

Bryn Mawr College

Scholarship, Research, and Creative Work at Bryn Mawr College

Graduate School of Social Work and Social
Research Faculty Research and Scholarship

Graduate School of Social Work and Social
Research

2021

Adverse childhood experiences (ACEs), excessive alcohol use and intimate partner violence (IPV) perpetration among Black men: A latent class analysis

Kerry Lee

Bryn Mawr College, kalee@brynmawr.edu

Paul Sacco

University of Maryland - Baltimore

Charlotte Lyn Bright

Colorado State University - Fort Collins

Follow this and additional works at: https://repository.brynmawr.edu/gsswsr_pubs



Part of the [Social Work Commons](#)

[Let us know how access to this document benefits you.](#)

Citation

Lee, K. A., Sacco, P. and C. L. Bright, 2021. "Adverse childhood experiences (ACEs), excessive alcohol use and intimate partner violence (IPV) perpetration among Black men: A latent class analysis." *Child Abuse & Neglect* 121: 105273.

This paper is posted at Scholarship, Research, and Creative Work at Bryn Mawr College.
https://repository.brynmawr.edu/gsswsr_pubs/99

For more information, please contact repository@brynmawr.edu.

*Adverse childhood experiences (ACEs), excessive alcohol use and intimate partner violence
(IPV) perpetration among Black men: A latent class analysis*

Kerry A. Lee, PhD, MSW ^{a*}, Paul Sacco, PhD ^b, Charlotte Lyn Bright ^c

^a Graduate School of Social Work & Social Research, Bryn Mawr College, 300 Airdale Road, Bryn Mawr, PA 19010, United States of America

^b School of Social Work, University of Maryland, 525 W. Redwood Street, Baltimore, MD 21201, United States of America

^c School of Social Work, Colorado State University, 137 Education, 1586 Campus Delivery, Fort Collins, CO 80523-1586, United States of America

*Corresponding author.

Email addresses: kalee@brynmawr.edu (K.A. Lee), psacco@ssw.umaryland.edu (P. Sacco), charlotte.bright@colostate.edu (C.L. Bright)

Abstract

Background: Adverse childhood experiences (ACEs) have been linked to subsequent intimate partner violence (IPV) perpetration and alcohol use. Although higher rates of ACEs are found in racial/ethnic minority populations, there is a paucity of research examining ACEs patterns and risk for IPV perpetration and excessive alcohol use among Black men.

Objective: To identify homogeneous subgroups based on ACEs among Black men using latent class analysis and assessing risk for later IPV perpetration and excessive alcohol consumption in adulthood.

Methods: Using a sample of Black men ($n = 2,306$) from Wave 2 of the National Epidemiologic Survey of Alcohol and Related Conditions (NESARC), we conducted latent class analysis (LCA) to examine their ACEs patterns based on 10 domains. ACE classes were used in logistic regression models to predict IPV perpetration and unhealthy alcohol use.

Results: LCA revealed three classes: (1) *High Household Dysfunction & Physical Neglect*; (2) *Physical/Emotional Abuse*; and (3) *Low ACEs*. Men in the *High Household Dysfunction & Physical Abuse* ($OR = 3.95, p < 0.001$), and *Physical/Emotional Abuse* ($OR = 2.37, p < 0.001$) classes had increased risk for IPV perpetration (ref: *Low ACEs class*) controlling for sociodemographic factors. No significant association was found between class membership and unhealthy alcohol use.

Conclusions: Our findings highlight the need for interventions aimed at addressing ACEs among Black boys as they increase risk for negative outcomes in adulthood. Future research should explore heterogeneity in ACEs among youth and risk of IPV and explore possible causal mechanisms in the development of IPV among adults who have experienced ACEs.

Keywords: Adverse childhood experiences; Alcohol use; Intimate partner violence; Black men; Latent Class Analysis

1. Introduction

Adverse childhood experiences (ACEs) are harmful and often traumatic events that occur prior to age 18 and include emotional and physical neglect; verbal, physical, and sexual abuse; and household dysfunction (i.e., substance abuse, mental illness, domestic violence, and incarceration) (Anda et al., 2002; Anda et al., 2006; Centers for Disease Control [CDC], 2010; Felitti et al., 1998). In the United States, an estimated 45% of children experience one or more ACEs (Sacks & Murphy, 2018). Black children are disproportionately affected by ACEs, representing 17.4% (6 in 10) of all children exposed to one or more adversities in childhood (Bethell et al., 2017). Exposure to stress and traumatic events resulting from ACEs is associated with myriad of problems in health and social functioning (Danese & McEwen, 2012; Shern et al., 2016).

1.1. Effects of adverse childhood experiences on health and well-being

ACEs are associated with numerous physical and mental health consequences in childhood and adulthood. Exposure to adversity in childhood is associated with learning and behavior problems, obesity, and decrements in mental, cognitive and socioemotional health in children (Burke et al., 2011; Center on the Developing Child, 2007; Larson et al., 2008; Romano et al., 2014; Slopen et al., 2014). ACEs may increase risk for psychosis (Varese et al., 2012), personality disorders (Afifi et al., 2010), suicide (Blasco-Fontecilla et al., 2013; Lopez-Castroman et al., 2012), aggression, anxiety, and depression (Nurius et al., 2015; Turner et al., 2006); a range of general health problems in adulthood (e.g., obesity, hypertension, type 2 diabetes etc.; Felitti & Anda, 2010); behavioral disorders (McLaughlin et al., 2012; Sharma & Sacco, 2015); and illicit drug use (Dube et al., 2002; Nomura et al., 2012) in adults.

ACEs have also been linked to increased risk of IPV perpetration (Anda et al., 2006; Cui et al., 2010; Fonseka et al., 2015; Franklin et al., 2012; Lee, Bright & Betz, 2020) and adult alcohol use (Brady & Backs, 2012; Fuller-Thompson et al., 2016). Researchers have found a graded (i.e., dose-response) relationship between ACEs and IPV perpetration, such that higher exposure to adversity in childhood is associated with greater risk for IPV perpetration (Anda et al., 2006; Fonseka et al., 2015). Additionally, research dating back almost four decades (Straus et al., 1980; Straus & Gelles, 1986) to present (Cunradi et al., 2013; Schafer et al., 2004) have implicated Black men as having higher rates of violence perpetration when compared to their White or other ethnic counterparts. These high rates of perpetration by Black men have been explained by their heightened experience of adversity in childhood; marginalization, discrimination, unemployment, lack of advancement (Hampton et al., 2003); and disproportionately high rates of incarceration (Oliver & Hairston, 2008), that may act as stressors (Caetano et al., 2005).

ACEs is also associated with increased risk for alcohol use in adulthood (Dube et al., 2005; Pilowsky et al., 2009), such that individuals who experience ACEs may [mis]use alcohol as a coping strategy to process their experiences of abuse and neglect and other chronic stress initiated as a result of their childhood experiences (Rothman et al., 2008; Strine et al., 2012). Taken together, ACEs, as an individual item or a cumulative score, have detrimental effects on individuals' overall wellbeing and functioning, particularly among racial and ethnic minority groups, especially Black, who have higher risk of ACEs (Lee & Chen, 2017) and increased risk for IPV perpetration (Bethell et al., 2017; Lee et al., 2020). Although Black men have lower drinking rates in contrast to men in other ethnic groups, they have higher rates of alcohol-related problems, likely due to social and economic disadvantage (Chartier & Caetano, 2010). Blacks

and Hispanics experience greater exposure to social disadvantage, including higher rates of poverty, unfair treatment, racial/ethnic stigma, and cumulative disadvantage in comparison to Whites, resulting in greater risk for alcohol problems (Mulia et al., 2008). Despite the exposure of Blacks and Hispanics to social disadvantage resulting in increased risk for alcohol problems, the focus of this study is specifically on Black men because of the intergenerational transmission of trauma common among this racial group. Notably, Black individuals have endured centuries of trauma (e.g., slavery, Jim Crow, the convict lease system, mass incarceration) that has had a lasting effect on the behavior and wellbeing of Black individuals in the United States, especially Black boys and men (DeGruy Leary, 2005; Hill, 1999).

In addition to race/ethnicity, other sociodemographic characteristics, such as age, household income, educational attainment, employment and marital status, have been found to be associated with ACEs. For example, Giano et al. (2020) found that younger age (≥ 25 years) was associated with higher mean ACE scores when compared to older individuals (≥ 64 years) who had lower ACE scores, although this may be attributable to recall bias. Having lower household income, educational attainment (i.e., less than high school) and being unemployed were also associated with higher mean ACE scores within the sample. Furthermore, Anderson (2017) found that men who experienced adversity in childhood (i.e., living with a depressed parent/guardian and parental divorce/separation) had increased odds of being unmarried and divorced/separated in comparison to those who were married. In summary, research has consistently shown a link between ACEs and adult sociodemographic factors.

