | Bivariate analysis; Logistic regression; Chi squares | Summary abuse score based on the following:   * CPA * CSA | * Current alcohol misuse * Lifetime alcohol misuse | Lifetime alcohol-related consequences (2+) were more common in women reporting:   * CPA (vs. no abuse)   (AOR = 2.1, 95% CI [1.5, 3.0])   * CSA (vs. no abuse)   (AOR,= 3.5, 95% CI [2.6, 4.8])  Lifetime alcohol dependence was more common among women with:   * CPA (vs. no abuse)   (AOR = 2.1, 95% CI [1.4, 3.1])   * CSA (vs. no abuse)   (AOR = 3.7, 95% CI [2.6, 5.3])  Controlling for drinking volume:   * CPA was associated with lifetime alcohol consequences   (AOR = 2.0, 95% CI [1.4, 2.9])   * CSA was associated with lifetime alcohol consequences   (AOR = 3.4, 95% CI [2.5, 4.6])  CSA with/without CPA (vs. no abuse) were more likely to report:   * Past year heavy episodic drinking (AOR = 1.7, 95% CI [1.0, 2.9]) * Alcohol dependence   (AOR = 7.2, 95% CI [3.2, 16.5])   * Alcohol consequences   (AOR=3.6, 95% CI [1.8, 7.3])  CSA (vs. no abuse) was associated with:   * Greater number of past year drinks (124 vs.74 drinks, *p* = .002)   CPA (vs. no abuse) was associated with:   * Current alcohol patterns for intoxication   (AOR = 1.8, 95% CI [1.1, 2.9])   * Current alcohol dependence   (AOR = 5.0, 95% CI [2.1, 11.7]) |
| McCarty (2012)[33]  N=484  Adult African American men in Atlanta, Georgia who participated in the Be Healthy study | 2010-2011  39.6 years (13.7)  0% female  0% White | Logistic regression | Exposure to the following:   * Emotional abuse * CPA * CSA | Alcohol consumption in previous 90 days | CPA was associated with been drunk  (OR = 2.03, 95% CI [1.12, 3.71]).  CSA was associated with been drunk  (OR = 2.07, 95% CI [1.02, 4.18]).  No abuse items were associated with regular drinking. |
| McMillan (2005)[34]  N=1,964  First time driving-while-intoxicated offenders who participated in The Lovelace Comprehensive Screening Program | Year not reported  50% ≤39.5 years  (Mean age and SD not reported)  18% female  R/E not reported | Logistic regression; Bivariate dale model | Exposure to CSA | * Frequency of beer consumption (monthly) * Quantity of beer consumed | CSA was associated with:   * Frequency of beer consumption (OR = 2.14, 95% CI [1.49, 3.07]) * Quantity of beer consumption   (OR = 2.95, 95% CI [1.84, 4.72]) |
| Najdowski (2009)[35]  N=555  Women with unwanted sexual experiences residing in the Chicago metropolitan area | Year not reported  32 years (11)  100% female  39% White  6% Hispanic | SEM | Exposure to CSA | Past year problem drinking | CSA was associated with problem drinking  (*r* = 0.13, *p* < .01; β = 0.14). |
| Nikulina (2012)[36]  N=802  Cases with substantiated CAN and matched controls from a metropolitan area in the Midwest | 2003-2005  41 years (3.85)  48.7% female  60.8% White  4.1% Hispanic | Regression | Exposure to the following:   * CPA * CSA * Neglect | Alcohol abuse | No significant associations found. |
| Oberleitner (2015)[37]  N=34,653  NESARC, Waves 1 & 2 | 2001-2002 (Wave 1); 2004-2005 (Wave 2)  Demographics not reported for entire sample. | Linear and Poisson regression | Summary CM score based on the following:   * CPA * Neglect | * Age of onset of drinking * Time to alcohol dependence | CM (vs. no CM) was associated with earlier onset of drinking (β = -1.00, *p* < .001).   * Among women, those with a CM history developed dependence earlier than those without CM (IRR = 0.85, 95% CI [0.76, 0.94]) * Among men, there was no difference between those with or without CM * Among those with CM history, women developed alcohol dependence earlier than men   (IRR = 0.86, 95% CI [0.77, 0.96]) |
| Park (2011)[38]  N=234  First year students at a large Midwestern university | Year not reported  18.5 years (0.6)  56% female  100% White | SEM | Summary adversity score based on the following:   * Childhood abandonment * Neglect * CPA * Emotional abuse * CSA | Alcohol dependence | Among carriers of the long allele (vs. non-carriers), adversity was associated with alcohol dependence (b = 0.12 (β = .33), *p* = .01). |
| Pilowsky (2009)[39]  N=43,093  NESARC, Waves 1 & 2 | 2001-2002 (Wave 1);  2004-2005 (Wave 2)  Demographics not reported for entire sample. | Logistic regression | Summary adversity score and individual exposure to the following:   * Parental divorce * Death of a biological parent * Living with foster parents * Living in an institution outside the home | * Lifetime alcohol dependence * Binge drinking * Early onset of drinking | Parental divorce was associated with lifetime alcohol dependence (OR=1.81; 95% CI: 1.65, 1.99).  Adversity score was associated with lifetime alcohol dependence:   * 2+ ACEs (AOR = 1.37, 95% CI [1.06, 1.77])   Adversity score was associated with lifetime binge drinking:   * 1 ACE (AOR = 1.16, 95% CI [1.08,1.26]) * 2+ ACEs (AOR = 1.24, 95% CI [1.06, 1.49])   Adversity score was associated with early onset drinking:   * 1 ACE (AOR = 1.49, 95% CI [1.34, 1.65]) * 2+ ACEs (AOR = 1.53, 95% CI [1.16, 2.02]) |
| Salem (2013)[40]  N=157  Recently paroled men | Year not reported  41.9 years (10.1)  0% female  14.7% White  29.3% Hispanic | Logistic regression | Exposure to the following:   * CSA * CPA * Verbal abuse * Family not close * Two parent family | * Alcohol-related problems * Risky alcohol use | Adversity was not associated with alcohol use in regression models. |
| Sartor (2012)[41]  N=3,787  The Missouri Adolescent Female Twin Study, Wave 4 | 2002-2005  21.7 years (2.8)  100% female  85.4% White | Logistic regression; Chi-square; Cox proportional hazards regression | Exposure to CSA using:   * Behavioral questions * Checklist | AUD | CSA derived from behavioral questions was associated with AUD (HR) = 1.67, 95% CI [1.27, 2.19]).  CSA derived from checklist items was associated with AUD (HR = 1.41, 95% CI [1.08, 1.84]).  Women who endorsed only behavioral questions were at higher risk for AUD (HR = 3.26, 95% CI [1.72, 6.21]) than for all other groups. |
| Sartor (2014)[42]  N=4,053  A multisite study of the genetics of alcohol dependence, cocaine dependence, and opioid dependence. | Year not reported  40 years  (SD not reported)  42% female  35% White | Ordinal regression | Summary adversity score based on the following:   * Parental death * Witnessing a violence crime * CSA * CPA | * Maximum drinks consumed in a 24-hour period * AUD symptoms | Among black women, adversity was associated with:   * A higher number of max drinks   (OR = 1.92, 95% CI [1.45, 2.53])   * AUD symptoms (OR = 1.71, 95% CI [1.31, 2.22])   Among black men, adversity was associated with:   * A higher number of max drinks   (OR = 1.67, 95% CI [1.32, 2.12])   * AUD symptoms (OR = 1.78, 95% CI [1.41, 2.25])   Among white women, adversity was associated with:   * A higher number of max drinks   (OR = 1.77, 95% CI [1.28, 2.44]) |
| Schellekens (2013)[43]  N=209  Male patients admitted to a detoxification clinic and healthy controls | Year not reported  Healthy controls (n=99)  39 years (9)  Alcohol-dependent patients (n=110)  41 years (11)  0% female  100% White | Logistic regression; ANOVA | Summary adversity score based on the following:   * Psychological abuse * CPA * CSA * Physical neglect * Emotional neglect   Summary parental acceptance/rejection score  Summary stressful life events score | Alcohol dependence | Adversity score predicted alcohol dependence (OR = 1.12, 95% CI [1.07, 1.17]).  Parental acceptance score predicted less alcohol dependence (OR =.97, 95% CI [.96-.98]).  Life events score predicted alcohol dependence (OR = 1.21, 95% CI [1.12, 1.27]). |
| Schwandt (2013)[44]  N=417  Treatment-seeking individuals with alcohol dependence (AD) and controls with no past or current alcohol dependence. | Year not reported  Cases (n=280)  41.4 years (10)  32% female  56.4% White  5.7% Hispanic  Controls (n=137)  28.7 years (8.4)  38% female  62.4% White  5.8% Hispanic | Chi square; ANOVA; bivariate correlations; multiple mediation analyses | Summary CM score and individual exposure based on the following:   * Emotional abuse * CPA * CSA * Emotional neglect * Physical neglect | Alcohol use in previous 90 days | CM exposure was significantly more prevalent in the AD subjects (vs. controls):   * CPA (OR = 3.5, 95% CI [2.1, 5.9]) * CSA (OR = 4.3, 95% CI [2.0, 9.3]) * Emotional Abuse (OR = 11.5, 95% CI [5.8, 22.8]) * Emotional neglect (OR = 5.0, 95% CI [3.1, 7.8]) * Physical neglect (OR = 1.9, 95% CI [1.9, 6.8])   Among treatment-seeking alcoholics:   * CPA had a significant direct effect on alcohol dependence severity   (β = 0.28, *p* = .04)   * Emotional abuse had a significant direct effect on alcohol dependence severity   (β = 0.34, *p* = .01)   * Physical neglect was associated with alcohol dependence severity score (β = -0.36, *p* = 0.03) * Neither CSA nor neglect had significant effects on alcohol use   Among control group, CM was not significantly associated with alcohol use in adjusted models. |
| Shin, Hassamal (2015)[45]  N=337  Community sample of young adults | Year not reported  21.7 years (2.1)  52.5% female  55.7% White  8.6% Hispanic | SEM | Summary CM score and individual exposure to the following:   * Emotional abuse * CPA * CSA * Neglect | * Alcohol use in past 12 months * Binge drinking * Alcohol-related problems * Lifetime alcohol dependence | Adversity did not have significant direct paths to drinking behaviors. |
| Shin, Lee (2015) [46]  N=268  Healthy young adults | Year not reported  21.9 years (2.1)  51.9% female  64.6% White  5.6% Hispanic | SEM | Severity and exposure to the following:   * Emotional abuse * CPA * CSA * Neglect | * Frequency of alcohol use * Binge drinking * Alcohol-related problems * Alcohol use disorders | Emotional abuse was not directly associated with alcohol use.  CSA had a significant direct path to:   * Alcohol problems (β = 0.12, *p* < .05) * Alcohol use disorders   (β = 0.22, *p* < .05)  CPA had a significant direct path to:   * Alcohol use disorders   (β = 0.19, p < .05) |
| Skinner (2016)[47]  N=313  Lehigh Longitudinal Study | 1976-1977 (Wave 1);  1980-1982 (Wave 2); 1990-1992 (Wave 3); 2008-2010 (Wave 4)  36.2 years (2.12)  46% females  80.7% White  7% Hispanic | Confirmatory factor analysis; SEM | Exposure to CSA | Binge drinking | Among males, CSA was not associated with binge drinking.  Among women, the path from CSA to binge drinking was significant (β = 0.16, *p* < .05). |
| Snyder (2016)[48]  N=11,117  The National Longitudinal Study of Adolescent to Adult Health (Add Health), Waves 1 & 3 | 1994-1995 (Wave 1)  2001-2002 (Wave 2)  Female (n=5,949)  21.61 years (SD not reported; Age range: 18-25 years)  Male (n=5,168)  21.72 years (SD not reported; Age range: 18-25 years)  53% female  62% White  15.4% Hispanic | Latent class analysis | Exposure to neglect | Alcohol use | Among males, neglect was associated with membership in the multiple-risk drinkers’ class (OR = 2.16, 95% CI [1.11, 4.21]).  Among females, neglect was associated with membership in the multiple-risk drinkers’ class (OR = 2.41, 95% CI [1.22, 4.77]). |
| Strine (2012)[49]  N=7,279  Adverse Childhood Experiences (ACE) Study, Wave 2 | 1997  Female (n=3,922)  54.8 years (15)  74.2% White  11% Hispanic  Male (n=3,357)  57.1 years (14)  76% White  10.3% Hispanic  53.8% female | Logistic regression | Summary ACE score and individual exposure to the following variables:   * Emotional abuse * CPA * CSA * Emotional neglect * Physical neglect * Witnessing domestic violence * Household substance abuse * Household mental illness * Parental separation/ divorce * Incarcerated household member | Alcohol-related problems | Among women, alcohol problems were associated with:   * Emotional abuse (OR = 1.7, 95% CI [1.2, 2.3]) * CPA (OR = 1.5, 95% CI [1.2, 2.0]) * CSA (OR = 1.6, 95% CI [1.3, 2.1]) * Emotional neglect (OR = 1.6, 95% CI [1.2-2.2]) * Physical neglect (OR = 1.5, 95% CI [1.1-2.2]) * Parental separation/divorce (OR = 1.5, 95% CI [1.1-1.9]) * Household substance abuse (OR = 2.3, 95% CI [1.6-3.3]) * Household mental illness (OR = 1.7, 95% CI [1.3-2.2]) * 4+ ACEs (vs. 0 ACEs) (OR = 2.7, 95% CI [1.8, 3.9])   Among men, alcohol problems were associated with:   * CPA (OR = 1.4, 95% CI [1.1, 1.7]) * CSA (OR = 1.5, 95% CI [1.2, 1.9]) * Emotional neglect (OR = 1.5, 95% CI [1.1, 1.9]) * Household substance abuse (OR = 1.7, 95% CI [1.1, 2.4]) * Household mental illness (OR = 1.5, 95% CI [1.2, 1.9]) * Incarcerated household member   (OR = 1.6, 95% CI [1.1, 2.3])   * 4+ ACEs (vs. 0 ACEs) (OR = 1.9, 95% CI [1.4, 2.6]) |
