Kerry A. Lee, MSW

University of Maryland, School of Social Work
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EDUCATION

Ph.D., 2020 — **University of Maryland School of Social Work, Baltimore, MD**
Dissertation: "The interrelationships of adverse childhood experiences (ACEs), alcohol use in adulthood, and intimate partner violence (IPV) perpetration among Black men in the United States"
Committee Members: Drs. Melissa Smith, Laura Ting, Paul Sacco, and Christopher Murphy; *Chair*: Dr. Charlotte Lyn Bright

MSW, 2016 — **University of the West Indies, Mona, Jamaica**
Thesis: The intergenerational transmission of intimate partner violence (IPV) perpetrated by males in Jamaica: A qualitative case study.
Advisor: Dr. Sharon Rose Priestley

Diploma, 2014 — **University of the West Indies, Mona, Jamaica**
Concentration: Clinical and administrative social work

BSc., 2010 — **University of Technology, Kingston, Jamaica**
Major: Finance and International Business

RESEARCH EXPERIENCE

2020 – Present — **Postdoctoral Fellow**
University of Maryland College Park
Mentors: Drs. Brenda Jones Harden & Nathan Fox

- Oversee the recruitment and retention of study participants
- Use of behavioral and physiological approaches to examine how early life exposures impact brain and behavioral development

2018 – 2020 — **Graduate Research Assistant**
University of Maryland School of Social Work
Mentor: Melissa Edmonson Smith, PhD

- Transcribed and analyzed data from an internally-funded Competitive Innovative Research (CIR) grant that seeks to understand community integration from the perspective of racially/ethnically diverse individuals with severe mental illness (SMI) and traumatic exposure
- Lead role in managing a consumer service data project for a mental health agency serving clients with SMI and traumatic exposure to examine clinical and functional outcomes, service utilization, and service provision

2016 – 2018 — Mentor: Geetha Gopalan, PhD

- Assisted in data collection and mixed methods data analysis of a NIMH-funded study (R21MH102544; PI: Gopalan) aimed at

improving child behavior using task-shifting strategies to implement a child mental health intervention in child welfare settings
- Co-developed an internally-funded Competitive Innovative Research (CIR) grant

2017 – Present **Graduate Research Assistant**
Mentor: Emily M. Douglas, PhD | Worcester Polytechnic Institute, MA
- Analyzed secondary qualitative and quantitative data related to child maltreatment fatality in the U.S.

2015 – Present **Independent Consultant: Project Manager & Data Analyst**
Whitworthkee Consulting, LLC.
- Leadership role in the management and organization of climate assessment projects, including data collection and analysis
- Co-authored technical report of climate assessments findings

Data Analyst (2015 – 2018**)**
Whitworthkee Consulting, LLC.
- Led data collection and analysis of quantitative and qualitative data for climate assessment assessing diversity, equity, and inclusivity of individuals at four-year and two-year educational institutions, non-profits, and philanthropic organizations
- Co-authored technical reports of climate assessments findings

2015 – 2015 **Graduate Research Assistant**
University of the West Indies, Mona, Jamaica
Mentor: Aldene Shillingford, MSW
- Participated in faculty's research activities, arrangements for agency meetings, and community visits
- Facilitated community-based participatory action research initiatives and the creation of a community profile report

FUNDED RESEARCH

The Interrelationships of Adverse Childhood Experiences (ACEs), Alcohol use in Adulthood, and Intimate Partner Violence (IPV) Perpetration among Black Men

Funder: University of Maryland, Nikki R. Wooten Dissertation Award for Research with Military, Veterans, and Vulnerable Populations
Role: Primary Investigator
Amount: $1,000
Project Period: 11/2019 – 11/2020

Funder: University of Maryland, Grand Challenges for Social Work Dissertation Award
Role: Primary Investigator
Amount: $2,550
Project Period: 11/2019 – 11/2020

Exploring Community Integration for Diverse Individuals with Severe Mental Illness
Funder: University of Maryland School of Social Work
Role: Research Assistant (PI: Dr. Melissa Smith)
Amount: $19,995.89
Project Period: 11/2017 – 06/2019

An Analysis of Feasibility and Acceptability When Task-Shifting an Evidence-Based Multiple Family Group into Child Welfare
Funder: University of Maryland School of Social Work
Role: Research Assistant (PI: Dr. Geetha Gopalan)
Amount: $19,631.40
Project Period: 11/2017 – 10/2018

Improving Child Behavior using Task-Shifting to Implement Multiple Family Groups (MFGS) in Child Welfare
Funder: National Institute of Mental Health (R21MH102544)
Role: Research Assistant (PI: Dr. Geetha Gopalan)
Amount: $363,116
Project Period: 07/2014 – 01/2017

PUBLICATIONS

Peer Reviewed Journal Articles & Book Chapter

1. 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

2. Douglas, E. M., & **Lee, K. A.** (2019). The perpetration of fatal child maltreatment: It's the men who are bad, right? In D. Bühler-Niederberger & L. Alberth (Eds.). *Victim, perpetrator, or what else? Generational and gender perspectives on children, youth, and violence* (pp. 33–46). *Sociological Studies of Children & Youth, 25.* ISSN: 1537-4661/doi:10.1108/S1537-466120190000025003

3. Douglas, E. M, & **Lee, K. A.** (Accepted). Challenges in determining child maltreatment fatalities in the United States: What do we really know? *Child Abuse Review.*

Under Review

1. **Lee, K. A.,** Hayward, A. R., & Sacco, P. (Revise & Resubmit). *Validtion of the substance abuse subscale of the Personal Relationships Profile (PRP).*

2. **Lee, K. A.,** & Douglas, E. M. (Revise & Resubmit). *The prosecution of fatal child maltreatment: Criminal charges filed against presumed perpetrators in the United States in 2017.*

3. **Lee, K. A.,** Bright, C. L., & Betz, G. (Under Review). *Adverse childhood experiences (ACEs), alcohol use in adulthood, and intimate partner violence (IPV) perpetration among Black men: A systematic review.*

4. Smith, M., Fedina, L., **Lee, K. A**., Sharpe, T., Pahwa, R., Barrio, C., & DeVylder, J. (Under Review). *The impact of secondary exposure to gun violence on psychotic experiences among three racial/ethnic groups.*

In Preparation

1. Sharpe, T. L., Iwamoto, D. K., **Lee, K. A.**, & Anderson, J. (In preparation). *Development and validation of the inventory of coping for African American survivors of homicide victims.*

2. Gopalan, G., **Lee, K. A**., Stephens, T., Pisciotta, C., Hooley, C., & Acri, M. (Draft Ready). *Implementing a child mental health intervention in child welfare services: Child welfare staff perspectives on feasibility.*

3. **Lee, K. A.,** Priestley, S., & Hylton, K. K. (In preparation). *The relationships of adverse childhood experiences (ACEs) and mental health outcomes among Jamaican women*.

4. **Lee, K. A.,** Priestley, S. R., & Hylton, K. K. (In preparation). *The association between sociodemographic factors, mental health outcomes and coping strategies employed by victims of intimate partner violence: The case of Jamaican women.*

5. **Lee, K. A**., Gopalan, G., & Pisciotta, C. (In preparation). *Child welfare-involved families' perspective on the acceptability of a multiple family group (MFG) intervention*.

6. Priestley, S. R., **Lee, K. A.,** & Hylton, K. K. (In preparation). *Adverse childhood experiences, intimate partner violence victimization, and help-seeking behaviors of Jamaican women.*

7. Priestley, S. R., **Lee, K. A.,** & Hylton, K. K. (In preparation). *Jamaican women's perceptions of gender roles and norms and normalization of intimate partner violence.*

Invited Book Chapter

1. **Lee, K. A**., Hylton, K., & Priestley, S. R. (In preparation). Causes and consequences of interpersonal violence: The case of the Caribbean. In A. M. Bissessar and C. Huggins (Eds.). *The many faces of domestic violence–Deepening the dialogue*. Caribbean Studies Association.

Technical Reports

1. WhitworthKee Consulting, LLC. (2020). *Mesa Community College campus climate assessment*. Washington, D.C.: Author.

2. WhitworthKee Consulting, LLC. (2019). *Walton-UNCF K-12 Education Fellowship Program evaluation report: 2010-2018*. Washington, D.C.: Author.

3. WhitworthKee Consulting, LLC. (2019). *Kellogg Community College campus climate assessment*. Washington, D.C.: Author.

4. WhitworthKee Consulting, LLC. (2019). *Middlebury College campus climate assessment*. Washington, D.C.: Author.

5. WhitworthKee Consulting, LLC. (2018). *Alpha Phi Alpha Fraternity Incorporated membership survey report.* Washington, D.C.: Author.

6. WhitworthKee Consulting, LLC. (2017). *UNCF/Koch Scholar's Program summary evaluation report: 2015-2017*. Washington, D.C.: Author.

PRESENTATIONS

Refereed Conference Presentations

1. **Lee, K. A**., & Priestley, S. R. (2020, January). *The role of socialization and attitudinal factors in understanding intimate partner violence (IPV) perpetration among young Jamaican men.* Paper presented at the 24th Annual Conference of the Society for Social Work and Research (SSWR), Washington, D.C.

2. Smith, M., Fedina, L., **Lee, K. A.,** Sharpe, T., Pahwa, R., & Devylder, J. (2020, January). *The impact of secondary exposure to gun violence fatality on hallucination- and delusion-like experiences among three racial ethnic groups.* Poster presented at the 24th Annual Conference of the Society for Social Work and Research (SSWR), Washington D.C.

3. Gopalan, G., **Lee, K. A**., & Pisciotta, C. (2019, December). *Engaging front-line staff to implement a child mental health intervention in child welfare services.* Paper presented at the 12th Annual Conference on the Science of Dissemination and Implementation, Arlington, VA.

4. Gopalan, G., **Lee, K. A**., Stephens, T., Acri, M., Hooley, C., & Pisciotta, C. **(**2019, September). *Implementing a child mental health intervention in child welfare: CW staff perspectives on feasibility and acceptability*. Paper presented at the 5th Biennial Society for Implementation Research Collaboration (SIRC) Conference, Seattle, WA.

5. **Lee, K. A.,** & Douglas, E. M. (2019, September). *Charged: Criminal charges filed in cases of fatal child maltreatment in the USA*. Paper presented at the 24th International Summit on Violence, Abuse, and Trauma Across the Lifespan (IVAT) conference, San Diego, CA.

6. Edmonson Smith, M., Sharpe, T. L., Richardson, J., Pahwa, R., Smith, D., DeVylder, J., & **Lee, K. A.** (2019, April). *The impact of secondary exposure to gun violence fatality on mental health outcomes in four urban settings*. Paper presented at the Correlates, Causes, and Solutions for Firearm Violence in America Conference, Hartford, CT.

7. **Lee, K. A.,** & Priestley, S. R. (2018, November). *Understanding IPV perpetration among Jamaican men: Childhood exposure and relationship strain.* Poster presented at the 64th Annual Program meeting of the Council on Social Work Education (CSWE), Orlando, FL.

8. Douglas, E. M., & **Lee, K. A.** (2018, July). *How do children really die? An assessment of multiple sources of fatal child maltreatment: The practice vs. research debate*. Paper presented at the International Family Violence and Child Victimization Research Conference, Portsmouth, NH.

9. Gopalan, G., **Lee, K**. **A.,** & Lucienne, T. (2018, March). *Stakeholders' perception of feasibility and acceptability on implementing an Evidenced-Based child mental health intervention to reduce behavioral difficulties in child welfare setting.* Paper presented at the 31st Annual Research and Policy Conference on Child, Adolescent, and Young Adult Behavioral Health, Tampa, FL.

10. Gopalan, G., **Lee, K. A.,** Hooley, C., Lucienne, T., & Winters, A. (2018, January). *Staff perceptions of feasibility and acceptability on implementing an evidence-based child mental health intervention to reduce behavioral difficulties in child welfare.* Paper presented at the 22nd Annual Conference of the Society for Social Work and Research, Washington, D.C.

11. Gopalan, G., **Lee, K**. **A.**, & Lucienne, T. (2017, November). *Stakeholders' perception of acceptability and feasibility on implementing an evidenced-based child mental health intervention to reduce behavioral difficulties in child welfare settings*. Poster presented at the 10th Annual Conference on the Science of Dissemination and Implementation, Washington, D.C.

12. Gopalan, G., Lucienne, T., Stephens, T., C., Hooley, C., & **Lee, K**. **A**. (2016, December). *Feasibility of improving child behavioral health using task-shifting to implement the 4Rs & 2Ss program for strengthening families in child welfare.* Poster presented at the 9th Annual Conference on the Science of Dissemination and Implementation, Washington, D.C.

Invited Presentation

1. **Lee, K. A.** (2020, February). *Conducting research using a social justice perspective.* Presented to first year PhD Students at the University of Maryland, Baltimore, MD.

2. **Lee, K. A.** (2019, November). *Quantitative analysis: Managing data* Presented to MSW research associate (RA) schlolars at the University of Maryland, Baltimore, MD.

3. **Lee, K. A.** (2019, August). *Equity, diversity, and inclusivity at 2-year institutions.* Presented at the Kellogg Community College, Battle Creek, MI.

4. Gopalan, G., Lucienne, T., **Lee, K. A,** & Winters, A. (2017, June). *Implementing an evidence-based mental health intervention to reduce child behavioral difficulties in child welfare: Multiple Family Groups for Child Welfare Wrap-Up.* Presented at the Anne Arundel County Department of Social Services, In-Home Family Preservation Program, Glen Burnie, MD.

EXPERIENCE IN HIGHER EDUCATION

2018 – 2019	**Instructor, University of Maryland School of Social Work, MSW Program** SOWK 645: Human Behavior in the Social Environment (Spring 2019; Hybrid)

	Teaching Assistant: University of Maryland School of Social Work, MSW Program SOWK 645: Human Behavior in the Social Environment (Spring 2018; face-to-face)
2015 – 2016	**Teaching Assistant: University of the West Indies, Mona, Jamaica, BSW Program** *SOWK 1003:* Theory and Practice of Social Work I (Fall 2015 & Spring 2016; face-to-face)

HONORS & AWARDS

2019	**University of Maryland Graduate Student Training/Professional Development Funding ($700)** *Presented/Approved by Dean R. Barth*
2019	**University of Maryland Graduate Student Association Travel Award ($500)** *Competitive award to fund travel for graduate students to attend conferences*
2018	**Dr. Emily M. Douglas ($500)** *Funding to travel to the* International Family Violence and Child Victimization Research Conference
2018	**University of Maryland Graduate School Travel Award ($500)** *Competitive award to fund travel for graduate students to attend conferences*
2016	**University of Maryland Graduate School Travel Award ($500)** *Competitive award to fund travel for graduate students to attend conferences*
2016	**University of Maryland Graduate Research Assistant Travel Award ($1500)** *Presented by Dr. Geetha Gopalan*

ACADEMIC & PROFESSIONAL SERVICE

Campus Service at the University of Maryland, Baltimore

2020	Committee Member, School of Social Work Convocation Planning Committee
2019 – Present	Student Representative, UMB Admissions Committee
2018 – Present	Member, International Student Association, Social Work Program
2017 – 2018	Vice President, International Student Association, Social Work Program

2017 – Present Mentor for an International Student, Office of International Services

2016 – Present Committee Member, PhD Program Committee

2016 – Present UMB Community Collaborative on Intimate Partner Violence, Member

Professional Membership

2019 – Present Institute on Violence, Abuse, and Trauma (IVAT) – Committee Member

2019 – Present Women Graduates – USA

2017 – Present Society for Social Work Research (SSWR)

Volunteer Service

2018 Council on Social Work Education Annual Program Meeting

2018 International Family Violence and Child Victimization Research Conference

PROFESSIONAL EXPERIENCE

2015 **Department of Social Services, Montserrat**
Social Work Intern

- Co-facilitated and assisted in the planning and preparation of training session for teachers and conference with religious leaders about child protection and safeguarding for a Department of International Development (DFID) funded project
- Conducted home visits, reviewed foster care assessment, and case management for stateless individuals and those exposed to domestic violence and homelessness

2015 **Child Guidance Clinic, Kingston CSO, Jamaica**
Social Work Intern

- Conducted school and home visits and interviews with parents and children with behavioral disorders living in low-resources high crime communities
- Planned and organized training workshops for health care professionals
- Obtained funding for summer camp for children with behavioral disorders

2013 **Homestead Place of Safety, Jamaica**
Social Work Intern

- Conducted individual and group counseling sessions; workshops on personal grooming, team building, and conflict resolution; and co-facilitated behavior modification workshop with children in state care
- Co-facilitated teaching of curricula for children aged 12-17 years

Abstract

Title of Dissertation: The interrelationships of adverse childhood experiences (ACEs), alcohol use in adulthood, and intimate partner violence (IPV) perpetration among Black men in the United States.

Kerry-Ann Lee, Doctor of Philosophy, 2020

Dissertation Directed by: Charlotte Lyn Bright, PhD, MSW, Associate Professor & Associate Dean for Doctoral and Post-Doctoral Education, School of Social Work, University of Maryland, Baltimore

Historically, Black men have been found to perpetrate IPV at higher rates in comparison to other ethnic groups; however, studies of IPV perpetration have largely focused on samples of White individuals. There is a paucity of empirical research related to the interrelationships among ACEs, IPV perpetration, and alcohol use among Black men. This study used data from Wave 2 of the National Epidemiologic Survey of Alcohol and Related Conditions. Study aims were: (1) to examine the interrelationships of ACEs, alcohol use, and IPV perpetration; to investigate whether alcohol use moderates the relationship between ACEs and IPV perpetration; and whether interpersonal social support moderates the relationships between ACEs and IPV perpetration and between alcohol use and IPV perpetration; (2) to determine if higher cumulative ACE score is associated with increased alcohol use and IPV perpetration; (3) to determine if racial discrimination is significantly associated with increased alcohol use and IPV perpetration; and (4) to identify how subgroups of ACEs (individually or in combination) are associated with alcohol use and IPV perpetration among Black men in adulthood. The sample consisted of 2,326 Black men aged ≥ 20 years. Bivariate results indicated an interrelationship among ACEs, alcohol use, and IPV perpetration. Regression analyses showed that alcohol use exacerbated the ACEs and IPV perpetration relationship for men with no ACEs; but for men who had a history of ACEs, the effect of alcohol on IPV was less substantial. Contrary to study hypotheses, higher interpersonal social support was found to buffer the relationship between ACEs and IPV perpetration for men with three ACEs, but exacerbated the alcohol use and IPV perpetration relationship. Higher cumulative ACE score was significantly associated with alcohol use and IPV perpetration. Racial discrimination was not significantly associated with study outcomes. Latent class analysis yielded three classes. Membership in classes 1 and 2 was associated with IPV perpetration; however, only class 1 membership was associated with alcohol use when compared to class 3 membership. Findings revealed factors that may contribute to IPV perpetration among a sample of Black men. Future research with Black men should aid in the development of culturally-appropriate interventions.

The Interrelationships of Adverse Childhood Experiences (ACEs), Alcohol Use in Adulthood, and Intimate Partner Violence (IPV) Perpetration Among Black Men in the United States

by
Kerry-Ann Lee

Dissertation submitted to the Faculty of the Graduate School of the
University of Maryland, Baltimore in partial fulfilment
of the requirements for the degree of
Doctor of Philosophy
2020

"I sustain myself with the love of family" – Maya Angelo

I dedicate this dissertation to my family who have helped to shape me into the person I am today.

Mommy, you have been my tower of strength! I cannot thank you enough for always believing in me and pushing me to be my best self. You have always supported me on my life's journey, even when I wasn't sure how things would turn out. Thank you for the many prayers, the numerous phone calls, text messages, and word of encouragement. You are truly my shining armour!

Daddy, I wish you would have been around to see me complete this journey, but I know you are here with me in spirit, now and always—I love and miss you so much! Thank you for always being a provider, supporter, and friend. Because of you, I have a deeper appreciation for life and what it has to offer, and I know what it means to empathize and not take anything or anyone for granted.

To my sisters Kenesha and Marsha, I love you both so much—words cannot explain. You have both been my fortress, the people I turn to when I need a laugh or to just take my mind off the hassles of life. Thank you for believing in me and supporting me, even when I was too "boring" to get up from my computer to go shopping with you both ☺.

To my nieces, Tawana, Marysa, and Breahna, and nephews, Romario and Teneil, thank you all for always checking in on me and for making this journey a lot easier for me. A special dedication to my niece Hayley Blake (AKA *Chullups*): Thank you for always making me smile, for reminding me what it means to live through the eyes of a child, and for the many hugs and "I love yous" you have showered me with.

To all my other family members near and far, thank you for the outpouring of love, encouragement, and motivation.

Acknowledgements

I would first and foremost like to thank my dissertation chair, Dr. Charlotte Lyn Bright, and committee members, Drs. Paul Sacco, Melissa Smith, Laura Ting, and Christopher Murphy—I appreciate and value each of you for your contribution to this process. Dr. Bright, your support and guidance throughout this doctoral program and especially during the dissertation period has been instrumental to my success. Thank you for your words of encouragement, support, mentorship, and for pushing me to be and do my best—I could not have asked for a better person to hold my hand during this phase. Dr. Sacco, thank you for being my unofficial co-chair, and my "midnight companion." I cannot thank you enough for your prompt response to my late-night emails, your sense of humor, and for always giving me a million options to a simple problem ☺—oh, and how can I forget the unofficial "*Spitznagel rule*." Dr. Smith, I cannot say how appreciative I am of you! Thank you for always keeping me grounded and for your support and feedback prior to and while I embarked on this journey. To Drs. Ting and Murphy, thank you both for your feedback and support during this process.

I am also grateful to Dr. Chuck Huber for his patience, thoughtfulness, and support in helping me work through my analyses and myriad of questions I had. Drs. Emily Douglas and Geetha Gopalan, I cannot thank you both enough for your words of encouragement, motivation, and support.

I don't typically consider luck as part of my vocabulary; however, meeting Dr. R. Anna Hayward was just that—sheer luck and being in the right place at the right time. Dr. Hayward, to you I will forever be indebted. Without you I would not have embarked on this journey or be where I am today. You had my back when I met many "naysayers," but most importantly you believed in me and saw my potential even when I didn't. A heartfelt thank you!

A friend of mine once said "writing a dissertation is the loneliest journey known to mankind," and he was right. To my friend and mentor, Dr. Kevin Hylton, a heartfelt thank you for your unwavering support and for helping me to navigate the road less travelled, even when I couldn't see the light at the end. Thank you for always believing in me and for being my biggest cheerleader.

To my dear friend, Stacey-Ann Mighty Whyte, thank you for always checking in on me and for your support. I truly appreciate our friendship more than you will ever know. Thank you for being my ride or die and for riding shot gun with me on this journey. To everyone else, that I might not have mentioned by name—you know who you are—thank you all for your love and support. To my cohort members, Michelle, Katherine, Patrice, Rachel, and Martin, thanks for being such wonderful teammates. To the PhD international group, thank you all for creating a home away from home and a place of refuge.

Finally, to all Black families—perpetrators and victims alike—exposed to intimate partner violence, this dissertation is for you!

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Chapter 1: Introduction

Intimate partner violence (IPV) is a global, social, and public health problem of epidemic proportions (Centers for Disease Control [CDC], 2017; World Health Organization [WHO], 2013). IPV refers to any physical aggression towards a current or former intimate partner (Breiding et al., 2014). Such acts include pushing, grabbing, shoving, slapping, kicking, biting, hitting, threatening with a weapon, cutting, bruising, grabbing, and inflicting injury that required medical attention (Ruan et al., 2008). Within the United States, rates of IPV perpetration by men are estimated at 19.2% nationwide (Singh et al., 2014), and as high as 21.6% within heterosexual couples regionally—including, but not limited to, the U.S., Canada, and Australia (Desmarais et al., 2012). Studies conducted almost four decades ago (Straus et al., 1980; Straus & Gelles, 1986) to more recently (Cunradi et al., 2013; Schafer et al., 2004) have indicated that Black men perpetrate IPV at higher rates in comparison to their White counterparts and other ethnic groups.

The first known national family violence study indicated that Black families had a higher incidence rate (113 per 1000) of violence in comparison to White families (Straus et al., 1980). Within a six-year period this recorded rate increased to 207 per 1000 in Black families (Straus & Gelles, 1986). More recently, using data from the National Intimate Partner and Sexual Violence Survey (NISVS)—a nationally representative study of 16,507 men and women in the United States—it was reported that 40.9% of Black women were victims of intimate partner violence during their lifetime (Black et al., 2011), with their perpetrators often of the same race.

The high prevalence and incidence of IPV is associated with an exorbitant cost. In the U.S., the lifetime economic cost of IPV is estimated at $3.6 trillion dollars, with an average of $2.1 trillion directly associated with medical costs (CDC, 2018a). Notwithstanding the high incidence of IPV within Black families and the associated costs, there is a dearth of studies that have focused on Black men in particular. The majority of IPV studies have utilized relatively small samples of Black men and primarily men in batterers' intervention programs. To date, there are no known quantitative studies that have explored IPV perpetration exclusively among Black males (Lee et al., 2020). Most studies on IPV perpetration use samples that primarily overrepresent non-Hispanic White males (Ports et al., 2017). Furthermore, the limited number of quantitative IPV studies on Black men indicates a need for research employing large samples of ethnically diverse Black men to provide a more accurate estimate of the prevalence and incidence of IPV and a better understanding of the socioeconomic factors associated with IPV perpetration within this sample of men.