Due to the myriad disadvantages—marginalization, discrimination, unemployment and so on — and trauma (e.g., slavery, Jim Crow) experienced by Black men, various coping strategies, adaptive and maladaptive, may be employed, which are carried from one generation to the next.

Furthermore, behaviors learned in childhood (e.g., ACEs, relationship discord, and alcohol use) are often accepted as normal and carried into intimate relationships in adulthood. Given the paucity of research that have examined this phenomenon among Black men, this study is warranted to address this gap in knowledge.

1.2. Heterogeneity in patterns of ACEs

Childhood adversities do not occur in isolation and often co-occur (Dong et al., 2004; Finkelhor et al., 2007; Lee, Bright, Sacco, & Smith, Under Review). The co-occurrence of ACEs may create layered stress, damages various aspects of the developing brain, fosters maladaptive health and behavioral habits, and limits an individual's ability to form protective relationships (Shonkoff et al., 2012). Therefore, the effects of ACEs may vary by the pattern of individuals' adverse experiences. ACEs are often measured as a binary or as a cumulative frequency score to account for the co-existence of ACEs (Schumacher et al., 2001), with a score of ≥ 4 often used as a critically important benchmark (Anda et al., 2006; Fonseca et al., 2015). One limitation of these scoring approaches is that they provide information on an individual's general ACE exposure (i.e., exposure to different kinds of ACEs), rather than multiple exposures to the same ACE domain (Finkelhor et al., 2011).

To address the above noted challenge, latent class analysis has been used to derive homogenous subpopulations (i.e., classes) of individuals based on reported childhood patterns of ACEs (Barboza, 2018; Masyn, 2013; Parra et al., 2006). LCA is a person-centered analysis where individuals are classified by item responses. This enables one to see unobserved (i.e., latent) subgroups in an overall population of persons. Research based on latent classes of ACEs has identified between three and five classes (e.g., Barboza, 2018; Blum et al., 2019; Shin et al., 2018; Vaughn et al., 2017). Typically, researchers isolate a low-risk class, representing between

two-thirds and three-quarters of the population, and at least one high severity class reflecting a high probability of all ACE types. Findings have varied as a function of inclusion criteria, indicators, and estimation model.

2. Theoretical framework

This study is guided by Bandura's (1977) Social Learning Theory (SLT) and Feminist Perspective with a focus on threats masculinity (Ali & Naylor, 2013). The SLT explains human behaviors as a continuous process —between cognitive, behavioral, and environmental forces— where attitudes and behaviors learned in childhood, from parents and society, through imitation, observation and modeling are carried into and enacted in adult relationships (Bandura, 1977). As such, through exposure to adversity in childhood, including witnessing parental IPV and substance use, children view these behaviors as acceptable, which are reenacted in intimate relationships, resulting in the intergenerational transmission of these learned behaviors.

Feminists posit that violence in heterosexual relationships is based on gendered socialization and structures, which pose as threats to men's perceived masculinity. Specifically, this framework explains that men are culturally socialized, and when viewed through a patriarchal and masculine lens are seen as head of the household, provider, and breadwinner (Peralta & Tuttle, 2013). In cases where gendered expectations (e.g., childcare, performing sexual favors etc.) are not adhered to by men's intimate female partners (Jewkes et al., 2015), violence is often used as means of maintaining discipline, power, and control within their relationships. Perceived threats to masculinity are also heightened when men consume alcohol, resulting in more aggressive responses to their female partners to reassert their masculine identities (Graham et al., 2013).

Current Study

In the current study, our analysis centers on the effects of ACEs on Black men using a latent class model. The objective of this study was to identify homogeneous subgroups of Black men based on their experiences with adversity in childhood. The second aim of the study was to test the effect of these distinct patterns of ACEs on IPV perpetration and excessive alcohol consumption in adulthood.

3. Methods

3.1. Data source and sample population

Secondary data from Wave 2 of the National Epidemiological Survey of Alcohol and Related Conditions (NESARC) were used for this study. The NESARC is a nationally representative sample of non-institutionalized civilians, aged 18 years or older, residing in all 50 states within the United States and the District of Columbia. This longitudinal study was conducted over two waves, 2001 - 2002 (Wave 1) and 2004 - 2005 (Wave 2). A multistage probability sampling design was used to obtain nationally representative estimates. Black Americans were oversampled by the NESARC survey to allow for precision estimates for this population. This study was approved by the University of Maryland Baltimore Institutional Review Board. The current study utilized a subsample ($n = 2306$) of Non-Hispanic Black men who participated in the Wave 2 interview, after 20 cases were removed because of missingness.

3.2. Measures

3.2.1. Adverse childhood experiences (ACEs)

Ten ACEs domains were developed using multiple questions. These domains included physical neglect (5 items), emotional neglect (5 items), physical abuse (2 items), sexual abuse (4 items), emotional abuse (3 items), witnessing violence against a mother or female caregiver (4

items), having a parent or caregiver with a drug problem (1 item), caregiver with an alcohol problem (1 item), an incarcerated parent, and parental mental illness (3 items). These ACE domains were derived from the Conflict Tactic Scale (CTS; Straus, 1979; Straus & Gelles, 1990), and the Childhood Trauma Questionnaire (CTQ; Bernstein et al., 1994; Wyatt, 1985). All ACE domains were coded as binary (0 = *no exposure* and 1 = *exposure*).

3.2.2. *Intimate partner violence (IPV) perpetration*

Five questions assessed physical violence perpetration – *how often did you* (1) *push, grab, or shove your spouse/partner in the past-year?* (2) *slap, kick, bite, or hit your spouse/partner in the past-year?* (3) *threaten your spouse/partner with a weapon like a knife or gun in the past-year?* (4) *cut or bruise your spouse/partner in the past year?* and (5) *injure your spouse/partner enough that they had to get medical care in the past-year?* We created a binary measure of past-year IPV perpetration (0 = *no* and 1 = *yes*) preceding the NESARC interview. These questions were adapted from previous studies (Cunradi et al., 1999; White & Chen, 2002) by the NESARC survey team.

3.2.3. *Excessive alcohol consumption*

Using National Institute of Alcohol Abuse and Alcoholism (NIAAA) physician guidelines, survey creators assessed whether male respondents exceeded their daily (>4 standard drinks) or weekly (>14 standard drinks) limits in the year prior to the interview. Responses were coded as positive if daily or weekly drinking limits (using a standard drink size of 0.6 oz. of ethanol) were exceeded. Individuals with daily alcohol intake of ≥ 1.2 oz. ethanol were coded as heavy alcohol drinkers (coded as 1) and those below as non-heavy drinkers (coded as 0; Wave 2 NESARC Data Notes, 2008).

3.2.4. *Covariates*

Age, marital status, educational attainment, household income, and employment status were included in the regression models as covariates. Age was treated as a continuous variable. Marital status (i.e., Married/living with someone as if married, widowed/divorced/separated, and never married [ref]); education (Less than high school [ref], high school, and greater than high school); household income (<\$25,000 [ref], \$25,000–\$39,999, \$40,000–\$69,999, \$70,000–\$99,999, and \geq \$100,000); and employment status (employed and unemployed [ref]) were treated as categorical variables.

3.3. *Analysis*

3.3.1. *Latent class model estimation*

Using Mplus (Muthén & Muthén, 1998-2017), we estimated latent class analysis (LCA) models to identify homogeneous classes of ACEs using the childhood adversity variables as indicators. A series of hierarchical models (i.e., 1-class, 2-classes) were run to identify the best fitting number of classes. Robust maximum likelihood (MLR) estimation using the “TYPE = COMPLEX MIXTURE” was used to address non-normality and the multistage sampling structure of the data (Muthén & Muthén, 1998-2017). Information criteria (AIC, BIC, & ABIC), item-level probabilities, $-2 \log$ likelihood estimates, and entropy values were used to select the best fitting model to the data.

3.3.2. *Effect of class membership on alcohol use and IPV*

After a final latent class model was selected, the most likely class status was exported to Stata (StataCorp, 2019), and two logistic regression analyses were estimated. Multivariate analysis included only Black men who: (1) were current drinkers since the last interview; (2) indicated being married, dating or in a romantic relationship in the previous year prior to the

interview, and (3) identified as being heterosexual. Controlling for sociodemographic characteristics – age, marital status, educational attainment, household income, and employment status – the first analysis examined class membership as a predictor of IPV perpetration, and the second analysis assessed the effect of class membership on excessive alcohol use in adulthood.