| Trent (2007)[50]  N=5,697  Navy recruits | Year not reported  19.9 years  (SD not reported)  46.6% female  62.2% white  11.1% Hispanic | MANOVA; ANOVA | Exposure to the following:   * CPA * CSA | Lifetime alcohol abuse | Among women:  CSA was associated with:   * Alcohol abuser (OR = 1.47, 95% CI [1.22, 1.77]) * Binge drinking (OR = 1.36, 95% CI [1.14, 1.62]) * Ever drank (OR = 2.53, 95% CI [1.99, 3.21]) * Drink until drunk (OR = 1.39, 95% CI [1.15, 1.67]) * Alcoholic (OR = 1.56, 95% CI [1.27, 1.91])   CPA was associated with:   * Alcohol abuser (OR = 1.26, 95% CI [1.05, 1.52]) * Ever drank (OR = 1.80 (95% CI [1.43, 2.25]) * Drink until drunk (OR = 1.30, 95% CI [1.08, 1.57]) * Alcoholic (OR = 1.91, 95% CI [1.55, 2.35])   Among men:  CSA was associated with:   * Current drinker (OR = 1.49, 95% CI [1.17, 1.90]) * Alcohol abuser (OR = 1.78, 95% CI [1.38, 2.29]) * Binge drinking (OR = 1.85, 95% CI [1.50, 2.28]) * Ever drank (OR = 1.59, 95% CI [1.21, 2.09]) * Alcoholic (OR = 2.07, 95% CI [1.69, 2.54])   CPA was associated with:   * Alcohol abuser (OR = 1.42, 95% CI [1.16, 1.72]) * Binge drinking (OR = 1.23 95% CI [1.04, 1.16]) * Ever drank (OR = 1.35, 95% CI [1.09, 1.67]) * Drink until drunk (OR = 1.37, 95% CI [1.15, 1.63]) * Alcoholic (OR = 1.75, 95% CI [1.47, 2.08])   Among drinkers:  CPA was associated with:   * Alcohol abuser (F1, 3877 = 51.31, *p* < .001) * Binge drinking (F1, 3877 = 6.12, *p* < .05) * Drink until drunk (F1, 3877 = 15.14,   *p* < .001)  CSA was associated with:   * Alcohol abuse score (F1, 3877 = 39.37,   *p* < .001)   * Binge drinking (F1, 3877 = 44.80, *p* < .001) * Drink until drunk (F1, 3877 = 7.65,   *p* < .01)  The severity of alcohol related problems was higher for men than women. |
| Tyler (2015)[51]  N=704  College students enrolled in undergraduate courses at a large Midwestern university | 2013-2014  Age not reported  60% female  81% White  4.6% Hispanic | SEM | Exposure to CSA | Drinking behavior | CSA was not associated with drinking behavior in adjusted models. |
| Ulibarri (2015)[52]  N=204  Latina women recruited from a program providing nutrition and health education services for low-income women and children in San Diego, CA | Year not reported  25.04 years (4.2)  100% female  100% Hispanic | Linear regressions; SEM | Exposure to CSA | Alcohol abuse | CSA was not associated with alcohol abuse in adjusted models. |
| Ullman (2015)[53]  N=1,863  Women with sexual assault histories from a large Midwestern metropolitan area | Year not reported  31.1 years (12.2)  100% female  35% White  14% Hispanic | Bivariate correlations; Multiple regression | Severity and exposure to CSA | * Typical drinking frequency in previous year * Alcohol-related problems in previous year | CSA was not associated with drinking measures in adjusted models. |
| Waldrop (2007)[54]  N=58 (sample for reported results)  The study included individuals with comorbid alcohol dependence and PTSD (n = 28), PTSD only (n = 30), alcohol dependence only (n= 35), and neither PTSD nor alcohol dependence (n = 31). | Year not reported  Range: 18-60 years  (Mean age and SD not reported)  52% female  R/E not reported | Regression; ANCOVA | Summary adversity score based on the following:   * CSA * CPA * Witnessing violence * Other traumas | * Daily drinking in previous 90-day period * Age at first drink * Age at heaviest drink | Experiencing childhood trauma (compared to adult trauma) was associated with:   * Earlier age of first drink [F1,53 = 3.84, *p* = .055, *M* = 14.74 (2.63) versus   *M* = 16.16 (2.65)]   * Earlier age of heaviest drinking [F1,41 = 6.69, *p* = .01, *M* = 22.22 (5.30) versus *M* = 29.44 (10.93)] * Shorter delay from onset of alcohol use to heavy alcohol use [F1,40 = 3.03, *p* = .09, *M* = 7.94 years (5.96) versus *M* = 13.88 years (10.63)] |
| Walsh & Latzman (2014)[55]  N=1,169  College students at a large, public urban Southeastern university | Year not reported  20.7 years (4.65)  72.9% female  33.6% White | Path analyses | Exposure to the following:   * CSA * CPA | Alcohol-related problems in previous six months | Among women:   * CSA was directly associated with alcohol problems (β = 0.12, *SE* = 0.04) * CPA was directly associated with alcohol problems (β = 0.25, *SE* = 0.04)   Among men:   * CSA was directly associated with alcohol problems (β = 0.09, *SE* = 0.03) * CPA was directly associated with alcohol problems (β = 0.22, *SE* = 0.03) |
| Wu (2010)[56]  N=402  Participants recruited from residential drug abuse treatment programs that provided publicly funded treatment to adults within Los Angeles, CA. | 1999-2002  36.4 years (8.4)  47.2% female  44% White  13% Hispanic | Logistic regression | Summary adversity score based on the following:   * Emotional abuse * Emotional neglect * Physical neglect * CPA * CSA * Witnessing family violence * Parental separation/divorce * Incarcerated family member * Out-of-home placement * Death of someone close | * Lifetime alcohol dependence * Current alcohol dependence | Adversity was associated with lifetime alcohol dependence (AOR = 1.16, 95% CI [1.02, 1.33]). |
| Young (2006)[57]  N=41,482  Men from the Recruit Assessment Program study | 2002-2006  Mean age and SD not reported (56% aged 18 years; Age range: 18-20 years)  0% female  66.1% White  21.2% Hispanic | Logistic regression | Exposure to the following:   * Physical neglect * Emotional abuse * Witnessing domestic violence * CPA * CSA * Household problem drinker * Household mental illness | Risky drinking | Emotional abuse was associated with risky drinking (OR = 1.2, 95% CI [1.1, 1.3]).  CPA was associated with risky drinking (OR = 1.1, 95% CI [1.0, 1.4]).  CSA was associated with risky drinking (OR = 1.3, 95% CI [1.0, 1.6]).  Household mental illness was associated with risky drinking (OR = 1.3, 95% CI [1.2, 1.4]).  Household problem drinking was associated with risky drinking  (OR = 1.3, 95% CI [1.2, 1.5]). |
| Young-Wolff (2011)[58]  N=3,527  Virginia Adult Twin Study of Psychiatric and Substance Use Disorders | 1993-1996  35 years (SD not reported; Age range: 19-56 years)  0% female  R/E not reported | Logistic regression | Summary CM score based on the following:   * CPA * CSA or molestation * Serious neglect | Lifetime alcohol dependence | CM (vs. no CM) was associated with criteria for lifetime alcohol dependence (OR = 1.74, 95% CI [1.38, 2.19]). |
| Yuan (2014)[59]  N=294  Urban, lesbian, gay, and bisexual American Indian and Alaska Native adults | 2005-2007  Female (n=117)  38.9 years (10.4)  Male (n=177)  37.9 (10.2)  39.8% female  0% White | Logistic regression | Summary CM score and individual exposure to the following:   * CPA * Physical neglect * CSA * Emotional abuse * Emotional neglect   Out-of-home placement:   * Boarding school * Being adopted * Foster care | * Diagnosis of alcohol disorders * Past-year alcohol dependence * Hazardous and harmful alcohol consumption * Binge drinking | Among women:  Out-of-home placement (being adopted) was associated with:   * Decreased risk of binge drinking (OR = 0.12, 95% CI [0.002, 0.60]) in fully adjusted models   Among men:  Out-of-home placement (boarding school) was associated with:   * Alcohol dependence (OR = 3.34, 95% CI [1.28, 8.75]) in fully adjusted models   Out-of home placement (foster care) was associated with:   * Alcohol dependence (OR = 2.99, 95% CI [1.19,7.53]) in fully adjusted models   For men and women, CM score was not associated with alcohol dependence. |

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| **Inflammation (22 studies)** |  |  |  |  |  |
| Appleton (2012)[60]  N=430  The New England Family Study (NEFS) | Year not reported  42 years (SD not reported)  59% female  80% White | Linear regression | Exposure to the following variables:   * Childhood socioeconomic status * Parental occupation * Parental education at age 7 | C-reactive protein (CRP) | No significant associations found in adjusted models |
| Bertone-Johnson (2012)[61]  N=702  Nurses’ Health Study II | 1989 (baseline); 1996-1999 (blood sample);  2001 (violence questions asked)  43.9 years (SD not reported) at time of blood sample  100% female  >90% White | General linear models | Summary abuse score and severity of individual exposure to the following variables:   * CPA * CSA * Adolescent physical abuse (ages 11-17 years) * Adolescent sexual abuse (ages 11-17 years) | * CRP * Interleukin-6 (IL-6) * Soluble fraction of tumor necrosis for factor alpha receptor 2 | Sexual abuse: No significant associations found in fully adjusted models  Physical abuse: No significant associations found in fully adjusted models  Summary abuse in adolescence: No significant associations found in fully adjusted models  Summary abuse in childhood: No significant associations found in fully adjusted models |
| Carpenter (2010)[62]  N=69  Community sample who experienced Child Maltreatment (CM) and healthy controls | Year not reported  Controls (n=50):  24.5 years (8.8)  56% females  R/E not reported  Cases (n=19):  32.8 years (13.9)  73.7% females  R/E not reported | General linear models | Summary CM score based of the following variables:   * Emotional abuse * CPA * CSA * Emotional neglect * Physical neglect | Plasma IL-6 response to the Trier Social Stress Test | CM (versus never) was associated with:   * Greater acute IL-6 release (*F* = 8.5, *p* = .005) * Higher IL-6 concentrations over time (*F* = 4.6, *p* = 0.03) |
| Cho (2012)[63]  N=2716  Coronary Artery Risk Development in Young Adults (CARDIA) study | 1985-1986 (study inception); 2000-2001 (Year 15 exam - baseline); 2005-2006 (Year 20 exam - follow-up)  40.3 years (3.6)  54.6% female  57.3 White | Linear regression with Sobel–Goodman mediation test | Summary early life stress score based on the following variables:   * Neglect * Abuse * Household substance abuse * Family environment | * CRP * IL-6 | No significant associations found in adjusted models for early life stress and CRP.  Early life stress accounted for variation in IL-6 (β = 0.062, *p* = .001). |
| Copeland (2014)[64]  N=1420  Great Smoky Mountains Study | 1992-2003  Mean age and SD not reported (Aged 9, 11, and 13 at baseline)  54.6% female  89.7% White  <1% Hispanic | Linear regression | Exposure to bullying in school | CRP at age 19 and 21 | Compared to those uninvolved in bullying:   * Being a bully predicted lower levels of CRP: (β(SE) = -0.09 (0.04), *p* = .01). * Being a victim predicted higher levels of CRP (β(SE) = 0.09 (0.04), *p* = .02). |
| Crosswell (2014)[65]  N=152  Breast cancer survivors | 2007-2012  51.7 years (7.8)  100% female  83% White | Logistic regression | Summary adversity score, and exposure to individual categories based on the following variables:   * Childhood abuse (physical and verbal) * Neglect * Chaotic home environment | * IL-6 * IL-1B * Soluble tumor necrosis factor (TNF-α) * CRP | Total adversity score associated with:   * Elevated IL-6 (β = 0.009, *p* = .027,   η2 = 0.027)   * Relationships with the other inflammatory markers were nonsignificant.   Individual adversity categories:   * Abuse and IL-6 (β = 0.043, *p* = .030, η2 = 0.026) * Chaotic home environment and IL-6   (β = 0.031, *p* = .005, η2 = 0.043)   * Chaotic home environment and TNF-α (β = 0.012, *p* = .009, η2 = 0.037) |
| Dube (2009)[66]  N=15,357  ACE Study | 1995-1997; 2005 (follow-up of medical charts)  56 years (15)  54% female  76% White  11% Hispanic | Cox proportional hazards regression | Summary ACE score based the following variables:   * CPA * Emotional abuse * CSA * Witnessing domestic violence * Household substance abuse * Household mental illness * Parental divorce * Incarcerated household member | Hospitalizations for 21 selected autoimmune diseases and 4 immunopathology groupings:   * T- helper 1 (Th1) (e.g., idiopathic myocarditis) * T-helper 2 (Th2) (e.g., myasthenia gravis) * T- helper 2 rheumatic (e.g., rheumatoid arthritis) * Th1/Th2 (e.g., autoimmune hemolytic anemia) | ≥2 ACEs (compared to 0 ACEs) were at increased risk for hospitalization with:   * Th1-types (HR = 1.7, 95% CI [1.2-2.5]) * Th2 types (HR = 1.8, 95% CI [1.3-2.4]) * Th2 rheumatic diseases (HR = 2.0, 95% CI [1.3-2.4]) |
| Friedman (2015)[67]  N=1180  MIDUS II study | 1995-1996 (MIDUS); 2004-2005 (MIDUS II)  54.5 years (11.7)  57% female  78% White | Linear regression | Summary adversity score based the following variables:   * Childhood socioeconomic disadvantage (i.e. on welfare, perceived low income, less-educated parents) * Other stressors (e.g., parental death, divorce, and CPA) | Summary Inflammation score based on the following variables:   * CRP * Fibrinogen * IL-6 * Soluble adhesion molecule-1 (ICAM-1) | Early adversity was associated with inflammation: β = 0.023, *SE* = 0.007, *p* < .001. |