Factors contributing to the perpetration of IPV have been well-documented. These factors include, but are not limited to, adverse childhood experiences (ACEs; Anda et al., 2006; McKinney et al., 2009) and alcohol use in adulthood (Foran & O'Leary, 2008; Crane et al., 2016). Furthermore, the long-term negative outcomes of IPV perpetration (Spencer et al., 2017), exposure to ACEs (Felitti et al., 1998; Nurius et al., 2012; Fuller-Thompson et al., 2016), and alcohol use in adulthood (Hvidtfeldt et al., 2010; O'Keefe et al., 2014) on mental and physical health have been extensively studied. Although social support has been shown to buffer distress and negative outcomes among African Americans (Utsey et al., 2008; Utsey et al., 2007), there have been mixed findings regarding its effect on IPV perpetration (Herrera et al., 2008 Huang et al., 2010; Smith Slep et al., 2010; Van Wyk et al., 2003).

Despite the prevalence of empirical research on the relationships between alcohol use and IPV perpetration, ACEs and IPV perpetration, and ACEs and alcohol use, there is a paucity of empirical research related to the interrelationship among ACEs, IPV perpetration, and alcohol use among Black men. Furthermore, there is a lack of published studies that have examined this relationship exclusively using a sample of Black men.

Guided by the Stress Process Model (SPM; Pearlin et al., 1981), this study assessed the interrelationships of ACEs, alcohol use in adulthood, and IPV perpetration among Black men, using data from Wave 2 of the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC). Additionally, this study examined whether alcohol use moderates the relationship between ACEs and IPV perpetration and whether interpersonal social support moderates the relationship between ACEs and IPV perpetration. This chapter provides a background of the study and includes an overview of ACEs; the effects of ACEs on health outcomes; Black men's experiences of childhood adversities, alcohol use, and IPV perpetration in adulthood; the relationship between ACEs and IPV perpetration; the relationship between alcohol use and IPV perpetration; and the association between social support and IPV perpetration. The study's purpose and relevance to social work are also discussed.

Background

Historically, Black men have been found to perpetrate IPV at higher rates in comparison to other ethnic groups (Straus et al., 1980; Straus & Gelles, 1986). However, studies related to IPV perpetration from the perpetrators' perspective have largely focused on samples of non-Hispanic White individuals (Ports et al., 2017). Studies have indicated that the high incidence of perpetration by Black men may be explained by their heightened experience of 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). However, few studies have examined the factors associated with IPV perpetration exclusively among Black males for whom rates of IPV are disproportionately high. Also, there is a need for more research to better understand the experiences of Black men in relation to ACEs, alcohol use in adulthood, and IPV perpetration. Given the link between ACEs and poor mental and behavioral health outcomes in adulthood (Felitti et al., 1998), and the increased risk for more exposure to childhood adversities among minority populations due to lower socioeconomic status (Slopen et al., 2016) and structural factors (Hampton et al., 2003), it is especially important to explore these phenomena within a sample of economically and structurally disadvantaged men. Such exploration is needed because the impact of ACEs by Black men in childhood may further contribute to the development of mental and behavioral inequities, including alcohol use and IPV perpetration. More specifically, given the increased risk for ACEs among Black children due to stress and lower socioeconomic status, it is paramount to examine the relationships among ACEs, alcohol use in adulthood, and IPV perpetration among Black men in the context of this racial group.

Adverse Childhood Experiences (ACEs)

Adverse childhood experiences are negative events that include physical and emotional neglect (Anda et al., 2002; Anda et al., 2006); verbal, physical, and sexual abuse; and household dysfunction, which includes substance abuse, mental illness, domestic violence, and incarceration (CDC, 2010; Felitti et al., 1998). ACEs vary in severity and chronicity and can result in harm or distress, disrupting the physical or psychological health and development of children (Kalmakis & Chandler, 2014). Ultimately, ACEs can affect mental and behavioral health, and cognitive and social emotional development in children (Center on the Developing Child, 2007). The original ACE study conducted by Felitti et al. (1998) included seven ACE categories: (1) psychological abuse, (2) physical abuse, (3) sexual abuse, (4) parent with substance abuse, (5) parent with mental illness, (6) mother treated violently, and (7) criminal behavior in household. However, over time the list was adjusted to include physical neglect and emotional neglect in childhood (Anda et al., 2006).

ACEs can be scored in two ways. First, to determine the individual impact of ACEs, exposure during childhood or adolescence to any of the categories is scored with "1" point, and no exposure scored as a "0." Secondly, because ACEs often co-exist, a cumulative score of exposure to the 10 categories can also be used to indicate the breadth of such exposure, with the sum of all the categories ranging from 0 (unexposed) to 10 (exposed to all categories; Anda et al., 2006; Felitti et al., 1998). Existing research that has examined the association between ACEs and IPV perpetration has used both methods of scoring. However, the cumulative score allows for consideration of the co-occurring nature of ACEs (Schumacher et al., 2001), with ≥ 4 often used as a critically important benchmark (Anda et al., 2006; Fonseka et al., 2015). Higher ACE scores are indicative of greater risk for health, social, and behavioral problems (Anda et al., 2006).

Effects of Adverse Childhood Experiences (ACEs) on Health Outcomes

ACE exposure in childhood has detrimental impacts on youth development (Kilpatrick et al., 2003). Childhood adversities do not occur in isolation of each other and often co-exist (Dong et al., 2004; Finkelhor et al., 2007). The co-existence of ACEs creates 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). Exposure to stress and traumatic events resulting from ACEs is associated with a myriad of problems in human health and public functioning (Danese & McEwen, 2012; Shern et al., 2016).

A large body of literature has made a connection between childhood adversities and increased risk for psychosis (Varese et al., 2012), personality disorders (Afifi et al., 2010), behavioral disorders (McLaughlin et al., 2012), suicide (Blasco-Fontecilla et al., 2013; Lopez-Castroman et al., 2012), aggression, anxiety, and depression (Nurius et al., 2015; Turner et al., 2006). Felitti and Anda (2010) also indicated that childhood adversities are associated with a range of general health problems including obesity, hypertension, Crohn's disease, type 2 diabetes, some forms of cancer, liver disease, chronic obstructive pulmonary disease, and autoimmune diseases.

A spate of studies have also linked ACEs to adult alcohol use (Brady & Backs, 2012; Fuller-Thompson et al., 2016), tobacco use (Spratt et al., 2009), and illicit drug use (Dube et al., 2002; Nomura et al., 2012). Similarly, IPV victimization (Warshaw et al., 2009), increased risk of IPV perpetration (Anda et al., 2006; Cui et al., 2010; Fonseka et al., 2015; Franklin et al., 2012), and other forms of violence (Zinzow & Thompson, 2015) have also been linked to ACEs. Given the many harmful effects of ACEs on health and behavioral outcomes (including alcohol use and IPV perpetration), it is important to examine the role of ACEs in the relationship between alcohol use in adulthood and IPV perpetration among a sample of Black men to aid in the development of effective prevention and intervention initiatives. Furthermore, the need to explore the role of ACEs among this population of men is of importance, as Black individuals have greater ACEs exposure in comparison to other racial/ethnic groups because of sociodemographic and structural disparities (Hampton et al., 2003; Lee & Chen, 2017).

Black Men's Experience of Childhood Adversities, Alcohol Use, and IPV Perpetration

Adverse Childhood Experiences. Within the general U.S. population it is estimated that six in ten people have been exposed to at least one ACE (Brown, 2013); however, there are no known studies specifically related to ACEs for Black male children. On the other hand, recent studies have indicated that, within the U.S., children from racial and ethnic minority populations (CDC, 2010), children of parents with lower education (Björkenstam et al., 2013), and children of immigrant parents (Hernandez & Napeirala, 2013) have a higher prevalence of ACEs relative to other groups. Additionally, being from a minority population and having a lower socioeconomic status further contributes to ACEs, resulting in a broader array of child and adult health conditions (Slopen et al., 2016). Farmer and Ferraro's (2005) *minority poverty* hypothesis posits that Black individuals living in poverty experience overwhelming threats to their well-being because of combined disadvantages that result in childhood adversity. Although there are scant data regarding the prevalence of ACE exposure for Black children, there is evidence that being of a racial minority group and having socioeconomic disadvangtages increases the risk for deleterious mental, behavioral, and physical outcomes (Farmer & Ferraro, 2005; Slopen et al., 2016).

Alcohol Use. Within the U.S., Blacks (43.8%) and Asian Americans (38%) have significantly lower overall drinking rates in comparison to Whites (59.6%), Native Americans (47.8%), and Hispanics (46.3%; National Institute on Alcohol Abuse and Alcoholism [NIAAA], 2006). During 2001–2002, Black men were ranked fourth for being current (62.6%) and daily heavy drinkers (25.8%) among current drinkers within the United States, respectively, but second for their current weekly heavy drinking (19.9%) in comparison to other racial/ethnic groups. 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, n.d.). 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. Notably, Black individuals have endured centuries of trauma (e.g., slavery, Jim Crow, the convict lease system, mass incarceration etc.) that has had a lasting effect on the behavior and well-being of Black individuals, especially for boys and men (DeGruy Leary, 2005; Hill, 1999).

The impact of economic disadvantage on alcohol-related problems among Blacks has been well-documented (Jacobson et al., 2007a, 2007b; Theall et al., 2011). Notably, individual- and neighbourhood-level economic disadvantage factors (such as unemployment, age, education, receiving public assistance, homelessness, etc.) have been highlighted as predictors of lower rates of alcohol treatment completion for Blacks (Jacobson et al., 2007a, 2007b). With the prevalence of alcohol use and its deleterious effects among Black men, in addition to their experiences of social and economic disadvantage resulting in increased alcohol problems (Mulia et al., 2008, 2009), Black men are at increased risk for behavioral problems (e.g., perpetrating IPV).

Intimate Partner Violence (IPV) Perpetration. In the general U.S. population, men perpetrate IPV against an intimate partner at a rate of 19.2% (Singh et al., 2014). A systematic review of studies conducted in the United States and other parts of the world (including Canada, Australia, and New Zealand) reported slightly higher rates of 21.6% for men who perpetrate IPV in heterosexual relationships (Desmarais et al., 2012). Although studies have indicated that Black men perpetrate IPV at higher rates in comparison to other ethnic groups (Cunradi et al., 2013; Schafer et al., 2004), there are no known current studies that report the prevalence of IPV perpetration by Black men in a large, representative sample. Research on the high incidence of Black men's perpetration dates back almost four decades to an early family violence study, which indicated that Black men perpetrated husband-to-wife violence at a rate of 113 per 1000 in comparison to 30 per 1000 for White families (Straus et al., 1980). Notably, the second family violence study had similar findings, but with higher reported violence rates of 207 per 1000 and 115 per 1000 for Black and White families respectively (Straus & Gelles, 1986). The increased rates of IPV perpetration in Black (and White) families could possibly be as a result of difference in study methodology between the first and second studies. Studies have also indicated that many factors—structural, cultural, and situational—contribute to Black men's perpetration of violence in intimate relationships (Hampton et al., 2003).

Structural factors include continued racial oppression that is evident in income, employment rates, and educational attainment for Black men in comparison to their White counterparts. To date, Black men are disadvantaged in the labor market, notwithstanding government policies aimed at reducing or eliminating racial disparities (Karageorge, 2017). Also, there has been limited increase in the earning of Black men in comparison to White men between 1979 and 2016. The wage disparities between Blacks and Whites are partially attributable to factors including discrimination, differences in social quality, and differences in opportunity (Daly et al., 2017; Gould, 2019). These factors also contribute to higher rates of unemployment among Black men even during economic expansions (Daly et al., 2017; Gould, 2019; Karageorge, 2017).

Black men often reside in disadvantaged communities that foster the adoption and construction of masculine identities that at times come into conflict with available opportunities and resources (Hampton et al., 2003). Similar to White men, Black men are socialized to be the provider and breadwinner of their families, with their wives or girlfriends being subordinate to them, and them having dominance, strength, courage, and control within the family (Nurse, 2004). Gender masculine socialization is associated with greater risk for IPV perpetration (Reidy et al., 2009), such that men who adhere to more masculine norms have increased use of violence towards an intimate partner. Notably, in cases where Black men lack the resources to be the provider and breadwinner for their families due to institutional racism that limits their access to education and employment (Hampton et al., 2003), they experience limited social support and may resort to use IPV as a means of maintaining control (Peralta & Tuttle, 2013). Several studies have found that low income and unemployment (Capaldi et al., 2012), racial discrimination (Reed et al., 2010), and challenges to masculinity (Adjei, 2016; Smith, 2008) are risk factors for IPV perpetration. The structural and socioeconomic challenges experienced by Black men create continuous and repeated stressors that place a huge burden on an individual and their biological functioning in responding to hardship and life demands (Pearlin et al., 2005), and ultimately increase their stress levels, at times resulting in negative behavioral outcomes (IPV perpetration).

Relationship Between ACEs and IPV Perpetration

Increased risk of IPV perpetration in adulthood has been documented as an outcome following ACEs (Anda et al., 2006; McKinney et al., 2009). More specifically, there is a body of research suggesting that witnessing interparental violence (Franklin et al., 2012), use of corporal punishment (Fang & Corso, 2008), sexual abuse, and parental substance abuse (Duke et al., 2010) are risk factors for IPV perpetration. Despite studies indicating that a relationship exists between ACEs and IPV perpetration, most studies that examine this relationship do not consider whether ACEs were unique or overlapping (Schumacher et al., 2001). Such an oversight ignores the fact that ACEs often co-occur and may be difficult to separate as individual risk factors for IPV perpetration. For example, Fonseka et al. (2015) found considerable increases in magnitude between the number of ACE exposure and IPV perpetration ranging from individuals with an ACE score of 1 to an ACE score of 4 or more after adjusting for age group, district, and education level. This finding further highlights the relationship between ACEs and the IPV perpetration and also demonstrates the need to explore the co-occurrence of ACEs.

Relationship Between Alcohol Use and IPV Perpetration

What is known regarding the relationship between alcohol use and IPV perpetration is inconsistent. Several research studies have identified a positive linear relationship between alcohol consumption and IPV perpetration (Averett & Wang, 2016; Foran & O'Leary, 2008; Graham et al., 2011; Moore et al., 2008; Rothman et al., 2012; Smith et al., 2012), with other studies indicating no association (Feingold et al., 2008; Feingold et al., 2015). For example, Feingold et al. (2015) did not find a significant association between heavy episodic drinking or drug use and IPV perpetration. However, there was a statistically significant three-way interaction among heavy episodic drinking, drug use, and perpetrators' age, such that after controlling for heavy episodic drinking, drug use was a positive predictor of physical IPV when participants were in their mid-20s.

Despite some studies finding no effect (Feingold et al., 2008) or an effect only under some circumstances (Feingold et al., 2015), much of the existing research (Averett & Wang, 2016; Graham et al., 2011; Rothman et al., 2012), including two meta-analyses (Crane et al., 2016; Foran et al., 2008), suggests that alcohol use increases risk of IPV perpetration.

Association Between Social Support and IPV Perpetration

Studies that examine the association between social support and IPV have mostly been done with IPV victims (Capaldi et al., 2012), with social support viewed as a protective factor against victimization. That is, IPV victimization was more prevalent for women in cases where they had less social support (Huang et al., 2010; Van Wyk et al., 2003). With regard to the relationship between social support and IPV perpetration, findings are not consistent, with some studies indicating that the presence of social support does not buffer against IPV perpetration (Roberts et al., 2010), and others indicating that it does (Herrera, et al., 2008 Smith Slep et al., 2010). These inconsistent findings could be due to methodological challenges, including use of different measures of social support. Given these limitations, it is imperative to examine the role of interpersonal social support in potentially buffering the effects of ACEs, alcohol use in adulthood, and IPV perpetration within a sample of marginalized Black men.

Problem Statement

Although the relationships between ACEs and IPV perpetration and victimization (McKinney et al., 2009), ACEs and alcohol use (Felitti et al., 1998; Jewkes et al., 2010), and alcohol use and IPV perpetration (Averett & Wang, 2016; Foran & O'Leary, 2008; Graham et al., 2011; Moore et al., 2008; Rothman et al., 2012) have been widely studied, there is a lack of empirical research related to the interrelationships among ACEs, IPV perpetration, and alcohol use among Black men. Also, studies conducted to examine IPV have centered primarily on the accounts and experiences of female victims (Mullaney, 2007) of low-socioeconomic status (Lee et al., 2002), with fewer studies focused on the account and experiences of male IPV perpetrators across different socioeconomic groups.

Several identified methodological challenges in existing studies, including variation in measures of alcohol use and IPV perpetration, use of different ACE factors and measures, convenience samples, and small sample sizes have contributed to a gap in knowledge on the interrelationships of ACEs, alcohol use in adulthood, and IPV perpetration. Additionally, there are no known published studies that have examined the interrelationships of these variables using a nationally representative sample of Black men that incorporate the effects of racial discrimination, interpersonal social support, and other study variables in exploring the relationships.

Study Purpose and Goals

Based on the identified gap in the existing literature, the purpose of this study was to examine the interrelationships of ACEs, alcohol use in adulthood, and IPV perpetration; whether alcohol use moderates the relationship between ACEs and IPV perpetration; and whether interpersonal social support moderates the relationships between (1) ACEs and IPV perpetration and (2) alcohol use in adulthood and IPV perpetration among Black men within the U.S. The primary goals of this study were to determine the prevalence of IPV perpetration within this sample to allow inferences to be made to the Black male population and to understand the experiences of Black men regarding how childhood adversities may have contributed to negative outcomes (specifically, alcohol use and IPV perpetration in adulthood).

Research Aims

Limited information is known about the interrelationship among ACEs, alcohol use in adulthood, and IPV perpetration among men in general. Furthermore, there is a paucity of research that has examined these variables within a sample of only Black men. As such, the aim of this study was to examine the interplay of ACEs and alcohol use in adulthood on IPV perpetration, while examining the roles of interpersonal social support and racial discrimination.

The proposed study sought to address these four research aims, drawing on the literature for directional hypotheses as listed:

Research aim 1a. To examine the interrelationships of ACEs, alcohol use in adulthood, and IPV perpetration among Black men.

H_1: There is a positive direct effect of individual ACEs on IPV perpetration.

H_2: There is a positive direct effect of alcohol use in adulthood on IPV perpetration.

H_3: Exposure to various types of ACEs is positively associated with alcohol use in adulthood and IPV perpetration.

Research aim 1b. To examine whether alcohol use in adulthood moderates the relationship between ACEs and IPV perpetration among Black men.

H_1: Alcohol use in adulthood will moderate (i.e. exacerbate) the relationship between ACEs and IPV perpetration.

Research aim 1c. To examine whether interpersonal social support moderates the relationship between (1) ACEs and IPV perpetration and (2) alcohol use in adulthood and IPV perpetration among Black men.

H_1: Interpersonal social support will moderate (i.e. buffer) the relationship between ACEs and IPV perpetration.

H_2: Interpersonal social support will moderate (i.e. buffer) the relationship between alcohol use in adulthood and IPV perpetration.

Research aim 2. To examine if higher cumulative ACE score is associated with increased alcohol use and IPV perpetration in adulthood among Black men.

H_1: Higher ACE score is positively associated with alcohol use in adulthood.

H_2: Higher ACE score is positively associated with IPV perpetration.

Research aim 3. To examine if racial discrimination is significantly associated with increased alcohol use and IPV perpetration among Black men.

H_1: Racial discrimination is positively associated with alcohol use in adulthood.

H_2: Racial discrimination is positively associated with IPV perpetration.

Research aim 4: To identify how subgroups of ACEs (individually or in combination) are associated with excessive alcohol use and IPV perpetration among Black men in adulthood.

Relevance to Social Work

Policies affecting Black men and Black families, with respect to structural and situational factors that could be associated with IPV perpetration, could be enacted or changed based on findings of this study. Direct practice with Black men may require greater cultural relevance, with components of successful interventions being informed by real-world risk factors experienced by Black men. Finally, research and theory on IPV and Black men will advance in the current study, due to its emphasis on little-understood dynamics in a high-need group.

Chapter 2: Literature Review and Theoretical Framework

This study examined the interrelationships of ACEs, alcohol use in adulthood, and IPV perpetration among Black men. As such, the below sections provide a review and synthesis of the existing literature related to the variables of interest. The empirical literature review draws attention to key constructs in the Stress Process Model (SPM), which was used and adapted to guide this study as explained in the Theoretical Framework section of this chapter.

For the literature reviewed here, studies on ACEs included those that examined one or more of the following ACE factors: physical, sexual, and emotional abuse; physical and emotional/psychological neglect; witnessing abuse of mother or adult caregiver; and household dysfunction (having a parent/caregiver who [a] had substance abuse problem; [b] was incarcerated; and/or [c] had a mental illness). Additionally, studies related to perpetrators' alcohol use were restricted to use on or after age 18; these studies also had to include an alcohol or substance use (including alcohol and other substances) measure. Although the primary population of interest in this study is Black men, studies that did not provide information on the racial/ethnic composition of the sample, or where racial/ethnic identities were used only for descriptive analysis were included because they contributed to an overall understanding of men's IPV perpetration. This literature review was limited to studies with a specific focus on male perpetration of physical IPV as an outcome. Therefore, for studies that included both male and female IPV perpetration, only male perpetration is reported in the synthesis. Included in the review are scholarly articles published within the last 15 years; however, foundational articles or those relevant to the study's purpose were included regardless of publication date. Studies included in this review were qualitative, quantitative, mixed methods, and/or systematic and meta-analytic reviews.

The literature review begins with a discussion on the relationship between ACEs and IPV perpetration; ACEs and alcohol use in adulthood; alcohol use in adulthood and IPV perpetration; and the interrelationships of ACEs, alcohol use in adulthood, and IPV perpetration. Next, the review examines the correlates of IPV perpetration, including age, education, employment, income, marital status, stress, and racial discrimination. The role of social support in reducing IPV perpetration is also discussed.

Relationship Between ACEs and IPV Perpetration

Impact of ACEs on Behavioral and Physical Health. ACEs have long-lasting impact on an individual's overall health and contribute to social and behavioral problems (Anda et al., 2006; Dube et al., 2002; Felitti et al., 1998), including IPV perpetration (Anda et al., 2006; Whitfield et al., 2003). Exposure to toxic stress as a result of childhood adversities affects the neurological development of the brain (including its growth and functioning; Nurius et al., 2015; SAMSHA, 2018). Furthermore, exposure to childhood adversities often results in persistent activation of the stress response and chronic exposure to stress hormones, which further impacts the brain structure and affects energy metabolism (Shern et al., 2016). These toxic exposures can have negative outcomes, including impairment of an individual's ability to cope with negative or disruptive emotions and of their cognitive functioning (Mitchell & Beech, 2011; SAMSHA, 2018; Teicher, 2007), and may act as a facilitator for future chains of exposure to stress and outcomes disparities (Nurius et al., 2015).

The effect of ACEs on the developing brain in childhood has deleterious effects on children and youth, including memory loss, ability to learn, cognition, interpersonal and community violence exposure, maltreatment, life-threatening illness, low socioeconomic status (SES), and racism (Shern et al., 2016). Experiences of racism often manifest in a series of microaggressions that are known to facilitate further stratification and solidification of social classes, resulting in an increased likelihood of experiencing toxic stress and subsequent mental and behavioral health outcomes (Shern et al., 2016). These negative effects of ACEs on brain development may continue from childhood into adulthood through a reduction in tolerance for stressful (even minor) events (Nurius et al., 2015), with early adversities increasing individuals' risk for later psychopathology in adulthood, resulting in an increased risk of a range of mental health challenges, psychotic disorders, illicit substance use, alcohol use, and intimate partner violence perpetration (Shern et al., 2016).

Association Between ACEs and IPV Perpetration. ACEs are risk factors for IPV perpetration in adulthood (Stover et al., 2009; Watt & Scrandis, 2013). Although IPV perpetration is not gender-specific, it is well known that men are more often perpetrators with women as victims in heterosexual relationships (Houry et al., 2008; WHO, 2014). The perpetration of violence towards an intimate partner by men has primarily been linked to men's childhood maltreatment experiences and exposure to violence (Cui et al., 2010; Ehrensaft et al., 2003; Fergusson et al., 2008; Murrell et al., 2007). Boys' victimization and exposure to violence in childhood may result in their approval of violence and justification for their own violent behavior (Etherington & Baker, 2016; Roberts et al., 2010).

Although IPV perpetration is not consistent for all men with childhood adversities, in general, as they age, boys with childhood abuse or neglect experiences are at increased risk for perpetrating IPV against women, in comparison to those without such experiences (Ehrensaft et al., 2003; McKinney et al., 2009; Widom et al., 2014; White & Widom, 2003). For example, Askeland et al.'s (2011) study examined the association between childhood and adolescence victimization and partner violence and found that 60% of male perpetrators had experienced some form of violent childhood victimization. Similarly, other studies support the notion that exposure to childhood adversities are predictors of male-to-female partner violence (MFPV; Franklin & Kercher, 2012; McMahon et al., 2015; Valandra et al., 2019; Watt & Scrandis, 2013). It can be assumed that men with childhood violence exposure may learn the acceptability of violence in settling conflict in intimate relationships (Franklin et al., 2012), resulting in increased IPV perpetration.

ACEs have a cumulative (dose–response) impact on IPV perpetration, with higher ACEs scores indicative of higher risk for IPV perpetration by men (Anda et al., 2006; Cunradi et al., 2013; Whitfield et al., 2003). Because ACEs often coexist, the cumulative effect could result in increased risks for IPV perpetration in adulthood. The increased risk is as high as 200% for men who had a battered mother, 120% for those who were physically abused, and 80% for those who were sexually abused compared to those without ACEs (Anda et al., 2006). Men with experiences of physical and sexual abuse and exposure to violence in childhood also had double the risk for IPV perpetration, and a four-fold increase in risk for IPV perpetration when sexual and physical abuse and exposure to violence in childhood were combined (Whitfield et al., 2003). Therefore, while exposure to ACEs in general increases the risk of perpetrating IPV in adulthood, exposure to more than one ACEs factor has a more negative effect.