4. Results

Multiple nested latent class models were estimated beginning with a one-class solution and continuing with the addition of one class at a time. Model fit improved with the addition of each class until the four-class solution when some indicators did not converge, and the threshold fixed. The three-class model – Class 1 (*High Household Dysfunction & Physical Neglect*), Class 2 (*Physical/Emotional Abuse*), and Class 3 (*Low ACEs*) – was selected based on the lowest AIC, BIC, and ABIC values, high entropy value (0.80; Celeux & Soromenho, 1996), the Vuong-Lo-Mendell-Rubin Log Likelihood Ratio Test, and the adjusted LRT test (see Table 1).

Table 1

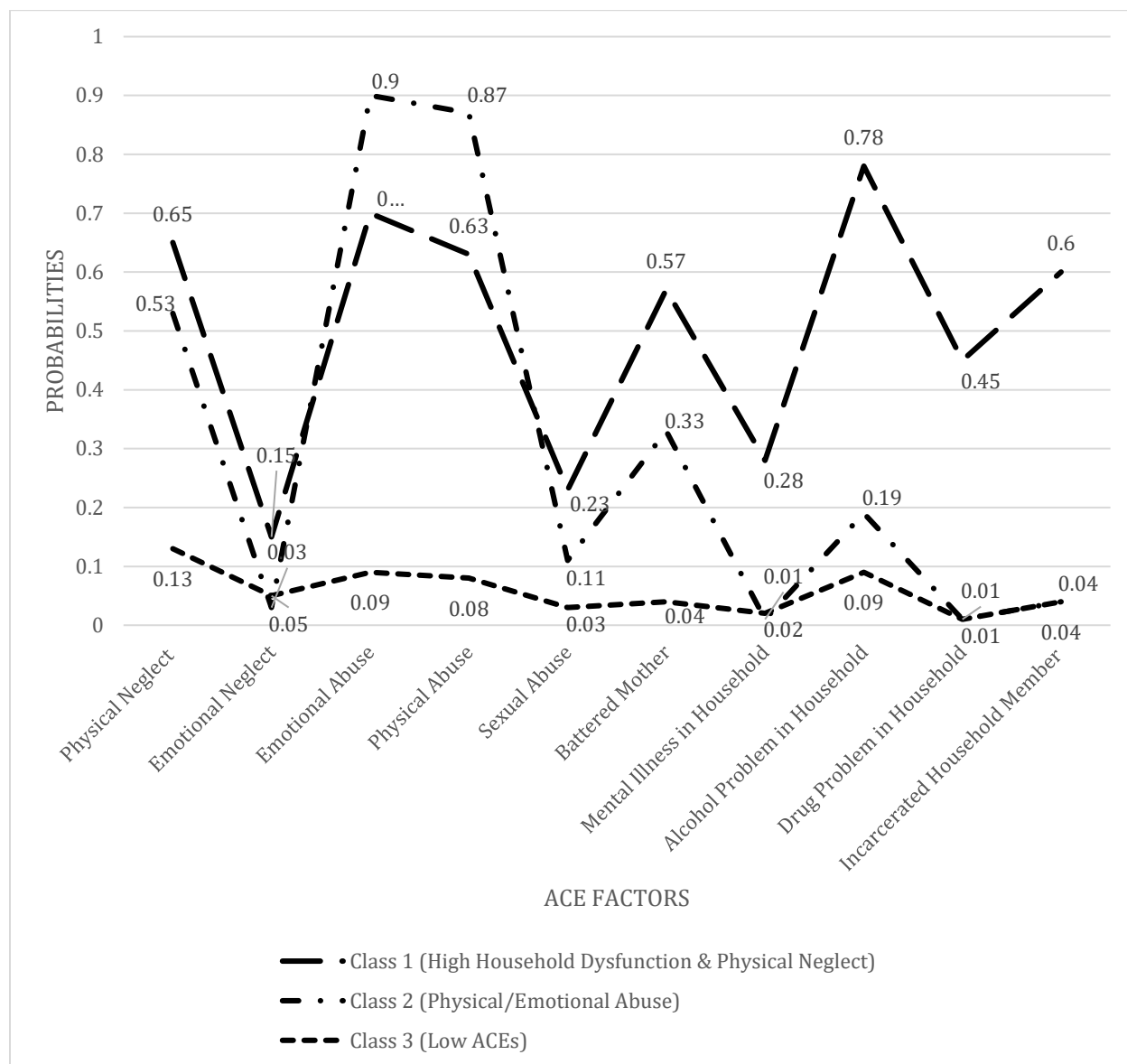
Model fit evaluation.

Model	LL	AIC	BIC	ABIC	Entropy	VLMR	Adjusted LRT Test
1-Class	-10,115.2	20,252.41	20,315.59	20,280.64	-	-	-
2-Class	-8650.92	17,343.84	17,464.45	17,397.73	0.78	-9,693.15*	2,084.46*
3-Class	-8,396.32	16,856.65	17,040.44	16,938.77	0.80	-8,650.92*	503.27*

Note. LL = log likelihood; AIC = Akaike Information Criterion; BIC = Bayesian Information Criterion; ABIC=Sample-size adjusted Bayesian Information Criteria; VLMR= Vuong-Lo-Mendell-Rubin Log Likelihood Ratio Test; LRT = log likelihood ratio test; * $p < 0.001$

Figure 1

Probability of Class Membership Based on Adverse Childhood Experiences (ACEs) Factors



4.1. Sample characteristics based on class membership

Across the *High Household Dysfunction & Physical Neglect*, *Physical/Emotional Abuse* and *Low ACEs* classes Black men had a mean age of 42 ($SD = 13.58$), 45 ($SD = 14.49$) and 45 ($SD = 16.95$) years, respectively. Regardless of class membership, men were mostly born in the U.S., married or living with someone as if married, employed and were current drinkers (see

Table 2). Additionally, men with *High Household Dysfunction & Physical Neglect* and *Low ACEs* class memberships reported more high school education ($n = 104, 48\%$; $n = 609, 47\%$, respectively) and having an annual household income less than \$25,000 ($n = 83, 32\%$; $n = 500, 35\%$, respectively) when compared to men with *Physical/Emotional Abuse* class membership who reported having greater than high school education ($n = 416, 54\%$) and annual household income of \$40,000–\$69,999 ($n = 204, 27\%$). Although men across all three classes reported IPV perpetration, Black men with *High Household Dysfunction & Physical Neglect* class membership reported higher rates of IPV perpetration ($n = 25, 13\%$) than men in the other two classes. Chi square analyses indicated significant differences among Black men based on class membership and sociodemographic characteristics.

Table 2*Demographic Characteristics Based on Class Membership*

Characteristics	High Household Dysfunction & Physical Neglect ($n = 238,$ 10.48%)	Physical/Emotional Abuse ($n = 763;$ 32.27%)	Low ACEs ($n = 1,305;$ 57.25%)	X^2
	n (wt%)	n (wt%)	n (wt%)	
U.S. born				
No	9 (4.86)	63 (8.83)	119 (11)	$X^2 (52, N = 2,306) = 128.78,$ $p < 0.001$
Yes	229 (95.14)	700 (91.17)	1186 (89)	
Marital status				
Married/living as married	114 (51.76)	379 (56.04)	604 (49)	$X^2 (52, N = 2,306) = 137.44,$ $p < 0.001$
Widowed/divorced/separated	53 (15.95)	183 (16.62)	323 (17.66)	
Never married	71 (32.29)	201 (27.34)	378 (33.25)	
Education				
Less than high school	15 (3.42)	37 (4.11)	104(5.49)	$X^2 (52, N = 2,306) = 151.03,$ $p < 0.001$
High school	104 (48.43)	310 (41.48)	609 (46.98)	
Greater than high school	119 (48.15)	416 (54.41)	592 (47.53)	
Household Income				
< \$25,000	83 (32.78)	215 (25.58)	500 (34.83)	$X^2 (52, N = 2,306) = 705.66,$ $p < 0.001$
\$25,000–\$39,999	45 (22.29)	145 (17.39)	259 (20.47)	

\$40,000–\$69,999	51 (21.55)	204 (27.61)	315 (25.9)	
\$70,000–\$99,999	34 (13.92)	129 (18.83)	125 (9.31)	
≥ \$100,000	25 (9.46)	70 (10.59)	106 (9.49)	
Employment Status ¹				
Employed	163 (70.49)	537 (74.82)	812 (66.46)	$X^2(52, N = 2,306) = 209.95$ $p < 0.001$
Unemployed	75 (29.51)	226 (25.18)	493 (33.54)	
Perpetrated IPV				
No	180 (86.45)	576 (92.42)	891 (96.53)	$X^2(50, N = 2,306) = 555.41$, $p < 0.001$
Yes	25 (13.55)	51 (7.58)	31 (3.47)	
Lifetime drinking status				
Current drinker	154 (67.27)	504 (69.62)	766 (60.68)	$X^2(52, N = 2,306) = 277.81$ $p < 0.001$
Former drinker	65 (23.55)	193 (22.27)	377 (26.25)	
Lifetime abstainer	19 (9.18)	66 (8.11)	162 (13.07)	
Exceeded weekly/daily drinking limits				
No	73 (43.04)	268 (50.51)	409 (49.83)	$X^2(46, N = 1421) = 55.63$ $p = 0.02$
Yes	81 (56.96)	235 (49.49)	355 (50.17)	
	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	
Age (in years)	42 (13.58)	45 (14.49)	45 (16.95)	$F(1,52) = 7.71, p = 0.007$

Note. Weighted data were used in these analyses; ¹Employment status was coded using a hierarchical method (i.e., employed, retired, unemployed, and other - students, full-time homemakers, or individuals who engaged in some other activity) to account for individuals in multiple categories. These groups were then dichotomized to employed and unemployed (i.e., retired, unemployed, and other).