| Gouin (2012)[68]  N=130  Family dementia caregivers and non-caregiving controls | 2004-2009  Non-Abused (n=73):  67.2 years (13.7)  83.5% females  R/E not reported  Abused (n=77):  62.5 years (12.1)  80.7% females  R/E not reported | Hierarchical linear regression | Summary abuse score based on the following variables:   * CPA * CSA * Emotional abuse | * IL-6 * Tumor necrosis factor-α (TNF-α) * CRP | Summary abuse score:   * Associated with greater IL-6 levels (β = 0.09 (*SE* = 0.03), *p* = .01, *R2* = 0.055) * Was not significantly associated with TNF-α and CRP |
| Hartwell (2013)[69]  N=38  Healthy adults from Charleston, NC | Year not reported  35.7 years (12.0)  52.6% female  69.2 % White | Linear regression | Summary trauma score, and exposure to individual categories based on the following variables:   * CSA * CPA * Emotional abuse * General forms of trauma | * IL-6 * TNF-α * interleukin-1β (IL1-β) * CRP | Total trauma score was associated with elevated:   * IL-6 (F1,30 = 4.05; *p* = .05) * IL1-β (F1,29 = 5.24; *p* < .05) * TNF-α (F1,25 = 7.86; *p* = .01)   Individual trauma categories:   * General trauma and IL-6 (F1, 30 = 13.65; *p* < .01. * No other trauma categories were significant   There were no significant associations between trauma and CRP. |
| Hostinar (2015)[22]  N=1,180  MIDUS II study | 1995-1996 (MIDUS); 2004-2005 (MIDUS II)  57.3 years (11.5)  56% female  74.9% White  3.2% Hispanic | Multiple regression; Structural equation modeling (SEM) | Summary ACE score based on the following variables:   * CPA * Emotional abuse * CSA * Physical neglect * Emotional neglect * Household substance abuse * Household mental illness * Parental divorce | Composite inflammation score based on the following:   * IL-6 * CRP * Fibrinogen * E-Selectin * Intercellular Adhesion Molecule-1 (ICAM-1) | In an adjusted model, ACE score was associated with inflammation (β =0 .07, *t* = 2.29, *p* = .02). |
| Joung (2014)[70]  N=95  General population in Boston | 2009-2012  45.7 years (3.4)  54.7% female  44.2% White | Linear regression | Summary adversity score based on the following variables:   * Number of adversities * Severity of adversity * Chronicity of adversity | CRP | No significant associations found in adjusted models. |
| Kiecolt-Glaser (2011)[71]  N=132  Family dementia caregivers and non-caregiving controls | 2004-2009  Care-givers (n=58):  70.1 years (9.4)  71% females  72.5% White  Controls (n=74):  69.4 years (10.7)  73% females  72.5% White | Mixed linear models | Summary abuse score, based on the following variables:   * CSA * CPA * Emotional abuse   Summary adversity score, based on the following variables:   * Death of the mother * Death of the father * Severe parental marital problems * Immediate family member mental illness * Immediate family member abusing alcohol * Lack of at least one close relationship with an adult | * IL-6 * TNF-α | Childhood abuse was associated with:   * Heightened IL-6 (F1,126 = 9.51, *p* = .003) * Not significantly associated with TNF-α levels or telomere length   Childhood adversity was associated with:   * Elevated IL-6 (F1,125 = 1.96, *p* = .05) * Not significantly associated with TNF-α levels |
| Matthews (2014)[72]  N=326  Study of Women’s Health Across the Nation | 1996-2005  47.5 years (2.5)  100% female  68.1% White | Generalized estimating equations; Generalized linear regression | Summary CM score and exposure to individual categories based on the following variables:   * CSA * CPA * Emotional abuse * Physical neglect * Emotional neglect | CRP | Any abuse or neglect was associated with elevated CRP (*p* < .02).  Emotional neglect was associated with elevated CRP (*p* = .004).  Emotional abuse was associated with greater percent change in CRP over 7 years (*b(SE)* = 0.02(.01), *p* = .005).  Neglect was associated with greater percent change in CRP over 7 years (*b(SE)* = 0.02 (.01), *p* = .02). |
| Nikulina (2014)[73]  N=675  Court-substantiated cases of childhood neglect and matched controls from the Midwest followed into adulthood | 1967-1971 (when abuse occurred);  2003-2005 (follow-up)  Mean age and SD not reported  51% female  59% White  0% Hispanic | Hierarchical linear regression | Exposure to the following variables:   * Physical neglect * Family poverty * Neighborhood poverty | CRP | Among white participants only, neglect was associated with elevated CRP (OR = 2.18, 95% CI [1.29, 3.67]).  Family and neighborhood poverty: No significant associations found in adjusted models. |
| Rooks (2012)[74]  N=482  Male twins (241 pairs) born between 1946-1956 from the Vietnam Era Twin Registry | 2002- 2006 (the Twins Heart Study); 2005-2008 (Stress and Vascular Evaluation in Twins)  55 years (3)  0% female  R/E not reported | Mixed model linear regression; Generalized estimating equation | Summary trauma score and exposure to individual categories based on the following variables:   * CPA * CSA * Emotional abuse * General trauma | * CRP * IL-6 | Total trauma score:  Within-pair analyses:   * Trauma scores were not associated with CRP and IL-6.   Between pair:   * Trauma scores were associated with elevated CRP (β = 0.05, *p* = .01) and IL-6 (β = 0.03, *p* = .02).   Emotional abuse was associated with elevated CRP (β = 0.04, *p* = .04). |
| Schrepf (2014)[75]  N=687  MIDUS II: participants who did not have a history of cardiovascular disease, transient ischemic attack/stroke, diabetes, or cancer. | 1995-1996 (MIDUS); 2004-2005 (MIDUS II)  52 years (10.9)  56% female  92.5% White  4.6% Hispanic | SEM | Summary child trauma score and exposure to individual categories based on the following variables:   * Emotional abuse * CPA * CSA * Physical neglect * Emotional neglect | CRP | Childhood trauma was not directly associated with elevated CRP. |
| Slopen (2015)[76]  N=355  NEFS | 1959-1966 (enrollment); 2005-2007 (follow-up)  42.2 years (1.7)  57.8% female  80.7% White | Linear and quantile regression | Summary prenatal adversity score based on:   * Family structure * Parental education * Parental occupation * Family income   Summary childhood adversity score based on:   * Characteristics of the respondents’ social environment | CRP | Prenatal adversity was associated with elevated CRP (OR=3.3, 95% CI [1.15, 8.02]).  No significant associations found in adjusted models for childhood adversity. |
| Slopen (2014)[77]  N=550  Chicago Community Adult Health Study | 2001-2003  44.3 years (17.1)  54.3% female  44.5% White  20.2% Hispanic | Generalized linear models | Summary adversity score, based on the following parental variables:   * Physical neglect * Emotional neglect * CPA * Emotional abuse * Family socioeconomic status | CRP | No significant associations found in adjusted models. |
| Slopen (2010)[78]  N=999  MIDUS study and African Americans from Milwaukee, WI who participated in MIDUS II | 1995-1996 (MIDUS); 2004-2005 (MIDUS II)  57.9 years  (SD not reported)  55.4% female  82.3% White | Multivariate linear regression | Summary early life adversity score, based on the following variables:   * Stressful events (i.e., school failure, sent away from home for misbehavior, parental unemployment, parental substance abuse, dropped out of school, expelled/suspended from school, receipt of welfare, moved 2+ times) * Rating of parental relationships * Verbal and physical assault by parents | * CRP * IL-6 * Fibrinogen, endothelial leukocyte adhesion molecule-1 (E-selectin) * Soluble intercellular adhesion molecule-1 (sICAM-1) | Among African Americans, adversity was associated with:   * IL-6 (b = 0.11, *SE* = 0.05, *p* < .05) * Fibrinogen (b = 15.66, S*E* = 7.03, *p* < .05) * E-selectin (b = 3.54, *SE* = 1.70, *p* < .05) * sICAM-1 (b = 29.49, *SE* = 12.90, *p* < .05)   Among Whites, no significant associations found in adjusted models for adversity. |
| Smith (2011)[79]  N=110  Urban population of African-Americans with low socioeconomic status recruited from a public hospital | Year not reported  Age not reported  Gender not reported  0% white | Linear mixed model | Summary abuse score based on the following variables:   * CPA * CSA * Emotional abuse | * IL-6 * IFNa * IL1b * TNF-α * IL4 * IL10 | Child abuse was associated with TNF-α (*t* = 2.78, p = 0.0076). |
| Tietjen (2012)[80]  N=141  Women with physician-diagnosed migraine and age-matched controls | 2006-2008  Cases (n=100)  37 years (8.3)  100% female  92% White  Controls (n=41)  36.9 years (10.2)  100% female  88% White | Logistic regression | Summary ACE score based on the following variables:   * CPA * Emotional abuse * CSA * Emotional neglect * Physical neglect * Witnessing domestic violence * Household substance abuse * Household mental illness * Parental divorce * Incarcerated household member | * CRP * TNF-α * IL-6 | ACE score associated with:   * CRP (OR = 4.05, 95% CI [1.56, 10.51]) * IL-6 (OR = 2.23, 95% CI [1.02, 4.86]) * TNF-α (OR = 2.99, 95% CI [1.33, 6.72]) |

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| **Infectious Agents (12 studies)** |  |  |  |  |  |
| NIMH Multisite HIV/STD Prevention Trial for African American Couples Group (2010)[81]  N=1,070  The Eban Study: African American couples recruited from HIV service providers | Year not reported  43.4 years (8.1)  50% female  0% White | Multinomial regression | Exposure to CSA | * HIV infection * Hepatitis C infection | The odds of having a CSA history for HIV-positive men was greater compared to HIV-negative men (OR = 1.90, 95% CI [1.28, 2.80]); association was not significant for women.  CSA was not significantly associated with Hepatitis C. |
| Arreola (2008)[82]  N=2,881  Gay and bisexual men from Los Angeles, San Francisco, Chicago, and New York | 1996-1998  Mean age and SD not reported  0% female  R/E not reported | Logistic regression | Exposure to CSA:   * Consensual sex * Forced sex | HIV infection | Consensual sex (compared to no sex group) associated with HIV infection (AOR = 2.01, 95% CI [1.42, 2.83], *p* < .001).  Forced sex (compared to no sex group) associated with HIV infection (AOR = 2.67, 95% CI [1.77, 4.03]).  Consensual sex and forced sex were not significantly different from each other. |
| Brennan (2007)[83]  N=936  Gay and bisexual men attending Pride festivals in Minneapolis | 1997-1998  34 years  (SD not reported)  0% female  88.8% White | Logistic regression | Exposure and frequency to CSA | HIV infection | Those who regularly experienced CSA (compared to no CSA) were more likely to report HIV infection (AOR = 2.87, 95% CI [1.05, 7.85]). |
| Fagundes (2013)[84]  N=108  Breast cancer survivors | Year not reported  51.6 years (9.4)  100% female  90.7% White | Hierarchical linear regression | Summary childhood adversity score based the following variables:   * Death of the mother or father * Severe parental marital problems * Immediate family member suffering from a mental illness or abusing alcohol * No close adult relationship | Antibodies to two latent herpesviruses:   * Epstein-Barr virus * Cytomegalo virus | Childhood adversity was associated with elevated Epstein-Barr virus (β = 0.08, *p* = .05) and Cytomegalo virus antibody titers (β2 = 0.17, *p* = .04). |
| Friedman (2008)[85]  N=1,383  Men who have sex with men (MSM) from the Urban Men’s Health Study | 1996-1998  32.5 years (SD not reported; Age range: 18-40 years)  0% female  77.1% White  10.8% Hispanic | Multiple regression | Exposure to the following early adversities:   * CPA * Gay-related harassment * Forced sex | HIV infection | Forced sex (compared to those without) was associated with HIV seropositive (β = 1.45, *p* < .05).  There were no other significant associations. |
| Mimiaga (2009)[86]  N=4,295  The EXPLORE study: a randomized HIV prevention trial among MSM | 1999-2001  19% <25 years  60% 26-40 years  21% 40+ years  (Mean age and SD not reported)  0% female  72.6% White  15.2% Hispanic | Cox proportional hazards regression | Exposure to CSA | HIV infection | A history of CSA (compared to no CSA) was associated with HIV infection (adjusted HR = 1.30, 95% CI [1.02, 1.69]). |
| Phillips (2014)[87]  N=500  National HIV Behavioral Surveillance System: MSM from Washington, DC | 2008  Mean age and SD not reported (62.8% aged 18-35 years)  0% female  51.7% White | Logistic regression | Exposure to CSA | HIV infection | A history of CSA was more likely among HIV-positive MSM compared to HIV negative MSM (AOR = 4.19, 95% CI [2.26, 7.75]). |
| Reisner (2011)[88]  N=13,274  NESARC, Wave 2 | 2004-2005  47.6 years  (SD not reported)  0% female  76.1% White  13.1% Hispanic | Logistic regression; Attributable risk fraction | Summary adversity score, based the following variables:   * CPA * CSA * Emotional abuse * Neglect * Witnessing parental violence | HIV infection | Each additional adversity was associated with an elevated odds of HIV infection (AOR = 1.32, 95% CI [1.16, 1.50]).  Attributable risk fraction of any early life adversity on HIV infection = 0.1776. |