The risk associated with IPV perpetration as a result of ACEs is further exacerbated when combined with stressors in adulthood (Roberts et al., 2010; Roberts et al., 2011). That is, because exposure to childhood adversities negatively affects the developing brain of a child and often results in a reduction in tolerance for stressful events (Nurius et al., 2015; Shern et al., 2016), individuals with high levels of childhood adversity exposed to stressful events have an increased risk for perpetrating IPV (Roberts et al., 2011). As a result, Black men who experienced childhood adversities may have a lower threshold for handling stressful events.

Relationship Between ACEs and Alcohol Use in Adulthood

Alcohol use and abuse in adulthood have been linked to family dysfunction and childhood abuse (Dube et al., 2002). The cumulative stress associated with ACEs has been identified as a factor in predicting alcohol use and dependence, where individuals with exposure to childhood adversities may use and abuse alcohol as a way to cope with the negative impact of these events (Pilowsky et al., 2009). Additionally, children raised with parents who are alcohol dependent are at increased risk of abusing alcohol (Dube et al., 2002; Pilowsky et al., 2009). For example, Pilowsky et al.'s (2009) study found a relationship between having a parent who abuses alcohol and having increased risk of abusing alcohol. Notably, individuals with ACEs had higher odds of having a family with a history of alcohol problems, when compared to individuals with no such adversities; and individuals with ACEs exposure had higher odds of having lifetime alcohol dependence (after adjusting for demographic factors and family history of alcohol problems).

Several studies have indicated that the relationship between ACEs and alcohol use in adulthood differs by race/ethnicity (CDC, 2010; Gilbert et al., 2015; Lee & Chen, 2017). In these studies, non-Hispanic Blacks and Hispanics had disproportionately more ACEs in comparison to non-Hispanic Whites. There is also a racial difference in alcohol consumption based on race/ethnicity, with non-Hispanic Whites being more likely to consume alcohol and engage in risky alcohol use than racial/ethnic minorities (Keyes et al., 2015). However, although racial/ethnic minority groups tend to consume less alcohol, they are at increased risk of experiencing alcohol and substance abuse or dependence due to social and economic disadvantage (Hampton et al., 2003; Mulia et al., 2008; Mulia et al., 2009; Witbrodt et al., 2014). The increased substance or alcohol dependence among racial/ethnic minority groups may be explained such that children from these groups have different exposure to ACEs, which may give rise to an increase in mental health and alcohol use outcome disparities in comparison to racial/ethnic majority groups (CDC, 2010; Lee & Chen, 2017; Slopen et al., 2016).

Relationship Between Alcohol Use in Adulthood and IPV Perpetration

The significant role of alcohol use in IPV perpetration has been shown in studies across the globe (Graham et al., 2011; Mair et al., 2013). Furthermore, the role of alcohol in partner violence perpetration has also been shown in studies using samples of individuals in batterers' intervention programs (Stuart et al., 2006), alcohol treatment samples (Murphy & Ting, 2010; O'Farrell et al., 2004), in health care settings (Hellmuth et al., 2013), and also in meta-analytic studies (Crane et al., 2016; Foran et al., 2008).

The majority of studies that have examined the association between alcohol use and IPV perpetration have identified a positive linear relationship (Averett & Wang, 2016; Foran et al., 2008; Graham et al., 2011; Moore et al., 2008; Rothman et al., 2012), with some studies indicating no association (Feingold et al., 2008; Feingold et al., 2015). The effect of alcohol use on MFPV has also been found to be of moderate size (d = 0.32–0.47) in meta-analytic studies (Crane et al., 2016; Foran et al., 2008). Researchers have concluded that the inhibiting effects of alcohol in restricting an individual's ability to receive internal and external cues consistently and in processing and extracting meaning from the cues received based on their existing knowledge contribute to the high rates of IPV perpetration when intoxicated (Eckhardt et al., 2015; Giancola et al., 2010).

Most of the studies on the association between alcohol consumption and IPV perpetration focus on alcohol use in general, with few studies examining the more nuanced dynamics of alcohol consumption and the severity of IPV perpetration (Mair et al., 2013). Given the inhibiting effects of alcohol in distorting social and behavioral cues, other factors to be considered in understanding the association with IPV perpetration should include the number of drinks consumed (Moore et al., 2011), severity of IPV when alcohol is used (Gilchrist et al., 2014; Graham et al., 2011), gender differences, cultural context (Graham et al., 2011), and drinking context (Mair et al., 2013).

Despite the significant findings associated with alcohol use and IPV perpetration in the literature cited above, other cross-sectional and prospective studies have indicated a non-significant association (Cunradi et al., 2013; Feingold et al., 2015; Mair et al., 2012). These non-significant findings could be due to methodological and measurement challenges.

Interrelationships of ACEs, Alcohol Use in Adulthood, and IPV Perpetration

Although studies have examined the association between alcohol use and IPV perpetration, ACEs and alcohol use in adulthood, and alcohol use in adulthood and IPV perpetration, very few studies have examined the interrelationships of these variables. The few known studies that have examined the interrelationships of ACEs, alcohol use, and IPV perpetration have found different associations (Brown et al., 2015; Mair et al., 2012; Schafer et al., 2004; White & Widom, 2003).

Using data from Wave 2 of the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC), Brown et al. (2015) assessed sex differences in the role of post-traumatic stress disorder (PTSD), substance abuse, and depression as mediators in the association between ACEs and intimate partner aggression (IPA) among a sample of 25,654 men and women. Using structural equation modeling (exploratory and confirmatory factor analysis, and structural/path models), study findings indicated that sexual abuse and parental violence had a direct positive effect on IPA. Results also indicated that substance abuse fully mediated the relationship between physical and psychological abuse and IPA among men, such that the relationship between sexual abuse and parental violence exposure and IPA was exacerbated with substance use. Similar results were found in a study conducted by White and Widom (2003) that examined if abused and neglected children reported higher levels of IPV perpetration in young adulthood than a matched control group. A sample of early childhood abuse and/or neglect cases (*n* = 676) from records of county juvenile and adult criminal courts in a Metropolitan area in the Midwest between 1967 and 1971 and a matched control group (*n* = 520) were used in the study. Findings revealed that after controlling for demographic variables, exposure to childhood abuse/neglect was a significant predictor of IPV perpetration for men, and that alcohol problems mediated the relationship between child abuse/neglect and physical IPV.

Furthermore, within the limited number of studies that have examined the interrelationships of ACEs, alcohol use in adulthood, and IPV perpetration, only a few have assessed the role of race/ethnicity (Cunradi et al., 2013; Schafer et al., 2004). Those that have done so have found a significant relationship between the perpetrator's race/ethnicity and IPV perpetration. For example, Schafer et al. (2004) used a multistage sampling design of African American, Hispanic, and White couples (*n* = 1,635) from 48 states within the United States and examined the impact of a history of childhood physical abuse, impulsivity, and drinking problems as risk factors for IPV. Multi-group path analysis revealed that male childhood physical abuse had a significant direct positive effect on alcohol use and male-to-female partner violence perpetration among African American couples; this direct path was non-significant among Hispanic and White couples.

These findings are further indication of the interconnectedness of ACEs, alcohol use, and IPV perpetration, as highlighted below in the Stress Process Model (SPM; Pearlin et al., 1981) that guides this study. Contrariwise, there has been a lack of support in some studies regarding the positive and direct effect of ACEs on alcohol intoxication frequency (Cunradi et al., 2013) or MFPV (Mair et al., 2012). For example, using cross-sectional data of a sample of couples (*n* = 1861) from 50 California cities, Mair et al. (2012) tested partner-specific pathways between ACEs and MFPV and female-to-male partner violence (FMPV). Path models demonstrated that ACEs in males did not have a direct effect on alcohol intoxication frequency or MFPV. Overall, there are limited studies that have examined the interrelationships of ACEs, alcohol use in adulthood, and IPV perpetration among men, with the study findings being mixed.

Correlates of IPV Perpetration

Based on findings of the existing literature and the use of SPM (Pearlin et al., 1981) to guide this study, the below section will provide an overview of the control variables that are to be used in this study. These variables include age, socioeconomic status (education, employment, and income), marital status, stress, racial discrimination, and social support.

Age. Age has been shown to be a protective factor against IPV perpetration in adulthood. Studies dating back to over two decades ago (Gelles & Straus, 1988) to more recently (Kim et al., 2008; Johnson et al., 2015) have indicated that IPV perpetration decreases with age. Archer (2000) and Gelles and Straus (1988) noted that perpetration is highest at younger ages, while O'Leary (1999) specifically indicated that perpetration is highest between ages 15–25 years, with a peak at age 25, and a sharp decline at approximately 35 years-of-age. The decrease in IPV perpetration as an individual gets older may be due to completion of major brain development (Casey et al., 2005), which in turn, reduces aggressive and violent behaviors (Capaldi et al., 2008). Thus, younger individuals perpetrate more IPV than older adults.

Socioeconomic status (SES). SES, which is measured by education, employment, and income, has been shown to be associated with IPV perpetration (CDC, 2018b). Lower educational attainment is associated with increased rates of IPV perpetration among men (CDC, 2018b; Lee et al., 2014). Similarly, studies have indicated an association between employment and IPV perpetration, with employed individuals perpetrating less IPV in comparison to those who were unemployed (Caetano et al., 2008; Ellison et al., 2007). Additionally, income has been identified as a risk factor for IPV perpetration; lower income is associated with higher rates of IPV perpetration (CDC, 2018b), even after controlling for other risk factors (O'Donnell et al., 2002).

Marital status. Findings related to the role of marital status on IPV perpetration are mixed. For example, Cui et al. (2010) in their Iowa study found that cohabiting couples were more likely to engage in IPV in comparison to married couples. On the other hand, Huang et al. (2010) found that, in comparison to mothers who did not live with their child's father, mothers who were married or cohabiting were less likely to be victims of IPV after controlling for other variables. Using a sample of young adults, Renner and Whitney (2012) found that in comparison to individuals in dating relationships, being married and living together were risk factors for unidirectional IPV perpetration, victimization, and bidirectional (where men were both victims and perpetrators) IPV for men.

Stress. Limited studies have been conducted to examine the role of stress in IPV perpetration. However, stress has been found to be associated with IPV perpetration, with the types of stress under investigation varying based on the study. For example, a study conducted by Smith Slep et al. (2010) using a U.S. Air Force sample found a significant association between financial stress and MFPV and FMPV, after controlling for other variables. Similarly, Caetano et al. (2007) found that stress associated with acculturation was a predictor of IPV perpetration in Hispanic couples after controlling for other socioeconomic status variables (Caetano et al., 2007). Furthermore, the SPM (Pearlin et al., 1981) asserts that people experience increased stress as a result of socioeconomic factors, including racial discrimination and a person's inability to manage the burden placed on their individual and biological functioning. This increased stress results in the likelihood of experiencing a secondary stressor (e.g. alcohol use) and also has negative outcomes, including IPV perpetration. Therefore, evidence suggests that stress is a risk factor for IPV perpetration and is likely to be moderated by other factors (Capaldi et al., 2012).

Racial Discrimination. Research highlights the significant association between racial discrimination and negative health outcomes (Sellers et al., 2006; Taylor et al., 2007). The impact of racial discrimination is important in assessing IPV perpetration especially among Blacks given their increased exposure to childhood adversities (e.g., physical, sexual, and emotional abuse), among other structural and situational factors (Hampton et al., 2003). These exposures place Black men at greatest risk for specific health behaviors (including heavy hazardous alcohol use), as well as depression and other psychological stress (Karlsen, & Nazroo, 2002; Schulz et al., 2006), and behavioral problems including IPV perpetration (Reed et al., 2010). Experiences of social inequalities based on racial status create additional layers of stress (Pearlin et al., 2005), which may be manifested in the use of alcohol use and IPV perpetration.

Interpersonal Social Support. Findings related to the role of social support in reducing and/or mitigating IPV perpetration in adulthood are mixed. Among other reasons (including methodological differences), these mixed findings could be because it is not the presence of a support system that is effective, but rather what those supportive relationships provide (Cullen, 1994; Nurullah, 2012). For example, Roberts et al. (2010)

used a National Epidemiologic Survey on Alcohol and Related Conditions (NESARC) sample and found that emotional social support in childhood was not protective against IPV perpetration for adult men. On the other hand, Greenman and Matsuda (2016) used longitudinal data from the Rochester Youth Development Study to find that social support had a large impact on IPV perpetration in adulthood. Notably, family, peer, and parenting support were significantly and inversely related to IPV perpetration in adulthood. Similarly, Smith Slep et al. (2010), using a cross-sectional design, found that spouse deployment support and support from neighbors were associated with lower levels of IPV perpetration for both men and women after controlling for other variables. Furthermore, according to the SPM (Pearlin et al., 1981) social support often acts as a buffer to the development of stress and its associated outcomes; therefore, the inclusion of interpersonal social support as a moderating variable in this study provides a greater understanding of its role in alcohol use and IPV perpetration in adulthood.

Literature Review Summary

The literature review indicated relatively consistent findings with regards to the role of ACEs and IPV perpetration, and ACEs and alcohol use in adulthood. However, there were mixed findings related to the relationship between alcohol use and IPV perpetration, and the interrelationships of ACEs, alcohol use in adulthood, and IPV perpetration. The effects of ACEs on brain development, and the toxicity and chronicity of such exposure on an individual’s ability to handle stressors in adulthood have been well documented. Likewise, the myriad of mental and behavioral health challenges associated with ACEs in childhood, youth, and adulthood has also been clearly outlined in the literature. The review also indicated that children from minority groups–such as non-Hispanic Blacks and Hispanics–and those with low SES have disproportionately higher rates of ACE exposure in comparison to other racial/ethnic groups. Despite the mixed findings regarding the role of alcohol use and IPV perpetration, it was noted that although minority groups consume less alcohol, they are at increased risk for alcohol abuse and dependence due to their experience of social and economic disadvantage. The differences in results related to the role of alcohol and IPV perpetration could be due to a number of factors including methodological design differences, variation in the definition and measurement of alcohol use, and sample sizes.

Despite these findings, the interrelationships of ACEs, alcohol use in adulthood, and IPV perpetration among Black men is still unknown. More specifically, none of the reviewed studies examined the unique and/or cumulative role of all the ACE factors on alcohol use and IPV perpetration using a predominantly Black sample of men. Most of the studies reviewed with the exception of a few (e.g., Brown et al., 2015; Cunradi et al., 2013; Mair et al., 2012), focused only on a few ACE factors with physical and/or sexual abuse being the most consistent. Also, although the reviewed studies included a race variable, provided information on the racial/ethnic composition of the sample, or used a well-known secondary dataset with a diverse sample, only a few studies included or examined the role of race in their analysis (Mair et al., 2012; Schafer et al., 2004), with the remaining studies using the race variable to provide descriptive information. Schafer et al.'s (2004) study was the only one to specifically examine the role of alcohol use within groups of Black, Hispanic, and White couples; however, they focused only on child physical abuse. The interrelationships of ACEs, alcohol use in adulthood, and IPV perpetration among Black men are still largely unknown. As such, this study seeks to fill that gap in the literature.

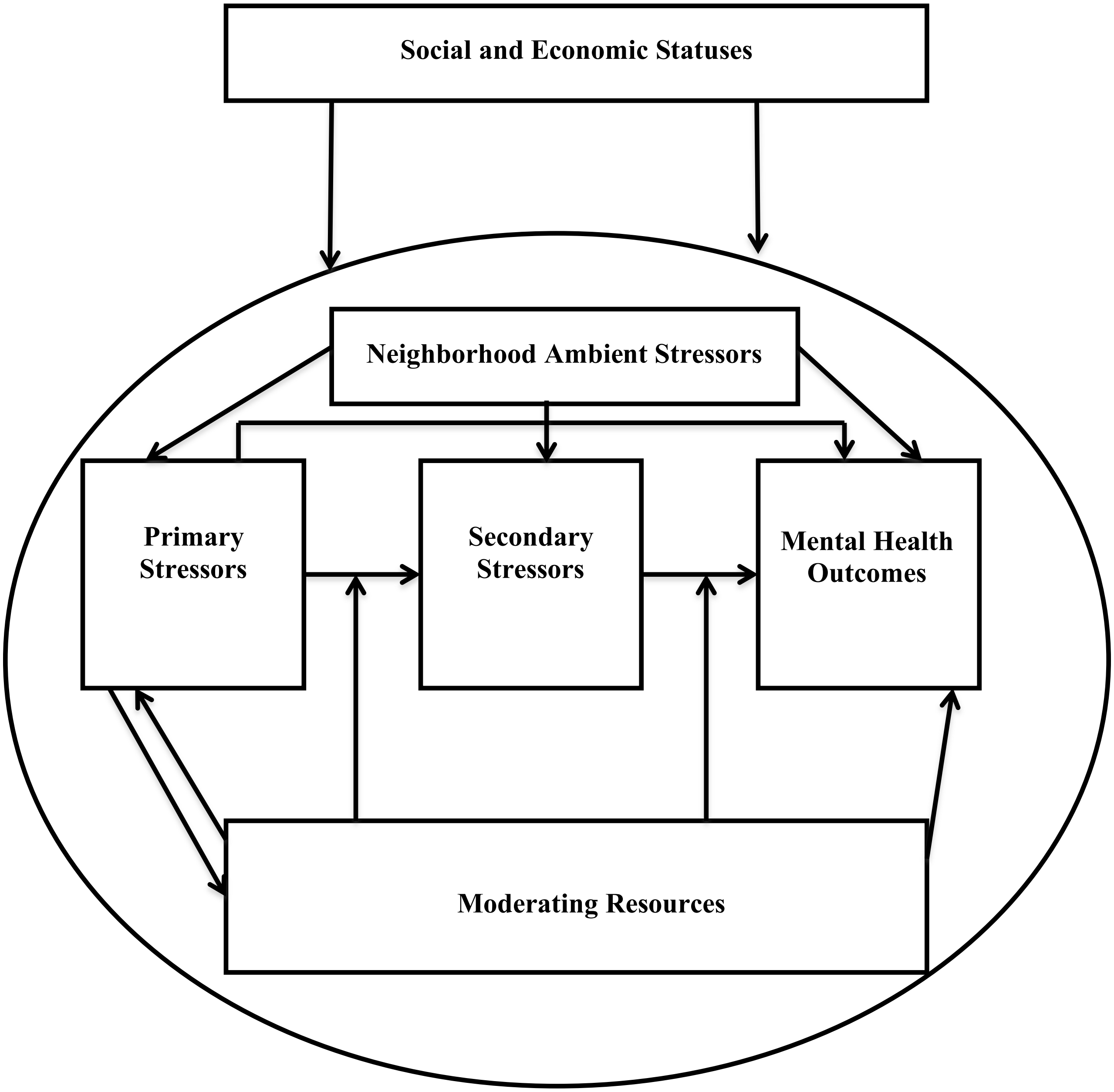
The above-mentioned constructs are in alignment with the SPM (Pearlin et al., 1981) that will be used to guide this study. The SPM will be used to provide a better understanding of how the constructs of ACEs, alcohol use in adulthood, and IPV perpetration relate to each other when incorporating social, economic and demographic factors, and the moderating roles of alcohol use and interpersonal social support. The SPM has not been used to explain or predict the impact of ACEs and alcohol use in adulthood on IPV perpetration, or the interrelationships of these study variables, but has demonstrated utility in exploring the impact of ACEs on mental health outcomes (Nurius et al., 2012; Nurius et al., 2015) and children's exposure to physical family and community violence (Foster & Brooks-Gunn, 2011), among other issues. With that as the backdrop, the below section provides an overview of the SPM to include its constructs and the adapted model used in this study.

Theoretical Framework

The Stress Process Model (SPM), developed by Pearlin et al. (1981), examines the multiple levels of support and stress at the individual, family, and community levels that predict mental health outcomes (Pearlin, 1999). Despite being referred to as a "process," Pearlin (1999) noted that a person's experience with stress does not follow a single path, but that the impacts of stress on well-being are highly complex and likely to vary. The SPM has six major components including: (1) Social and economic statuses, (2) neighborhood ambient stressors, (3) primary stressors, (4) secondary stressors, (5) moderating resources, and (6) mental health outcomes (see Figure 1). Within the broader context of social and economic statuses, neighborhood ambient stressors (e.g., location, poor transportation, etc.) have a direct impact on primary stressors (trauma, childhood adversities), secondary stressors (e.g., relationship problems, depression), and mental health outcomes (e.g., psychological symptoms, psychiatric diagnosis), and are all moderated by resources (e.g., social support, coping strategies). Therefore, this model posits that lower SES is associated with more stressors, resulting in increased negative outcomes.

Figure 1

The Stress Process Model (SPM).



Retrieved from Pearlin, L.I. (1999). The stress process revisited: Reflections on concepts and their interrelationships. In C.S. Aneshensel and J.C. Phelan (Eds.). *Handbook of the sociology of mental health* (pp. 395–415). New York, NY: Kluwer Academic/Plenum Publishers.

The SPM was initially developed as model to examine stress among caregivers of individuals with dementia (Pearlin et al., 1990). However, it has been adapted to examine mental health outcomes and disparities in diverse populations (Aneshensel, 2009; Milkie et al., 2008). The SPM has been used to examine the impact of ACEs on adult mental health (Nurius et al., 2012; Nurius et al., 2015); the impact of race and cultural factors (Del Santo et al., 2007; Hilgeman et al., 2009) to include chronic stressors associated with discrimination and psychological distress (Ong et al., 2009); and in exploring children's exposure to physical family and community violence (Foster & Brooks-Gunn, 2011).

Despite the use of the SPM in advancing the literature on mental health outcomes, there are no published studies that have used this model to explain or predict the impact of ACEs and alcohol use in adulthood on IPV perpetration, or the interrelationships of these three constructs. As a result, this model will be adapted for use in this study because there is a lack of a specific theoretical framework that sufficiently explains the relationship between stress, social support, and mental and behavioral health (Katerndahl & Parchman, 2002) within a population of Black men with ACEs exposure, alcohol use in adulthood, and who perpetrate IPV. More specifically, the adaptation of the model will allow for an exploration of the role of socioeconomic statuses and inequality in the creation of and exposure to stress and adversity (Utsey et al., 2008), including ACEs, alcohol use in adulthood, and ultimately IPV perpetration.

The section below will provide a discussion of the various components of the stress process model created by Pearlin et al. (1981). Next, the components of the adapted model to be used in the proposed study will be explained.

Social and Economic Statuses

The social and economic status of individuals are embedded in the stress process (Pearlin, 1999). Socioeconomic status (SES) represents the relationship between the status placement of people in the wider society and its impact on their health and well-being (Pearlin, 1999). Notably, SES does not only affect one aspect of a person's life, but has the potential to impact well-being both directly and indirectly. Pearlin (1999) indicated that status is "hierarchically organized and inherently entails inequalities in the possession of power, privilege, and prestige" (p. 397-398). As a result, experiences of inequalities result in increased risks of having more stressors and adverse outcomes. The chronicity and recurring stressors due to low SES may be more severe when they exist within major social domains such as family. Furthermore, the stressors associated with challenges to financial security and experiences of discrimination based on ascribed statuses (e.g., race, gender) have serious consequences because they negatively impact a person's perceptions of their rights and access to opportunities, challenge their identities, and increase the risk for more stressors and for negative outcomes (Pearlin et al., 2005; Utsey et al., 2008).

Discriminatory experiences have been shown to have negative effects that persist from childhood, where early exposure results in challenges to a person's identity, extending throughout the lifespan (Hobfoll, 2001; Pearlin et al., 2005; Utsey et al., 2008). With the population of interest in this study being Black men, the relationship between low SES and experiences of discrimination based on ascribed gender statuses is important to creating a greater understanding of the role ACEs and alcohol use in adulthood on IPV perpetration. Historically, Black men have experienced higher rates of trauma, including the legacy of slavery that has created a pattern of intergenerational trauma (DeGruy Leary, 2005), and racial oppression, which has affected their participation in an array of contexts. These contexts include education, employment, income, the labor force (Hampton et al., 2003; Karageorge, 2017), housing, medical care, and the criminal justice system (Pearlin et al., 2005). Black men also contend disproportionately with police brutality and the negative and racially-biased media attention that often presents a dismal portrayal of Black families and Black men in particular (Valandra et al., 2019). The effects of racial and gender discrimination create additional layers of stress on the individual and the biological functioning with which a person has to cope. The act of coping, according to the SPM, could be manifested in alcohol use, leading to IPV perpetration. The SPM also posits that SES has a direct impact on neighborhood ambient stressors, primary and secondary stressors, moderating resources, and outcomes, as discussed in the following sections.

Neighborhood Ambient Stressors

Neighborhood ambient stressors refer to consequences of systems of inequality as evidenced within the immediate surroundings that lead to increased levels of stress (Pearlin et al., 1999). Thus, SES has a direct impact on the creation of neighborhood ambient stressors, because it is more common for individuals of the same SES to reside in the same neighborhoods (Pearlin et al., 1999). As a result, people with similar statuses will have similar experiences and hardships and will respond to hardships in similar ways, using similar resources (Pearlin et al., 1999).

Although neighborhood is viewed as a place where similar experiences are shared, it is also a place that creates its own set of stressors that surround the daily lives of people living in them. The ambient stressors associated with neighborhoods where people with low SES reside include personal security, high level of residential turnover, poor transportation, overcrowding, dilapidated communities, and inadequate shopping facilities (Pearlin & Skaff, 1995). Individuals struggling with these "daily hassles" (Kanner et al., 1981) are at increased risk for experiencing more stressors and severe outcomes. Although an important construct in the SPM, neighborhood and ambient stressors were not included in this study because of limitations in the data set used for analysis.