4.2. Latent class analysis

Two thousand three hundred and six Black men were classified across three classes:

Class 1 (*High Household Dysfunction & Physical Neglect*; $n = 238$), Class 2

(*Physical/Emotional Abuse*; $n = 763$), and Class 3 (*Low ACEs*; $n = 1305$). Across all three

classes, the most common ACEs were emotional and physical abuse, having a battered mother, and having an individual with alcohol problems in the household (see Table 3).

In the final LCA model (see Figure 1), Class 1 (*High Household Dysfunction & Physical Neglect*) displayed the highest probability of almost all types of ACEs, with the exception of physical and emotional abuse. Class 2 (*Physical/Emotional Abuse*) was distinctive for high probabilities of emotional (0.90) and physical (0.87) abuse. This class also had somewhat high probability of maternal IPV victimization (i.e., “battered mother”; 0.33) and having a caregiver

with a mental illness (0.28). The third class, “*Low ACEs*” displayed the lowest item probabilities for any type of childhood adversities.

Table 3.

Prevalence of ACEs by Class Membership

ACEs	ACEs Classes		
	High Household Dysfunction & Physical Neglect (<i>n</i> = 238; 10.48%) (<i>n</i> , %)	Physical / Emotional Abuse (<i>n</i> = 763; 32.27%) (<i>n</i> , %)	Low ACEs (<i>n</i> = 1305; 57.25%) (<i>n</i> , %)
Physical Neglect	156 (67.14)	443 (57.41)	158 (10.62)
Emotional Neglect	39 (17.65)	30 (2.92)	72 (5.37)
Emotional Abuse	161 (62.72)	697 (91.82)	127 (9.17)
Physical Abuse	155 (62.14)	669 (87.89)	100 (7.16)
Sexual Abuse	51 (23.94)	86 (11.27)	25 (2.57)
Battered Mother	139 (57.34)	266 (34.51)	43 (2.95)
Mental Illness in Household	84 (32.00)	15 (1.75)	16 (1.41)
Alcohol Problem in Household	194 (81.11)	148 (19.22)	123 (10.00)
Drug Problem in Household	107 (50.43)	4 (0.58)	10 (0.91)
Incarcerated Household Member	165 (67.85)	21 (3.58)	42 (4.11)

Note. Weighted data were used in these analyses

4.3. Risk for IPV perpetration and excessive alcohol use based on class membership

4.3.1. IPV Perpetration

Membership in the *High Household Dysfunction & Physical Neglect* (Class 1) and *Physical/Emotional Abuse* (Class 2) classes were significant predictors of IPV perpetration

among Black men when compared to men with *Low ACEs* membership (Class 3; see Table 4). Black men in the *High Household Dysfunction & Physical Neglect* class had almost 4 times the odds ($OR = 3.95, p < 0.001$) of perpetrating IPV when compared to men with *Low ACEs*. Similarly, in comparison to men with *Low ACEs* class membership, men in the *Physical/Emotional Abuse* group had approximately 3 times ($OR=2.37, p < 0.001$) greater odds of perpetrating IPV. Additionally, age and income were significant predictors of IPV perpetration in this model. That is, older age was associated with lower risk ($OR=0.96, p<0.001$) of IPV perpetration among Black men. When compared to men with household income of less than \$25,000, those who earned between \$25,000 and \$39,999 were 36% more likely ($OR = 1.36, p < 0.02$) to perpetrate IPV, while those with income of \$40,000–\$69,999 ($OR = 0.55, p < 0.001$), \$70,000–\$99,999 ($OR = 0.33, p < 0.001$), and \$100,000 or more ($OR = 0.64, p = 0.001$) had lower odds of perpetrating IPV.

4.3.2. *Excess Alcohol Use*

No significant association was found between IPV, class membership, and excessive alcohol use (i.e., >2 standard drinks daily and >14 standard drinks weekly) among Black men (see Table 5). Covariates, including age and income were significant predictors of excessive alcohol use. Notably, older Black men had lower risk ($OR = 0.95, p < 0.001$) of excessive alcohol use. In comparison to men with an annual income of <\$25,000, those who earned \$25,000–\$39,999 ($OR = 0.66, p < 0.001$), \$40,000–\$69,999 ($OR = 0.68, p < 0.001$), \$70,000–\$99,999 ($OR = 0.72, p < 0.001$), and \$100,000 or more ($OR = 0.76, p = 0.001$) were less likely to exceed drinking limits.

Table 4*Logistic Regression Analysis for IPV Perpetration and Class Membership (N = 1,126)*

Predictor	<i>OR</i>	<i>SE</i>	95% <i>CI</i>
Class membership ¹ :			
Class 1 (High Household Dysfunction & Physical Neglect)	3.95*	0.95	[2.42, 6.44]
Class 2 (<i>Physical/Emotional Abuse</i>)	2.37*	0.38	[1.70, 3.30]
Age	0.96*	0.005	[0.95, 0.97]
Employment Status ²	0.86	0.20	[0.53, 1.37]
Income ³			
\$25,000 - \$39,999	1.36**	0.18	[1.03, 1.80]
\$40,000 - \$69,999	0.55*	0.08	[0.41, 0.73]
\$70,000 - \$99,999	0.33*	0.05	[0.23, 0.47]
≥ \$100,000	0.64**	0.07	[0.50, 0.82]
Education ⁴			
High School	2.02	2.06	[0.25, 15.89]
Greater than High School	1.76	1.78	[0.22, 13.74]
Marital Status ⁵			
Married/Living with Someone as if Married	1.32	0.24	[0.91, 1.95]
Widowed/Divorced/Separated	1.48	0.38	[0.87, 2.51]

Note. Weighted data were used in these analyses; *SE* = standard error; *OR* = odds ratio; *CI* = confidence interval; ¹Reference group = Class 3 (low ACEs); ²Reference group = not employed; ³Reference group = <\$25,000; ⁴Reference group = Less than high school; ⁵Reference group = Never married; **p* < 0.001; ***p* < 0.05

Table 5.

Logistic Regression Analysis for Excess Alcohol Use and Class Membership (N = 1,124)

Predictor	<i>OR</i>	<i>SE</i>	95% CI
Class membership ¹ :			
Class 1 (High Household Dysfunction & Physical Neglect)	1.08	0.13	[0.84, 1.39]
Class 2 (Physical/Emotional Abuse)	1.04	0.05	[0.93, 1.16]
Age	0.95*	0.002	[0.95, 0.96]
Employment Status ²	0.79	0.07	[0.65, 0.96]
Income ³			
\$25,000 - \$39,999	0.66*	0.06	[0.54, 0.80]
\$40,000 - \$69,999	0.68*	0.05	[0.57, 0.80]
\$70,000 - \$99,999	0.72*	0.05	[0.61, 0.84]
≥ \$100,000	0.76*	0.05	[0.66, 0.88]
Education ⁴			
High School	1.02	0.18	[0.70, 1.47]
Greater than High School	0.91	0.15	[0.65, 1.28]
Marital Status ⁵			
Married/Living with Someone as if Married	0.88	0.07	[0.74, 1.04]
Widowed/Divorced/Separated	1.15	0.10	[0.95, 1.39]

Note. Weighted data were used in these analyses; *SE* = standard error; *OR* = odds ratio; *CI* = confidence interval; ¹Reference group = Class 3 (low ACEs); ²Reference group = not employed; ³Reference group = <\$25,000; ⁴Reference group = Less than high school; ⁵Reference group = Never married; **p* < 0.001; ***p* < 0.05

5. Discussion

This study examined Black men's class membership based on their exposure to adversities in childhood, and how these classes influence IPV perpetration and excessive alcohol use in adulthood. Three homogenous classes of ACEs were identified within the current sample: Class 1 = *High Household Dysfunction & Physical Neglect*, Class 2 = *Physical/Emotional Abuse*, and Class 3 = *Low ACEs*. Our results showed that men with *High Household Dysfunction & Physical Abuse* class membership had higher probabilities of exposure to all ACEs, except emotional and physical abuse. For the *Physical/Emotional Abuse* class, these individuals had higher probabilities of emotional and physical abuse in comparison to the other two classes. Conversely, Black men with *Low ACEs* class membership had low exposure to all adverse childhood domains. These findings provide further support and evidence to the use and feasibility of discrete classes of individuals who endorse similar patterns of childhood adversity (Adams et al., 2016; Roos et al., 2016), despite using different samples (e.g., adolescents, young adults [18–25 years], immigrants; e.g., Blum et al., 2019; Vaughn et al., 2017; Shin et al., 2018) and outcome variables (e.g., mental health disorders - depressive symptoms, psychological distress, antisocial behaviors; HIV risk-taking behavior; Barboza, 2018; Vaughn et al., 2017; Shin et al., 2018).