| Rosenberg (2007)[89]  N=569  Adults with schizophrenia or schizoaffective disorders | 1997-1998  42 years (9)  32.2% female  38% White  13% Hispanic | Logistic regression | Summary adversity score,= based the following variables:   * CPA * CSA * Parental mental illnesses * Loss of a parent * Parental separation or divorce * Witnessing domestic violence * Foster or kinship care | * HIV infection * Hepatitis B infection * Hepatitis C infection | Adversity score was associated with HIV infection (OR = 1.62, 95% CI [1.21-2.18]).  There was no significant association between adversity score and Hepatitis B and C infection. |
| Slopen (2013)[90]  N=13,162  Add Health,  Wave 4 | 1994 (Wave 1);  2008-2009 (Wave 4)  29 years (0.12)  50.5% female  66.3% White  11% Hispanic | Logistic regression | Socioeconomic disadvantage during adolescence based on:   * Parental education * Family income * Parental occupation   Exposure to abuse based on:   * CSA * CPA | Epstein Barr virus antibody levels | Income was not associated with elevated Epstein Barr virus antibodies.  Elevated Epstein Barr virus antibodies were associated with:   * Individuals with parents who had a high school degree (β = 0.10(0.03), *p* < .01) or some college (β = 0.09(0.03),   *p* < .01), compared to those with parents with more than a college degree.   * Individuals with parents who worked in service/construction/military (β = 0.07(0.02), *p* < .01) or technical/sales/office worker (β = 0.05(0.02), *p* < .05), compared to those with parents who worked as professional/managers * Individuals who reported CSA occurring 10+ times (β = 0.13 (.06),   *p* < .05), compared to individuals without CSA   * Individuals who experienced CPA in preschool (β = 0.17 (0.04), *p < .01*), compared to individuals that were never exposed to abuse or CPA that began during adolescence (β = 0.15 (0.05), *p < .01*) |
| Widom (2012)[91]  N=598  Individuals with documented cases of CM from a Midwestern county and matched non-maltreated controls. | 1967-1971 (CM documented); 2003-2005 (medical status exams and interviews)  41.2 years (SD not reported; Age range: 32-49 years)  52.9% female  63.4% White  0% Hispanic | Logistic regression; Ordinary least square regression | Summary abuse score and individual exposure based on official records:   * CPA * CSA * Neglect | * Hepatitis C infection * HIV infection | No significant associations or paths found in adjusted models. |
| Wilson (2008)[92]  N=630  Individuals with documented cases of CM from a Midwestern county and matched non-maltreated controls. | 1967-1971 (CM documented); 2003-2005 (medical status exams and interviews)  41.2 years (SD not reported; Age range:  32-49 years)  55.2% female  60.6 % white  <6.3% Hispanic | Logistic regression; SEM | Summary abuse score and individual exposure based on official records:   * CPA * CSA * Neglect | * HIV infection | No significant associations or paths found in adjusted models. |

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| **Obesity (43 studies)** |  |  |  |  |  |
| Aaron (2007)[93]  N=416  CHLEW, Lesbian women from Wave 1 | 2001-2002  37.8 years (SD not reported; Age range: 18-83 years)  100% female  50% White  21% Hispanic | Multinomial logistic regression | Exposure to CSA | Body Mass Index  (BMI) score | CSA (vs. no CSA) increased risk for:   * BMI between 30.0 and 39.9 kg/m2 (AOR = 1.9, 95% CI [1.1, 3.4]) * BMI ≥ 40 kg/m2 (AOR = 2.3, 95% CI [1.1, 5.2]) |
| Afifi (2013)[94]  N=34,226  NESARC Wave 2: Representative US population 20 years or older | 2004-2005  Mean age and SD not reported  Gender not reported  R/E not reported | Multiple logistic regression | Exposure to the following:   * Harsh physical punishment * CM total score (i.e., severe CPA, CSA, emotional abuse, physical neglect, emotional neglect, and exposure to intimate partner violence) | BMI score | Harsh physical punishment (vs. no physical punishment) was associated with:   * Obesity (AOR = 1.20, 95% CI [1.02, 1.42])   CM (vs. no physical punishment) was associated with:   * Obesity (AOR = 1.13, 95% CI [1.07, 1.20]) |
| Alvarez (2007)[95]  N=11,115  California Women’s Health Survey | 2002-2004  Mean age and SD not reported (56.1% aged 18-45 years)  100% female  51.3% White  26.4% Hispanic | Logistic regression; Population Attributable Fractions (PAF) | Summary child abuse score based on the following variables:   * CPA * CSA | BMI score | Child abuse (vs. no abuse) was associated with obesity (AOR = 1.26, 95% CI [1.13, 1.40]).  The PAF of adult obesity associated with abuse was 4.5% (95% CI [2.28, 6.55]). |
| Bae (2014)[96]  N=11,075  Add Health, Waves 1-4 | 1994-1995 (Wave 1);  1996 (Wave 2); 2001 (Wave 3); 2008-2009 (Wave 4)  15.5 years at Wave 1 (SD not reported; Age range: 12-19 years)  54% female  >60% White  13% Hispanic | Latent growth curve; SEM | Summary early socioeconomic adversity score based on the following variables:   * Low parent education * High family economic hardship * Low parental marital stability * High community adversity | BMI score | Early socioeconomic adversity was associated with:   * Higher rate of change in BMI from 1996 to 2008 (b = 0.06, *p* < .001) |
| Bentley (2009)[97]  N=713  Cases of CM from a Midwestern county and matched non-maltreated controls | 1967-1971 (when CM occurred); 2003-2004 (follow-up medical exams)  Cases (n=410)  Controls (n=303)  Mean age and SD not reported (Age range: 0-11 years at the time CM occurred)  52.8% female  63.4% white  <6.6% Hispanic | Ordinary least squares regression | Summary CM score and individual exposure based on official records of the following:   * CPA * CSA * Neglect | BMI score | CPA (vs. no CPA controls) was associated with higher BMI (β = 0.16, *p* < .001).  CSA and neglect were not associated with BMI. |
| Bertone-Johnson (2012)[61]  N=702  Nurses' Health Study II | 1989 (baseline); 1996-1999 (blood sample);  2001 (violence questions asked)  43.9 years (SD not reported)  100% female  >90% White | F-test | Summary abuse score and severity of individual exposure to the following variables:   * CPA (before age 11 years) * CSA (before age 11 years) * Adolescent physical abuse (ages 11-17 years) * Adolescent sexual abuse (ages 11-17 years) | * Physical activity * BMI score | Physical abuse was not associated with outcomes.  Sexual abuse was associated with physical activity:   * Physical activity was higher for CSA involving touch only (*M* = 34.3, *SD* = 6.3) and forced sex (*M* = 29.9, *SD* = 9.4) than those reporting no CSA (*M* = 15.9, *SD* = 3.9), *p* = .02. |
| Boynton-Jarrett (2012)[98]  N=33,298  Black Women’s Health study | 1991 (Baseline);  2005 (Follow-up)  40 years  (SD not reported; Age range: 21-69 years)  100% female  0% White | Log-binomial regression | Severity of abuse based on a summary score and exposure to individual categories based on the following variables:   * CPA * CSA | * BMI score * Waist Circumference (WC) | Compared to those with no abuse:  Moderate CPA and/or CSA associated with:   * BMI ≥ 30 (aRR = 1.07, 95% CI [1.04, 1.10]) * WC > 35 inches (aRR = 1.05, 95% CI [1.02, 1.08])   Severe CPA or CSA associated with:   * BMI ≥ 30 (aRR = 1.09, 95% CI [1.05, 1.14]) * WC > 35 inches (aRR = 1.12 (95% CI [1.05, 1.12])   Severe CPA and CSA associated with:   * BMI ≥ 30 (aRR = 1.14, 95% CI [1.08, 1.21]) * WC > 35 inches (aRR = 1.18, 95% CI [1.10, 1.27]) |
| Campbell (2016)[6]  N=48,526  BRFSS, 2011: Minnesota, Montana, Vermont, Washington, and Wisconsin | 2011  Mean age and SD not reported  (26.8% 18-34 years  37.1% 35-54 years  17.3% 55-64 years  18.8% 65+ years)  50.4% female  85.2% White  4.8% Hispanic | Multiple logistic regression | Summary ACE score and individual exposure to the following variables:   * CPA * CSA * Verbal abuse * Witnessing domestic violence * Household substance abuse * Household mental illness * Parental separation/ divorce * Incarcerated household member | BMI score | ACE score:   * Not associated with BMI in adjusted models   CSA (vs. no CSA) was associated with:   * BMI (AOR = 1.59, 95% CI [1.31, 1.92])   Other ACEs were not associated with BMI. |
| Crowell (2016)[99]  N=210  A representative, middle-aged sample of white and black adults from Boston, MA. | Year not reported  45.8 years (3.3)  53% female  43% White | Path analysis model | Summary adversity score based on life time stressors and chronicity and severity of trauma exposure. | Waist-to-hip ratio | Path between adversity and waist-to-hip ratio was significant (β = 0.16, *p* < .05). |
| Davis & Usher (2014)[100]  N=215  A representative, middle-aged sample of white and black adults from Boston, MA. | 2010-2013  45.8 years (3.3)  52% female  45% White | Correlation (Path analysis model used to predict MetS sum score) | Summary adversity score based on number of experiences, severity, and chronicity of the following variables:   * Parental divorce * CPA * Prolonged separation from parent * CSA * Domestic violence * Emotional abuse * Parental substance abuse * Death of a first-degree family member | * Waist-to-hip ratio * Physical exercise | Childhood adversity was:   * Associated with waist-to-hip ratio   (*r* = 0.18, *p* = .047)   * Was not associated with physical exercise |
| Davis & Dearing (2014)[101]  N=210  A representative, middle-aged sample of white and black adults from Boston, MA. | 2010-2013  45.8 years (3.3)  48% female  42% White | Linear regression | Summary adversity score based on number of experiences, severity, and chronicity of the following variables:   * Parental divorce * CPA * Separation from parent * CSA * Domestic violence * Emotional abuse * Parental substance abuse * Death of a first-degree family member | * Waist-to-hip ratio * BMI score | No significant associations found in adjusted models. |
| Dube (2010)[102]  N=5,378  BRFSS, 2002: Texas | 2002  Mean age and SD not reported  61% female  64% White  23.2% Hispanic | Multivariate logistic regression | Exposure to categories of ACEs and individual ACEs based on the following variables:   * Abuse (CPA, CSA, and/or emotional abuse) * Household dysfunction (witnessing domestic violence, household substance abuse, household mental illness, parental divorce, and incarcerated household member) | BMI score | Exposure to any childhood abuse (vs. no abuse) was associated with obesity (OR = 1.5, 95% CI [1.1, 1.9]).  Experiencing household dysfunction was not significantly associated with obesity.  Experiencing abuse and household dysfunction (vs. none) increased risk of obesity (OR = 1.3, 95% CI [1.1, 1.6]). |
| Duncan & Sartor (2015)[103]  N=3,699  The Missouri Adolescent Female Twin Study | 1975-1985 (twins born); 1995 (Wave 1); 3 year follow up (Wave 3);  Approximately 6 years after baseline (Wave 4); approximately two years later (Wave 5)  24 years at Wave 5 (SD not reported)  100% female  85.4% White | Multinomial logistic regression | Summary CM score and individual exposure to the following variables:   * CSA * CPA * Neglect | BMI score at Wave 4 | CSA (vs. no CSA) was associated with obesity (OR = 2.21, 95% CI [1.63, 3.00]).  Exposure to all 3 forms of CM (compared to those who reported 0) was associated with:   * Being underweight (OR = 4.66, 95% CI [1.21, 17.91]) * Being obese (OR = 4.81, 95% CI [1.57–9.26])   Exposure to 1-2 forms of CM (compared to those who reported 0) was associated with:   * Being underweight (OR = 1.48, 95% CI [1.05, 2.09]) * Being obese (OR = 1.55, 95% CI [1.20, 2.00]) |
| Duncan & Auslander (2015)[104]  N=14,493  Add health | 1994-1995 (Wave 1);  1996 (Wave 2); 2001 (Wave 3); 2008-2009 (Wave 4)  Age not reported at Wave 4 (SD not reported; Age range: 24-34 years)  53.9% female  65.7% White | Logistic regression | Frequency of CM exposure based on the following variables:   * Emotional abuse * CSA * CPA * Neglect | BMI score at Wave 4 | CPA (vs. no CPA) was associated with:   * Higher BMI category in men (*p* = .012) * Higher BMI category in women   (*p* = .04)  There were no significant associations between BMI and other categories of CM. |
| Font (2016)[16]  N=29,229  BRFSS, 2012: Iowa, North Carolina, Wisconsin, Tennessee, and Oklahoma | 2012  47.7 years  (SD not reported)  49% female  80.5% White  4.7% Hispanic | SEM | Summary ACE score and individual exposure to the following variables:   * CPA * Emotional abuse * CSA * Witnessing domestic violence * Household substance abuse * Household mental illness * Parental divorce * Incarcerated household member | BMI score | ACE scores (compared to 0) were associated with increased BMI:   * 1 ACE (β =0.035, *p* < .01) * 2-3 ACEs (β = 0.047, *p* < .001) * 4+ ACEs (β =0.064, *p* < .001)   Household mental illness or substance abuse (vs. no exposure) was associated with obesity (β = 0.027, *p* < .01).  CSA (vs. no CSA) was associated with obesity (β = 0.056, *p* < .001). |