Primary and Secondary Stressors

In the SPM, SES has a direct impact on neighborhood ambient stressors and also gives rise to both primary and secondary stressors (Pearlin et al., 1999). Therefore, the stressors experienced by individuals vary based on their social and economic characteristics and the social context of their daily lives. Stressors in general often manifest from two sources: (1) Life events, and (2) life strains (Pearlin et al., 1981). Life events result in stress by negatively changing the meaning of life strains. Life events may create new strains or intensify already existing ones, and in turn result in stress. Exposure to certain life events can have deleterious impacts on individuals' health and well-being. Thus, a change in one area of a person's life creates some disequilibrium in other parts. The readjustment process can be daunting and exhausting, resulting in more vulnerability to stress and its associated physical and psychological consequences. On the other hand, life strains result in stress because of the effects of eventful life experiences and the exposure to chronic strains, which converge to produce stress and result in negative outcomes.

The use of the terms primary and secondary stressors does not indicate that one is more important than the other, but is used to distinguish stressors based on their temporal precedence (Pearlin, 1999). The grouping of stress into primary and secondary is done to focus attention on the fact that individuals are often exposed to multiple stressors (Pearlin, 1999). Primary stressors refer to an individual's experiences of an event that results in stress (e.g., ACEs). Exposure to a stressful life event often results in the creation of other stressors known as secondary stressors. The distinction between primary and secondary stressors allows for identification of the causal link between exposure to difficult life events and subsequent deleterious outcomes. The tendency for one stressor (primary) to produce another stressor (secondary) is referred to as the stress proliferation process (Pearlin et al., 1997). Stated differently, having exposure to one chronic stressful life event creates a disturbance in homeostasis, resulting in the creation of additional stressors.

Although many events may trigger the proliferation of stressors, traumas are among the most pervasive (Pearlin et al., 2005). Because of the magnitude and sudden and violent character of trauma, trauma carries more negative health outcomes, even long after the occurrence in comparison to other stressful events (Pearlin et al., 2005). Additionally, exposure to traumatic events is higher among some strata than in others, with individuals from lower socioeconomic class positions having disproportionality higher rates (Turner & Avison, 2003). It follows that exposure to trauma can lead to secondary stressors that, in turn, create other mental and behavioral health consequences. There is also a direct relationship between primary stressors (e.g., ACEs) and mental or behavioral health outcomes (e.g., IPV). Given the empirical support regarding the significant relationship between ACEs and IPV perpetration, the SPM adds to the body of literature by positing that exposure to trauma results in negative behavioral consequences as a means of dealing with stressors.

Moderating Resources

Moderating resources are used as way to buffer the development of the stress process and its associated outcomes (Pearlin, 1999). These resources include the use of coping strategies, social support, and self-concepts. Note that “resources” can include both adaptive and maladaptive coping strategies (Folkman & Moskowitz, 2004). Although the framework includes moderating resources, Pearlin (1999) cautions that, although the model presents moderating resources as moderators, they are not destined to be treated as such in the analytic sense. They can also be used as mediators. For the purposes of this study, interpersonal social support and alcohol use in adulthood were used as moderators.

Coping. Coping refers to the behaviors used by an individual to prevent, avoid, or manage stress and its associated consequences (Pearlin, 1991; Pearlin & Aneshensel, 1986; Utsey et al., 2008). Coping activities may serve as a way to change the behavior from which the stressor originates, shape the stressor in a way that reduces the imminent threat, hinder the stress proliferation process, and reduce the intensity of the distress that the situation created (Pearlin, 1999). Notwithstanding the use of coping in understanding how individuals prevent or avoid stress, the incomplete specification or disregard for the stressor with which people are coping, and lack of examination around the long- and short-term impact of coping is evident in research (Pearlin, 1999). However, Pearlin indicated that despite these shortcomings, the role of coping in the SPM is to aid in targeting future research and not to discard of the construct completely.

Social support. Social support refers to access to and use of individuals, groups, or organizations in dealing with life challenges (Pearlin et al., 1981). These supports can be formal, informal, or perceived emotional support (Pearlin et al., 1995). For example, a study conducted by Pearlin et al. (1995) found that formal support provided by trained personnel was more effective in moderating some primary stressors, but informal support provided by friends both moderated the effect of behavioral challenges and prevented secondary stressors. On the other hand, perceived emotional support was effective in buffering the effects of stressors on depression. Overall, social support serves to aid individuals in managing life challenges. Therefore, interpersonal social support was conceptualized as a potential moderator of the effects of alcohol use on IPV perpetration.

Self-Concept. The final moderator explored by Pearlin (1999) is that of self-concept or mastery. Mastery refers to an individual's belief that they can control the important things that are currently affecting their life (Pearlin, 2009). It acts as a protective factor in reducing the effects of the harmful consequences of stressors. However, mastery is developed from attainment of certain important goals and is most commonly found among individuals with more advantaged statuses (Pearlin et al., 2007).

Outcomes

The outcome of the model represents the cumulative effect of the other components—that is the social and economic statuses, neighborhood ambient stressors, primary and secondary stressors, moderating resources, and mental health outcomes (Pearlin, 1999). Pearlin argues that, from a psychological perspective, mental illness is viewed as an outcome of biological failure, resulting in its causes being situated within the functioning of the individual. However, from a sociological perspective, it is important to not only focus on the psychological cause, but also the role of a person's SES and social problems on the creation of personal problems. More specifically, from a sociological perspective, mental health outcomes represent one of the many indicators and associated consequences of an individual's social and interpersonal arrangement. That is, mental health outcomes are attributed to the social and interpersonal challenges that exist in an individual's life that create stressors. Examining the societal role on a certain mental health outcome allows for a deeper appreciation of the effect that social forces may have on individual's well-being (Pearlin, 1999). Based on the important role of social and interpersonal arrangements as posited by Pearlin (1999) in influencing mental health outcomes, a behavioral outcome was explored in this study, while incorporating various social, economic, and interpersonal characteristics to better understand the interrelationships of ACEs, alcohol use in adulthood, and IPV perpetration.

Adapted Theoretical Framework

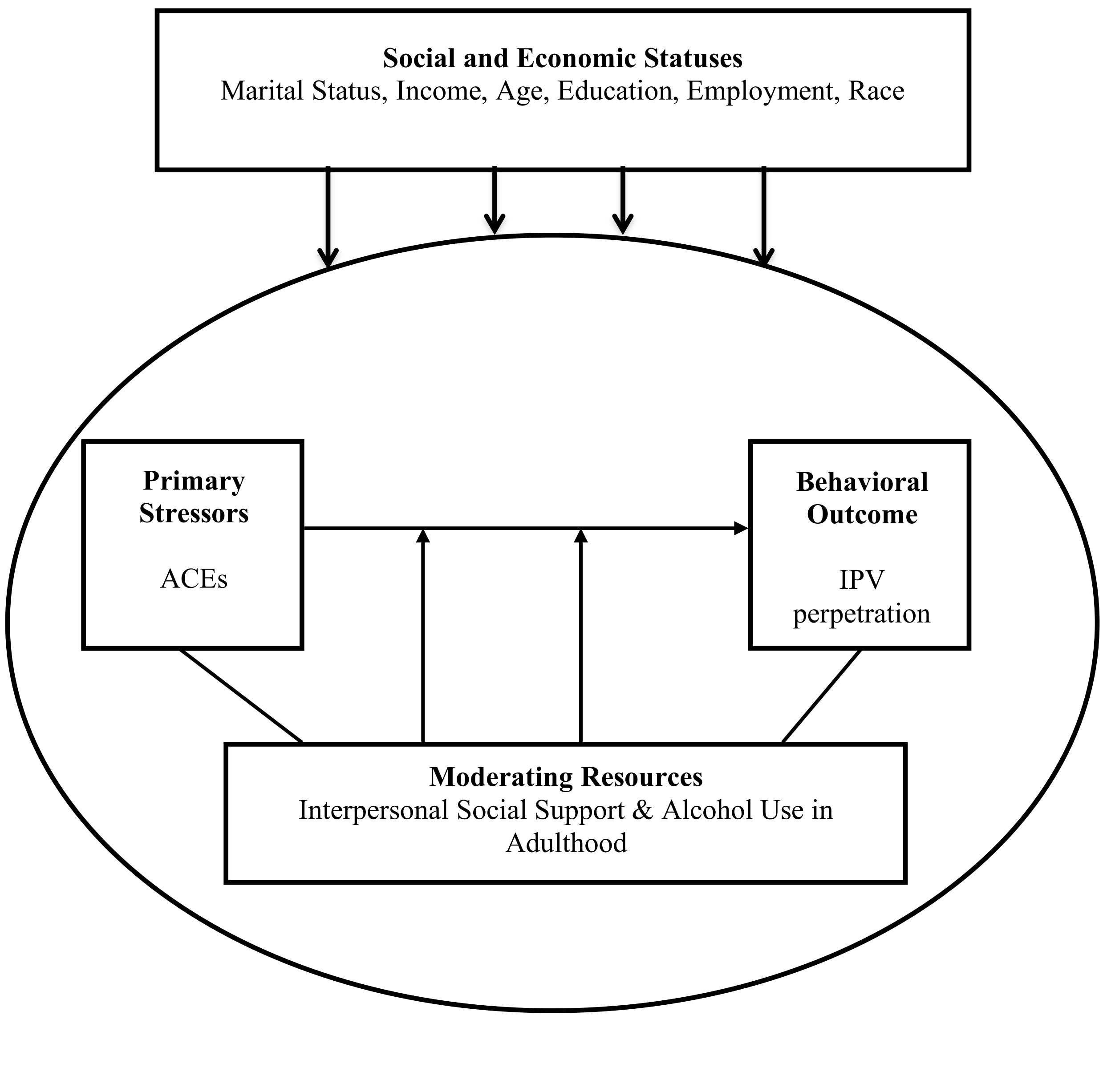
As discussed in the previous section, the SPM was used to guide the current study. Pearlin et al. (1990) indicated that the SPM is not without limitations and that "the model should be regarded as an heuristic device rather than as a literal reflection of realities and the pathways that join them . . . the model, consequently should be regarded as something to be built upon rather than something to be followed or perpetuated" (p. 591). As such, the adapted model retains the social and economic status, primary stressor, and moderating resource, with modification to the outcome (see Figure 2). The adapted model does not focus on a secondary stressor, or a mental health outcome, but instead a behavioral outcome. The neighborhood ambient stressor as specified by Pearlin (1999) was not included in the model because the data available for this study did not allow for the exploration of this factor. Furthermore, the National Epidemiologic Survey of Alcohol and Related Conditions (NESARC) Waves 1 and 2 do not collect data related to neighborhood characteristics.

Social and Economic Statuses

For this study, social and economic status were used to determine the mean of an individual's income, education, employment, marital status, and age. As discussed earlier, these factors have been shown to be associated with the behavioral outcome of IPV perpetration. Although the SPM model indicated that SES has a direct impact on all the other components of the model, given that there are no data available to capture IPV perpetrators' family SES, these variables were assessed using Black men's information in adulthood, and therefore were not conceptualzied to have a direct impact on ACEs. Furthermore, race directly and indirectly impacts socioeconomic status via racial discrimination and the social status of Black individuals in the U.S. Therefore, racial discrimination was included in the study because Black men face a myriad of structural and societal challenges (DeGruy Leary, 2005; Hampton et al., 2003; Utsey et al., 2007) that create stressors resulting in negative behavioral outcomes. These structural and societal challenges have resulted in limited access to employment and education, increased rates of poverty, incarceration, and homelessness (DeGruy Leary, 2005), residence in high-crime neighborhood, greater experiences of life stress and adversity (Utsey et al., 2007), increased risk of suffering from chronic diseases, shorter life expectancy, and higher mortality rates (U.S. Department of Health and Human Services, 1999). Additionally, the role of racial discrimination has not been included in any known prior studies that have explored the interrelationship among ACEs, alcohol use in adulthood, and IPV perpetration.

Figure 2

Adapted Stress Process Model



Primary Stressor

The primary stressor explored in this study was ACEs. For use with the adapted SPM, ACEs included experiences of any negative events in childhood, including physical and emotional neglect, verbal abuse, physical abuse, sexual abuse, and household dysfunction (substance abuse, mental illness, domestic violence, and incarceration). Studies have indicated that children from minority groups, such as African Americans, with low SES have increased risks of ACE exposure (Slopen et al., 2016; Lee & Chen, 2012). As a result of these childhood adversities, individuals have chronic and toxic exposure to stress hormones that impact brain structure (Nurius et al., 2015; Nurius et al., 2016; Shern et al., 2016), which often results in negative behavioral outcomes, including IPV perpetration (Anda et al., 2006; Cui, et al., 2010; Fonseka et al., 2015; Franklin & Kercher, 2012).

Although perceived stress is not included in the SPM, it was examined in this study, because the role of a person's perception of their levels of stress and its role in the examination of ACEs, alcohol use in adulthood, and IPV perpetration is unknown from prior research.

Moderating Resource

Given that alcohol is a substance used to cope with stressors rather than being a stressor in and of itself, alcohol use in adulthood was conceptualized in this study as a method of coping and hence a moderating resource in the adapted model. Two alcohol use variables, (1) excess weekly or daily drinking limits in the last 12 months and (2) the average daily volume of alcohol consumed, were examined for use as a moderator in this study. However, the average daily volume of alcohol consumed by Black men was used to measure alcohol use because it is in alignment with the aims of this study. The use of alcohol in adulthood as a coping strategy is due to its association with ACEs (Brady & Back, 2012; Dube et al., 2002). Additionally, it has been found that, although Black men consume less alcohol than males of other racial groups, they have greater risk of alcohol abuse and dependence because of childhood adversities, low SES, and structural and societal challenges (including racial discrimination). Furthermore, the relationship between alcohol use in adulthood and IPV perpetration further supports the use of this variable as a moderating resource and in exploring the realtionship between ACEs and IPV perpetration as an outcome.

Interpersonal social support was also used as a moderating variable in the adapted SPM. The social support variable was used to assess social relationships of male perpetrators and to determine whether such support reduces the risk between ACEs and alcohol use in adulthood, and alcohol use in adulthood and IPV perpetration. Although studies have found mixed results regarding the role of social support in IPV perpetration (Roberts et al., 2011; Greenman & Matsuda, 2016), to the researcher's knowledge no previous studies have examined the moderating role of interpersonal social support on the interrelationships of ACEs, alcohol use in adulthood, and IPV perpetrtaion using an unrepresented sample of Black men. As such, this was explored using the adapted SPM.

Behavioral Outcome

IPV perpetration was used as the behavioral outcome in the adapted SPM. More specifically, this study focused primarily on perpetration of physical IPV by Black men. Studies have indicated a connection between SES (Caetano et al., 2008; CDC, 2018b; Lee et al., 2014), ACEs (Franklin & Kercher, 2012; Watt & Scrandis, 2013), and alcohol use in adulthood (Crane et al., 2016; Foran & O'Leary, 2008) in predicting IPV perpetration. Therefore, the SPM was used to determine if there are interrealtionships among ACEs, alcohol use in adulthood, and IPV perpetration, while examining the role of SES and interpersonal social support.

Taken together, the variables in the adapted SPM aid in examining the interrelationships of ACEs, alcohol use in adulthood, and IPV perpetration. The study also examined: if alcohol use moderates the relationship between ACEs and IPV perpetration; whether interpersonal social support moderates the relationships between (1) ACEs and IPV perpetration and (2) alcohol use and IPV perpetration among Black men; if a higher cumulative ACE score is associated with increased alcohol use and IPV perpetration in adulthood among Black men; if racial discrimination is significantly associated with increased alcohol use and IPV perpetration in adulthood among Black men; and how subgroups of ACEs (individually or in combination) are associated with excessive alcohol use in adulthood and IPV perpetration among Black men.

Overall, the SPM (Pearlin et al., 1981) was used as the theoretical framework to guide this study. This model provides a clear guideline that allows for a better understanding of the role of social and economic factors in the creation of primary stressor. Studies have shown that childhood adversity results in the creation of toxic stress and affects brain development, leading to a host of negative mental and behavioral outcomes (Nurius et al., 2015; Shern et al., 2016). Because of the magnitude and violent character of childhood traumas, the SPM also posits that childhood traumas are the most damaging and create increased levels of stress and more negative outcomes in the long-term (Pearlin et al., 2005). Therefore, because ACEs have been shown to co-occur and to have lasting effects that carry into adulthood, this model provides a guide to allow for the examination of the effects of ACEs on alcohol use and IPV perpetration outcome in adulthood, while also assessing the role of various sociodemographic factors.

Additionally, the model asserts that individuals of low SES experience higher levels of stress that is further compounded by ascribed statuses, including racial discrimination, that negatively affect one's ability to cope (Utsey et al., 2008). Given that Black men have historically experienced racial discrimination and inequality, the SPM provides further support for the use of racial discrimination as a variable in assessing the relationship between alcohol use and IPV perpetration among this sample of men. Finally, the notion that there are factors that help in coping and buffering the effects of stressors on negative outcomes also allows for the inclusion of alcohol use in adulthood and the interpersonal social support as moderating variables in this study. More specifically, the alcohol in adulthood variable was used to examine alcohol use as a negative coping strategy in the relationship between ACEs and IPV perpetration. Additionally, the interpersonal social support variable was used to explicate whether there is indeed a buffering effect on the relationships between ACEs and alcohol use, and alcohol use and IPV perpetration when support is received. In essence, low SES, ACEs, and alcohol use in adulthood are theorized to increase the risk for IPV perpetration.

Chapter 3: Methods

To better understand the interrelationships of ACEs, alcohol use in adulthood, and IPV perpetration among Black men within the U.S., four research aims were investigated. This study examined (1a) the interrelationships of ACEs, alcohol use in adulthood, and IPV perpetration; (1b) whether alcohol use in adulthood moderates the relationship between ACEs and IPV perpetration; (1c) whether interpersonal social support moderates the relationship between (a) ACEs and IPV perpetration and (b) alcohol use and IPV perpetration; (2) if higher cumulative ACE scores are associated with increased alcohol use and IPV perpetration in adulthood; (3) if racial discrimination is significantly associated with increased alcohol use and IPV perpetration; and (4) how subgroups of ACEs (individually or in combination) are associated with excessive alcohol use in adulthood and IPV perpetration among Black men.

To address these research aims secondary data from Wave 2 of the National Epidemiological Survey of Alcohol and Related Conditions[1] (NESARC; Chen et al., 2010), which includes men aged 20 and older, was used. This chapter begins with an overview of the data source, weighting of study variables, sample, and a description of the study variables. Next the data analysis strategy is presented and includes data merging and cleaning, missing data handling, preliminary data analyses, assumptions, and the statistical analyses for each research aim.

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[1]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).

Data Source

Data from Wave 2 of the National Epidemiological Survey of Alcohol and Related Conditions (NESARC) was used for this study. The NESARC is a nationally representative sample of non-institutionalized civilians residing in all 50 states within the United States and the District of Columbia. The NESARC is a longitudinal survey conducted in two waves. The first wave was conducted in 2001–2002, and the second wave in 2004–2005. Data collected in Waves 1 and 2 included alcohol, tobacco and illicit drug use, comorbid psychiatric disorders, socioeconomic information, family history of substance and psychiatric disorders, and past-year stressful life events. Data collected in Wave 2 included information on remission and chronicity of substance use and disorders assessed in Wave 1. It also asked questions about new information regarding three personality disorders, post-traumatic stress disorder (PTSD), measures of adverse childhood experiences, discrimination, social support, immigration/acculturation, and intimate partner violence that were not assessed at Wave 1 (Hasin & Grant, 2015).

NESARC utilized a multistage clustering design in an effort to provide nationally representative estimates. Wave 1 data were collected using face-to-face survey of individuals aged 18 years or older in household or group quarters within the United States. A total of 43,093 interviews were completed in Wave 1. Non-Hispanic Blacks, Hispanics, and adults aged 18–24 years were oversampled to increase minority representation. A total sample of 34,654 individuals from Wave 1, aged 20 years or older, were re-interviewed in Wave 2. Non-Hispanic Blacks and Hispanics were also oversampled at Wave 2. Both samples were weighted at the individual and household levels to adjust for selection, non-response, and oversampling. After weighting, data were adjusted to be reflective of the U.S. population based on the 2000 Decennial Census. The response rates at Wave 1 and 2 were 81% and 86.7% respectively, with a cumulative response rate for both Waves of 70%. In May 2019, the University of Maryland Institutional Review Board (IRB) classified this study as non-human subjects research because all data were deidentified (see Appendix A).

Weighting

Weighting is provided for the NESARC data to account for sampling design. This study applied weights because "variance estimation procedures that assume a simple random sample are not appropriate" (National Institutes of Health, 2010, p. 3). The use of weighting in this sample is needed to account for non-response rates, sample attrition, and to derive population estimates. Data were adjusted for non-response rates across sociodemographic variables including race, ethnicity, age, sex, and region based on the 2000 Decennial Census (Grant & Dawson, 2006; Ruan et al., 2008).

Sample

The sample used for this study included Non-Hispanic Black males aged 20 years and older at the time of Wave 2 interviews. Because the study followed the same participants from Wave 1 (aged 18 years or older), only individuals aged 20 and above were included in Wave 2. All Black men were included in this study regardless of whether or not they perpetrated IPV during the year prior to when data were collected. This inclusion allowed for comparison of men who perpetrated and those who did not. NESARC oversampled non-Hispanic Black men to allow for adequate representation. The oversampling of Black men allowed research to be conducted on a sample that is usually underrepresented in IPV research. The overall sample size for NESARC Wave 2 was 34,654; however, given that the focus of this study was Black men, the entire sample of Black men (n = 2,326) was used in this study.

Measures and Variables

Research indicates that there is a relationship between ACEs and alcohol use in adulthood (Dube et al., 2002; Lee & Chen, 2017), ACEs and IPV perpetration (Stover et al., 2009; Watt & Scrandis, 2013), and alcohol use in adulthood and IPV perpetration (Averett & Wang, 2016; Graham et al., 2011). Furthermore, the SPM (Pearlin et al., 1981) asserts that primary stressors (e.g. ACEs) have a direct impact on secondary stressors (alcohol use), which in turn influence the mental and/or behavioral outcome (IPV perpetration). The SPM also posits that socioeconomic status has a direct influence on the primary and secondary stressors and the outcome, with social support acting as a moderator to buffer the effects of the stressors on negative outcomes. Therefore, given the use of the SPM to guide this study, the below listed variables aid in explicating the interrelationships of ACEs, alcohol use in adulthood, and IPV perpetration among a sample of Black men, while controlling for other sociodemographic factors. The section begins with an overview of the measures used in this study. Variable descriptions, NESARC questions from Wave 2, and source code from the codebook used in this study can be found in the appendices (see Appendix B).

Independent Variables

Adverse childhood experiences (ACEs). ACEs questions refer to an individual's childhood adversity before age 18. Questions were adapted from studies by Dong et al. (2004) and Dube et al.'s (2002) adverse childhood experience studies, the Conflict Tactic Scale (CTS; Straus, 1979; Straus & Gelles, 1990), and the Childhood Trauma

Questionnaire (CTQ; Bernstein et al., 1994; Wyatt, 1985). The CTQ has been shown to have high reliability (α = 0.79–0.94; Interclass correlation [ICC] = 0.88) and validity in a sample of drug or alcohol dependent patients (Bernstein et al., 1994). The ACE scale consists of items that are summed to produce scales. These scales include physical and emotional neglect, physical, sexual, and emotional abuse, battered mother/female caregiver, and global household dysfunction. The scales have response categories of 1 = *never*, 2 = *almost never*, 3 = *sometimes*, 4 = *fairly often*, and 5 = *very often*, with the exception of the emotional neglect and global household dysfunction scales. The emotional neglect scale requires reverse coding and has response categories of 1 = *never true*, 2 = *rarely true*, 3 = *sometimes true*, 4 = *often true*, and 5 = *very often true*. Response options for global household dysfunction are 1 = *yes*, and 2 = *no*. For this study the response options for all the scales were dichotomized into 0 = *no* and 1 = *yes*. Additionally, to account for the cumulative effect of ACEs on alcohol use in adulthood and IPV perpetration an overall score was calculated ranging from 0 (unexposed) to 10 (exposure to all categories). That is, individuals who indicated never being exposed to any childhood adversity represents a 0 and those who indicated having any exposure coded as 1. The ACE categories are not mutually exclusive, as individuals can be exposed to more than one type of ACE.

Physical neglect was assessed with five questions about experiences before age 18 from the CTQ scale. Questions include: "*Before the age of 18, how often did*: (1) *parent/caregiver make you do chores that were difficult or dangerous for someone your age?* (2) *parent/caregiver leave you alone or unsupervised before 10 years old?* (3) *you go without things you needed because a parent/caregiver spent the money on themselves?*

(4) *parent/caregiver make you go hungry or not prepare regular meals?* [and] (5) *parent/caregiver ignore/fail to get you treated when you were sick?*" Reliability statistics were run on this subscale and resulted in a Cronbach's α = .73 and an average inter-item covariance of 0.14 for this study.

Emotional neglect was measured with five questions from the CTQ scale. These questions include: "*Before age 18 felt* (1) *there was someone in family that wanted me to be a success?* (2) *there was someone in family who helped me feel that I was important or special?* (3) *that my family was a source of strength and support?* (4) *that I was part of a close-knit family?* [and] (5) *that someone in my family believed in me?"* This variable showed adequate reliability with Cronbach's α = .89 and an average inter-item covariance of 0.55 within this study.

Physical abuse was assessed with two questions from the CTS. These questions were: "*Before age 18, how often did parent/caregiver*: (1) *push, grab, shove, slap, or hit you?* [and] (2) *hit you that you had marks or bruises or were injured?"* The physical abuse scale had adequate reliability within this study with a Cronbach's α = .74 and an average inter-item covariance of 0.42.