We also found that men with membership in the *High Household Dysfunction & Physical Abuse* and *Physical/Emotional Abuse* classes had increased risk of perpetrating IPV when compared to men with *Low ACEs* class membership. These findings are consistent with the literature regarding the effects of ACEs and subsequent risk for perpetrating violence (Anda et al., 2006; Askeland et al., 2011; Brady & Back, 2012; Mersky et al., 2013; Whitfield et al., 2003). Notably, research have indicated a strong connection between childhood adversity (e.g.,

boy's victimization and exposure to violence in childhood) and later IPV perpetration (Lee et al., Under Review; Priestley & Lee, 2019; Valandra et al., 2019; Watts & Scrandis, 2013), where violence is learned, through socialization, as an acceptable means of settling conflict in intimate relationships (Franklin et al., 2012). Consistent with other studies we also found that older age and having higher income ($\geq 40,000$) were associated with lower odds of IPV perpetration (CDC, 2018). Men who had an annual income of between \$25,000 and \$39,999 were found to be more likely to perpetrate IPV when compared to those with income of $< \$25,000$. Of importance to note is that these individuals earn just above the poverty threshold, which may impact their ability to receive government benefits (e.g., welfare), thereby increasing their stress levels as a result of not being able to meet the breadwinner and provider roles within the family. This then often results in threats to their perceived masculinity and ultimately violence perpetration. In such cases, violence is used to compensate for their economic shortcomings and assert their dominance through other mediums that fosters the creation of alternative masculine identity (de Visser & McDonnell, 2013; Melzer, 2002).

With regards to class membership as a predictor of excessive alcohol use among Black men we did not find a significant association. This non-significant finding could be due to the fact that Black men typically consume lower rates of alcohol in comparison to other racial/ethnic groups (e.g., non-Hispanic Whites, Native Americans and Hispanics; Chartier & Caetano, 2010; Hedden et al., 2009). Therefore, the effect of ACEs, regardless of class membership, did not seem to have a meaningful effect on risk for excessive alcohol use. Despite this finding, some sociodemographic factors (i.e., age and income) were found to be significant predictors of excessive alcohol use which are in alignment with the extant literature (Barboza, 2018; Kerr et al., 2009).

Specifically, older age was associated with reduced risk of excessive alcohol use. Income, regardless of the amount, was associated with lower alcohol use among Black men in this study. This finding related to income and alcohol use partially aligns with the extant literature, where lower income is associated with a decline in drinking levels (Brennan et al., 2010) and greater risk for abstinence or heavy hazardous drinking (Anderson, 2006; Cerdá, et al., 2011; Huckle et al., 2010; Karlamangla et al., 2006), while higher income is associated with greater frequency of “light” drinking (Huckle et al., 2010; Ziebarth & Grabka, 2009). The difference in findings of the current study could be because Black men with lower household income have fewer disposable funds to purchase alcohol, while men with higher income, although they consume more “light” alcohol, do so in the context of social and job-related networking (Peters & Stringham, 2006), thereby limiting hazardous drinking. Some evidence from the NESARC survey suggests that poverty exerts a greater influence on at-risk drinking (i.e., heavy episodic drinking) among Black men than Hispanic or White men, where rates of heavy drinking are more evenly distributed by income level (Glass et al., 2017).

5.1. Strengths and limitations

This study has several strengths including the estimation of a latent class model to derive homogeneous subpopulations based on ACE domains, and risk for subsequent excessive alcohol use and IPV perpetration, multiple categories of ACEs typology, and use of a nationally representative sample of Black men who have been underrepresented in research studies. Despite the strengths of this study, there are also limitations. Cross-sectional data were used in this study and does not allow for causality to be determined. Retrospective self-reported data of ACEs, occurring prior to age 18, alcohol use, and IPV perpetration may have introduced recall and social desirability biases. However, adequate stability and reliability have been established for

the ACEs (da Silva & da Costa Maia, 2013), alcohol use and IPV perpetration (Ruan et al., 2008) measures in the NESARC survey. IPV perpetration and excessive alcohol use were treated as distinct entities in our study, and do not account for the combined effects (i.e., men who perpetrate IPV and exceeded drinking limits) due to small sample size.

6. Conclusion & implications

Our findings do not support the notion that ACEs are associated with at-risk drinking in adulthood among Black men but do correspond with literature on ACEs increasing risk for IPV perpetration. This study reinforces the need for interventions targeted at preventing and treating trauma related to ACEs as a key element to preventing IPV perpetration later in life (Gilchrist et al., 2017). ACEs and IPV may be mutually informative and assist with targeting prevention and intervention services to reduce family violence. ACEs, an additional marker of risk, could be added to screening tools used by agencies to serve families that have experienced violence.

While the ACEs measure (Felitti et al., 1998) has been useful in research and surveillance studies it is a cumulative measure of childhood adversity. The current study and others suggest that experiences often vary from individual to individual (Anda, Porter, & Brown, 2020). Future research should explore the frequency, intensity, chronicity, and timing of the exposures and their effect on childhood and adult well-being. Future studies should examine the association between ACEs and the combined effect of alcohol associated IPV perpetration among Black men.

Finally, policy and practice should focus on prevention of ACEs themselves, through family strengthening and support, which could have multigenerational impact, but also of IPV among those known to have experienced ACEs. Preventing ACEs or responding with targeted

services for those Black males who have experienced them may have lasting effects in terms of family violence prevention.

Funding

The National Epidemiological Survey on Alcohol and Related Conditions (NESARC) was conducted and funded by the National Institute on Alcohol Abuse and Alcoholism (NIAAA), with supplemental support from the National Institute on Drug Abuse (NIDA).

References

- Adams, Z. W., Moreland, A., Cohen, J. R., Lee, R. C., Hanson, R. F., Danielson, Self-Brown, S., & Briggs, E. C. (2016). Polyvictimization: Latent profiles and mental health outcomes in a clinical sample of adolescents. *Psychology of Violence, 6*(1), 145–155. <https://doi.org/10.1037/a0039713>
- Afifi, T. O., Mather, A., Boman, J., Fleisher, W., Enns, M. W., MacMillian, H., & Sareen, J. (2010). Childhood adversity and personality disorders: Results from a nationally representative population-based study. *Journal of Psychiatric Research, 45*(6), 814–822. <https://doi.org/10.1016/j.jpsychires.2010.11.008>
- Ali, P. A., & Naylor, P. B. (2013). Intimate partner violence: A narrative review of the feminist, social and ecological explanations for its causation. *Aggression and Violent Behavior, 18*(6), 611-619.
- Anda, R. F., Felitti, V. J., Brown, D., Chapman, D., Dong, M., Dube, S. R., Edwards, V., & Giles, W. (2006). Insights into intimate partner violence from the adverse childhood experiences (ACE) study. In P. R. Salber, & E. Taliaferro (Eds.). *The physician's guide to intimate partner violence and abuse* (pp. 77–88). Volcano Press.
- Anda, R. F., Porter, L. E., & Brown, D. W. (2020). Inside the adverse childhood experiences score: Strengths, limitations, and misapplications. *American Journal of Preventive Medicine, 59*(2), 293-295.
- Anda, R. F., Whitfield, C. I., Felitti, V. J., Chapman, D., Edwards, V. J., Dube, S. R., & Williamson, D. F. (2002). Adverse childhood experiences, alcoholic parents, and later risk of alcoholism and depression. *Psychiatric Services, 53*(8), 1001–1009. <https://doi.org/10.1176/appi.ps.53.8.1001>