| Francis (2015)[105]  N=427  Court-substantiated cases of childhood CPA and matched non-maltreated controls | 1967-1971  (when CM occurred)  1989–1995; 2000–2002; 2003–2005  Cases (n=78)  41.3 years (3.8) at third interview  48.7% female  79.2% White  0% Hispanic  Controls (n=349)  41.2 years (3.6) at third interview  50.7% female  63.4% White  0% Hispanic | T test; Mediational analyses | Exposure to CPA | BMI score | Among women, CPA (vs. no CPA) was associated with:   * Higher BMI (*t* = 2.08, *p* < .05, direct effect = 3.11)   Among men, no significant associations were found. |
| Friedman (2015)[106]  N=3,996  MIDUS II | 2004-2006  56.2 years (12.4)  Gender not reported  91.9% White | Logistic regression | Summary adversity score and individual exposure to the following variables:   * Academic adversity * Interpersonal * CPA * CSA * Work/financial problems * Death/illness of a loved one * Parental substance abuse   Timing of adversity (0-5 years; 6-10 years; 11-14 years; 15-17 years; multiple age groups) | BMI score | Any adversity (vs. none) associated with:   * Obesity (OR = 1.22, *SE* = 0.09, *p* < .01)   Total # of events associated with:   * Obesity (OR = 1.14, *SE* = 0.04, *p* < .001)   + Obesity for men (OR = 1.18, *SE* = 0.04)   + Obesity for women (OR = 1.04, *SE* = 0.04, *p* < .10)   Experiencing events at multiple age groups (compared to 0 experiences) associated with:   * Obesity (OR = 1.54, SE = 0.16, *p* < .001)   Academic events (vs. none) associated with:   * Obesity (OR = 1.54, *SE* = 0.13, *p* < .001)   No other types of adversity were associated with obesity. |
| Gjelsvik (2013)[18]  N=81,910  BRFSS, 2009 & 2010: Arkansas, Hawaii, Louisiana, Maine, Nevada, New Mexico, Pennsylvania, Vermont, Washington, Washington D.C., and Wisconsin | 2009 & 2010  Mean age and SD not reported  No incarcerated household member (n=78,193)  47.1% < 40 years  51.9% female  82.9% White  4.5% Hispanic  Incarcerated household member (n=3,717)  73.3% < 40 years  47.6% female  68.5% White  8.1% Hispanic | Multivariable logistic regression | Exposure to an incarcerated household member | * BMI score * Physical activity | Having an incarcerated household member (vs. not having an incarcerated household member) was associated with:   * Less physical activity (23.9% vs. 27.2%, *p* = .04)   No significant associations between having an incarcerated household member and weight status. |
| Greenfield (2009)[107]  N=1,650  MIDUS I & II study | 1995-1996 (MIDUS); 2004-2005 (MIDUS II)  56.6 years (12.5) at MIDUS II  54% female  85% White  3% Hispanic | Multivariate regression | Summary violence score based on frequency of the following:   * Physical violence by parents * Psychological violence by parents | BMI score | Compared to no violence:   * Exposure to rarely one type of violence and frequently the other type of violence was associated with obesity (OR = 1.65, 95% CI [1.11, 2.44]) * Exposure to frequently both types of violence was associated with obesity (OR = 1.41, 95% CI [1.00, 2.00]) |
| Grilo (2005)[108]  N=340  Obese patients seeking gastric bypass surgery | Year not reported  43.1 years (10.5)  82.9% female  68.8% White  11.8% Hispanic | ANOVA | Summary CM score and individual exposure to the following variables:   * Emotional abuse * CPA * CSA * Emotional neglect * Physical neglect | BMI score | No significant associations found in adjusted models. |
| Hodge (2014)[109]  N=459  American Indians living in California | Year not reported  42.7 years  (SD not reported)  74.2% female  0% White | Generalized regression | Exposure to the following variables:   * CPA * CSA * Verbal abuse * Neglect | BMI score | Verbal abuse (vs. no abuse) was associated with higher BMI compared to those without history (*t* = 2.22, *p* = .03).  Other CM variables did not have significant associations with BMI. |
| Hostinar (2015)[22]  N=1,180  MIDUS II study | 1995-1996 (MIDUS); 2004-2005 (MIDUS II)  57.3 years (11.5)  56% female  74.9% White  3.2% Hispanic | Multiple regression analyses; SEM | Summary ACE score based on the following variables:   * CPA * Emotional abuse * CSA * Physical neglect * Emotional neglect * Household substance abuse * Household mental illness * Parental divorce | * Physical activity * WC | In model predicting inflammation, ACE score had significant paths to:   * WC (β =0.07, *p* < .05) * Physical activity (β = 0.-10, *p* < .05) |
| Lehavot (2011)[110]  N=1,224  National sample of sexual minority women | Year not reported  33.8 years (12.2)  100% female  76% White  4% Hispanic | Correlations (SEM used to predict physical health, a latent variable that included BMI) | Exposure to the following variables:   * Emotional abuse * CPA * CSA * Emotional neglect * Physical neglect | BMI score | BMI was associated with:   * Emotional abuse (*r* = 0.20, *p* < .001) * CPA (*r* = 0.20, *p* < .001) * CSA (*r* = 0.18, *p* < .001) * Emotional neglect ( *r* =0.15, *p* < .001) * Physical neglect ( *r* =0.12, *p* < .001) |
| Lehman (2005)[111]  N=3,225  CARDIA Study | 1985-1986 (Baseline); 2000-2001 (Follow-up)  Mean and SD not reported (Age range: 33-45 years at final assessment)  66% female  54% White | Correlation  (SEM used to predict composite metabolic functioning factor that included waist girth) | Summary early family environment score based on the following variables:   * Neglect * Verbal abuse * CPA * Household substance abuse * Lived in a well-organized house * Childhood socioeconomic status | Waist girth | Childhood SES was associated with waist girth (*r* = - 0.13, *p* < .001).  Early family environment was not associated with waist girth. |
| Li (2015)[112]  N=75  Cases of CM from the Office of Psychiatric Clinical Research at University of Alabama Birmingham and non-maltreated controls | Year not reported  Non-CM (n=37)  36.1 years (12.3)  75.7% female  56.8% White  CM (n=38)  39.7 years (10.9)  68.4% female  50% White | Correlations; T Test | Summary CM score and individual exposure to the following variables:   * Emotional abuse * CPA * Sexual abuse * Emotional neglect * Physical neglect | * BMI score * Waist-to-hip ratio * Body composition (i.e., visceral fat mass, android fat mass, and total body fat mass) | CM (compared to no CM) was associated with higher visceral fat mass (1,136 [160] g vs. 836 [116] g, *p* < .05).  No significant association between CM and BMI, total body fat mass, android fat mass, or waist-to-hip ratio.  CPA was associated with visceral fat mass  (*r* = 0.22, *p* = .04). |
| Mason (2015)[113]  N=4,377  Women from the Growing Up Today Study | 1996 (Baseline);  2010 (Follow-up)  Mean age and SD not reported (Age range: 22-29 years)  100% female  R/E not reported | Poisson marginal structural models | Severity of child abuse exposure and individual exposure to each type of abuse using the following variables:   * Emotional abuse * CPA * CSA | BMI score from 2010 data | Mild emotional abuse was associated with an adjusted BMI difference of .39 kg/m2 (95% CI [0.01-0.78]).  Exposures to other individual abuse categories and severity of categories were not associated with BMI. |
| McCauley (2015)[114]  N= 36,485  BRFSS, 2010: Hawaii, Nevada, Vermont, Wisconsin, DC, Maine, Nebraska, Ohio, Pennsylvania, Utah, and Washington | 2010  Veterans (n=631)  50.5 years (1.1)  100% female  84.9% White  Non-veterans (n=35,854)  49.4 years (0.18)  100% female  83.6% White | Multivariate logistic regression | Summary ACE score based on the variables:   * CPA * Emotional abuse * CSA * Witnessing domestic violence * Household substance abuse * Household mental illness * Parental divorce * Incarcerated household member | BMI score | ACE score associated with being overweight/obese (OR = 1.06, 95% CI [1.04, 1.09]). |
| McIntyre (2012)[115]  N=373  Outpatients seeking clinical services for major depressive disorder | 2007-2010  42.9 years (14.4)  61.7% female  90% White | Logistic and linear regression | Summary adversity score and individual exposure to the following variables:   * CPA * CSA * Parental loss * Neglect | * BMI score * WC | No significant associations found in adjusted models. |
| Midei (2010)[116]  N=311  Study of Women’s Health Across the Nation (SWAN), Pittsburgh site | 1996-1997 (Baseline); 9 years of follow-up  45.7 years (2.5) at baseline  100% female  65.9% White | ANCOVA | Summary CM score and individual exposure to the following variables:   * Emotional abuse * CPA * CSA * Emotional neglect * Physical neglect | * BMI score * WC | At baseline, any abuse/neglect (vs. no CM) associated with:   * Higher WC (*F* = 4.17, *p* =.04) * Higher BMI (*F* = 4.79, *p* =.03)   At baseline, CPA (vs. no CPA) associated with:   * Higher WC (*F* = 3.99, *p* < .05) * Higher BMI (*F* = 4.90, *p* =.03)   At baseline, CSA (vs. no CSA) associated with:   * Higher WC (*F* = 4.36, *p* = .04) and BMI (*F* = 7.44, *p* < .01)   Among women with BMI < 30, CM was associated with greater increases in WC over time (compared to non-abused):   * Any abuse/neglect (*F* = 13.98, *p* < .01) * Emotional abuse (*F* = 15.31, *p* < .01) * CPA (*F* = 4.30, *p* =.04) * CSA (*F* = 9.42, *p* <.01) * Physical neglect (*F* = 4.83, *p* = .03)   Among women with BMI ≥ 30, CPA (compared to no abuse) was associated with a smaller increase in WC over time: (*F* = 4.37, *p* = .04).  Among women with BMI >/= 30, CSA (compared to non-abused) was associated with a decrease in WC over time: (*F* = 10.43, *p* < .01). |
| Min (2013)[117]  N=279  Women from a longitudinal, prospective study examining the effects of prenatal cocaine exposure on child development | 1994-1996 (recruited)  40.3 years (5.3) at 12 year follow-up  100% female  <20 % White | Correlation | Severity of abuse based on a summary score using the following:   * CPA * Emotional abuse * CSA * Physical neglect * Emotional neglect | BMI score | No significant associations found in adjusted models. |
| Noll (2007)[118]  N= 173  Court-substantiated CSA cases from Washington DC and matched controls | 1987 (baseline); 1988-2006 (6 follow-ups)  Cases (n=84)  25 years (4)  100% female  57% White  2% Hispanic  Controls (n=89)  24 years (3)  at 6th follow-up  100% female  52% White  1% Hispanic | Logistic regression; Hierarchical linear model | Exposure to CSA | BMI score | CSA (vs. no CSA) was associated with obesity (OR = 2.85, 95% CI [1.06, 4.64]). |
| Pederson (2009)[119]  N=207  Community sample from Ohio | Year not reported  26.5 years (6.7)  100% female  R/E not reported | ANOVAS; MANCOVAS; Regressions | Summary CM score and severity of CM categories based on the following variables:   * Emotional abuse * CPA * CSA * Emotional neglect * Physical neglect | BMI score | Those who reported more forms of CM (vs. had higher BMIs (*F*5, 201 = 3.02, *p* = .01; η2p = .07).  Those who reported greater severity of emotional neglect had higher BMIs (*F*3, 189  = 2.76, *p* < .05; η2p = .04). |
| Ramirez (2016)[120]  N=186  Women from a low-income city | Year not reported  41.58 years (8.04)  100% female  22% White  58% Hispanic | MANCOVA | Exposure to CSA | BMI score | No significant associations found in adjusted models. |
| Richardson (2014)[121]  N=10,744  Add Health | 1994-1995 (Wave 1);  1996 (Wave 2); 2001 (Wave 3); 2008-2009 (Wave 4)  28.3 years at Wave 4 (SD not reported)  49.8% female  54.6% White | Discrete time hazards model | Summary abuse score and individual exposure to the following variables:   * CPA * CSA | BMI score | Childhood abuse (vs. no child abuse) was associated with:   * Severe obesity in non-minority females (HR = 2.5, 95% CI [1.3, 4.8]) * Severe obesity in non-minority males (HR = 3.6, 95% CI [1.5, 8.5])   No significant associations between abuse and BMI for minority females and males. |
| Rich-Edwards (2010)[122]  N=67,853  Nurses’ Health Study II | 1989 (Baseline) – 2005  Mean age and SD not reported (Age range: 25-42 years)  100% female  87.4% White | ANOVA | Severity of abuse based on the following variables:   * CPA * CSA | BMI score | At age 18 years, BMI was associated with:   * Severe CPA (0.09 SDs higher than non-abused, *p* < .0001) * Repeated forced sex (0.18 SDs higher than non-abused, *p* < .0001)   At baseline (in adulthood) BMI trajectories between abused and non-abused girls grew wider:   * Severe CPA (BMI was 0.15 SDs higher than non-abused, *p* < .0001) * Repeated forced sex (0.23 SDs higher than non-abused, *p* < .0001) |
| Riley (2010)[123]  N=68,505  Nurses’ Health Study II | 1989 (Baseline) – 2005  Mean age and SD not reported (Age range: 25-42 years)  100% female  87.4% White  1% Hispanic | Cox proportional hazards  regression (hypertension as the outcome) | Severity of abuse based on the following variables:   * CPA * CSA | * BMI score * Physical activity | Abuse severity was associated with an upward trend in BMI. Analysis not reported.  No significant associations found in adjusted models for physical activity by exposure to abuse. |