Respondents were asked four questions to assess their experiences of sexual abuse with an adult or any other person prior to 18 years of age. These questions were developed by Wyatt (1985) and include "*Before age 18, how often did your father/other person* (1) *fondle/ touch you in a sexual way when you didn't want this/were too young to know what was happening?* (2) *have you touch them in a sexual way when you didn't want this/were too young to know what was happening?* (3) *attempt sexual intercourse with you when you didn't want this/were too young to know what was happening?* [and]

(4) *have sexual intercourse with you when you didn't want this/were too young to know what was happening?"* Reliability statistics were run on this variable and resulted in a Cronbach's α = .88. Average inter-item covariance was 0.06 for this sample.

Emotional abuse was measured with three questions from the CTQ. Questions asked about respondents' experiences of emotional abuse and include: *"Before age 18, how often did parent/caregiver:* (1) *swear, insult or say hurtful things to you?* (2) *threaten to hit you or throw something at you?* [and] (3) *make you fear that you would be physically hurt or injured?"* The emotional abuse scale showed adequate reliability within this sample with Cronbach's α = .78 and an inter-item covariance of 0.44.

Witnessing violence against the mother/female caregiver was assessed with four questions from the CTS. These questions asked about the frequency with which respondents witnessed their father or other adult male engage in physically abusive behaviors towards their mother or female caregiver before age 18. These questions include: "*Before age 18, how often did your father/other adult male:* (1) *push, grab, slap or throw something at your mother?* (2) *hit your mother with a fist or with something hard?* (3) *repeatedly hit your mother for at least a few minutes?* [and] (3) *threaten your mother with a knife/gun or use a knife/gun to hurt her?"* Within this study, this scale showed adequate reliability with a Cronbach's α = .90 and an average inter-item covariance of 0.25.

Global household dysfunction was measured with six questions that asked participants if prior to age 18 they had a parent or other adult living in the home with one or more of the following problems: Alcohol or drug use, incarceration, mental illness, and attempted or completed suicide. More specifically, the questions are: "*Before age 18,* *parent/other adult living in the home:* (1) *was problem drinker/alcoholic?* (2) *had similar problems with drugs?* (3) *went to jail/prison?* (4) *treated/hospitalized for mental illness?* (5) *attempted suicide?* [and] (6) *committed suicide?"* The global household dysfunction scale was further expanded in this study to represent four additional constructs as per Dube et al.'s (2002) and Pilowsky et al.'s (2009) studies. To determine the individual effect of alcohol and drugs, questions related to having a household member who was a problem drinker/alcoholic or who had similar problems with drug use were used to represent household alcohol abuse and household drug abuse respectively. Individuals who had lived with an adult who went to jail/prison were used to represent incarcerated household members. Finally, responses of having anyone in their household treated or hospitalized for mental illness, attempted suicide, or completed suicide prior to age 18 was used to represent mental illness in the household. The mental illness in the household variable showed adequate reliability with a Cronbach's $\alpha = .77$ and an average inter-item covariance of 0.01.

Racial discrimination. The racial discrimination scale was adapted from the Experiences of Discrimination (EOD) scale developed by Krieger and colleagues (Krieger, 1990, 1998, 2003; Krieger & Sidney, 1997; Krieger et al., 2005). The racial discrimination scale has been shown to have high reliability ($\alpha \geq 0.74$) and validity (r = 0.79) for working-class African American and Latino Americans (Krieger et al., 2005). The scale consists of six questions that asked about experiences of racial discrimination in the previous 12 months. Response options have a value of 0 = *never*, 1 = *almost never*, 2 = *sometimes,* 3 = *fairly often*, and 4 = *very often*. Higher scores are indicative of more experiences of racial discrimination. Questions related to racial discrimination include:

"*During the previous year how often did you experience discrimination:* (1) *in your ability to obtain health care or health insurance coverage because of your race/ethnicity?* (2) *in how you were treated when you got care because of your race/ethnicity?* (3) *in public (on the streets, in stores or restaurants) because of your race/ethnicity?* (4) *because of your race/ethnicity in any other situation (obtaining a job, on the job, getting admitted to school/training program, in the courts or by police, or obtaining housing)? During the previous year how often were you:* (5) *called a racist name because of your race/ethnicity?* [and] (6) *made fun of, picked on, pushed, shoved, hit or threatened with harm because of your race/ethnicity*?" Racial discrimination was included in this study because of the theoretical support of the SPM (Pearlin, 1999) and existing literature (Hampton et al., 2003; Sellers et al., 2006; Reed et al., 2010) that indicates that experiences of racial discrimination are likely to create other stressors that can negatively impact mental and/or behavioral outcomes (e.g., perpetration of IPV). Racial discrimination was treated as a continuous variable in this study with scores ranging from 0–24. Additionally, this measure had a Cronbach's $\alpha = .76$ and inter-item correlation of 0.15 within the current study.

Alcohol use. Questions related to alcohol use were taken from the Alcohol Use Disorder and Associated Disability Interview Schedule–DSM-IV version (AUDAIS-IV), which has been shown to be a reliable and valid measure (Grant et al., 2003; Ruan et al., 2008). Alcohol use was measured using daily ethanol consumption in the last 12 months prior to the interview. More specifically, daily alcohol consumption was obtained from summing beverage-specific volumes across the four individual beverage types (i.e., coolers, beer, wine, and liquor). Alcohol use is a quantity and frequency variable developed and coded by the survey developers (National Institutes of Health, 2010). The alcohol use variable had responses ranging from 0.0002–37.4102 ounces, which was recoded into number of standard drinks consumed using 0.6oz for one standard drink of pure alcohol (NESARC 2 Data Notes, 2008; NIAAA, n.d.) with values ranging from 0–22 standard drinks. The alcohol variable was not normally distributed (skewness = 6.48; kurtosis = 65.913) and was log-transformed (skewness = -0.29; Kurtosis = 2.42) for multivariate analyses.

Moderator Variable

Interpersonal social support. Participants were asked 12 questions from the general population version of the Interpersonal Support Social Network Evaluation list (ISEL-12; Cohen & Hoberman, 1983; Cohen et al., 1985) to determine their perceptions of the availability of social resources. The ISEL-12 has been shown to have adequate reliability ($\alpha > 0.70$) and convergent validity with four other measures in a sample of Hispanics/Latinos (Merz et al., 2014). The items are counterbalanced to account for socially desirable responses, with half the items being positive statements and the other half consisting of negative statements (Cohen et al., 1985). The ISEL has three subscales including: (1) Appraisal (e.g. "*I feel there is no one I can share my most private worries and fears with; there is someone I can turn to for advice about handling problems with my family"),* (2) belonging (e.g., *"I don't get invited to do things with others; If I wanted to have lunch with someone*, *I could easily find someone to join me"*), and tangible support (e.g., "*If I were sick, I know I would find someone to help me with my daily chores; If I needed some help in moving to a new house or apartment, I would have a hard time finding someone to help me"*). Each subscale consists of four questions.

Response options include 1 = *definitely false*, 2 = *probably false*, 3 = *probably true*, and 4 = *definitely true*. The ISEL-12 can be scored as three distinct subscales (with a score from 1–16) or as a total score (range from 1–48). For the purposes of this study, social support was treated as a continuous variable using the composite score. Reliability statistics for this measure were $\alpha = .82$ and an inter-item covariance of 0.19.

Alcohol use. For the analyses in which alcohol use was treated as a potential moderator, it is measured as described in the previous section.

Dependent Variable

Intimate partner violence (IPV). IPV was assessed using questions adapted from other studies (Cunradi et al., 1999; White & Chen, 2002) by the survey developers. Respondents were asked about their perpetration of abuse in the 12 months preceding the interview. Response options were 1 = *never*, 2 = *once*, 3 = *2–3 times*, 4 = *once a month*, and 5 = *more than once per month*, with values summed to obtain a total score. Higher scores are indicative of greater IPV perpetration. The IPV perpetration questions asked about abusive behaviors in the past year (PY; i.e., 12 months) preceding the interview. These questions included "*how often did you* (1) *push, grab, or shove your spouse/partner PY?* (2) *slap, kick, bite, or hit your spouse/partner PY?* (3) *threaten your spouse/partner with a weapon like a knife or gun PY?* (4) *cut or bruise your spouse/partner PY?* [and] (5) *injure your spouse/partner enough that they had to get medical care PY?*" IPV perpetration was treated as a dichotomous variable (0 = *no* and 1 = *yes*) to answer most research aims because of the large number of respondents who self-reported no IPV perpetration. However, for research aim 1b, IPV perpetration was used as continuous variable to examine its association with the cumulative ACE score and also with alcohol use. Within the current study this variable had a low Cronbach's α = .40 and an average inter-item covariance of 0.004. Additionally, there was a large amount of missingness (25%) for this variable, which may have affected bivariate findings. No imputation was done to account for the missingness, because for approximately 25% (n = 571) of the sample it was "unknown if" or "not/unknown if married, dating, involved in romantic relationship" in the year prior to the Wave 2 NESARC interview, and there was no way to make such assessment from these data (NESARC Codebook, n.d., p. 565).

Control Variables

Age. Age is measured with one question that asked the respondents their age (in years) at the interview date. Age was treated as a continuous variable ranging from 20 to 90 years and older. Age was topcoded (i.e., anyone > 90 years were coded as 90 years) by the survey developers to aid in participants' confidentiality.

Socio-economic status (SES). SES was measured using data on total household income, education level, and employment status. Household income was measured with a single question ("*What is your total household income PY [including any income from food stamps*]?") with 21 response options, ranging from a low of $1,000 to a high of $50,000 increments. This variable was recoded into five categories based on previous studies that have used NESARC 2 dataset (Brown et al., 2015; Vaughn et al., 2017). These categories are 1 = < *$25,000*; 2 = *$25,000–$39,999*; 3 = *$40,000–$69,999*; 4 = *$70,000–$99,999*; and 5 = ≥ *$100,000*.

Education was measured with one question ("*What is the highest grade or year of school completed?*") with 14 response categories. This variable was recoded into three categories: 1 = < *high school*; 2 = *High school* (i.e., completed high school or graduate equivalency degree [GED]); and 3 = > *High school* (including some college, graduate or professional studies, and master's degree or higher).

Employment status was measured with fourteen individual questions related to being employed full-time, part-time, absent from work without pay, unemployed (being laid off and not looking for work, unemployed but looking for work), retired, disabled, student (full-time or part-time), and homemaker. These questions were recoded to create one variable with four response options using a hierarchical approach to account for individuals being in more than one employment category. More specifically, response options were coded hierarchically as follows to provide descriptive participant information: (1) employed (e.g., worked full-time, part-time, have a job but not at work, self-employed, etc.), (2) retired, (3) unemployed (e.g., unemployed or laid off from work, not looking for work, never worked for pay), and (4) other (e.g., students, homemaker, and other activity). For use in multivariate analyses, employment status was dichotomized (0 = *unemployed*; 1 = *employed*).

Marital Status. Self-reported marital status was measured with six categorical indicators: 1= *married*, 2 = *living with someone as if married*, 3 = *widowed*, 4 = *divorced*, 5 = *separated*, and 6 = *never married*. The abovementioned marital status categories were recoded for this study: 1 = *married/living with someone as if married*, 2 = *widowed/divorced/separated*, and 3 = *never married*.

Perceived stress. The perceived stress scale (PSS4) assesses respondents' emotional responses to objectively stressful life events (Cohen et al., 1983; Cohen & Williamson, 1988). The PSS4 has been shown to have adequate reliability ($\alpha = 0.60$) in a probability sample of the United States (Cohen & Williamson, 1988). This scale has four questions that asked respondents about their control, confidence, whether things were going their way, and their difficulties. Response options include 1 = *never*, 2 = *almost never*, 3 = *sometimes*, 4 = *fairly often*, and 5 = *very often*, with items 2 and 3 requiring reverse coding. Perceived stress was used as a continuous variable in this study, with higher scores indicative of greater perceived stress. Within the current study, perceived stress had a Cronbach's $\alpha = 0.56$ and inter-item correlation of 0.31.

Excess alcohol consumption. Using drinking guidelines recommended by the National Institute on Alcohol Abuse and Alcoholism's (NIAAA) physician guidelines, survey creators assessed whether male respondents exceeded their daily (> 4 standard drink per day) or weekly (> 14 standard drinks per week) limits within the year prior to the interview. Responses were coded as positive if daily or weekly drinking limits were exceeded. Response options are coded as 1 = *yes* and 2= *no.* Excess alcohol consumption response was recoded and dichotomized into 0 = *no* and 1 = *yes*.

Norm-based mental component summary (NBMCS) score. The NBMCS score was included as a control variable. The NBMCS is used to determine respondents' mental health status, using 12 questions from the SF12-V2 scale (Ware et al., 2002) with scores ranging from 0–100 and a mean score of 50. Within the current study, the NBMCS score is treated as continuous and ranges from 1.4–74.2, with a higher score indicative of better mental health well-being.

Data Analysis

Sample Size Determination. G*Power version 3.1.9.2 statistical analysis (Faul et al., 2009) was used to conduct an a priori power analysis to determine the number of participants required to achieve statistical power in detecting an association among ACEs, alcohol use in adulthood, and IPV perpetration among Black men. Using a medium effect size, an estimate of 194 participants was required to detect the projected effect size ($f^2 = 0.15$, $\alpha = 0.05$, $1\text{-}\beta = 0.95$) with up to 14 predictors in a multiple regression test (fixed model, R^2 deviation from zero).

Data cleaning. Careful data cleaning and quality assurance were performed using SPSS version 24 (IBM Corp, 2016). Multiple steps were taken to ensure the accuracy of the data cleaning process, including recording each step of the data cleaning, recoding process, and justifications for decisions made; ensuring that there were no duplicated cases in the dataset using the ID number for each case; and running frequencies using the original variable and the new variable created. Descriptive analyses allowed for examination of the frequency and percentage between the old and new variables. Once data cleaning and recoding were complete, data were exported into Stata 16 (StataCorp, 2019), where a final dataset was created. Subsequent creation of new variables and recoding was performed in Stata.

Missing data handling. Hot deck imputation was used by survey creators to account for missing data in some variables (e.g. marital status, employment, educational attainment, etc.) in Wave 2 of the NESARC data. However, for other variables (e.g., age, sex, race, etc.) logical checks were used to account for missingness. For data that were imputed at Wave 1 for which information was obtained at Wave 2, the imputed values were replaced with the correct information. NESARC uses codes “9, 99, and 999” to indicate an “*unknown”* response. These variables were recoded and treated as missing in this study. The missingness for the variables of interest in this study were, for the most part, minimal and ranged from 0.04–0.85%. The exception was the IPV perpetration variable, with 25% missing data (see Appendix C). No imputation was done to account for the missing IPV perpetration data. The missingness was handled using listwise deletion in multivariate analyses because approximately 25% (n = 571) of the sample were either determined not to be involved in a romantic relationship in the year prior to the interview or their relationship status was unknown.

Preliminary data analyses. A series of preliminary analyses were performed using the Statistical Science for the Social Sciences version 24 (SPSS; IBM Corp, 2016) to gain a better understanding of the data and in determining if additional recoding of variables was necessary. Univariate analyses were then performed on all study variables to examine the frequencies and distributions to aid in the analyses using Stata 16. Mean, median, and mode were examined for continuous variables, in addition to checking histogram and scatterplots to determine normality. Because survey data, especially for measures of alcohol use and IPV perpetration, often violate assumptions of normality, examination of the data were done using scatterplots and histograms, which showed a positively skewed distribution. Following work done by Yeung et al. (2020), the alcohol use variable was log transformed for use in multivariate analyses in this study.

Study Purpose: The purpose of the study is to examine the interrelationship of ACEs, alcohol use in adulthood, and IPV perpetration among Black men within the United States.

To better understand the interrelationships of ACEs, alcohol use in adulthood, and IPV perpetration among Black men within the United States, four research aims were explored. To address the research aims for this study univariate, bivariate (i.e., independent samples t-test, Pearson correlation, etc.), multivariate analyses (e.g., logistic regression analysis, linear regression), and a latent class analysis were performed. Research aims 1a–1c, 2, and 3 were done using Stata 16 software package. For research aim 4, the latent class analysis was performed in Mplus version 8, and the logistic regression analyses in Stata 16. For models that included a moderating variable, two models were run—one with and one without the interaction term. Also, due to the number of Black men (32%; n = 721) who reported having no ACEs, resulting in a lack of variability in some cells, this variable was treated as categorical rather than continuous in moderation analyses. ACEs was grouped into four categories (i.e., 0, 1, 2, 3, and ≥ 4) following work done by Anda et al. (2006) and Fonseka et al. (2015). Although the use of hierarchical regression analyses would have been appropriate to model the individual effects of study variables, such analyses could not be done for this study. Notably, due to the use of survey design, hierarchical regression analyses would bias results because of the application of survey weights (see Graubard & Korn, 1996; Pfeffermann et al., 1998; Rabe-Hesketh & Skrondal, 2006). Also, strata that did not include information on Black men were removed from the analyses in Stata, and therefore were not included in the calculation of the degrees of freedom. Specifically, given that analyses were done using a subpopulation of a complex-sample survey data, the degrees of freedom for each analysis was calculated by subtracting the strata with sampled observations of Black men from the primary sampling units (PSU) with observations of Black men (West et al., 2008). The below section provides a detailed outline of the research aims and associated analyses performed.

Research aim 1a. To examine the interrelationships of ACEs, alcohol use in adulthood, and IPV perpetration among Black men.

Bivariate analyses were performed to answer this research aim. To better understand the interrelationships among study variables, all 10 ACE factors were included in the chi-square analysis performed to examine the association between individual ACE factors and IPV perpetration and in the independent samples t-test used to assess the relationships between individual ACE factors and alcohol use. Pearson correlation was used to examine the relationship between alcohol use in adulthood and IPV perpetration, and the interrelationships between ACEs (i.e., score ranging from 0 to 10), alcohol use (i.e., average number of standard alcohol drink consumed daily), and IPV perpetration (continuous).

Research aim 1b. To examine whether alcohol use in adulthood moderates the relationship between ACEs and IPV perpetration among Black men.

A logistic regression analysis was performed to examine the moderating effects of alcohol use on the relationship between ACEs and IPV perpetration. Alcohol use refers to the average number of standard drinks consumed daily within the past 24 months. As used in this research aim, ACEs refers to the number of childhood adversities (i.e., 0, 1, 2, 3, and ≥ 4) that Black men had experienced. Additionally, age, employment status, annual household income, education, marital status, NBMCS, racial discrimination, and perceived stress were used as control variables.

Research aim 1c: To examine whether interpersonal social support moderates the relationships between (1) ACEs and IPV perpetration and (2) alcohol use and IPV perpetration among Black men.

Two logistic regression analyses were performed for research aim 1c. First, a logit model was run to examine whether interpersonal social support moderates the relationship between ACEs and IPV perpetration. The second analysis examined the moderating effects of interpersonal social support on the relationship between alcohol use and IPV perpetration. Both analyses controlled for age, employment status, income, education, marital status, NBMCS, racial discrimination, and perceived stress. The adverse childhood experiences variable used in these analyses was the number of adversities Black men were exposed to in childhood as noted in research aim 1b.

Research aim 2: To examine if higher cumulative ACE score is associated with increased alcohol use and IPV perpetration in adulthood among Black men.

Given study findings that ACEs often co-exist (Cunradi et al., 2013; Fonseka et al., 2015; Whitfield et al., 2003), this research aim used the cumulative ACEs score (range from 0-10) as a predictor of alcohol use and IPV perpetration. Two analyses were performed—one linear regression and one logistic regression analysis. Linear regression was used to examine if higher cumulative ACE score is associated with alcohol use in adulthood, and the logistic regression analysis examined if higher cumulative ACE score is associated with IPV perpetration. Both analyses controlled for age, employment status, income, education, marital status, NBMCS, racial discrimination, and perceived stress.

Research aim 3: To examine if racial discrimination is significantly associated with increased alcohol use and IPV perpetration in adulthood among Black men.

Two regression analyses were run to answer this research aim. Linear regression analysis examined if racial discrimination was significantly associated with increased alcohol use in adulthood among Black men. The second analysis, a logistic regression, was used to determine if racial discrimination was a predictor of IPV perpetration among Black men. Both analyses controlled for age, income, employment, education, marital status, perceived stress, and NBMCS.

Research aim 4: To identify how subgroups of ACEs (individually or in combination) are associated with excessive alcohol use in adulthood and IPV perpetration among Black men.

A latent class analysis (LCA) was performed to examine if certain ACEs—individually or in combination—were more closely associated with excessive alcohol use and IPV perpetration. ACEs were treated as the indicators for the LCA, with excessive alcohol consumption and IPV perpetration treated as dependent variables for logistic regression analyses. All variables were treated as binary with 0 = *no* and 1 = *yes.* Excessive alcohol consumption was used to identify respondents who exceeded the weekly drinking limits using a standard drink size of 0.6 oz. of ethanol. Individuals with daily alcohol intake of ≥ 1.2 oz. ethanol were coded as heavy alcohol drinkers and those below as non-heavy drinkers (Wave 2 NESARC Data Notes, 2008). Mplus version 8 software was used to create classes using the “TYPE=COMPLEX MIXTURE” command, because it applies robust maximum likelihood estimation (Muthén & Muthén, 1998–2017).

To determine the number of ACE classes that best fits the data, each class was added individually, followed by examination of the Akaike's Information Criterion (AIC), Bayesian Information Criterion (BIC), probabilities, log likelihood, and entropy. Lower AIC and BIC values, and higher probabilities, log likelihood, and entropy values were used to determine better model fit. Due to the inability of Mplus to handle complex survey data with binary outcomes, the classes were exported to Stata version 16, where two logistic regression analysis were run. The first analysis examined class membership as predictors of IPV perpetration, while the second analysis assessed which class membership(s) predicted excessive alcohol use in adulthood among Black men.

Assumptions Testing

Prior to the running of the linear regression analysis for research aims 2(a) and 3(a) assumptions were checked. The SPM (Pearlin, 1999) provides theoretical support for the use of the variables used in this study. Therefore, it can be assumed the model was correctly specified to appropriately determine the effects of the independent variables on IPV perpetration, while controlling for other sociodemographic factors, although the impact of confounding variables is unknown. Normal distribution of dependent variables were checked using scatterplots and histograms. To address the assumption of a linear relationship, bivariate correlations between continuous predictors and outcomes were examined. The Variance Inflation Factor (VIF) with a score less than 10 (Cohen et al., 2002; Kennedy, 1992; Mason et al., 1989; Neter et al., 1989) was used to address the assumption of non-problematic multicollinearity.

One of the assumptions of latent class analysis (LCA) is that it is non-parametric. That is, conducting an LCA does not assume any assumptions of linearity, homogeneity, or normal distribution. However, the data levels must be categorical, ordinal, or continuous. This assumption was met because the ACEs factors were treated as binary with 0 = *no* and 1 = *yes*. Another assumption of LCA is the conditional independence of observations in each class. Despite the co-existing nature of ACEs (Cunradi et al., 2013; Fonseka et al., 2015), this assumption was presumed to be met because conditional independence does not mean that the variables of interest are uncorrelated, but instead that their relationship can be explained by the latent construct.

Chapter 4: Results

Results from descriptive, bivariate, regression, and latent class analyses are described in this chapter. First, descriptive results are presented for the sample and variables of interest. Second, in response to research aim 1a, results from bivariate analyses are presented to examine the relationships of adverse childhood experiences (ACEs), alcohol use in adulthood, and IPV perpetration. Regression analyses are then reported for research aims 1b, 1c, 2, and 3. Finally, results from the latent class analysis and logistic regression analyses are presented for research aim 4.

Descriptive Analyses

Table 1 presents descriptive data on the sample and mean scores on continuous variables used in this study. Participants had a mean age of 44.65 years (SD = 18.70). Ninety percent (n = 2,129) were born in the United States, 52% (n = 1,108) were married or living with someone as if married, 98% (n = 2,260) identitied as heterosexual (straight), and 70% (n = 1,526) were employed. Approximately 50% (n = 1,136) of the participants were educated beyond high school and 32% (n = 805) had an annual household income of less than $25,000. The majority of the sample (64%; n = 1,430) were current drinkers; that is, they consumed alcohol within the 12 months prior to the Wave 2 interview. Furthermore, 94% (n = 1,648) of the sample indicated that they did not perpetrate IPV in the previous year, and 80% (n = 94) of those who did perpetrate IPV reported that they did not consume any alcohol at the time of perpetration. There was a close to even number of participants who exceeded the weekly (> 14 standard drinks) or daily drinking limits (> 2 standard drinks; 49.5%, n = 671; Wave 2 NESARC Data Notes, 2008) and those who did not (50.5%; n = 755).

Thirty two percent (n = 721) of participants reported not experiencing any childhood adversity, with the remaining 68% (n = 1,585) having experienced one or more ACEs. More specifically, the largest representation was for participants with a score of 1 (20%; n = 458) which is indicative of having exposure to only one type of ACE, followed by those with a score of four or more (19%; n = 451). Individuals with an ACE score of 3 (13%; n = 292) had the lowest representation. The most common forms of childhood adversity experienced by Black men were emotional abuse (42%; n = 985), physical abuse (39%; n = 924), and physical neglect (32%; n = 757). Individuals reported low rates of exposure to having a parent or family member with a mental illness (5%; n = 115) or a drug problem (6%; n = 121). Interpersonal social support (42.20, *SD* = 6.79) and norm-based mental component summary (NBMCS; 52.08, *SD* = 11.38) both had relatively high mean scores for their scales (e.g., 42 out of a possible 48; and 52 out of a possible 74), indicating high functioning in these domains.