- Anderson, K. F. (2017). Adverse childhood environment: Relationship with sexual risk behaviors and marital status in a large American sample. *Evolutionary Psychology*, 1-11.
- Anderson, P. (2006). Global use of alcohol, drugs, and tobacco. *Drug and Alcohol Review*, 25, 489–502. <https://doi.org/10.1080/09595230600944446>
- Askeland, I. R., Evang, A., & Heir, T. (2011). Association of violence against partner and former victim experiences: A sample of clients voluntarily attending therapy. *Journal of Interpersonal Violence*, 26(6), 1095–1110. <https://doi.org/10.1177/0886260510368152>
- Bandura, A. (1977). *Social learning theory*. General Learning Press.
- Barboza, G. E. (2018). Latent classes and cumulative impacts of adverse childhood experiences. *Child Maltreatment*, 23(2), 111-125. <https://doi.org/10.1177/1077559517736628>
- Bernstein, D. P., Fink, L., Hondelsman, L., Foote, J., & Lovejoy, M. (1994). Initial reliability and validity of a new retrospective measure of child abuse and neglect. *American Journal of Psychiatry*, 151, 1132–1136. <https://doi.org/10.1176/ajp.151.8.1132>
- Bethell, C. D., Davis, M. B., Gombojay, N., Stumbo, S., & Powers, K. (October 2017). Issue Brief: Adverse childhood experiences among US Children, Child and Adolescent Health Initiative. Johns Hopkins Bloomberg School of Public Health University. Retrieved from https://www.cahmi.org/wp-content/uploads/2018/05/aces_fact_sheet.pdf
- Blasco-Fontecilla, H., Jausent, I., Olié, E., Garcia, E. B., Beziat, S., Malafosse, A., Guillaume, S., & Courtet, P. (2013). Additive effects between prematurity and postnatal risk factors of suicidal behavior. *Journal of Psychiatric Research*, 47, 937–943.
- Blum, R. W., Li, M., & Naranjo-Rivera, G. (2019). Measuring adverse child experiences among young adults globally: Relationships with depressive symptoms and violence

- perpetration. *Journal of Adolescent Health*, 65, 86-93.
<https://doi.org/10.1016/j.jadohealth.2019.01.020>
- Brady, K. T., & Back, S. E. (2012). Childhood stress, posttraumatic stress disorder, and alcohol dependence. *Alcohol Research: Current Reviews*, 34, 408–413.
- Brennan, P. L., Schuttle, K. K., & Moos, R. H. (2010). Patterns and predictors of late-life drinking trajectories: A 10-year longitudinal study. *Psychological Addictive Behaviors*, 24(2), 254–264. <https://doi.org/10.1037/a0018592>
- Burke, N. J., Hellman, J. L., Scott, B. G., Weems, C. F., & Carrion, V. G. (2011). The impact of adverse childhood experiences on an urban pediatric population. *Child Abuse Neglect*, 35(6), 408–413. <http://dx.doi.org/10.1016/j.chiabu.2011.02.006>.
- Caetano, R., Ramisetty-Mikler, S., & Field, C. A. (2005). Unidirectional and bidirectional intimate partner violence among White, Black, and Hispanic couples in the United States. *Violence & Victims*, 20(4), 393–406.
- Celeux, G., & Soromenho, G. (1996). An entropy criterion for assessing the number of clusters in a mixture model. *Journal of Classification*, 13, 195–212.
<https://doi.org/10.1007/BF01246098>
- Center on the Developing Child. (2007). *The impact of early adversity on children's development (in brief)*. Retrieved from
<https://developingchild.harvard.edu/resources/inbrief-the-impact-of-early-adversity-on-childrens-development/, 2007>
- Centers for Disease Control and Prevention [CDC]. (2010). Adverse childhood experiences reported by adults—five states, 2009. *Morbidity Mortality Weekly Report (MMWR)*,

59(49), 1609–1613. Retrieved from

<https://www.cdc.gov/mmwr/preview/mmwrhtml/mm5949a1.htm>

Centers for Disease Control and Prevention [CDC]. (2018). *Intimate partner violence:*

Consequences. Retrieved from

<https://www.cdc.gov/violenceprevention/intimatepartnerviolence/consequences.html>

Cerdá, M., Johnson-Lawrence, V., & Galea, S. (2011). Lifetime income patterns and alcohol consumption: Investigating the association between long- and short-term income trajectories and drinking. *Social Science & Medicine*, 73(8), 1178–1185.

<https://doi.org/10.1016/j.socscimed.2011.07.025>

Chartier, K., & Caetano, R. (2010). *Ethnicity and health disparities in alcohol research*.

Retrieved March 2, 2019, from [https://pubs.niaaa.nih.gov/publications/arh40/152-](https://pubs.niaaa.nih.gov/publications/arh40/152-160.htm)

[160.htm](https://pubs.niaaa.nih.gov/publications/arh40/152-160.htm)

Cui, M., Durtschi, J. A., Donnellan, M. B., Lorenz, F. O., & Conger, R. D. (2010).

Intergenerational transmission of relationship aggression: A prospective longitudinal study. *Journal of Family Psychology*, 24(6), 688–697. <https://doi.org/10.1037/a0021675>.

Cunradi, C. B., Caetano, R., Clark, C. L., & Schafer, J. (1999). Alcohol-related problems and intimate partner violence among White, Black, and Hispanic couples in the U.S.

Alcoholism Clinical & Experimental Research, 23, 1492–1501.

Cunradi, C. B., Todd, M., Mair, C., & Remer, L. (2013). Intimate partner violence among

California couples: Multilevel analysis of environmental and partner risk factors. *Partner Abuse*, 4(4), 419–443.

- da Silva, S. S., & da Costa Maia, A. (2013). The stability of self-reported adverse childhood experiences in childhood: A longitudinal study on obesity. *Journal of Interpersonal Violence, 28*, 1989–2004. <https://doi.org/10.1177/0886260512471077>
- de Visser, R.O., & McDonnell, E.J. (2013). “Man points”: Masculine capital and young men’s health. *Health Psychology, 32*(1), 5-14.
- Danese, A., & McEwen, B. S. (2012). Adverse childhood experiences, allostasis, allostatic load, and age-related disease. *Physiology & Behavior, 106*, 29–39.
<https://doi.org/10.1016/j.physbeh.2011.08.019>
- DeGruy Leary, J. (2005). *Post traumatic slave syndrome: America’s legacy of ensuring injury and healing*. Uptone Press.
- Dong, M., Anda, R. F., Felitti, V. J., Dube, S. R., Williamson, D. F., Thompson, T. J., . . . & Giles, W. H. (2004). The interrelatedness of multiple forms of childhood abuse, neglect, and household dysfunction. *Child Abuse & Neglect, 28*, 771–784.
<https://doi.org/10.1016/j.chiabu.2004.01.008>
- Dube, S. R., Anda, R. F., Felitti, V. J., Edwards, V. J., & Croft, J. B. (2002). Adverse childhood experiences and personal alcohol abuse as an adult. *Addictive Behaviors, 27*, 713–725.
[https://doi.org/10.1016/S0306-4603\(01\)00204-0](https://doi.org/10.1016/S0306-4603(01)00204-0)
- Dube, S. R., Anda, R. F., Whitfield, C. L., Brown, D. W., Felitti, V. J., Dong, M., & Giles, W. H. (2005). Long-term consequences of childhood sexual abuse by gender of victim. *American Journal of Preventative Medicine, 28*(5), 430-438.
<https://doi.org/10.1016/j.amepre.2005.01.015>
- Felitti, V. J., & Anda, R. F. (2010). The relationship of adverse childhood experiences to adult medical diseases, psychiatric disorders, and sexual behavior: Implications for healthcare.