| Rohde (2008)[124]  N=4,641  Women enrolled in a large health plan in the Pacific Northwest | Year not reported  52 years  (SD not reported)  100% female  82.3% White  3.7% Hispanic | Logistic regression | Exposure to the following:   * CPA * CSA | BMI score | CSA (vs. no CSA) was associated with obesity (OR = 1.84, 95% CI [1.47-2.31]).  CPA (vs. no CPA) was associated with obesity (OR = 2.05, 95% CI [1.59-2.63]). |
| Schrepf (2014)[75]  N=687  MIDUS II: participants who did not have a history of cardiovascular disease, transient ischemic attack/stroke, diabetes, or cancer | 1995-1996 (MIDUS); 2004-2005 (MIDUS II)  52.2 years (10.9)  56% female  92.5% White  4.6% Hispanic | SEM | Summary childhood trauma score based on the following variables:   * Emotional abuse * CPA * CSA * Physical neglect * Emotional neglect | BMI score | Path between childhood trauma and BMI was not significant. |
| Shinozaki (2012)[125]  N=185  Women with European ancestry hospitalized for a major depressive episode at the Mayo Clinic, Rochester Mood Disorder Unit | 2005-2007  Age not reported  100% female  100% White | T-Test | Summary abuse score based on the following variables:   * CSA * CPA * Emotional abuse | BMI score | Abuse history (vs. not abused) was associated with higher BMI (abused = 30.7 kg/m2 vs. non-abused = 26.8 kg/m2, *p* = .0023). |
| Smith (2010)[126]  N=864  Epidemiologic Study of Health Risk in Women (ESTHER) Project in Pittsburgh | 2003-2006  Heterosexual women (n=392)  47.9 years (7.6)  100% female  92.1% White  Lesbian women (n=474)  47.4 years (7.6)  100% female  92% White | Logistic regression | Exposure to CSA:   * Intrafamilial CSA * Extrafamilial CSA | BMI score | Intrafamilial CSA (vs. no CSA) was associated with obesity (AOR = 1.58, 95% CI [1.10-2.27]).  Extrafamilial CSA was not associated with obesity. |
| Spann (2014)[127]  N=452  Participants recruited predominately African American families from Georgia primary care clinic waiting room. | Year not reported  Low Child Abuse (n=238)  43.3 years (0.9)  52.5% female  <10% white  High Child Abuse (n=214)  41.2 years (0.8)  68.7% female  <10% White | ANOVA | Summary abuse score based on the following variables:   * CSA * CPA * Emotional abuse | BMI score | High abuse scores associated with higher BMI compared to those with low abuse scores (*F1, 419*= 4.71, *p* = .03). |
| Tietjen (2012)[80]  N=141  Women with physician-diagnosed migraine and age-matched controls | 2006-2008  Cases (n=100)  37 years (8.3)  100% female  92% White  Controls (n=41)  36.9 years (10.2)  100% female  88% White | T-tests | Summary ACE score based the following variables:   * CPA * Emotional abuse * CSA * Emotional neglect * Physical neglect * Witnessing domestic violence * Household substance abuse * Household mental illness * Parental divorce * Incarcerated household member | BMI score | Exposure to 1+ ACEs was associated with higher BMI compared to those with no adversity (*t* = 4.209, *p* < .001). |
| Wickrama (2014)[128]  N=12,424  Add Health, Wave 1, 3, and 4 | 1994-1995 (Wave 1);  2001 (Wave 3);  2008-2009 (Wave 4)  15.5 years at baseline  (SD not reported; Age range: 12-19 years)  53% female  > 50 % White  10% Hispanic | Bivariate parallel latent growth curve | Summary socioeconomic adversity score based on the following variables:   * Parental education * Family economic hardship * US census measures of community adversity | BMI score | Socioeconomic adversity associated with:   * Higher BMI levels initially   (β =0.02, *p* < .001)   * Faster increases in BMI over time   (β = 0.16, p < .001) |

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| **Tobacco (41 studies)** |  |  |  |  |  |
| Agorastos (2014)[1]  N=1,254  Never-deployed, young male Marines participating in the Marine Resiliency Study | 2008-2012  21.5 years (2.4)  0% female  83.8% White | Logistic regression | Summary CM score based on the following:   * Emotional abuse * CPA * CSA * Emotional neglect * Physical neglect | Current tobacco use status | No significant associations found in adjusted models. |
| Allem (2015)[2]  N=1420  Young Hispanic adults in Southern California participating in Project RED study | 2012-2013  22.6 year (0.02)  59% female  100% Hispanic | Logistic regression | Summary adversity score and individual exposure to the following variables:   * Verbal abuse * CPA * CSA * Battered mother * Household substance abuse * Household mental illness * Incarcerated household member * Parental separation or divorce | Past-month cigarette use | ACE score was associated with % cigarette smoking (OR=1.22, 95% CI: 11, 35).  Verbal abuse, Household substance abuse, Household mental illness, Parental separation or divorce was associated with cigarette smoking. ORs not reported. |
| Bertone-Johnson (2012) [61]  N=702  Nurses’ Health Study II | 1989 (baseline); 1996-1999 (blood sample);  2001 (violence questions asked)  48.9 years  (SD not reported)  100% female  >90% White | F-tests | Summary abuse score and severity of individual exposure to the following variables:   * CPA (before age 11 years) * CSA (before age 11 years) * Adolescent physical abuse (ages 11-17 years) * Adolescent sexual abuse (ages 11-17 years) | Current smoking status | Physical abuse was associated with smoking:   * 30.8% smoked among those who experienced none, 36.6% smoked among those who experienced mild CPA, 45.8% among those who experienced moderate CPA, 53.3% among those who experienced severe CPA (*p* = .0003)   Sexual abuse was associated with smoking:   * 35.2% smoked among those who experienced none, 39.8% among those who experienced touch only, 54.2% among those who experienced forced sex (*p* = .01) |
| Brown (2010)[129]  N=17,337  ACE Study, Waves 1 & 2 | 1995-1997  Mean age and SD not reported  (9.9% 18-34 years  25.9% 35-49 years  31.9% 50-64 years  21.4% 65-74 years  10.8% 75+ years)  54% female  75% White | Multivariable adjusted logistic regression | Summary ACE score based on the following:   * CPA * Emotional abuse * CSA * Violence against mother * Household substance abuse * Household mental illness * Parental divorce * Incarcerated household member | * Early smoking initiation * Lifetime smoking status * Current smoking status * Frequency of smoking | Compared to 0 ACEs:  ACE score associated with being a current smoker:   * 2 ACEs (OR = 1.28, 95% CI [1.09, 1.52]) * 3 ACEs (OR = 1.60, 95% CI [1.33, 1.93]) * 4/5 ACEs (OR = 1.78, 95% CI [1.49, 2.13]) * 6+ ACEs (OR = 2.08, 95% CI [1.59, 2.72])   ACE score associated with being a  heavy smoker:   * 2 ACEs (OR = 1.38, 95% CI [1.06, 1.80]) * 3 ACEs (OR = 2.05, 95% CI [1.55, 2.72]) * 4/5 ACEs (OR = 2.39, 95% CI [1.83, 3.13]) * 6+ ACEs (OR = 2.46, 95% CI [1.63, 3.71])   ACE score associated with ever smoked:   * 1 ACE (OR = 1.29, 95% CI [1.19, 1.40]) * 2 ACEs (OR = 1.62, 95% CI [1.47, 1.78]) * 3 ACEs (OR = 1.91, 95% CI [1.70, 2.14]) * 4/5 ACEs (OR = 2.44, 95% CI [2.17, 2.74]) * 6+ ACEs (OR = 3.27, 95% CI [2.67, 4.01])   ACE score associated with early smoking initiation:   * 1 ACE (OR = 1.53, 95% CI: [1.26, 1.87]) * 2 ACEs (OR = 1.88, 95% CI [1.51, 2.32]) * 3 ACEs (OR = 2.69, 95% CI [2.14, 3.39]) * 4/5 ACEs (OR = 3.55, 95% CI [2.85, 4.42]) * 6+ ACEs (OR = 7.06, 95% CI [5.27, 9.45])   ACE score associated with smoking initiation after age 18 years:   * 1 ACE (OR = 1.15, 95% CI [1.04, 1.28]) * 2 ACEs (OR = 1.32, 95% CI [1.17, 1.50]) * 3 ACEs (OR = 1.56, 95% CI [1.34, 1.81]) * 4/5 ACEs (OR = 1.56, 95% CI [1.33, 1.83]) * 6+ ACEs (OR = 1.93, 95% CI [1.45, 2.58]) |
| Campbell (2016)[6]  N=48,526  BRFSS, 2011: Minnesota, Montana, Vermont, Washington, and Wisconsin | 2011  Mean age and SD not reported  (26.8% 18-34 years  37.1% 35-54 years  17.3% 55-64 years  18.8% 65+ years)  50.4% female  85.2% White  4.8% Hispanic | Multiple logistic regression | Summary ACE score and individual exposure to the following:   * CPA * CSA * Verbal abuse * Witnessing domestic violence * Household substance abuse * Household mental illness * Parental separation/ divorce * Incarcerated household member | Current smoking status | ACE score was associated with current smoking:   * 1 ACE (AOR = 1.61, 95% CI [1.36, 1.91]) * 2 ACEs (AOR = 1.90, 95% CI [1.57, 2.31]) * 3 ACEs (AOR = 2.10, 95% CI [1.68, 2.64]) * 4+ ACEs (AOR = 2.70, 95% CI [2.24, 3.24])   CSA was associated with current smoking (AOR = 1.26, 95% CI [1.01, 1.58]).  Verbal abuse was associated with current smoking (AOR = 1.22, 95% CI [1.04, 1.44]).  Household substance abuse was associated with current smoking (AOR = 1.38, 95% CI [1.19, 1.60]).  Parental separation/divorce was associated with current smoking (AOR = 1.52, 95% CI [1.30, 1.78]). |
| Chapman (2013)[130]  N=16,474  BRFSS, 2009: Arkansas, Louisiana, New Mexico, Tennessee, and Washington | 2009  Mean age and SD not reported  (8.1% 18-24 years  17.2% 25-34 years  23.3% 35-44 years  19.5% 45-54 years  15.1% 55-64 years  16.8% 65+ years)  52% female  77.1% White  6.7% Hispanic | Logistic regression | Summary ACE score and individual exposure to the following:   * CPA * Verbal abuse * CSA * Witnessing domestic violence * Household substance abuse * Household mental illness * Parental separation/ divorce * Incarcerated household member | Lifetime smoking status | Smoking prevalence was greater for all ACEs (compared to no exposure):   * CPA: 28.5%, 95% CI [25.8-31.2] vs. 17.1%, 95% CI [16.1-18.1] * Verbal abuse: 26.4%, 95% CI [24.4-28.4] vs 16.1%, 95% CI [15.0-17.2] * CSA: 27.4%, 95% CI [24.5-30.3] vs 17.6%, 95% CI [16.6-18.6] * Witnessing domestic violence: 27.7%, 95% CI [24.7-30.6] vs 17.1%, 95% CI [16.1-18.0] * Household substance abuse: 26.7%, 95% CI [24.6-28.8] vs 15.5%, 95% CI [14.5-16.6] * Household mental illness: 24.6%, 95% CI [22.4-26.9] vs 17.4%, 95% CI [16.3-18.4] * Parental separation/divorce: 27.1%, 95% CI [24.7-29.5] vs. 15.8%, 95% CI [14.8-16.7] * Incarcerated household member: 37.5%, 95% CI [32.0-43.0] vs 17.3%, 95% CI [16.4-18.3]   ACE score was associated with smoking:   * The prevalence of current smoking was 37.8% among those with 5+ ACEs compared to 13.0% among those with 0 ACEs (*p* < 0.05) |
| De Von Figueroa-Moseley (2010)[131]  N=296  Women taking psychology courses in a California university | Year not reported  34.5 years (19.8)  100% female  49.7% White  24.9% Hispanic | Logistic regression | Summary abuse score and individual exposure to the following:   * Emotional abuse * CPA * Neglect * Touched in a sexual way * Victim of attempted rape * Rape | * Current smoking status * Early smoking initiation | Exposure to abuse (compared to non-abused) was associated with current smoking status (OR = 3.93, 95% CI [1.6, 9.9]).  Experiencing 2 or more abuses (compared to 1 or non-abused) was associated with current smoking status (OR = 7.39, 95% CI [2.5, 21.7]).  Being touched in a sexual way was associated with current smoking status (OR = 6.80, 95% CI [2.6, 17.5]).  No other abuse status were significantly associated with current smoking status. |
| Dong (2005)[132]  N=8,116  ACE Study, Wave 2 | 1995-1997  56 years (15.1)  53.8% female  75% White | Logistic regression | Summary ACE score based on the following:   * CPA * Emotional abuse * CSA * Emotional neglect * Physical neglect * Violence against mother * Household substance abuse * Household mental illness * Parental divorce * Incarcerated household member | Lifetime smoking status | ACE score (compared to 0 ACEs) was associated with ever smoked:   * 1 ACE (AOR = 1.3, 95% CI [1.1, 1.4]) * 2 ACEs (AOR = 1.5, 95% CI [1.2, 1.8]) * 3 ACEs (AOR = 1.7, 95% CI [1.5, 2.2]) * 4/5 ACEs (AOR = 2.0, 95% CI [1.7, 2.4]) * 6+ ACEs (AOR = 2.8, 95% CI [2.2, 3.6]) |
| Dube (2010)[102]  N=5,378  BRFSS, 2002: Texas | 2002  Mean age and SD not reported  61% female  64% White  23.2% Hispanic | Logistic regression | Summary ACE score based on the following categories:   * Abuse (CPA, CSA, and/or emotional abuse) * Household dysfunction (witnessing domestic violence, household substance abuse, household mental illness, parental divorce, and incarcerated household member) | Current smoking status | Exposure to any abuse was not significantly associated with smoking status.  Exposure to any household dysfunction was associated with smoking (AOR = 1.4, 95% CI [1.2, 1.8]).  Exposure to both abuse and household dysfunction was associated with smoking (AOR = 1.9, 95% CI [1.6, 2.4]). |