Table 1

Participants' Descriptive Data

Characteristics	n (%)
U.S. born (n = 2,326)	
No	197 (10.1%)
Yes	2,129 (89.9%)
Marital status (n = 2,326)	
Married/living with someone as if married	1,108 (51.9%)
Widowed/divorced/separated	563 (17.0%)
Never married	655 (31.1%)
Sexual orientation (n = 2,303)	
Heterosexual (straight)	2,260 (98.4%)
Gay	20 (0.6%)
Bisexual	12 (0.5%)
Not sure	11 (0.5%)

Table 1 Continued

Characteristics	*n* (%)
Education (*n* = 2,326)	
Less than high school	158 (4.8%)
High school	1,032 (45.4%)
Greater than high school	1,136 (49.8%)
Household income (*n* = 2,326)	
< $25,000	805 (31.8%)
$25,000–$39,999	451 (19.6%)
$40,000–$69,999	573 (25.8%)
$70,000–$99,999	292 (13.0%)
≥ $100,000	205 (9.8%)
Employment status (*n* = 2,326)[1]	
Employed	1,526 (69.6%)
Retired	438 (13.7%)
Unemployed	288 (12.7%)
Other	74 (4.0%)
Perpetrated IPV (*n* = 1,755)	
No	1,648 (93.9%)
Yes	107 (6.1%)
Lifetime drinking status (*n* = 2,326)	
Current drinker	1,430 (63.8%)
Drank since Wave 1 interview but not in PY	55 (2.5%)
Drank before Wave 1 interview, but not since	587 (22.2%)
Lifetime abstainer	254 (11.5%)
Exceeded weekly/daily drinking limits (*n* = 1,426)[2]	
No	755 (50.5%)
Yes	671 (49.5%)
Alcohol use at time of perpetration (*n* = 116)	
No	94 (79.7%)
Yes	22 (20.3%)
ACEs (*n* = 2,306)	
No	721 (32%)
Yes	1,585 (68%)
Number of ACEs (*n* = 2,306)[3]	
0	721 (32.0%)
1	458 (19.7%)
2	384 (16.1%)
3	292 (13.4%)
≥ 4	451 (18.8%)
Types of childhood exposure	
Physical neglect (*n* = 2,305)	
No	1,548 (68.4%)
Yes	757 (31.6%)

Table 1 Continued

Characteristics	n (%)
Emotional neglect (n = 2,304)	
No	2,163 (94.1%)
Yes	141 (5.9%)
Emotional abuse (n = 2,304)	
No	1,319 (58.0%)
Yes	985 (42.0%)
Physical abuse (n = 2,302)	
No	1,378 (61.0%)
Yes	924 (39.0%)
Sexual abuse (n = 2,301)	
No	2,139 (92.4%)
Yes	162 (7.6%)
Battered mother (n = 2,297)	
No	1,849 (81.2%)
Yes	448 (18.8%)
Mental illness in household (n = 2,306)	
No	2,191 (95.3%)
Yes	115 (4.7%)
Alcohol problem in household (n = 2,301)	
No	1,836 (79.6%)
Yes	465 (20.4%)
Drug problem in household (n = 2,301)	
No	2,180 (94.1%)
Yes	121 (5.9%)
Incarcerated household member (n = 2,303)	
No	2,075 (89.4%)
Yes	228 (10.6%)
	M(SD)
Age (n = 2,326)	44.65 (18.70)
IPV perpetration (n = 1,755)	0.11 (0.59)
ACEs (n = 2,306)	1.86 (2.24)
Alcohol use (n = 1,423)	1.14 (3.28)
Racial discrimination (n = 2,317)	1.59 (3.12)
Perceived stress (n = 2,313)	3.95 (3.51)
Interpersonal social support (n = 2,310)	42.20 (6.79)
Norm-based mental component summary (NBMCS; n = 2,317)	52.08 (11.38)

Note. PY = Past Year; weighted data were used for all frequencies and percentages; [1]Employment status was coded using a hierarchical method (i.e., employed, retired, unemployed, and other) to account for individuals in multiple categories. The other category refers to individuals who were either students, full-time homemakers, or engaged in some other activity; [2] Daily drinking limits = > 2 standard drinks of 0.6 oz per day on average; and weekly drinking limits = > 14 drinks per week (Wave 2 NESARC data notes, 2008); [3]No participant had an ACE score of 10.

Research aim 1a. To examine the interrelationships of ACEs, alcohol use in adulthood, and IPV perpetration among Black men.

Relationship Between ACEs and IPV Perpetration. Findings from chi-square analyses indicated that all but two ACE factors, emotional neglect and having someone with a mental illness in the household, were statistically associated with IPV perpetration (see Table 2). A larger proportion of participants who were emotionally (4%, n = 74; $\chi^2 = 32.35$, $p < .001$) and physically abused (4%, n = 69; $\chi^2 = 47.67$, $p < .001$) in childhood had higher rates of IPV perpetration in adulthood in comparison to individuals without such exposure. Additionally, examination of the composite ACE score and IPV perpetration using Pearson's correlation revealed a statistically significant, positive association ($r = 0.15$; $p < 0.001$); that is, ACE score had a small effect (Cohen, 1988) on IPV perpetration.

Table 2

Bivariate Comparisons Between Types of ACEs and IPV Perpetration

ACEs	Perpetrated IPV		χ^2
	No (N = 1,648) n (%)	Yes (N = 107) n (%)	
Physical neglect			
No	1,103(63.4%)	58 (3.4%)	χ^2 (50, n = 1,753) =
Yes	543 (30.6%)	49 (2.6%)	32.11, $p < .001$
Emotional neglect			
No	1,566 (89.5%)	98 (5.7%)	χ^2 (50, n = 1,752) =
Yes	79 (4.4%)	9 (0.4%)	2.62, p = .1113
Emotional abuse			
No	901(52.3%)	33 (1.9%)	χ^2 (50, n = 1,752) =
Yes	744 (41.7%)	74 (4.1%)	32.35, $p < .001$
Physical abuse			
No	937 (54.7%)	38 (2.4%)	χ^2 (50, n = 1,751) =
Yes	707 (39.2%)	69 (3.7%)	47.67, $p < .001$
Sexual abuse			
No	1,533 (87.3%)	91 (5.0%)	χ^2 (50, n = 1,751)
Yes	111 (6.6%)	16 (1.1%)	=1 124.35, $p < .001$
Battered mother			
No	1,307 (75.6%)	71 (4.1%)	χ^2 (50, n = 1,748) =
Yes	335 (18.3%)	35 (2.0%)	30.97, $p < .001$
Mental illness in household			
No	1,555 (89.0%)	98 (5.6%)	χ^2 (50, n = 1,754) =
Yes	92 (4.9%)	9 (0.5%)	3.31, p = .0747
Alcohol problems in household			
No	1,288 (73.8%)	76 (4.2%)	χ^2 (50, n = 1,750) =
Yes	355 (20.0%)	31 (2.0%)	7.01, p = 0.010
Drug problems in household			
No	1,548 (88.3%)	94 (5.2%)	χ^2 (50, n = 1,750) =
Yes	96 (5.7%)	12 (0.8%)	17.38, $p = <.001$
Incarcerated household member			
No	1,479 (84.2%)	87 (4.8%)	χ^2 (50, n = 1,752) =
Yes	167 (9.8%)	19 (1.2%)	14.59, p = .0004

Note. χ^2 = chi square; weighted data were used for all frequencies, percentages, and chi-square test.

Relationships between ACEs and Alcohol Use in Adulthood and between Alcohol Use in Adulthood and IPV Perpetration. Examination of the relationships between various ACE factors and alcohol use revealed no statistically significant associations between experiences of emotional ($t(46) = .02$, $p = .88$) and sexual abuse ($t(46) = .22$, $p = .64$) and between having witnessed the abuse of their mother ($t(46) = .24$, $p = .63$) and alcohol use (see Table 3). Having experiences of physical and emotional neglect, and having a parent/caregiver with a drug or alcohol problem, and who was incarcerated were significantly and positively associated with Black mens' alcohol use; however, experiences of physical abuse and having a parent/caregiver with a mental illness were negatively associated with alcohol use among Black men. Pearson's correlation analyses also indicated a positive association between ACEs ($r = 0.15$, $p < .001$), alcohol use in adulthood ($r = 0.12$, $p < .001$) and IPV perpetration among Black men, with a small effect (see Appendix D).

Table 3

Bivariate Comparisons Between ACE Factors and Alcohol Use among Black Men

ACE Factors	*T*	*B*	95% *CIs* (of B)
Physical neglect	2.22**	0.11	[0.01, 0.21]
Emotional neglect	3.92*	0.26	[0.13, 0.40]
Emotional abuse	-0.15	-0.01	[-0.13, 0.11]
Physical abuse	- 4.49*	-0.25	[-0.37, -0.14]
Sexual abuse	0.46	0.17	[-0.56, 0.90]
Battered mother	0.49	0.03	[-0.10, 0.17]
Mental illness in household	-3.03*	-0.20	[-0.33, -0.06]
Drug problem in household	2.20**	0.90	[0.07, 1.73]
Alcohol problem in household	5.83*	0.84	[0.55, 1.13]
Incarcerated household member	2.35**	0.15	[0.02, 0.28]

Note. Weighted data were used in these analyses; *B* = unstandardized coefficient; *$p < 0.001$; **$p \leq 0.05$

Research aim 1b. To examine whether alcohol use in adulthood moderates the relationship between ACEs and IPV perpetration among Black men.

H_1: Alcohol use in adulthood will moderate (exacerbate) the relationship between ACEs and IPV perpetration.

The first model, without a moderator, examined the effects of age, employment status, income, education, marital status, norm-based mental component summary (NBMCS), racial discrimination, perceived stress, number of ACEs, and alcohol use (i.e., number of drinks consumed in the last 12 months) on IPV perpetration (see Appendix E). The size of the sample used in this analysis was 1,136. The model was a better fit for the data than the null model ($F_{18,23} = 45.42$, $p < 0.001$). Findings revealed that age (*OR* =

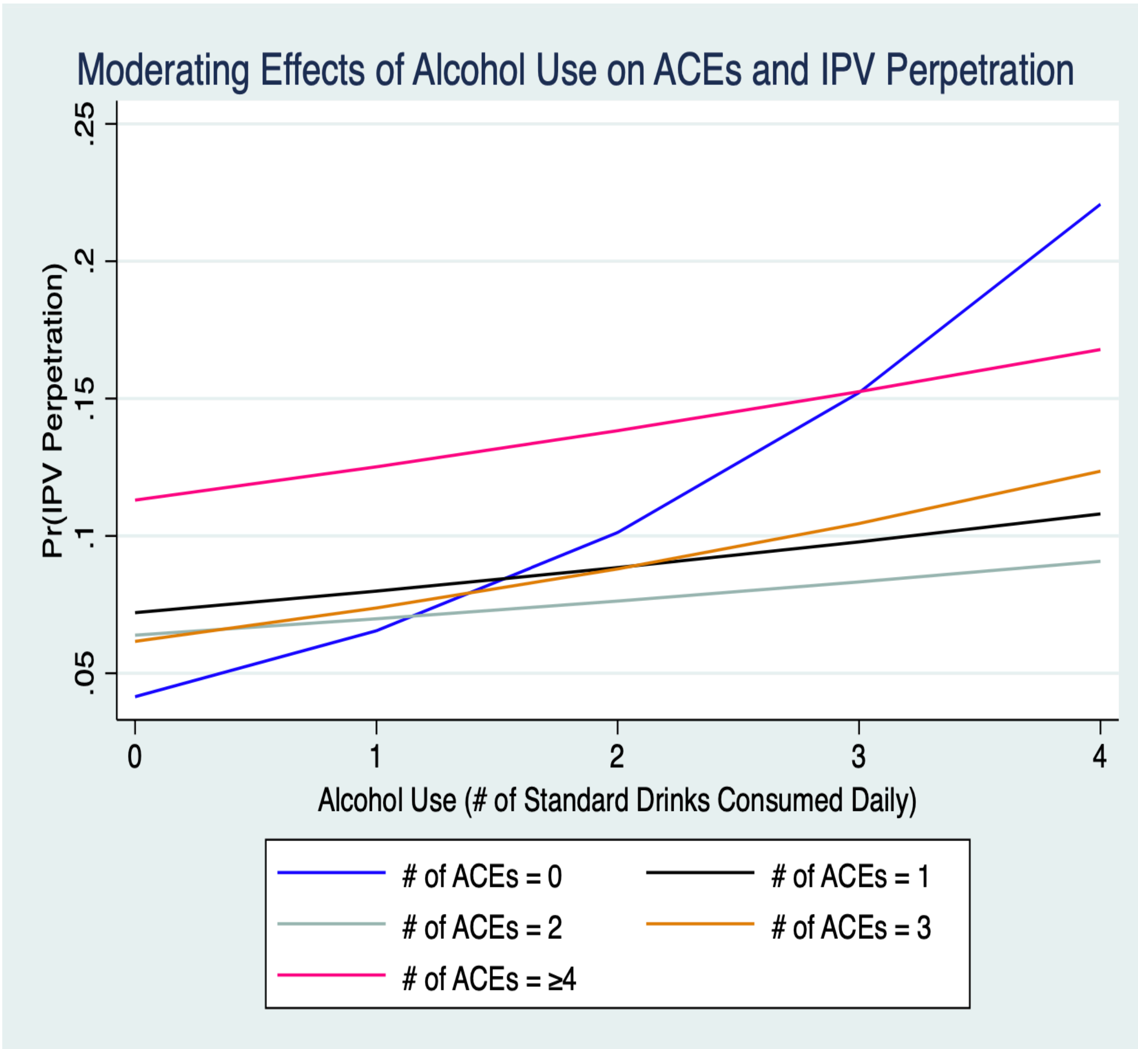
0.96; $p < 0.001$) had a statistically significant, negative association with IPV perpetration. Also, having an income between \$25,000–\$39,999 (*OR* = 1.66; $p = 0.02$) and between \$70,000–\$99,999 (*OR* = 0.45; $p = 0.002$) were positively and negatively associated with IPV perpetration, respectively, when compared to men with an annual income > \$25,000. In comparison to men who were never married, those who were married or living with someone as if married had greater odds (*OR* = 1.56, p = 0.04) of perpetrating IPV. Similarly, experiences of perceived stress (*OR* = 1.16; $p < 0.001$) were also positively associated with IPV perpetration. Additionally, in comparison to Black men without ACEs, those who were exposed to 1 (*OR* = 2.55, $p < 0.001$), 2 (*OR* = 2.28, $p = 0.012$), and ≥ 4 (*OR* = 4.37, $p < 0.001$) ACEs had higher odds of IPV perpetration, with the largest effect being for men exposed to 4 or more ACEs. There was no significant difference between men without ACEs and men exposed to 3 ACEs in terms of IPV perpetration. The average number of standard drink of alcohol consumed daily was also significantly associated with IPV perpetration (*OR* = 1.17, $p < 0.001$).

The second analysis included the moderating effects of alcohol use on the relationships between ACEs and IPV perpetration (see Table 4). This model was a better fit for the data than the null model ($F_{22,19} = 81.65$, p < 0.001). Study findings revealed that alcohol use in adulthood significantly moderated the relationship between ACEs and IPV perpetration for Black men exposed to 1, 2, and ≥ 4 ACEs. However, alcohol use had a stronger association with IPV perpetration for Black men with no ACEs, while for men with 1 (*OR* = 0.68, $p = 0.003$), 2 (*OR* = 0.67, $p = 0.012$), and ≥ 4 (*OR* = 0.68, $p < 0.004$) ACEs who consumed alcohol, there was not as close an association with IPV perpetration (see Figure 3). More specifically, alcohol use exacerbated the relationship between ACEs and IPV for men with no childhood adversity. However, for men with 1, 2, and ≥ 4 ACEs, the effect of alcohol use on the risk for IPV perpetration was less substantial.

Age was also significantly associated with IPV perpetration (*OR* = 0.96, $p < 0.001$), such that older Black men had lower odds than younger men of perpetrating IPV. Also, in comparison to men with an annual household income of less than $25,000, men who earned between $25,000–$39,999 (*OR* = 1.68, $p = 0.015$) and $70,000–$99,999 (*OR* = 0.45, $p < 0.001$) had higher and lower odds of perpetrating IPV, respectively. Black men who were in committed relationships had higher odds (*OR* = 1.58, $p = 0.047$) of perpetrating IPV in comparison to men who were never married. Having experiences of perceived stress were also associated with IPV perpetration; that is, for every one point increase in perceived stress, Black men had a 17% increase in the odds of IPV perpetration. In sum, the hypothesis for this research aim was not supported because alcohol use was only found to moderate the ACEs–IPV perpetration relationship for Black men exposed to 1, 2, and ≥ 4 ACES, but not for exposure to 3 ACEs. However, results indicate that alcohol use had a greater effect among men with no ACE exposure.

Figure 3

Moderating Effects of Alcohol Use on ACEs and IPV Perpetration



Note. The number of standard drinks consumed daily in this analysis was modified for presentation to reflect drinks between 0 and 4. The recommended daily drinking limits for men is 4 drinks with a weekly limit of 14 drinks (Wave 2 NESARC data notes, 2008).

Table 4

Logistic Regression Analysis for the Moderating Effects of Alcohol Use on ACEs and IPV Perpetration (N = 1,136)

Predictor	*B*	SE_B	*OR*	SE_{OR}	95% CI
Age	-0.03*	0.006	0.96*	0.006	[0.95, 0.98]
Employment status[1]					
Employed	-0.01	0.24	0.99	0.24	[0.60, 1.61]
Income[2]					
$25,000–$39,999	0.52**	0.20	1.68**	0.34	[1.11, 2.56]
$40,000–$69,999	-0.30	0.19	0.73	0.14	[0.50, 1.08]
$70,000–$99,999	-0.78**	0.22	0.45**	0.10	[0.28, 0.72]
≥ $100,000	-0.09	0.16	0.90	0.15	[0.64, 1.27]
Education[3]					
High school	0.71	1.06	2.03	2.15	[0.23, 17.30]
Greater than high school	0.53	1.06	1.71	1.82	[0.19, 14.74]
Marital status[4]					
Married/living with someone as if married	0.46**	0.22	1.58**	0.35	[1.00, 2.49]
Widowed/divorced/separated	0.21	0.26	1.23	0.32	[0.72, 2.11]
NBMCS	0.05	0.006	1.00	0.007	[0.99, 1.02]
Racial discrimination	0.002	0.02	1.00	0.02	[0.95, 1.04]
Perceived stress	0.15*	0.03	1.17*	0.03	[1.09, 1.24]
Number of ACEs[5]					
1	0.61**	0.29	1.83**	0.53	[1.02, 3.31]
2	0.47	0.36	1.60	0.58	[0.76, 3.35]
3	0.43	0.42	1.54	0.66	[0.65, 3.66]
≥ 4	1.13**	0.37	3.11**	1.18	[1.44, 6.70]
Alcohol use	0.50*	0.12	1.65*	0.19	[1.29, 2.10]
Number of ACEs X alcohol use					
1	-0.38**	0.12	0.68**	0.08	[0.53, 0.86]
2	-0.40**	0.15	0.67**	0.10	[0.49, 0.91]
3	-0.29	0.21	0.74	0.15	[0.48, 1.14]
≥ 4	-0.37**	0.12	0.68**	0.08	[0.53, 0.88]
Constant	-3.47**	1.28	0.03**	0.03	[0.002, 0.41]

Note. Weighted data were used in these analyses; *B* = standardized coefficients; *SE* = standard error; *OR* = odds ratio; *CI* = confidence interval; 152 strata were removed from this analysis because they contained no data for Black men; [1]Reference = not employed; [2]Reference = < $25,000; [3]Reference = less than high school education; [4]Reference = never married; [5]Reference = 0 (no ACEs); NBMCS = norm-based mental component summary score; Alcohol Use = average # of standard drink (0.6 fl oz of pure alcohol) consumed daily; *$p < 0.001$, **$p < 0.05$

Research aim 1c. To examine whether interpersonal social support moderates the relationships between (a) ACEs and IPV perpetration and (b) alcohol use in adulthood and IPV perpetration among Black men.

RA1c(a) – To examine whether interpersonal social support moderates the relationship between ACEs and IPV perpetration among Black men.

H_1: Interpersonal social support will moderate (i.e., buffer) the relationship between ACEs and IPV perpetration.

The first analysis was performed without the interaction term to better understand the individual effects of interpersonal social support, ACEs, alcohol use, and covariates on IPV perpetration in this model (see Appendix F). The sample size used in this analysis was 1,752. The overall model was significant ($F_{18,33} = 93.32$, p < 0.001), indicating that the model with predictors is a better fit for this data than the null model.

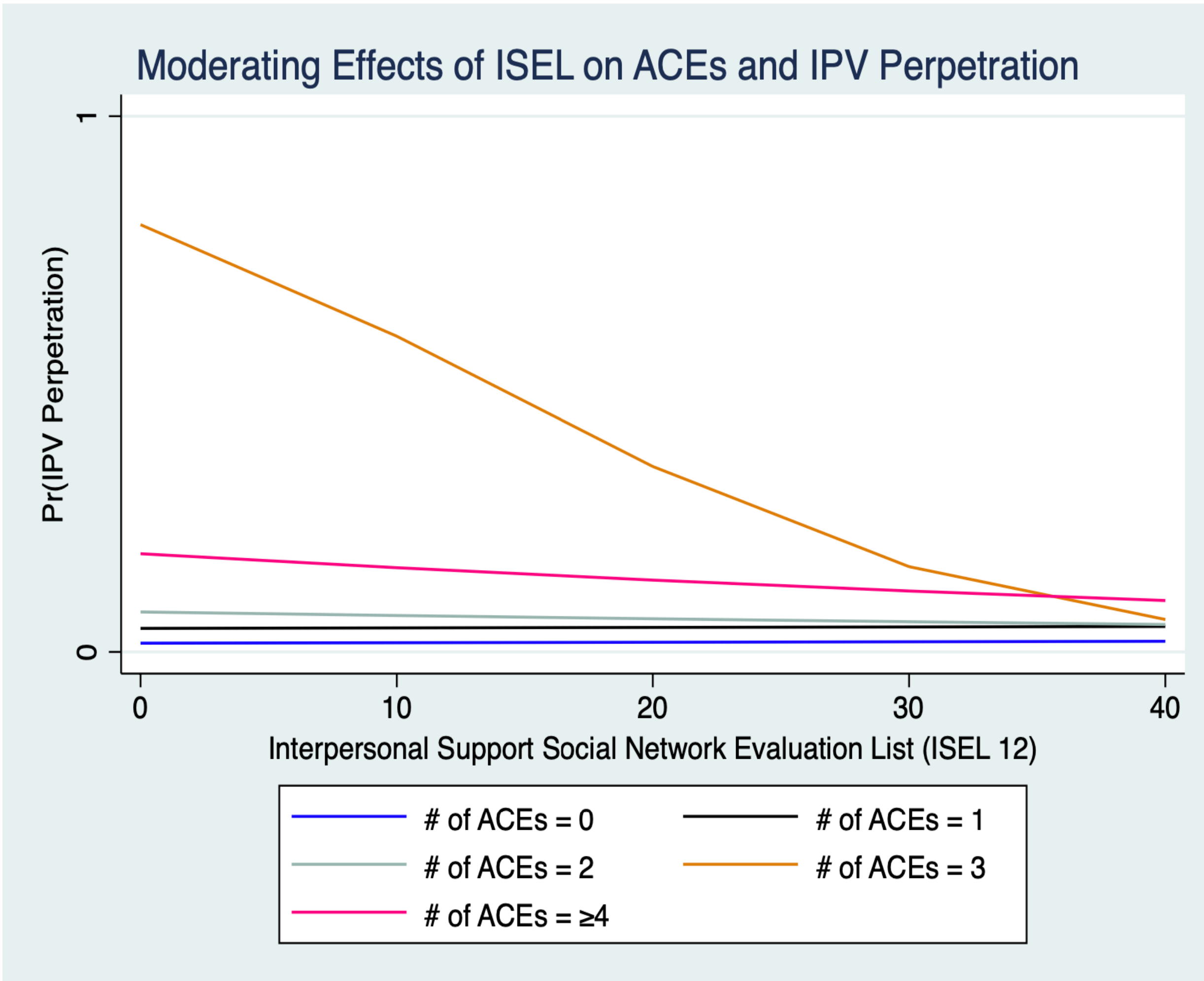
Factors that were associated with IPV perpetration among Black men were age ($OR = 0.95$, $p < 0.001$); having an income between \$25,000–\$39,999 ($OR = 1.46$, $p = 0.035$) and \$70,000–\$99,999 ($OR = 0.49$, $p < 0.001$); being married or living with someone as if married ($OR = 1.52$, $p = 0.013$); perceived stress ($OR = 1.11$, p = 0;001); being exposed to 1 ($OR = 2.45$, $p < 0.001$), 2 ($OR = 2.53$, $p = 0.002$), 3 ($OR = 2.74$, $p = 0.001$), and ≥ 4 ($OR = 4.92$, $p < 0.001$) ACEs; and having interpersonal social support ($OR = 0.97$, p = 0.02). More specifically, age and having interpersonal social support were negatively associated with IPV perpetration. Individuals who experienced perceived stress had 11% higher odds of perpetrating IPV. In comparison to men with an annual household income of less than \$25,000, having an income between \$25,000–\$39,999 was positively associated with perpetration, whereas having an income between \$70,000–

$99,999 was negatively associated with perpetration of IPV. Exposure to 1, 2, 3, and ≥ 4 ACEs were all positively associated with perpetration, with the largest effect being for men exposed to ≥ 4 ACEs when compared to men without such exposure.