- In R. Lanius & E. Vermetten (Eds.). *The hidden epidemic: The impact of early life trauma on health and disease* (pp. 1–19). New York, NY: Cambridge University Press.
Retrieved October 2018, from
<https://www.unnaturalcauses.org/assets/uploads/file/ACE%20Study-Lanius.pdf>
- Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D., Spitz, A. M., Edwards, V., Koss, M. P., & Marks, J. S. (1998). Relationships of childhood abuse and household dysfunction to many of the leading causes of deaths in adults. *American Journal of Preventative Medicine*, *14*(4), 245–258. [https://doi.org/10.1016/S0749-3797\(98\)00017-8](https://doi.org/10.1016/S0749-3797(98)00017-8)
- Finkelhor, D., Ormrod, R. K., & Turner, H. A. (2007). Poly-victimization: A neglected component in child victimization. *Child Abuse & Neglect*, *31*(1), 7–26.
- Finkelhor, D., Turner, H., Hamby, S. L., & Ormrod, R. (2011). *Polyvictimization, children's exposure to multiple types of violence, crime, and abuse*. Washington DC: U.S. Department of Justice, Office of Justice Programs, Office of Juvenile Justice and Delinquency Prevention.
- Fonseka, R. W., Minnis, A. M., & Gomez, A. M. (2015). Impact of adverse childhood experiences on intimate partner perpetration among Sri Lankan men. *PLoS ONE*, *10*(8), e0136321. <https://doi.org/10.1371/journal.pone.0136321>
- Franklin, C. A., Menaker, T. A., & Kercher, G. A. (2012). Risk and resiliency factors that mediate the effect of family-of-origin violence on adult intimate partner victimization and perpetration. *Victims and Offenders*, *7*, 121–142.
<https://doi.org/10.1080/15564886.2012.657288>
- Fuller-Thomson, E., Roane, J. L., & Brennenstuhl, S. (2016). Three types of adverse childhood experiences, and alcohol and drug dependence among adults: An investigation using

- population-based data. *Substance Use & Misuse*, 51(11), 1451–1461.
<https://doi.org/10.1080/10826084.2016.1181089>
- Giano, Z., Wheeler, D. L., & Hiubach, R. D. (2020). The frequencies and disparities of adverse childhood experiences in the U.S. *BMC Public Health*, 20, 1-12.
<https://doi.org/10.1186/s12889-020-09411-z>
- Gilchrist, G., Radcliffe, P., Noto, A. R., & D'Oliveira, A. F. P. L. (2017). The prevalence and factors associated with ever perpetrating intimate partner violence by men receiving substance use treatment in Brazil and England: A cross-cultural comparison. *Drug and Alcohol Review*, 36, 34–51. <https://doi.org/10.1111/dar.12436>
- Glass, J. E., Rathouz, P. J., Gattis, M., Joo, Y. S., Nelson, J. C., & Williams, E. C. (2017). Intersections of poverty, race/ethnicity, and sex: alcohol consumption and adverse outcomes in the United States. *Social Psychiatry and Psychiatric Epidemiology*, 52(5), 515-524. doi:10.1007/s00127-017-1362-4
- Graham, K., Bernards, S., Osgood, D. W., Park, M., Abbey, A., Felson, R. B., Saltz, R. F., & Wells, S. (2013). Apparent motives for aggression in the social context of the bar. *Psychology of Violence*, 3(3), 218-232.
- Hampton, R., Oliver, W., & Magarian, L. (2003). Domestic violence in the African community: An analysis of social and structural factors. *Violence Against Women*, 9(5), 533–557.
- Hedden, S., Malcolm, R., & Latimer, W. (2009). Differences between adult non-drug users versus alcohol, cocaine and concurrent alcohol and cocaine problem users. *Addictive Behaviors*, 34(3), 323-326. <https://doi.org/10.1016/j.addbeh.2008.11.001>
- Hill, R. (1999). *The strengths of African American families: Twenty-five years later*. University Press of America.

- Huckle, T., You, R. Q., & Casswell, S. (2010). Socio-economic status predicts drinking patterns but not alcohol-related consequences independently. *Addiction, 105*, 1192–1202.
<https://doi.org/10.1111/j.1360-0443.2010.02931.x>
- Jewkes, R., Flood, M., & Lang, J. (2015). From work with men and boys to changes of social norms and reduction of inequities in gender relations: A conceptual shift in prevention of violence against women and girls. *The Lancet, 385*, 1580-1589.
[https://doi.org/10.1016/S0140-6736\(14\)61683-4](https://doi.org/10.1016/S0140-6736(14)61683-4)
- Karlamangla, A., Zhou, K., Reuben, D., Greendale, G., & Moore, A. (2006). Longitudinal trajectories of heavy drinking in adults in the United States of America. *Addiction, 101*, 91–99. <https://doi.org/10.1111/j.1360-0443.2005.01299.x>
- Kerr, W. C., Greenfield, T. K., Bond, J., Ye, Y., & Rehm, J. (2009). Age–period–cohort modelling of alcohol volume and heavy drinking days in the US National Alcohol Surveys: Divergence in younger and older adult trends. *Addiction, 104*(1), 27–37.
<https://doi.org/10.1111/j.1360-0443.2008.02391.x>
- Larson, K., Russ, S. A., Crall, J. J., & Halfon, N. (2008). Influence of multiple social risks on children's health. *Pediatrics, 121*(2), 337–344. <http://dx.doi.org/10.1542/peds.2007-0447>.
- Lee, K. A., Bright, C. L., & Betz, G. (2020). Adverse childhood experiences (ACEs), alcohol use in adulthood, and intimate partner violence (IPV) perpetration by Black men: A systematic review. *Trauma, Violence, & Abuse, 1-18*.
- Lee, K. A., Bright, C. L., Sacco, P., & Smith, M. E. (2021). The influence of adverse childhood experiences on perpetration of intimate partner violence among Black men: The moderating role of alcohol use (Under Review).
- Lee, R. D., & Chen, J. (2017). Adverse childhood experiences, mental health, and excessive

- alcohol use: Examination of race/ethnicity and sex differences. *Child Abuse & Neglect*, 69(2017), 40–48. <http://dx.doi.org/10.1016/j.chiabu.2017.04.004>
- Lopez-Castroman, J., Jaussent, I., Beziat, S., Genty, C., Olié, E., de Leon-Martinez, V., Baca-Garcia, E., Malafosse, A., Courtet, P., & Guillaume, S. (2012). Suicidal phenotypes associated with family history of suicidal behavior and early traumatic experiences. *Journal of Affective Disorders*, 142, 193–199. <http://dx.doi.org/10.1016/j.jad.2012.04.025>
- Masyn, K. E. (2013). Latent class analysis and finite mixture modeling. In T. D. Little (Ed.), *The Oxford handbook of quantitative methods in psychology* (Vol.2, pp. 551–611). New York, NY: Oxford University Press.
- McLaughlin, K. A., Green, J. G., Gruber, M. J., Sampson, N. A., Zaslavsky, A., & Kessler, R. C. (2012). Childhood adversities and first onset of psychiatric disorders in a national sample of adolescents. *Archives of General Psychiatry*, 69(11), 1151–1160. <https://doi.org/10.1001/archgenpsychiatry.2011.2277>
- Melzer, S.A. (2002). Gender, work, and intimate violence: Men's occupational violence spillover and compensatory violence. *Journal of Marriage & Family*, 64(4), 820-832.
- Mersky, J. P., Topitzes, J., & Reynolds, A. J. (2013). Impacts of adverse childhood experiences on health, mental health, and substance use in early adulthood: A cohort study of an urban, minority sample in the U.S. *Child Abuse & Neglect*, 37, 917–925. <https://dx.doi.org/10.1016/j.chiabu.2013.07.011>
- Mulia, N., Ye, Y., Zemore, S. E., & Greenfield, T. K. (2008). Social disadvantage, stress, and alcohol use among Black, Hispanic, and White Americans: Findings from the 2005 U.S. National Alcohol Survey. *Journal of Studies on Alcohol and Drugs*, 69(6), 824–833. <https://doi.org/10.15288/jsad.2008.69.824>

- Muthén, L. K., & Muthén, B. O. (1998–2017). *Mplus user's guide* (8th ed.). Muthén & Muthén.
- Nomura, Y., Hurd, Y. L., & Pilowsky, D. J. (2012). Life-time risk for substance use among offspring of abusive family environment from the community. *Substance Use & Misuse*, 47, 1281–1292. <http://doi.org/10.3109/10826084.2012.695420>
- Nurius, P. S., Green, S, Logan-Greene, P., & Borja, S. (2015). Life course pathways of adverse childhood experiences toward adult psychological well-being: A stress process analysis. *Child Abuse & Neglect*, 45(2015), 143–153.
<https://dx.doi.org/10.1016/j.chiabu.2015.03.008>
- Oliver, W., & Hairston, C. F. (2008). Intimate partner violence during the transition from prison to the community: Perspectives of incarcerated African American men. *Journal of Aggression, Maltreatment, & Trauma*, 16(3), 258–276.
<https://doi.org/10.1080/10926770801925577>
- Parra, G. R., DuBois, D. L., & Sher, K. J. (2006). Investigation of profiles of risk factors for adolescent psychopathology: A person- centered approach. *Journal of Clinical Child and Adolescent Psychology*, 35, 386–402. https://doi.org/10.1207/s15374424jccp3503_4
- Peralta, R. L., & Tuttle, L. A. (2013). Male perpetrators of heterosexual-partner-violence: The role of threats to masculinity. *The Journal of Men's Studies*, 21(3), 255-276.
- Peters, B. L., & Stringman, E. P. (2006). No booze? You may lose: Why drinkers earn more money than non-drinkers? *Journal of Labor Research*, 27(3), 1–20.
<https://doi.org/10.1007/s12122-006-1031-y>
- Pilowsky, D. J., Keyes, K. M., & Hasin, D. S. (2009). Adverse childhood events and lifetime alcohol dependence. *American Journal of Public Health*, 99(2), 258–263.
<https://dx.doi.org/10.2105/AJPH.2008.139006>