| Edwards (2007)[133]  N=17,337  ACE Study, Waves 1 & 2 | 1996-1997  54.8 years (15.7)  54% female  >75% White | Logistic regression | Summary ACE score based on the following:   * CPA * Emotional abuse * CSA * Violence against mother * Household substance abuse * Household mental illness * Parental divorce * Incarcerated household member | Current smoking status | ACE score (compared to 0 ACEs) was associated with current smoking:   * 1 ACE (OR = 1.08, 95% CI [0.89, 1.36]) * 2 ACEs (OR = 1.26, 95% CI [1.00, 1.60]) * 3 ACEs (OR = 1.61, 95% CI [1.24, 2.10]) * 4+ ACEs (OR = 1.69, 95% CI [1.34, 2.13]) |
| Elliott (2014)[13]  N=4,017  NESARC, Waves 1 & 2: participants who met criteria for nicotine dependence | 2001-2002 (Wave 1); 2004-2005 (Wave 2)  Mean age and SD not reported  (51.4% aged 40+ years)  48.1% female  79.6% White | Logistic regression | Summary CM score and individual exposure to the following:   * Emotional abuse * CPA * CSA * Emotional neglect * Physical neglect | Nicotine dependence | CM score had an incremental effect on tobacco persistence (AOR = 1.19, 95% CI [1.11, 1.26]).  In fully adjusted models, tobacco persistence was associated with:   * CSA (AOR = 1.38, 95% CI [1.07, 1.78]) * CPA (AOR = 1.34, 95% CI [1.09, 1.66]) * Emotional abuse (AOR = 1.43, 95% CI [1.12, 1.81]) * Emotional neglect (AOR = 0.68, 95% CI [0.51, 0.90]) |
| Francis (2015)[105]  N=427  Court-substantiated cases of childhood CPA and matched non-maltreated controls | 1967-1971 (when CM occurred)  1989–1995; 2000–2002; 2003–2005  Cases (n=78)  41.3 years (3.8) at third interview  48.7% Female  79.2% White  0% Hispanic  Controls (n=349)  41.2 years (3.6) at third interview  50.7% female  63.4% White  0% Hispanic | Bivariate analyses | Exposure to CPA | Total pack years of smoking (number of cigarettes smoked per day divided by 20 cigarettes per pack, multiplied by the number of years of smoking) | CPA was not associated with smoking. |
| Font (2016)[16]  N=29,229  BRFSS, 2012: Iowa, North Carolina, Wisconsin, Tennessee, Oklahoma | 2012  48 years (0.33)  49% female  80.5% White  4.7% Hispanic | SEM | Summary ACE score and individual exposure to the following:   * CPA * Emotional abuse * CSA * Witnessing domestic violence * Household substance abuse * Household mental illness * Parental divorce * Incarcerated household member | Current smoking status | ACE score was associated with smoking:   * 1 ACE (β = 0.031, *SE* =.009, *p* < .001) * 2-3 ACEs (β = 0.073, *SE* = .010,   *p* <.001)   * 4+ ACEs (β =.034, SE =.002, *p* < .001)   CSA was associated with smoking (β = 0.039, SE=.013, *p* < .01).  Household mental illness was associated with smoking (β = 0.042, *SE* =.009, *p* < .001).  Parental divorce was associated with smoking (β = 0.060, *SE* = .010, *p* < .001).  Incarcerated household member was associated with smoking (β = 0.093, *SE* =.018, *p* < .001). |
| Ford (2011)[134]  N=25,809  BRFSS, 2009: Arkansas, Louisiana, New Mexico, Tennessee, and Washington | 2009  Mean age and SD not reported  (15.3% 18-29 years  20.2% 30-39 years  22.2% 40-49 years  18.1% 50-59 years  12.8% 60-69 years  11.4% 70+ years)  51.6% female  77% White  3.8% Hispanic | Multiple regression | Summary ACE score and individual exposure to the following:   * CPA * Emotional abuse * CSA * Domestic violence * Household substance abuse * Household mental illness * Parental divorce * Incarcerated household member | Lifetime smoking status | ACE score was associated with current smoking:   * 1 ACE (adjusted prevalence ratio [aPR] = 1.31, 95% CI [1.14, 1.5]) * 2 ACEs (aPR = 1.35, 95% CI [1.15, 1.59]) * 3 ACEs (aPR = 1.52, 95% CI [1.28, 1.79]) * 4 ACEs (aPR = 1.81, 95% CI [1.46, 2.23]) * 5+ ACEs (aPR = 2.22, 95% CI [1.92, 2.57])   ACE score was associated with ever smoking:   * 1 ACE (aPR = 1.16, 95% CI [1.09, 1.24]) * 2 ACEs (aPR = 1.29, 95% CI [1.20, 1.40]) * 3 ACEs (aPR = 1.40, 95% CI [1.29, 1.52]) * 4 ACEs (aPR = 1.56, 95% CI [1.41, 1.72]) * 5+ ACEs (aPR = 1.80, 95% CI []1.67, 1.93])   Individual ACEs were associated with current smoking:   * CPA (aPR = 1.46, 95% CI [1.31, 1.63]) * Emotional abuse (aPR = 1.54, 95% CI [1.40, 1.70]) * CSA (aPR = 1.51, 95% CI [1.35, 1.69[) * Domestic violence (aPR = 1.39, 95% CI [1.25, 1.56]) * Household substance abuse (aPR = 1.52, 95% CI [1.38, 1.68]) * Household mental illness (aPR = 1.31, 95% CI [1.17, 1.46]) * Parental divorce (aPR = 1.36, 95% CI [1.23, 1.52]) * Incarcerated household member (aPR = 1.49, 95% CI [1.27, 1.75]) |
| Fuller-Thomson (2013)[135]  N=19,356  BRFSS, 2010: District of Columbia, Hawaii, Nevada, Vermont, and Wisconsin | 2010  Mean age and SD not reported (16.8% aged < 49 years)  59.4% female  76.5% White | Logistic regression | Exposure to the following:   * CPA * Verbal abuse * CSA * Household drug abuse * Household alcohol abuse * Parental separation/divorce | Lifetime smoking status | Among females, ever smoking (vs. never) was associated with:   * Household alcohol abuse (AOR = 1.41, 95% CI [1.28, 1.56]) * Household drug abuse (AOR = 1.59, 95% CI [1.37, 1.83]) * Parental separation/divorce (AOR = 1.39, 95% CI [1.25, 1.53]) * CSA (AOR = 1.36, 95% CI [1.13, 1.63]) * Verbal abuse (AOR = 1.14, 95% CI [1.02, 1.27]) * CPA (AOR = 1.29, 95% CI [1.14, 1.46])   Among females, current smoking (vs. former smoker) was associated with:   * Household alcohol abuse (AOR = 0.83, 95% CI [0.71, 0.96]) * Household drug abuse (AOR = 1.40, 95% CI [1.15, 1.71]) * Verbal abuse (AOR = 0.72, 95% CI [0.61, 0.86]) * CPA (AOR = 1.27, 95% CI [1.06, 1.52])   Among males, ever smoking (vs. never) was associated with:   * Household alcohol abuse (AOR = 1.53, 95% CI [1.34, 1.74]) * Household drug abuse (AOR = 1.58, 95% CI [1.34, 1.87]) * Parental divorce/separation (AOR = 1.48, 95% CI [1.31, 1.68]) * CPA (AOR = 1.19, 95% CI [1.03, 1.36])   Among males, current smoking (vs. former smoker) was associated with:   * Household drug abuse (OR = 1.35, 95% CI [1.08, 1.69]) * Parental separation/divorce (OR = 1.25, 95% CI [1.05, 1.49]) |
| Gjelsvik (2013)[18]  N=81,910  BRFSS, 2009 & 2010: Arkansas, Hawaii, Louisiana, Maine, Nevada, New Mexico, Pennsylvania, Vermont, Washington, and Wisconsin | 2009-2010  Mean age and SD not reported  No incarcerated household member (n=78,193)  47.1% < 40 years  51.9% female  82.9% White  4.5% Hispanic  Incarcerated household member (n=3,717)  73.3% < 40 years  47.6% female  68.5% White  8.1% Hispanic | Logistic regression | Exposure to an incarcerated household member | Current smoking status | Living with an incarcerated household member was associated with smoking (AOR = 1.50, 95% CI [1.27, 1.77]):   * Among Hispanics (AOR = 1.71, 95% CI [1.07, 2.76]) * Among non-Hispanic white (AOR = 1.48, 95% CI [1.20, 1.83]) * Not significant among non-Hispanic black |
| Hodge (2011)[136]  N=457  Patients from 13 Indian health clinic registries in California | Year not reported  44.8 years (15.9)  69% female  0% White | Chi square test | Exposure to the following:   * Neglect * CPA * CSA | Lifetime smoking status | Neglect was associated with smoking status:   * 19.6% of current smokers, 22.9% of former smokers, and 9.9% of never smokers (*p* = .02) experienced neglect in childhood * 20.9% of current smokers, 26.3% of former smokers, and 10.7% of never smokers (*p* = .01) experienced neglect in adolescence   CPA was associated with smoking status:   * 21.9% of current smokers, 16.4% of former smokers, and 8.6% of never smokers (*p* =.008) experienced CPA in childhood * 18.1% of current smokers, 13.1% of former smokers, and 4.7% of never smokers (*p* = .003) experienced CPA in adolescence   CSA was not associated with smoking. |
| Hostinar (2015)[22]  N=1180  MIDUS II study | 1995-1996 (MIDUS); 2004-2005 (MIDUS II)  57.3 years (11.5)  56% female  74.9% White  3.2% Hispanic | Multiple regression; SEM | Summary ACE score based on the following variables:   * CPA * Emotional abuse * CSA * Physical neglect * Emotional neglect * Household substance abuse * Household mental illness * Parental divorce | Lifetime smoking status | ACE score had a direct path to smoking in the model predicting inflammation (β = 0.16, *p* < .05). |
| Jessup (2012)[137]  N=1,021  California residents at a fifth grade level in English proficiency | 2008-2009  41.2 years (17.6)  100% female  50% White  11.8% Hispanic | Logistic regression | Exposure to the following:   * CPA * CSA | Current smoking status | CPA associated with smoking status (*χ*²= 37.6, *p* < .001); 40% of smokers and 21% of nonsmokers reported CPA.  CSA associated with smoking status (*χ*²= 37.6, p < .001); 42% of smokers and 28% of nonsmokers reported CSA. |
| Kim (2009)[138]  N=513  Students from a Southeastern university | Year not reported  19.5 years (1.3)  66% female  83% White  2% Hispanic | SEM | Severity of exposure to the following:   * Emotional abuse * CPA * CSA * Physical neglect | Frequency of cigarette use | CM types were not directly associated with cigarette use in the full model. |
| Kristman-Valente (2013)[139]  N=357  Participants recruited from child welfare abuse and protective service programs, Head Start classrooms, daycare programs, and private nursery programs. | 1976-1977 (Wave 1); 1980-1982 (Wave 2); 1990-1992(Wave 3); 2008-2010 (Wave 4)  36 years (Wave 4)  (Mean age and SD not reported)  48% female  80.7% White  7.2% Hispanic | Path modeling | Exposure to the following:   * CPA * CSA | * Lifetime smoking status * Lifetime smoking frequency * Past year smoking status * Past year smoking frequency | CPA and CSA were not associated with adult smoking. |
| Larson (2013)[140]  N=6,536  Alameda County Study | 1965 (Baseline); 1974; 1983; 1994; 1999  Mean age and SD not reported  (47% ≤ 40 years  37% 41-60 years  17% 60+ years at baseline)  54% female  80% White | Bivariate associations | Exposure to the following:   * Parental separation/divorce * Parental death | Current smoking status | Parental death and parental separation/divorce were associated with smoking; 57% of those with no family disruption/separation at age 15 were NOT current smokers compared to:   * 47% of those whose parents were divorced at age 15 were NOT current smokers (*p* < .05) * 52% of those who had a parent die by age 15 were NOT current smokers (*p* < .05) |
| Lehavot (2011)[110]  N=1,224  National sample of sexual minority women | Year not reported  33.8 years (12.2)  100% female  76% White  4% Hispanic | SEM | Summary CM score and individual exposure to the following:   * Emotional abuse * CPA * CSA * Emotional neglect * Physical neglect | Smoking status:   * Lifetime * Current * Quit | In the model, CM score had a direct path to smoking status (β = 0.020, *p* < .001).  All CM types were significantly correlated with all smoking outcomes. |
| Mersky (2013)[141]  N=1,142  Chicago Longitudinal Study (CLS); cohort of racial and ethnic minority children born into underprivileged, urban-dwelling families | 2002-2004  Mean age and SD not reported (Age range: 22-24 years)  54.3% female  <7% White  7% Hispanic | Regression | Summary adversity score based on the following:   * Household Child Protective Service record for reported abuse or neglect * Personal victim or witness of violent crime * Parent substance abuse * Prolonged absence of parent * Divorce of parents * Death of close friend or relative * Frequent family conflict * Family financial problems | Current tobacco use | ACE score (compared to no ACEs) was associated with frequent tobacco use:   * 2 ACEs (OR = 2.31 95% CI [1.47, 3.63]) * 3-4 ACEs (OR = 2.52 95% CI [1.60, 3.98]) * 4+ ACEs (OR = 4.70 95% CI [2.69, 8.21]) |
| Min (2013)[117]  N=279  Women from a longitudinal, prospective study examining the effects of prenatal cocaine exposure on child development. | 1994-1996 (recruited)  40.3 years at 12 year follow-up (5.3)  100% female  <20 % White | Regression | Summary CM score based on the following:   * Emotional abuse * CPA * CSA * Emotional neglect * Physical neglect | Current smoking status | No significant associations found. |
| Mingione (2012)[142]  N=256  Alcohol dependent men and women between the ages of 21 and 65. | Year not reported  Ever-smoker (n=177)  44.9 years (9.6)  42.1% female  79% White  Never smoker (n=79)  47.2 years (8.0)  41.4% female  82% White | Logistic regression | Summary adversity score based on the following:   * CPA * CSA * Poverty * Witnessing domestic violence | * Lifetime smoking status * Nicotine dependence | For every additional adversity, the odds of being nicotine dependent increased (OR = 1.40, 95% CI [1.03–, 1.90]).  For every additional adversity, the odds of being an ever-smoker increased (OR = 2.04, 95% CI [1.32, 3.15]). |