A second logistic regression analysis was run with the inclusion of the interaction term for social support and ACEs (see Table 5). The model was a better fit for the data than the null model ($F_{22,29} = 89.08$, $p < 0.001$). Interpersonal social support moderated the relationship between ACEs and IPV perpetration, but only for individuals who experienced three ACE factors and not those who were exposed to 1, 2, or ≥ 4 factors. Specifically, higher levels of interpersonal social support buffered the risk for IPV perpetration among men with 3 childhood adversities ($OR = 0.88$, $p = 0.006$; see Figure 4).

Figure 4

Moderating Effects of Interpersonal Social Support on ACEs and IPV Perpetration



Other predictors of IPV perpetration among Black men in this model were age; having an income between \$25,000–\$39,999 and \$70,000–\$99,999; being married or living with someone as if married; and perceived stress. More specifically, an increase in age was associated with lower odds of perpetrating IPV (*OR* = 0.95, $p < 0.001$). In comparison to men who had an annual household income of < \$25,000, men with household income between \$25,000–\$39,999 (*OR* = 1.46, $p = 0.041$) had greater odds of perpetrating IPV, while men with annual income between \$70,000–\$99,999 (*OR* = 0.50,

$p = 0.001$) had lower odds for IPV perpetration. Additionally, men who were married or living with someone as if married had approximately 50% higher odds ($OR = 1.56$, $p = 0.010$) of perpetrating IPV when compared to men who were never married. Having perceived stress was also significantly associated with IPV perpetration ($OR = 1.12$, $p = 0.001$), such that for every one point increase in perceived stress score Black men had 12% greater odds for IPV perpetration.

In sum, the hypothesis for this research aim that interpersonal social support will moderate (buffer) the relationship between ACEs and IPV perpetration was partially supported. Interpersonal social support moderated the relationship for men with 3 ACEs and not those exposed to 1, 2, and ≥ 4 childhood adversities. Specifically, higher levels of interpersonal social support was found to buffer the risk for IPV perpetration only among men with 3 childhood adversities.

Table 5

Logistic Regression Analysis for the Moderating Effects of Interpersonal Social Support on ACEs and IPV Perpetration (N = 1,752)

Predictor	*B*	SE_B	*OR*	SE_{OR}	95% CI
Age	-0.04*	0.006	0.95*	0.005	[0.94, 0.97]
Employment status[1]					
Employed	0.02	0.21	1.02	0.21	[0.66, 1.57]
Income[2]					
$25,000–$39,999	0.38**	0.18	1.46**	0.26	[1.01, 2.10]
$40,000–$69,999	-0.17	0.18	0.83	0.15	[0.57, 1.21]
$70,000–$99,999	-0.67**	0.19	0.50**	0.09	[0.34, 0.75]
≥ $100,000	-0.20	0.14	0.81	0.12	[0.60, 1.09]
Education[3]					
High school	0.55	0.78	1.74	1.37	[0.35, 8.51]
Greater than high school	0.37	0.79	1.45	1.15	[0.29, 7.17]
Marital status[4]					
Married/living with someone as if married	0.44**	0.167	1.56**	0.26	[1.12, 2.18]
Widowed/divorced/separated	0.22	0.24	1.25	0.29	[0.77, 2.02]
NBMCS	0.007	0.006	1.00	0.006	[0.99, 1.01]
Racial discrimination	-0.005	0.01	0.99	0.01	[0.96, 1.03]
Perceived stress	0.11**	0.03	1.12**	0.03	[1.05, 1.19]
Number of ACEs[5]					
1	1.03	1.98	2.82	5.59	[0.05, 151.19]
2	1.61	2.08	5.05	10.53	[0.07, 334.02]
3	5.95**	1.81	385.93**	701.46	[10.02, 14,859.43]
≥ 4	2.71	1.84	15.08	27.74	[0.37, 606.76]
ISEL	0.005	0.04	1.00	0.04	[0.922, 1.09]
Number of ACEs X ISEL					
1	-0.003	0.04	0.99	0.04	[0.90, 1.09]
2	-0.01	0.05	0.98	0.04	[0.89, 1.08]
3	-0.11**	0.04	0.88**	0.03	[0.81, 0.96]
≥ 4	-0.02	0.04	0.97	0.04	[0.89, 1.06]
Constant	-3.82	1.96	0.02	0.04	[0.00, 1.13]

Note. Weighted data were used in these analyses; *B* = standardized coefficients; *SE* = standard error; *OR* = odds ratio; *CI* = confidence interval; 126 strata were removed from this analysis because they contained no data for Black men; [1]Reference = not employed; [2]Reference = < $25,000; [3]Reference = less than high school education; [4]Reference = never married; [5]Reference = 0 (no ACEs); NBMCS = norm-based mental component summary score; ISEL = interpersonal social support; *p < 0.001; **p < 0.05

RA1c(b) – To examine whether interpersonal social support moderates the relationship between alcohol use and IPV perpetration among Black men.

H_2: Interpersonal social support will moderate (i.e. buffer) the relationship between alcohol use in adulthood and IPV perpetration.

The first model run without the moderating effects of interpersonal social support on alcohol use and IPV perpetration was a better fit for the data than the null model ($F_{15,26} = 20.48$, $p < 0.001$). The sample used to answer this research aim was 1,137 (see Appendix G). Without the inclusion of the moderating effect, age ($OR = 0.96$, $p < 0.001$); having an income between \$25,000–\$39,999 ($OR = 1.62$, p = 0.013) and \$70,000–\$99,999 ($OR = 0.51$, $p = 0.004$); being married or living with someone as if married ($OR = 1.60$, $p = 0.031$); perceived stress ($OR = 1.17$, $p < 0.001$); and alcohol use ($OR = 1.19$, $p < 0.001$) were statistically significant predictors of IPV perpetration among Black men. Increase in age was associated with lower IPV perpetration. Men with an annual household income of between \$25,000–\$40,000 had 62% higher odds of perpetrating IPV when compared to men with income of < \$25,000. However, having income between \$70,000–\$99,999 was associated with a reduced likelihood of IPV perpetration when compared to men who earned < \$25,000. Additionally, being in a committed relationship was associated with increased odds for IPV perpetration by Black men in comparison to men who were never married. Men who experienced perceived stress and who consumed alcohol had 17% and 19% higher odds of perpetrating IPV. Employment status, education, NBMCS, perceived experiences of racial discrimination, and interpersonal social support were not significantly associated with IPV perpetration among Black men in this model.

The logistic regression analysis with the inclusion of the interaction term was a better fit for the data than the null model ($F_{16,25} = 16.28$, $p < 0.001$; see Table 6). Interpersonal social support exacerbated the relationship between alcohol use and IPV perpetration among Black men ($OR = 1.01$, $p = 0.004$). That is, Black men with higher social support who drank alcohol were more likely to perpetrate IPV in comparison to men without such levels of support who drank.

Additionally, age ($OR = 0.96$, $p < 0.001$); having an annual household income between \$25,000–\$39,999 ($OR = 1.67$, $p = 0.01$) and \$70,000–\$99,999 ($OR = 0.52$, $p = 0.005$); being married or living with someone as if married ($OR = 1.60$, $p = 0.03$); and perceived stress ($OR = 1.17$, $p < 0.001$) were significant predictors of IPV perpetration in this model. Older Black men had lower odds of perpetrating IPV. When compared to men who had a household income of < \$25,000 per year, those with income between \$25,000–\$39,999 and \$70,000–\$99,999 had higher and lower odds of perpetrating IPV, respectively. Men who were married or living with a partner had 60% greater odds of perpetrating IPV when compared to men who were never married. Finally, for every one unit increase in perceived stress score, Black men had 17% greater odds for IPV perpetration. In summary, findings showed that higher interpersonal social support exacerbated the relationship between alcohol use in adulthood and IPV perpetration, which is not in alignment with the hypothesis.

Table 6

Logistic Regression Analysis for the Moderating Effects of Interpersonal Social Support on Alcohol Use and IPV Perpetration (N = 1,137)

Predictor	*B*	SE_B	*OR*	SE_{OR}	95% CI
Age	-0.03*	0.006	0.96*	0.05	[0.95, 0.97]
Employment status[1]					
Employed	0.17	0.23	1.18	0.27	[0.73, 1.90]
Income[2]					
$25,000–$39,999	0.51**	0.19	1.67**	0.31	[1.13, 2.45]
$40,000–$69,999	-0.28	0.18	0.75	0.14	[0.51, 1.10]
$70,000–$99,999	-0.65**	0.22	0.52**	0.11	[0.33, 0.81]
≥ $100,000	-0.05	0.16	0.95	0.15	[0.67, 1.33]
Education[3]					
High school	0.69	1.03	2.00	2.07	[0.24, 16.28]
Greater than high school	0.52	1.02	1.68	1.73	[0.21, 13.49]
Marital status[4]					
Married/living with someone as if married	0.47**	0.21	1.60**	0.33	[1.05, 2.45]
Widowed/divorced/separated	0.28	0.25	1.33	0.33	[0.79, 2.22]
NBMCS	-0.001	0.006	1.00	0.006	[0.98, 1.01]
Racial discrimination	0.01	0.02	1.00	0.02	[0.96, 1.05]
Perceived stress	0.16*	0.02	1.17*	0.03	[1.11, 1.24]
Alcohol use	-0.40*	0.18	0.67**	0.12	[0.46, 0.98]
ISEL	-0.01	0.01	1.00	0.14	[0.96, 1.01]
Alcohol use X ISEL	0.01*	0.004	1.01**	0.004	[1.00, 1.02]
Constant	-2.31**	1.03	0.10**	0.10	[0.01, 0.80]

Note. Weighted data were used in these analyses; *B* = standardized coefficients; *SE* = standard error; *OR* = odds ratio; *CI* = confidence interval; 152 strata were removed from this analysis because they contained no data for Black men; [1]Reference = not employed; [2]Reference = < $25,000; [3]Reference = less than high school education; [4]Reference = never married; NBMCS = norm-based mental component summary score; ISEL = interpersonal social support; Alcohol Use = average # of standard drink (0.6 fl oz of pure alcohol) consumed daily; *$p < 0.001$; **$p < 0.05$

Research aim 2. To examine if higher cumulative ACE score is associated with increased alcohol use and IPV perpetration in adulthood among Black men.

The results for this research aim are presented below in two parts, one that examines if (a) higher cumulative ACE score is associated with increased alcohol use in adulthood and (2) if higher cumulative ACE score is associated with IPV perpetration among Black men.

RA2(a). To examine if higher cumulative ACE score is associated with increased alcohol use in adulthood among Black men.

H_1: Higher ACE score is positively associated with alcohol use in adulthood.

The sample used for this analysis was 1,418 (see Table 7). The overall model was a better fit for the data than the null model ($F_{14,33} = 51.71$, $p < 0.001$). The cumulative ACE score was significantly associated with alcohol use in adulthood ($B = 0.04$, $p = 0.004$). That is, for every one additional ACE, there was a 0.04 increase in the number of alcoholic drinks consumed daily among Black men.

Similarly, age; annual income between \$25,000–\$39,999, \$40,000–\$69,999, \$70,000–\$99,999, and ≥ \$100,000; having high school and greater than high school education; being married or living with someone as if married; and perceived stress were significantly associated with alcohol use in adulthood. More specifically, an increase in age ($B = -0.01$, $p = 0.01$) was associated with a reduction in the average number of alcoholic drinks consumed daily. Furthermore, when compared to men with an annual household income of < \$25,000, those with income between \$25,000–\$39,999 ($B = -0.47$, $p < 0.001$); \$40,000–\$69,999 ($B = -0.40$, $p = 0.004$); \$70,000–\$99,999 ($B = -0.23$, $p = 0.009$); and ≥ \$100,000 ($B = -0.49$, $p < 0.001$) consumed less alcohol daily. Educational attainment had a positive, significant association with alcohol use; that is, having a high school education ($B = 0.82$, $p < 0.001$) and education above high school ($B = 0.48$, $p = 0.014$) was a positive significant predictor of alcohol use among Black men when compared to men with less than high school education. Black men who were married or living with someone as if married (*B* = -0.19, *p* = 0.013) consumed less alcohol per day when compared to men who were never married. Additionally, perceived stress score (*B* = 0.06, *p* < 0.001) was positively associated with the number of alcoholic drinks consumed per day. In summary, the hypothesis that higher ACE score is positively associated with alcohol use was supported. Additionally, five covariates were found to be significantly associated with alcohol use.

Table 7

Regression Analysis Examining if Higher ACE Score is Associated with Alcohol Use in Adulthood (N = 1,418)

Predictor	*B*	SE_B	95% CI
ACE score	0.04*	0.013	[0.01, 0.066]
Age	-0.01**	0.003	[-0.01, -0.005]
Employment status[1]			
Employed	0.06	0.08	[-0.09, 0.22]
Income[2]			
$25,000–$39,999	-0.47*	0.08	[-0.65, -0.29]
$40,000–$69,999	-0.40**	0.13	[-0.67, 0.13]
$70,000–$99,999	-0.23**	0.08	[-0.40, -0.06]
≥ $100,000	-0.49*	0.09	[-0.67, -0.30]
Education[3]			
High school	0.82*	0.18	[0.45, 1.20]
Greater than high school	0.48**	0.19	[0.10, 0.87]
Marital status[4]			
Married/living with someone as if married	-0.19**	0.07	[-0.34, -0.04]
Widowed/divorced/separated	-0.17	0.09	[-0.36, 0.02]
NBMCS	-0.04	0.06	[-0.01, 0.009]
Racial discrimination	-0.01	0.09	[-0.03, 0.02]
Perceived stress	0.06*	0.01	[0.03, 0.08]
Constant	-1.44	0.51	[-2.48, -0.40]

Note. Weighted data were used in these analyses; B = standardized coefficients; SE = standard error; OR = odds ratio; CI = confidence interval; 132 strata were removed from this analysis because they contained no data for Black men; [1]Reference = not employed; [2]Reference = < $25,000; [3]Reference = less than high school; [4]Reference = never married; NBMCS = norm-based mental component summary score; Alcohol consumption = average daily # of standard drink (0.6 fl oz of pure alcohol) consumed;
*p < 0.001; **p < 0.05

RA2(b). To examine if higher cumulative ACE score is associated with IPV perpetration among Black men.

H_2: Higher ACE score is positively associated with IPV perpetration.

A sample of 1,753 Black men were used in this analysis (see Table 8). This model was a better fit for the data than the null model ($F_{14,37} = 53.23$, $p < 0.001$). Results suggested that higher cumulative ACE score was positively and significantly associated with IPV perpetration ($OR = 1.24$, $p < 0.001$). More specifically, for every additional ACE, Black men had 24% greater odds of perpetrating IPV.

Age; having an annual household income of \$70,000–\$99,999; being married or living with someone as if married; and perceived stress were also found to be significant predictors of IPV perpetration among this sample of Black men. Older Black men had lower odds ($OR = 0.96$, $p < 0.001$) of perpetrating IPV. Also, men with annual household income of \$70,000–\$99,999 ($OR = 0.46$, $p < 0.001$) and those with income of ≥ \$100,000 ($OR = 0.72$, $p = 0.033$) had lower odds of perpetrating IPV in comparison to men who earned < \$25,000. Additionally, being married or living with someone as if married ($OR = 1.45$, $p = 0.023$) indicated greater odds of perpetrating IPV when compared with men who were never married. Perceived stress was also significantly associated with IPV perpetration, such that for every one point increase in perceived stress score, Black men had 12% higher odds of perpetrating IPV. In summary, the hypotheses for this research aim, that higher ACE score is positively associated with IPV perpetration, was supported.

Table 8

Logistic Regression Analysis Examining if Higher ACE Score is Associated with IPV Perpetration in Adulthood (N = 1,753)

Predictor	*B*	SE_B	*OR*	SE_{OR}	95% CI
ACEs score	0.21*	0.04	1.24*	0.05	[1.14, 1.34]
Age	-0.04*	0.005	0.96*	0.005	[0.95, 0.97]
Employment status[1]					
Employed	0.05	0.21	1.05	0.22	[0.69,1.60]
Income[2]					
\$25,000–\$39,999	0.26	0.17	1.30	0.23	[0.91, 1.87]
\$40,000–\$69,999	-0.27	0.18	0.75	0.14	[0.52, 1.10]
\$70,000–\$99,999	-0.75*	0.19	0.46*	0.08	[0.31, 0.69]
≥ \$100,000	-0.31**	0.14	0.72**	0.10	[0.54, 0.97]
Education[3]					
High school	0.46	0.79	1.59	1.25	[0.32, 7.78]
Greater than high school	0.35	0.80	1.42	1.14	[0.28, 7.15]
Marital status[4]					
Married/living with someone as if married	0.37**	0.16	1.45**	0.23	[1.05, 2.00]
Widowed/divorced/separated	0.23	0.24	1.26	0.31	[0.76, 2.07]
NBMCS	0.004	0.006	1.00	0.006	[0.99, 1.01]
Racial discrimination	0.007	0.02	1.00	0.02	[0.96, 1.04]
Perceived stress	0.12*	0.03	1.12*	0.03	[1.06, 1.19]
Constant	-2.91**	0.95	0.05**	0.05	[0.007, 0.37]

Note. Weighted data were used in these analyses; *B* = standardized coefficients; *SE* = standard error; *OR* = odds ratio; *CI* = confidence interval; 126 strata were removed from this analysis because they contained no data for Black men; [1]Reference = not employed; [2]Reference = < \$25,000; [3]Reference = less than high school education; [4]Reference = never married; NBMCS = norm-based mental component summary score; *$p < 0.001$; **$p < 0.05$

Research aim 3. To examine if racial discrimination is significantly associated with increased alcohol use and IPV perpetration among Black men.

Results for this research aim are provided below in two parts. First, the results are provided for (1) the relationship between racial discrimination and alcohol use in adulthood and (2) for the relationship between racial discrimination and IPV perpetration among Black men.

RA3(a). To examine if racial discrimination is significantly associated with increased alcohol use among Black men.

H_1: Racial discrimination is positively associated with alcohol use in adulthood

The OLS regression for this research aim included a sample of 1,421 Black men (see Table 9). This model was a better fit for the data than the null model ($F_{13,34} = 54.66$, p < 0.001). Racial discrimination was not significantly associated with alcohol use (B = -0.01; p = 0.26). Age (B = -0.01; p = 0.001); household income of \$25,000–\$39,999 (B = -0.46, p < 0.001), \$40,000–\$69,999 (B = -0.40, p = 0.004), \$70,000–\$99,999 (B = -0.22, p = 0.013), and ≥ \$100,000 (B = -0.49, p < 0.001); high school (B = 0.83, p < 0.001) and greater than high school education (B = 0.49, p = 0.013); being married or living with someone as if married (B = -0.19, p = 0.013); and perceived stress (B = 0.06, p < 0.001) were significantly associated with alcohol use. More specifically, older Black men consumed less alcohol per day. In comparison to men who earned an annual household income of < \$25,000, those who earned \$25,000–\$39,999, \$40,000–\$69,999, \$70,000–\$99,999, and ≥ \$100,000 consumed less alcohol per day. Conversely, higher education was associated with increased alcohol per day. Being married or living with someone as if married was also associated with a reduction in the average number of standard drinks consumed per day in comparison to men who were never married. Finally, increased perceived stress was associated with increased daily alcohol use. The result for this research aim did not support the hypothesis that racial discrimination had a direct effect on alcohol use in adulthood among Black men.

Table 9

Regression Analysis Examining if Racial Discrimination is Associated with Alcohol Use in Adulthood (N = 1,136)

Predictor	*B*	SE_B	95% CI
Age	-0.01**	0.003	[-0.01, -0.005]
Employment status[1]			
Employed	0.07	0.08	[-0.08, 2.35]
Income[2]			
$25,000–$39,999	-0.46*	0.08	[-0.64, 0.29]
$40,000–$69,999	-0.40**	0.13	[-0.67, 0.13]
$70,000–$99,999	-0.22**	0.08	[-0.39, - 0.05]
≥ $100,000	-0.49*	0.09	[-0.68, - 0.30]
Education[3]			
High school	0.83*	0.18	[0.46, 1.20]
Greater than high school	0.49**	0.19	[0.11, 0.87]
Marital status[4]			
Married/living with someone as if married	-0.19**	0.07	[-0.34, - 0.04]
Widowed/divorced/separated	-0.17	0.09	[-0.36, 0.02]
NBMCS	-0.005	0.06	[-0.02, 0.008]
Racial discrimination	-0.01	0.09	[-0.03, 0.008]
Perceived stress	0.06*	0.01	[-0.03, 0.08]
Constant	-1.32	0.51	[-2.36, -2.80]

Note. Weighted data were used in these analyses; *B* = standardized coefficients; *SE* = standard error; *CI* = confidence interval; 132 strata were removed from this analysis because they contained no data for Black men; [1]Reference = not employed; [2]Reference = < $25,000; [3]Reference = less than high school education; [4]Reference = never married; NBMCS = norm-based mental component summary score; Alcohol Use = average # of standard drink (0.6 fl oz of pure alcohol) consumed daily;
*p < 0.001; **p < 0.05

RA3(b). To examine if racial discrimination is significantly associated with IPV perpetration among Black men.

H_2: Racial discrimination is positively associated with IPV perpetration.

The sample size for this analysis was 1,754 Black men (see Table 10). This model was a better fit for the data than the null model ($F_{13,38} = 54$, $p < 0.001$). Racial discrimination was not found to be significantly associated (*OR* = 1.03, $p = 0.072$) with IPV perpetration among Black men. However, age; having an annual income between

$70,000–$99,999; being married or living with someone as if married; and perceived stress were significantly associated with IPV perpetration among Black men. Older Black men had lower odds for perpetrating IPV. Black men with annual household income between $70,000–$99,999 had lower odds of perpetrating IPV when compared to men with household income of < $25,000. Black men who were married or living with someone as if married had 1.5 times the odds of perpetrating IPV than men who were never married. Additionally, for every one point increase in perceived stress score, Black men had 14% greater odds of perpetrating IPV. In summary, the hypothesis for this research aim was not supported because racial discrimination was not found to be a significant predictor of IPV perpetration among Black men.

Table 10

Logistic Regression Analysis Examining if Racial Discrimination is Associated with IPV Perpetration in Adulthood (N = 1,754)

Predictor	B	SE_B	OR	SE_{OR}	95% CI
Age	-0.03*	0.005	0.96*	0.005	[0.95, 0.97]
Employment status[1]					
Employed	0.08	0.20	1.09	0.22	[0.71, 1.66]
Income[2]					
\$25,000–\$39,999	0.33	0.17	1.39	0.24	[0.98, 1.97]
\$40,000–\$69,999	-0.20	0.17	0.81	0.14	[0.56, 1.16]
\$70,000–\$99,999	-0.55**	0.17	0.57**	0.99	[0.40, 0.81]
≥ \$100,000	-0.26	0.14	0.76	0.10	[0.58, 1.01]
Education[3]					
High school	0.51	0.75	1.66	1.25	[0.36, 7.57]
Greater than high school	0.33	0.75	1.39	1.05	[0.30, 6.34]
Marital status[4]					
Married/living with someone as if married	0.40**	0.15	1.503**	0.23	[1.09, 2.06]
Widowed/divorced/separated	0.31	0.22	1.37	0.31	[0.86, 2.17]
NBMCS	-0.004	0.005	0.99	0.005	[0.98, 1.00]
Racial discrimination	0.03	0.01	1.03	0.01	[0.99, 1.07]
Perceived stress	0.13*	0.02	1.14*	0.03	[1.08, 1.20]
Constant	-2.27	0.86	0.10	0.08	[0.01, 0.58]

Note. Weighted data were used in these analyses; *B* = standardized coefficients; *SE* = standard error; *OR* = odds ratio; *CI* = confidence interval; 126 strata were removed from this analysis because they contained no data for Black men; [1]Reference = not employed; [2]Reference = < \$25,000; [3]Reference = less than high school education; [4]Reference = never married; NBMCS = norm-based mental component summary score; *$p < 0.001$; **$p < 0.05$

Research aim 4. To identify how subgroups of ACEs (individually or in combination) are associated with excessive alcohol use and IPV perpetration among Black men in adulthood.

Model Fit Evaluation

A latent class analysis was run beginning with a one-class solution and subsequent addition of one class at a time to the model. Examination of the Akaike Information Criterion (AIC), Bayes Information Criterion (BIC), sample size-adjusted

BIC, entropy, Vuong-Lo-Mendell Rubin Log Likelihood Ratio Test (LRT), and the adjusted LRT test values was done with the addition of each class to determine whether there was an improvement in measures of model fit. Improved model fit was demonstrated with the addition of each class, with the exception of class 4, where some indicators did not converge and the threshold fixed. Given lower values for AIC (16,856.65), BIC (17,040.44), sample size-adjusted BIC (16,938.77), high entropy value (0.80; Celeux & Soromenho, 1996), and significant Vuong-Lo-Mendell-Rubin Log Likelihood Ratio Test (-8,650.92, $p < 0.001$) and adjusted LRT test (503.27, $p < 0.001$) in comparison to the one and two class models, the three class model was selected (see Table 11). Class 1 membership indicates high ACEs, class 2 is reflective of medium ACEs, while class 3 represents low ACEs.