- Priestley, S. R., & Lee, K. A. (2019). Understanding IPV perpetration among young Jamaican men: The role of socialization and attitudinal factors. *Journal of Interpersonal Violence*, 1–25. <https://doi.org/10.1177/0886260519854553>
- Romano, E., Babchishin, L., Marquis, R., & Frechette, S. (2014). Childhood maltreatment and educational outcomes. *Trauma, Violence & Abuse*, 16, 418–437. <https://doi.org/10.1177/1524838014537908>
- Roos, L. E., Afifi, T. O., Martin, C. G., Pietrzak, R. H., Tsai, J., & Sareen, J. (2016). Linking typologies of childhood adversity to adult incarceration: Findings from a nationally representative sample. *American Journal of Orthopsychiatry*, 86(5), 584–593. <http://dx.doi.org/10.1037/ort0000144>
- Rothman, E. F., Edwards, E. M., Heeren, T., & Hingson, R. W. (2008). Adverse childhood experiences predict earlier age of drinking onset: results from a representative US sample of current or former drinkers. *Pediatrics*, 122 (2), e298–e304. <https://doi.org/10.1542/peds.2007-3412>
- Ruan, W. J., Goldstein, B. R., Chou, S. P., Smith, S. M., Saha, T. D., Pickering, Dawson, D. A., Huang, B., Stinson, F. S., & Grant, B. F. (2008). The alcohol use disorder and associated disabilities interview schedule-IV (AUDADIS-IV): Reliability of new psychiatric diagnostic modules and risk factor in a general population sample. *Drug and Alcohol Dependence*, 92(1–3), 27–36. <https://dx.doi.org/10.1016/j.drugalcdep.2007.06.001>
- Sacks, V., & Murphy, D. (February 2018). Issue Brief: The prevalence of adverse childhood experiences, nationally, by state and by race or ethnicity. Child Trends. Retrieved from <https://www.childtrends.org/publications/prevalence-adverse-childhood-experiences-nationally-state-race-ethnicity>

- Schafer, J., Caetano, R., & Cunradi, C. B. (2004). A path model for risk factors for intimate partner violence among couples in the United States. *Journal of Interpersonal Violence*, *19*(2), 127–142. <https://doi.org/10.1177/0886260503260244>
- Schumacher, J. A., Feldbau-Kohn, F., Slep, A. M. S., & Heyman, R.E. (2001). Risk Factors for Male-to-Female Partner Physical Abuse. *Aggression and Violent Behavior*, *6*, 281–352. [http://dx.doi.org/10.1016/S1359-1789\(00\)00027-6](http://dx.doi.org/10.1016/S1359-1789(00)00027-6)
- Sharma, A., & Sacco, P. (2015). Adverse Childhood Experiences and Gambling: Results from a National Survey. *Journal of Social Work Practice in the Addictions*, *15*(1), 25-43. <https://doi.org/10.1080/1533256X.2015.996502>
- Shern, D. L., Blanch, A. K., & Steverman, S. M. (2016). Toxic stress, behavioral health, and the next major era in public health. *American Journal of Orthopsychiatry*, *86*(2), 109–123. <http://dx.doi.org/10.1037/ort0000120>
- Shin, S. H., McDonald, S. E., & Conley, D. (2018). Patterns of adverse childhood experiences and substance use among young adults: A latent class analysis. *Addictive Behavior*, *78*, 187-192. <https://doi.org/10.1016/j.addbeh.2017.11.020>
- Shonkoff, J. P., Gardner, A. S., The Committee on Psychological Aspects of Child and Family Health; Committee on Early Childhood, Adoption, & Dependent Care & Section on Developmental and Behavioral Pediatrics; Siegel, B. S., Dobbins, M. I., Earls, M. F., Garner, A. S., McGuinn, L., Pascoe, J., & Wood, D. I. L. (2012). The lifelong effects of

- early childhood adversity and toxic stress. *Pediatrics*, 129(1), e-232-e246.
<https://doi.org/10.1542/peds.2011-2663>
- Slopen, N., Koenen, K. C., & Kubzansky, L. D. (2014). Cumulative adversity in childhood and emergent risk factors for long-term health. *Journal of Pediatric*, 164(3), 631–638.
<http://dx.doi.org/10.1016/j.jpeds.2013.11.003>.
- StataCorp. 2019. *Stata Statistical Software: Release 16*. College Station, TX: StataCorp LLC.
- Straus, M. (1979). Measuring intrafamily conflict and violence: the conflict tactics (CT) scales. *Journal of Marriage & the Family*, 41, 75–88. <https://doi.org/10.2307/351733>
- Straus, M., & Gelles, R. J. (1986). Societal change and family violence from 1975 to 1985 as revealed in two national surveys. *Journal of Marriage and the Family*, 48, 465–479.
<https://psycnet.apa.org/doi/10.2307/352033>
- Straus, M., & Gelles, R. J. (1990). *Physical violence in American families: Risk factors and adaptations to violence in 8,145 Families*. Transaction Press.
- Straus, M. A., Gelles, R. J., & Steinmetz, S. K. (1980). *Behind closed doors: Violence in the American family*. Doubleday.
- Strine, T. W., Dube, S. R., Edwards, V. J., Witt Prehn, A., Rasmussen, S., Wagenfeld, M., Dhingra, S., & Croft, J. B. (2012). Associations between adverse childhood experiences, psychological distress, and adult alcohol problems. *American Journal of Health Behavior*, 36 (3), 408–423. <https://doi.org/10.5993/AJHB.36.3.11>
- Turner, H. A., Finkelhorn, D., & Ormrod, R. (2006). The effect of lifetime victimization on the mental health of children and adolescents. *Social Science & Medicine*, 62(1), 13–27.
<https://doi.org/10.1016/j.socscimed.2005.05.030>
- Valandra, Higgins, B.M., Murphy-Erby, Y., & Brown, L.M. (2019). An exploratory study of

- African American men's perspectives of intraracial, heterosexual intimate partner violence using a multisystems life course perspective. *Journal of the Society for Social Work and Research*, 10(1), 2334–2315. [doi:10.1086/701824](https://doi.org/10.1086/701824)
- Varese, F., Smeets, F., Drukker, M., Lieveise, R., Lataster, T., Vichtbauer, W., Read, J., van Os, J., & Bentall, R.P. (2012). Childhood adversities increase the risk of psychosis: A meta-analysis of patient-control, prospective, and cross-sectional cohort studies. *Schizophrenia Bulletin*, 38, 661–671. <https://doi.org/10.1093/schbul/sbs050>
- Vaughn, M. G., Salas-Wright, C. P., Huang, J., Qian, Z., Terzis, L. D., & Helton, J. J. (2017). Adverse childhood experiences among immigrants to the United States. *Journal of Interpersonal Violence*, 32(10), 1543-1564. <https://doi.org/10.1177/0886260515589568>
- Watt, M. E., & Scrandis, D. A. (2013). Traumatic childhood exposures in the lives of male perpetrators of female intimate partner violence. *Journal of Interpersonal Violence*, 28(14), 2813–2830. <https://doi.org/10.1177/0886260513488694>
- White, H. R., & Chen, P.-H. (2002). Problem drinking and intimate partner violence. *Journal of Studies on Alcohol*, 63, 205–214. <https://doi.org/10.15288/jsa.2002.63.205>
- Whitfield, C. L., Anda, R. F., Dube, S. R., & Felitti, V. J. (2003). Violent childhood experiences and the risk of intimate partner violence in adults: Assessment in a large health maintenance organization. *Journal of Interpersonal Violence*, 18(2), 166–185. <https://doi.org/10.1177/0886260502238733>
- Wyatt, G. E. (1985). The sexual abuse of Afro-American and White American women in childhood. *Child Abuse & Neglect*, 9, 507–519. [https://doi.org/10.1016/0145-2134\(85\)90060-2](https://doi.org/10.1016/0145-2134(85)90060-2)
- Ziebarth, N. R., Grabka, M. M. (2009). In vino pecunia? The association between beverage-

specific drinking behavior and wages. *Journal of Labor Research*, 30, 219–244.

<https://doi.org/10.1007/s12122-009-9064-7>