| Morton (2014)[143]  N=3,032  MIDUS study | 1995-1996  54.6 years (11.1)  51% female  R/E not reported | Cox proportional hazard | Summary child misfortune score and summary categories based on the following:   * Childhood socioeconomic status (e.g., family receipt of welfare, being financially worse off than other families, low parental education) * Household structure (e.g., female household head, parental divorce, death of a parent) * CM (e.g., physical and/or emotional abuse by father, mother, sibling or other) * Poor mental or physical health at age sixteen | Total pack-years of smoking | Child misfortune score was associated with smoking (b = 1.047, p < .001).  CM was associated with smoking (b = 2.738, *p* < .01). |
| O’Cleirigh (2015)[144]  N=1,309  Sexual minority male patients recruited from a community-based health clinic in Massachusetts. | Year not reported    38.6 years (9.8)  0% female  82.8% White  6.1% Hispanic | Binary and multinomial logistic regressions | Exposure to CSA | Lifetime smoking status | CSA was associated with smoking (OR = 2.17, 95% CI [1.33, 3.07]). |
| Pederson (2008)[145]  N=811  Women ages 18-59 | Year not reported  26 years (6.5)  100% female  80.5% White | Logistic regression | Exposure to the following:   * Emotional abuse * CPA * CSA | Lifetime nicotine use | CSA was associated with nicotine use (OR = 1.94, *p* < .001).  CPA was associated with nicotine use (OR = 2.40, *p* < .001).  Emotional abuse was associated with nicotine use (OR = 2.56, *p* < .001). |
| Sacco (2007)[146]  N=101  Chronically mentally ill outpatients and non-psychiatric controls in New Haven, Connecticut. | Year not reported  Psychiatric cases (n=51)  Smoker:  41.6 years (8.2)  51.9% female  44.4% White  11.1% Hispanic  Non-smoker:  42.9 years (9.2)  45.8% female  79.2% White  0% Hispanic  Controls (n=50)  Smoker:  44.2 years (10.4)  48% female  76% White  4% Hispanic  Non-smoker:  36.4 years (14.2)  48% female  76% White  0% Hispanic | ANCOVA; Logistic regression | Summary ACE score and severity of exposure to the following:   * CPA * Verbal abuse * CSA * Domestic violence * Household substance abuse * Household mental illness * Parental separation/divorce * Incarcerated family member | Current smoking status | Verbal abuse differed significantly across the four participant groups (F5,94 = 2.51, *p* < .05):   * The smoker groups had significantly higher verbal abuse scores than the non-smoker groups (*p* = .001)   Severe CPA differed significantly across groups (F5,94 = 2.26, *p* = 0.05):   * Smoker scores were significantly higher than non-smoker scores (*p* < .01).   For less severe CSA there was a significant main effect for group differences (β = -3.97, *SE* = 1.99, χ2 = 3.98, *p* < .05):   * The smoker group reported more occurrences than the non-smoker group (χ2 = 7.07, *p* < .01)   ACE score did not differ with respect to smoking status in the psychiatric groups (smoker vs. non-smoker, *p* = .74) but was significantly different between the control groups (Current smoker vs. non-smoker, *p* < .05). |
| Slopen (2012)[147]  N=592  MIDUS II: Black participants from Milwaukee, WI | 2004-2006  Mean age and SD not reported  62.5% female  0% White | Logistic regression | Summary adversity score based on the following:   * Stressful events * Childhood relationship with parents * Verbal abuse * CPA | Lifetime smoking status | Childhood adversity was associated with:   * Current smoking (OR = 1.28, 95% CI [1.04, 1.57]) * Past smoking (OR = 1.45, 95% CI [1.17, 1.79]) |
| Spratt (2009)[148]  N=57  Control group from a larger study of substance dependence. | Year not reported  36.6 years (12.3)  54% female  54% White | Logistic regression | Summary severity of trauma score based on the following:   * CPA * CSA * Emotional abuse | Current smoking status | Exposure to severe trauma was associated with current smoking (OR = 4.0, 95% CI [1.1, 14.7]). |
| Strine (2012)[49]  N=7,210  ACE Study, Wave 2 | 1997  55.9 years  (SD not reported)  54% female  74.7% White  10.7% Hispanic | Mediation analysis; Logistic regression | Summary ACE score and individual exposure to the following:   * CPA * Emotional abuse * CSA * Physical neglect * Emotional neglect * Violence against mother * Household substance abuse * Household mental illness * Parental separation/divorce * Incarcerated household member | * Smoked 100 cigarettes during entire life * Current smoking status | Among women:   * CPA was associated with smoking (OR = 1.4, 95% CI [1.1, 1.8]) * Emotional abuse was associated with smoking (OR = 1.4, 95% CI [1.1, 2.0]) * Physical neglect was associated with smoking (OR = 1.5, 95% CI [1.1, 2.2]) * Parental separation/divorce was associated with smoking (OR = 1.4, 95% CI [1.1, 1.9]) * Incarcerated household member was associated with smoking (OR = 2.3, 95% CI [1.6, 3.2])   Among men, individual ACEs were not associated with smoking.  ACE score was not associated with smoking. |
| Su (2015)[149]  N=394  Baseline: Children 5-16 years in 1989 who were African American or European American and living in Richmond County, GA; Follow up to 2012 (up to 38 years of age) | 1989-2012  Mean age and SD not reported  53% female  46% White  0% Hispanic | Logistic regression | Summary adversity score based on the following:   * CPA * Emotional abuse * CSA * Physical neglect * Emotional neglect * Domestic violence * Household substance abuse * Household mental illness * Parental divorce * Incarcerated household member | Lifetime smoking status | ACE score was associated with smoking (*p* < .001):   * 0 ACEs (31.2% smoked) * 1-2 ACEs (36.2% smoked) * 3 ACEs (40.8% smoked) * 4+ ACEs (58.1% smoked)   Odds Ratios were not reported. |
| Taha (2014)[150]  N=2,101  MIDUS study, Waves 1 & 2 | 1995-1996 (MIDUS); 2004-2005 (MIDUS II)  Demographics not reported for entire sample. | Logistic regression | Severity and exposure to the following:   * Emotional abuse * CPA | Lifetime smoking status | Rare emotional abuse was associated with:   * Ever smoked (AOR = 2.23, 95% CI [1.51, 3.30]) * Daily smoker (AOR = 2.23, 95% CI [1.50, 3.32]) * Persistent daily smoker (AOR = 3.97, 95% CI [1.90, 8.31])   Intermittent emotional abuse was associated with:   * Ever smoked (AOR = 2.81, 95% CI [1.78, 4.43]) * Daily smoker (AOR = 2.20, 95% CI [1.41, 3.42]) * Persistent daily smoker (AOR = 3.42, 95% CI [1.53, 7.63])   Frequent emotional abuse was associated with:   * Ever smoked (AOR = 2.68, 95% CI [1.12, 6.44]) * Daily smoker (AOR = 3.82, 95% CI [1.61, 9.07]) * Persistent daily smoker (AOR = 7.00, 95% CI [1.93, 25.32])   Rare CPA was associated with:   * Ever smoked (AOR = 1.96, 95% CI [1.34, 2.87]) * Daily smoker (AOR = 1.73, 95% CI [1.18, 2.54]) * Persistent daily smoker (AOR = 2.44, 95% CI [1.26, 4.73])   Intermittent CPA was associated with:   * Ever smoked (AOR = 1.99, 95% CI [1.36, 2.89]) * Daily smoker (AOR = 1.77, 95% CI [1.22, 2.58]) * Persistent daily smoker (AOR = 2.50, 95% CI [1.35, 4.64])   Frequent CPA was associated with:   * Ever smoked (AOR = 2.67, 95% CI [1.66, 4.29]) * Daily smoker (AOR = 2.79, 95% CI [1.78, 4.28]) * Persistent daily smoker (AOR = 4.34, 95% CI [1.78, 4.38])   Rare severe CPA was associated with:   * Ever smoked (AOR = 1.86, 95% CI [1.45, 2.40]) * Daily smoker (AOR = 1.73, 95% CI [1.37, 2.19]) * Persistent daily smoker (AOR = 2.68, 95% CI [1.81, 3.99])   Intermittent severe CPA was associated with:   * Daily smoker (AOR = 1.42, 95% CI [1.00, 2.03])   Frequent severe CPA was associated with:   * Daily smoker (AOR = 3.36, 95% CI [1.34, 8.47]) * Persistent daily smoker (AOR = 4.08, 95% CI [1.18, 14.16]) |
| Thompson (2011)[151]  N=424  Young adults who entered a crisis shelter. | 2007-2008  18-21 years  (Mean age and SD not reported)  36% female  7% White  26% Hispanic | Logistic regression | Exposure to the following:   * Foster care * CPA * Emotional abuse * CSA | Lifetime smoking status | Foster care history was associated with smoking (AOR = 3.09, *p* < .01).  Abuse categories were not significantly associated with current cigarette use. |
| Topitzes (2010)[152]  N=1,125  CLS; cohort of racial and ethnic minority children born into underprivileged, urban-dwelling families | 1980 (participants born) – 2002/2004  Mean age and SD not reported (Age range: 22-44 years)  50% female  <6% White | Multivariate probit regression | Summary CM based on the following:   * Neglect * CPA * CSA | Smoking frequency | CM was associated with smoking (*p* = .006), with a 58.3% increase in the likelihood of daily smoking (18.0% vs. 28.5%). |
| Vander (2011)[153]  N=10,277  BRFSS, 2009: Arkansas and Louisiana | 2009  Mean age and SD not reported  (8.1% 18-24 years  19.7% 25-34 years  20.3% 35-44 years  19.5% 45-54 years  15.8% 55-64 years  16.6% 65+ years)  51.3% female  73.6% White | Logistic regression | Summary ACE score and individual exposure to the following:   * CPA * Emotional abuse * CSA * Domestic violence * Household substance abuse * Household mental illness * Parental separation/divorce * Incarcerated household member | Smoking status (current and lifetime) | Among Arkansas participants:  ACE score was associated with current smoking:   * 3 ACEs (AOR = 2.61, (95% CI [1.61, 4.21]) * 4 ACEs (AOR = 2.03, 95% CI [1.16, 3.56]) * 5+ ACEs (AOR = 2.70, 95% CI [1.64, 4.43])   ACE score was associated with lifetime smoking:   * 1 ACE (AOR = 1.61, 95% CI [1.22, 2.14]) * 2 ACEs not associated * 3 ACEs (AOR = 2.33, 95% CI [1.50, 3.60]) * 4 ACEs (AOR = 2.11, 95% CI [1.24-3.59]) * 5+ ACEs (AOR = 3.97, 95% CI [2.46, 6.41])   Among Louisiana participants:  ACE score was associated with current smoking:   * 1 ACE (AOR = 1.29, 95% CI [1.02, 1.65]) * 2 ACEs (AOR = 1.34, 95% CI [1.00, 1.80]) * 3 ACEs (AOR = 1.48, 95% CI [1.08, 2.03]) * 4 ACEs (AOR = 2.03, 95% CI [1.38-2.99]) * 5+ ACEs (AOR = 2.80, 95% CI [2.07, 3.77])   ACE score was associated with lifetime smoking:   * 1 ACE (AOR = 1.31, 95% CI [1.09, 1.58]) * 2 ACEs (AOR = 1.82, 95% CI [1.45, 2.30]) * 3 ACEs (AOR = 1.80, 95% CI [1.38, 2.34]) * 4 ACEs (AOR = 2.11, 95% CI [1.48-3.02]) * 5+ ACEs (AOR = 3.06, 95% CI [2.32, 4.02])   Individually, each ACE type was significantly associated with current and lifetime smoking for Louisiana and Arkansas samples. |
| Walsh & Cawthon (2014)[154]  N=20,711  BRFSS, 2010: Hawaii, Nevada, Vermont, and Wisconsin | 2010  56.4 years  (SD not reported)  59.6% female  72.5% White  3.8% Hispanic | Path modeling using multiple regression | Summary ACE score based on the following:   * CPA * Emotional abuse * CSA * Domestic violence * Household substance abuse * Household mental illness * Parental separation/divorce * Incarcerated household member | Lifetime smoking status | ACE score was associated smoking (*b* = .088, β = 0.158, *p* < .001). |
| Wu (2010)[56]  N=402  Adults with comorbid substance use disorders and mental health problems in residential treatment programs within Los Angeles County, CA. | 1999-2002  36.4 years (8.4)  47.2% female  44% White  13% Hispanic | Logistic regression | Summary adversity score based on the following:   * Emotional abuse * Emotional neglect * Physical neglect * CPA * CSA * Witnessing family violence * Parental separation/divorce * Incarcerated family member * Out-of-home placement * Death of someone close | Current tobacco use status | Each unit increase in exposure to adversity was associated with current smoking (OR = 1.18, 95% CI [1.01, 1.39]). |
| Yeoman (2013)[155]  N=6,348  BRFSS, 2011: Nebraska | 2011  Demographics not reported for entire sample. | Relative risks | Summary ACE scores based on the following categories:   * Direct ACEs (psychological abuse, CPA, and CSA) * Environmental ACEs (substance abuse, mental illness, intimate partner violence, and incarceration) | Lifetime smoking status | Direct ACEs were associated with smoking (aRR = 1.5, 95% CI [1.1, 2.1]).  Environmental ACEs were associated with smoking (aRR = 1.8, 95% CI [1.4, 2.3]).  Both Direct and Environmental ACEs were associated with smoking (aRR = 2.7, 95% CI [2.2, 3.3]). |

Key: Add health, The National Longitudinal Study of Adolescent to Adult Health; ACE, adverse childhood experiences; AD, alcohol dependence; ANOVA, analysis of variance; BRFSS, Behavioral Risk Factor Surveillance System; Cardia, Coronary Artery Risk Development in Young Adults study; CHLEW, Chicago Health and Life Experiences of Women study; CM, child maltreatment; CPA, childhood physical abuse; CSA, childhood sexual abuse; HR, hazard ratio; MIDUS, National Survey of Midlife Development in the United States; NAS, National Alcohol Survey; NEFS, The New England Family Study; NESARC, National Epidemiologic Survey on Alcohol and Related Conditions; NSHLEW, National Study of Health and Life Experiences of Women; OR, odds ratio; PTSD, post-traumatic stress disorder; RR, risk ratio; SEM, structural equation modeling; SD, standard deviation; WC, waist circumference.

Note. % Hispanic may also include Latino/a participants

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