Table 11

Model Fit Evaluation

Classes	LL	AIC	BIC	Sample Size-Adjusted BIC	Entropy	Vuong-Lo-Mendell-Rubin Log Likelihood Ratio Test	Adjusted LRT Test
Class 1	-10,115.2	20,252.41	20,315.59	20,280.64	-	-	-
Class 2	-8650.92	17,343.84	17,464.45	17,397.73	0.78	-9,693.15*	2,084.46*
Class 3	-8,396.32	16,856.65	17,040.44	16,938.77	0.80	-8,650.92*	503.27*

Note. Weighted data were used in these analyses; LL = log likelihood; AIC = Akaike Information Criterion; BIC = Bayes Information Criterion; LRT = log likelihood ratio test;
*$p < 0.001$; **$p < 0.05$

Description of Sample Based on Class Membership

Two thousand three hundred and six Black men were classified across three classes: Class 1 (high exposure to ACEs; $n = 238$), class 2 (medium exposure to ACEs; $n = 763$), and class 3 (low exposure to ACEs; $n = 1,305$; see Appendix H). Black men in the high exposure group (class 1) had a mean age of 42 years ($SD = 13.58$). The majority

(95%; n = 229) of these men were born in the United States; more than 50% were married or living with someone as if married (52%; *n* = 114); 96% (*n* = 229) identified as heterosexual (straight); 71% were employed (*n* = 163); and 81% (*n* = 198) had ≥ 4 ACEs. In terms of specific ACEs, men in this class mostly experienced physical neglect (67%; *n* = 156), emotional abuse (63%; *n* = 161), physical abuse (62%; *n* = 155), witnessed their mother being abused (57%; *n* = 139), had a parent or caregiver with an alcohol problem (81%; *n* = 194), or had a parent or caregiver who was incarcerated (68%; *n* = 165).

Class 2 (medium ACE exposure) members had a mean age of 45 years (*SD* = 14.49) and were mostly born in the United States (91%; *n* = 700). More than 50% (56%; *n* = 379) were married or living with someone as if married; 97% (*n* = 741) identified as heterosexual (straight); 54% (*n* = 416) had greater than high school education; 75% (*n* = 537) were employed; and 70% (*n* = 504) were current drinkers. The mode for ACE in this group was 2 factors (34%; *n* = 264). The ACEs that were most common among this class were physical neglect (57%; *n* = 443), emotional abuse (92%; *n* = 697), and physical abuse (88%; *n* = 669).

Men with class 3 (low exposure) membership had a mean age of 45 years (*SD* = 16.95), and 89% (*n* = 1186) were born in the United States. About half of these men were married or living with someone as if married (49%; *n* = 604) and had a high school education (47%; *n* = 609). The majority were employed (66%; *n* = 812), and 99% (*n* = 1,287) identified as heterosexual (straight). More than one half of men with class 3 membership were also current drinkers (61%; *n* = 766) and were not exposed to any ACEs (56%; *n* = 721). Despite the majority of the class 3 sample not having any childhood adversity, those who did mostly experienced physical neglect (11%; n = 158), emotional abuse (9%; n = 127), physical abuse (7%; n = 100), and having a parent or caregiver in the household with an alcohol problem (10%; n = 123).

Although Black men in all three groups were exposed to one or more ACEs, there were differences in the types of childhood adversities experienced. Specifically, men in the high exposure group (class 1) reported more experiences of household dysfunction and neglect when compared to men in medium (class 2) and low (class 3) exposure groups. That is, Black men in the high exposure group reported more experiences of witnessing their mother being abused (57%; n = 139), having a parent/caregiver in the household with an alcohol problem (81%; n = 194), a drug problem (50%; n = 107), a mental illness (32%; n = 84), and/or who was incarcerated (68%; n = 165), and both physical (67%; n = 156) and emotional neglect (18%; n = 39) when compared to the other groups. Also, men in the medium exposure group reported more experiences of emotional (92%; n = 697) and physical abuse (88%; n = 669) than men in the high and low exposure groups.

Probabilities of Class Membership

Individuals with class one membership had the highest classification probability of being in that class (0.79) in comparison to classes 2 (0.16) and 3 (0.05; see Table 12). Similarly, individuals with Class 2 and 3 membership had a 0.90 and 0.95 probability of being in class 2 and class 3, respectively, as opposed to the other two classes.

Table 12

Classification Probabilities for the Most Likely Latent Class Membership

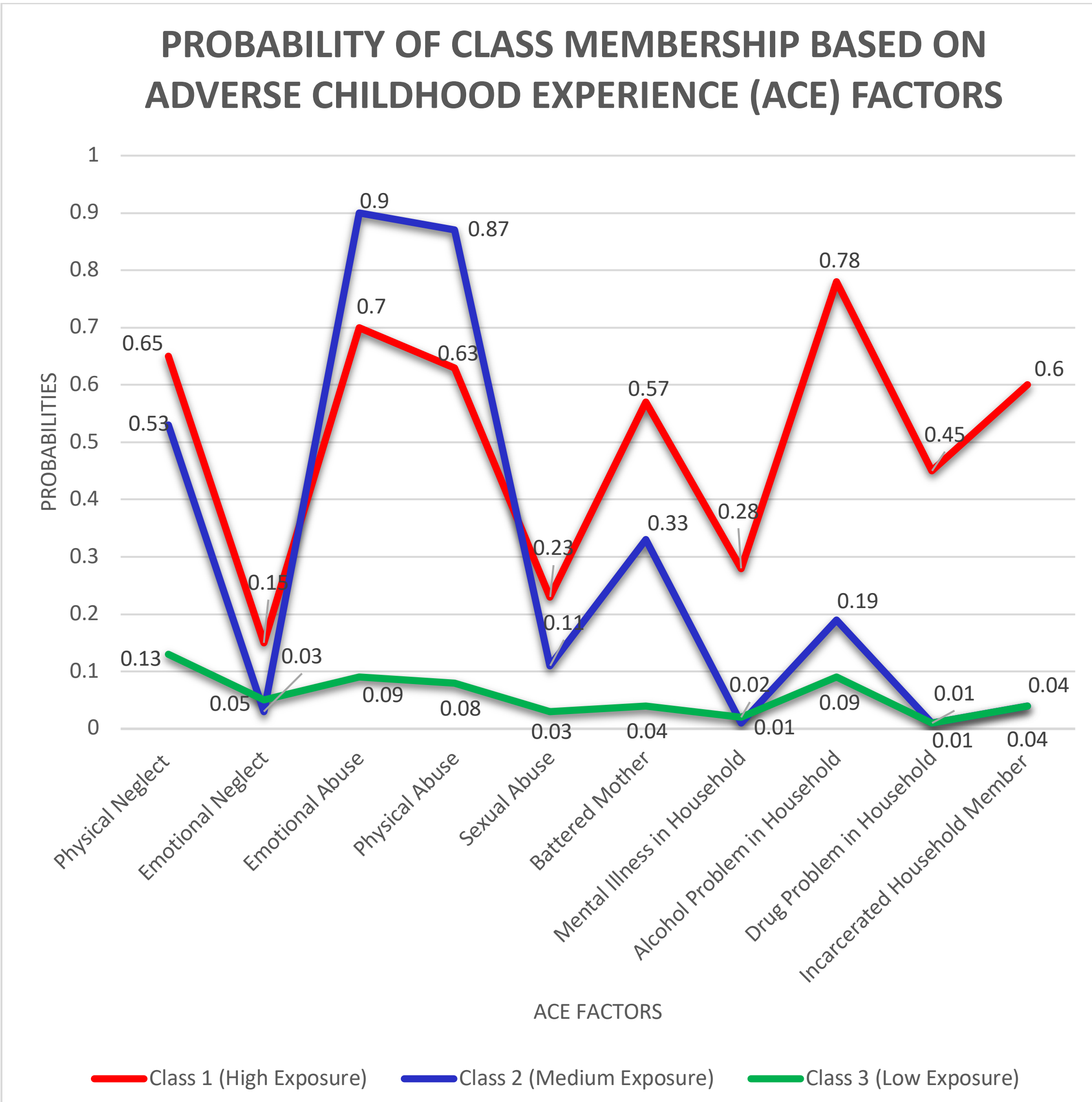
Classes	Class Probabilities		
	Class 1	Class 2	Class 3
Class 1 (High Exposure)	0.79	0.16	0.05
Class 2 (Medium Exposure)	0.03	0.90	0.07
Class 3 (Low Exposure)	0.01	0.04	0.95

Note. Weighted data were used in these analyses.

Figure 5 presents a graphical depiction of the probability of Black men's class membership based on their experiences with childhood adversity. Black men who had an individual in their household with an alcohol problem (0.78), were emotionally abused (0.70), and/or were physically neglected (0.65) had higher probabilities of being in the high exposure class (class 1). Men who were exposed to emotional neglect had the lowest probability of class 1 membership (0.15). Individuals who experienced emotional neglect (0.90) and physical abuse (0.87) had the highest probability of being a member in the medium ACE exposure (class 2) group. However, Black men who had an individual with a mental illness (0.01) and/or a drug problem (0.01) in the household had the lowest probability of being in class 2, although drug problems in the household were not significantly associated with class membership ($p = 0.27$). A change in the ACEs factors more commonly experienced by men in the low exposure class (class 3) was observed: Notably, Black men exposed to physical neglect (0.13), emotional abuse (0.09), and having a member with alcohol problems in the household (0.09) had the highest probabilities of class 3 membership. Overall, being exposed to emotional and physical abuse, having a battered mother, and having an individual with alcohol problems in household were the most common ACEs across men in all three classes.

Figure 5

Probability of Class Membership Based on ACE Factors



Note: Weighted data were used in these analyses.

Risk for IPV Perpetration Based on Class Membership

The sample size for this model was 1,754 after cases with missing on all variables were removed (see Table 13). Men who perpetrated IPV with class 1, 2, and 3 membership represented 25 (1.4%), 51 (3%), and 31 (1.8%) cases in the model. The predictive model was a better fit for the data than the null model ($F_{2,49} = 23.34$, $p < 0.001$). Membership in classes 1 (high exposure to ACEs) and 2 (medium exposure to ACEs) were significant predictors of IPV perpetration among Black men in comparison to class 3 (low ACE exposure). Black men in the high exposure to ACEs class (class 1 membership) had 4 times the odds ($OR = 4.36$, $p < 0.001$) of perpetrating IPV when compared to men with low exposure (class 3). Similarly, in comparison to men with low ACE exposure (class 3), men with medium exposure (class 2) to ACEs had 2 times ($OR = 2.28$, $p < 0.001$) greater odds of perpetrating IPV. Additionally, men with membership in class 1 (0.13, $p < 0.001$) and class 2 (0.8, $p < 0.001$) had the highest predicted probability of perpetrating IPV in comparison to those with class 3 membership (0.035, $p < 0.001$; see Figure 6).

Table 13

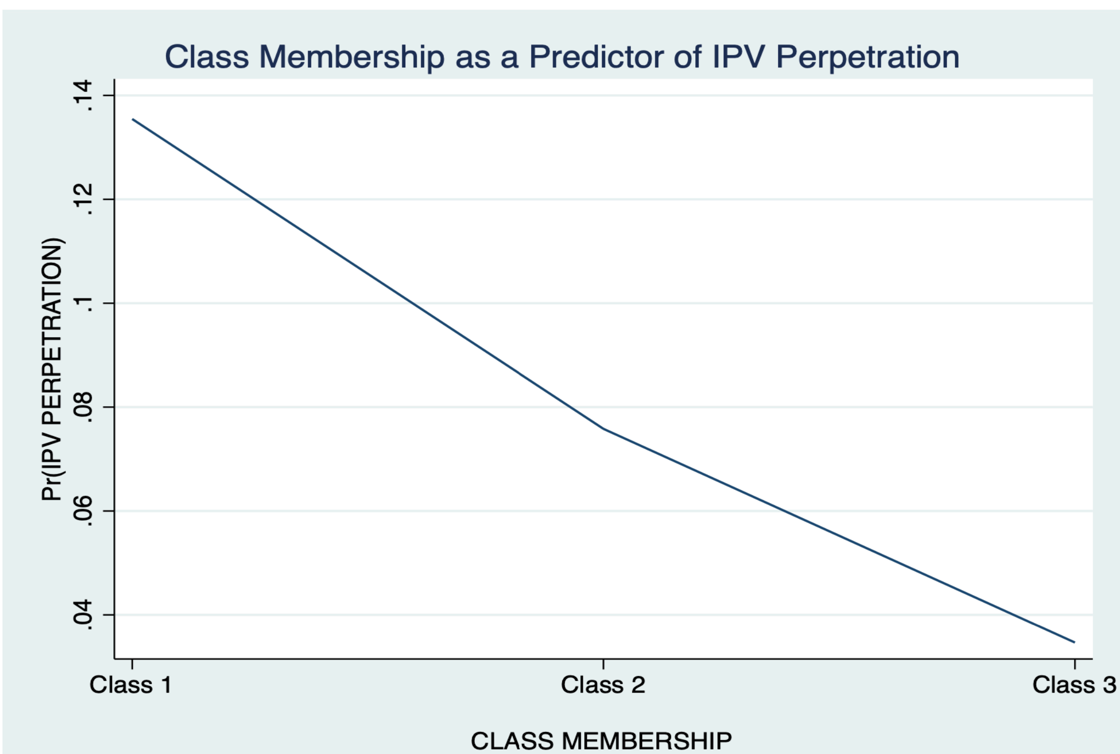
Logistic Regression Analysis for IPV Perpetration and Class Membership (N = 1,754)

Predictor	*B*	SE_B	*OR*	SE_{OR}	95% CI
Class membership[1]:					
Class 1 (High Exposure)	1.47*	0.22	4.36*	0.99	[2.76, 6.89]
Class 2 (Medium Exposure)	0.82*	0.14	2.28*	0.33	[1.70, 3.06]
Constant	-3.32*	0.10	0.35*	0.004	[0.03, 0.04]

Note. Weighted data were used in these analyses; *B* = standardized coefficient; *SE* = standard error; *OR* = odds ratio; *CI* = confidence interval; [1]Reference group = Class 3 (low exposure); *p < 0.001

Figure 6

IPV Perpetration by Black men as Predicted by Class Membership



Risk for Excess Alcohol Use Based on Class Membership

The sample size for this model was 1,421 after cases with missing on all variables were removed (see Table 14). Cases of men who exceeded daily (>2 standard drinks) and weekly alcohol limits (>14 standard drinks; Wave 2 NESARC Data Notes, 2008) included 81 (5.7%) men in class in 1, 235 (16.5%) in class 2, and 355 (25%) in class 3. The predictive model was a better fit for the data than the null model ($F_{2,45} = 3.37$, $p < 0.043$). In comparison to men in the low exposure to ACEs group (class 3), those in the high exposure group (class 1) had 1.3 times greater odds of exceeding the weekly or daily drinking limits. Conversely, having medium exposure to ACEs (class 2 membership) was not significantly associated with consumption of excess alcohol. Additionally, men in the class with high exposure to ACEs (class 1 membership; 0.57, $p < 0.001$) had the highest predicted probability of exceeding the weekly or daily drinking limits when compared to men with membership in the classes characterized by medium (class 2 membership; 0.49, $p < 0.001$) and low (class 3 membership; 0.50, $p < 0.001$) ACEs (see Figure 7).

Table 14

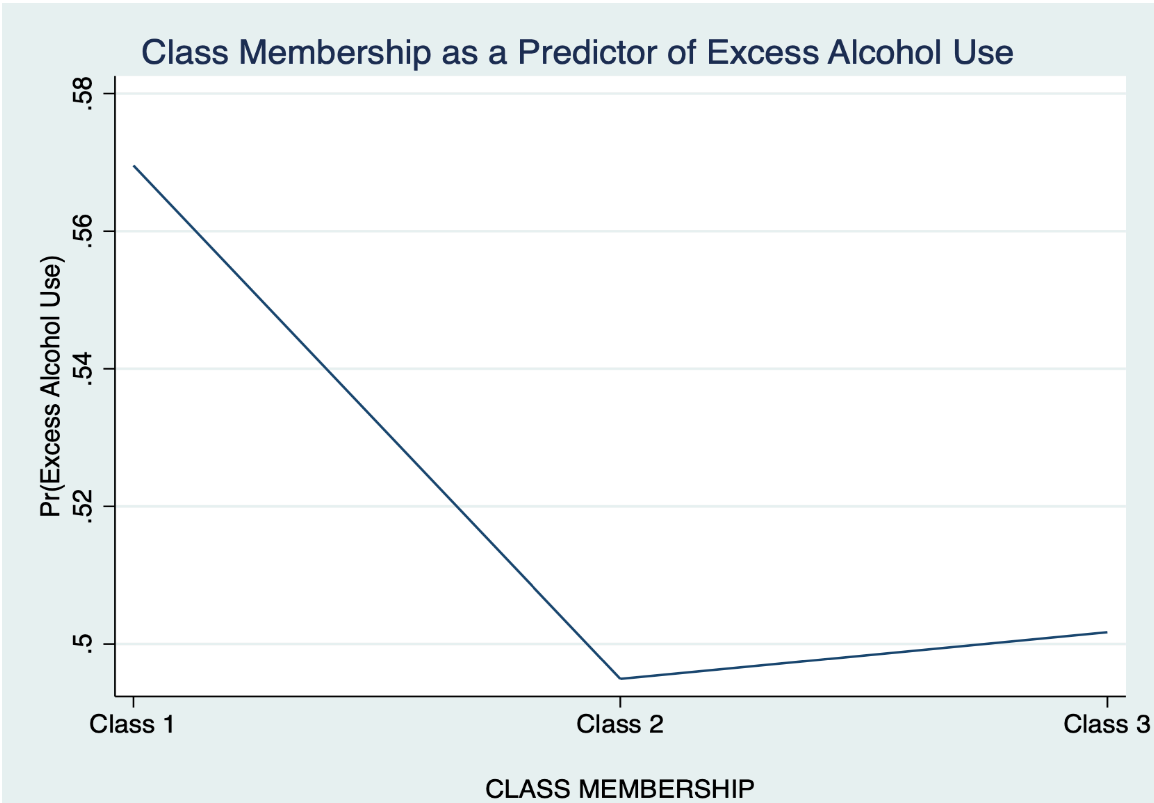
Logistic Regression Analysis for Excess Alcohol Use and Class Membership (N = 1,421)

Predictor	*B*	SE_B	*OR*	SE_{OR}	95% CI
Class membership[1]:					
Class 1 (High Exposure)	0.27**	0.12	1.31**	0.15	[1.03, 1.67]
Class 2 (Medium Exposure)	-0.02	0.04	0.97	0.43	[0.89, 1.06]
Constant	0.007	0.04	1.00	0.04	[0.92, 1.09]

Note. Weighted data were used in these analyses; *B* = standardized coefficient; *SE* = standard error; *OR* = odds ratio; *CI* = confidence interval; [1]Reference group = Class 3 (low exposure); **p* < 0.001; ***p* < 0.05

Figure 7

Excess Alcohol use and Class Membership of Black Men



Chapter 5: Discussion

This chapter summarizes the findings of the study in relation to the four research aims: to examine (1a) the interrelationships of adverse childhood experiences (ACEs), alcohol use in adulthood, and intimate partner violence (IPV) perpetration; (1b) whether alcohol use in adulthood moderates the relationship between ACEs and IPV perpetration; (1c) whether interpersonal social support moderates the relationships between (a) ACEs and IPV perpetration and (b) alcohol use and IPV perpetration; (2) if higher cumulative ACE scores are associated with increased alcohol use and IPV perpetration in adulthood; (3) if racial discrimination is significantly associated with increased alcohol use and IPV perpetration; and (4) how subgroups of ACEs (individually or in combination) are associated with excessive alcohol use in adulthood and IPV perpetration among Black men. Limitations and strengths of the study are presented, followed by implications for social work policy, practice, and research.

Interrelationships of ACEs, Alcohol Use in Adulthood, and IPV Perpetration

The first aim of this study was to examine the interrelationships among ACEs, alcohol use in adulthood and IPV perpetration. Through the examination of individual ACE factors, the findings that Black men who were exposed to physical neglect, emotional abuse, physical abuse, sexual abuse, witnessing their mother being abused, having someone in the household with an alcohol or drug problem, and having an incarcerated parent were significantly associated with IPV perpetration are in alignment with the extant literature (Chirwa et al., 2018; Cui et al., 2010; Renner & Whitney, 2012; Stover et al., 2009; Watt & Scrandis, 2013). More specifically, these studies posit that these early life adversities profoundly increase the risk for perpetrating IPV. Surprisingly, being emotionally neglected and having an individual in the household with a mental illness were not found to be associated with IPV perpetration. This finding could be due in part to the relatively small number of respondents with such exposure who reported perpetrating IPV. In addition, these findings could be a limitation of the measures used. That is, ACEs were measured retrospectively, which may have increased recall bias, and questions used to assess adversity do not account for the mental state of the child at the time the incident(s) occurred, which could impact their perceived experiences. Also, only one question was used to assess mental illness of a household member, and no information relating to the nature, type, and severity of such mental illness, and/or the utilization of formal mental health services by victims and/or caregivers/parents were included.

With regards to the role of ACEs on alcohol use in adulthood, this study's findings showed that eight factors were significantly associated with alcohol use in adulthood. However, there was no significant relationship between emotional abuse and witnessing of a mother/caregiver being abused and alcohol use. The significant findings are consistent with existing research that implicate ACEs as being associated with alcohol use (Anda et al., 2006). Overall, study findings enhanced our understanding that cumulative ACE score and alcohol use in adulthood were significantly and positively associated with IPV perpetration, which are in alignment with the literature (Anda et al., 2006).

As found in previous studies in which ACEs often co-exist (Anda et al., 2006; Cunradi et al., 2013; Fonseka et al., 2015; Whitfield et al., 2003), multivariate analyses indicated that being exposed to 1, 2, 3, and ≥ 4 ACEs were associated with perpetrating

IPV, with Black men with 4 or more ACEs having greater odds of perpetrating IPV. The increased risk for perpetration is consistent with the literature where ACEs have been shown to have long-lasting effects on behavioral outcomes (Anda et al., 2006; Dube et al., 2002; Felitti et al., 1998), such as IPV perpetration (Anda et al., 2006; Whitfield, et al., 2003), due to the exposure to toxic stress, which limits one's ability to cope with negative emotions and cognitive functioning (Mitchell & Beech, 2011; SAMSHA, 2018; Teicher, 2007). Additionally, the Stress Process Model (SPM) highlights that exposure to events that results in stress, such as ACEs and other social factors (e.g., witnessing parental violence) has negative impacts on behavioral and mental outcomes, including IPV perpetration. Therefore, these significant findings regarding the association between ACEs and IPV perpetration among Black men extend existing research to a previously understudied group. These findings indicate that Black men experience similar stress processes following ACEs as other racial/ethnic groups that have previously been studied using this model. That is, both the effects of ACEs and the SPM seem to hold up in the case of Black men, at least in part.

Interactions

Alcohol use on ACEs and IPV perpetration. This study advanced the existing literature with findings that alcohol use was more strongly associated with IPV perpetration for men without childhood adversities than for men exposed to 1, 2, or ≥ 4 childhood adversities. More specifically, alcohol use exacerbated IPV perpetration for men with no ACEs, but for men with a history of childhood adversity, the effect of alcohol use on perpetration was less substantial. One plausible explanation is that alcohol use has a greater disinhibiting effect on Black men without exposure to childhood adversity, resulting in their inability to resist the urge to behave in an aggressive manner (Eckhardt et al., 2015). This finding is also important in understanding the underlying mechanisms that contribute to violence perpetration among Black men. More specifically, for some Black men drinking is a risk factor for IPV perpetration without having had exposure to ACEs, suggesting that alcohol has a greater effect on IPV perpetration than childhood adversities.

Furthermore, the negative effects of alcohol use on brain development (Guerri & Pascual, 2010; Luciana et al., 2013) and subsequent behavioral challenges (e.g., IPV perpetration; Averett & Wang, 2016; Rothman et al., 2012) may also explain Black men's increased risk for violence perpetration. However, this may not be the case for men with substantial ACEs, where the traumatic experiences of ACEs is more important than alcohol consumption. Additionally, given the effects of ACEs (Nurius et al., 2015; SAMSHA, 2018) on brain development and subsequent IPV perpetration (Anda et al., 2006; Whitfield et al., 2003), the effects of alcohol use for men with childhood adversity do not appear to worsen IPV perpetration; however, the disinhibiting effects of alcohol may still result in severe violence perpetration. Alcohol use, however, did not have a significant moderating effect on individuals with exposure to 3 childhood adversities and who perpetrated IPV. This finding could be due to the fact that Black men who were exposed to 3 ACEs had the lowest frequency (n = 292) in the overall sample with only 6% (n = 14) reporting IPV perpetration, as oppose to those exposed to 1, 2, and ≥ 4 ACEs.

Interpersonal social support on ACEs and IPV perpetration. An interesting finding of this study was that social support buffered the relationship between ACEs and

IPV perpetration, but only for Black men who were exposed to 3 ACEs, which only partially supports the study hypothesis. This finding could be an artifact of the data, given that there was a ceiling effect for interpersonal social support, in addition to the fact that men with 3 ACEs had the lowest frequency in the overall sample, of which only 6% (n = 14) reported IPV perpetration, when compared with those exposed to 0, 1, 2, and ≥ 4 ACEs. As such, future studies using larger sample sizes of Black men exposed to 3 ACEs who perpetrate IPV should be conducted to better understand this relationship.

Interpersonal social support on alcohol use and IPV perpetration. This study finding enhanced the literature that Black men with higher levels of social support who consume alcohol had increased risk of perpetrating IPV. That is, contrary to study hypothesis, increased levels of social support exacerbated the relationship between alcohol use and IPV perpetration. This finding is inconsistent with the extant literature, where increased social support was found to be associated with lower odds of perpetrating IPV (Greenman & Matsuda, 2016; Smith Slep et al., 2010). In general, the scores on the ISEL-12 used to measure interpersonal social support had a ceiling effect (mean score of 42 out of a possible 48), which is indicative of high levels of support. Many Black men and Black individuals obtain both psychological and social support through familial relationships (Hill, 1999) and the presence of the "Black Church" (Mattis et al., 2003) and receive affirmation of their cultural backgrounds and identity through a collectivist worldview and social orientation (Coon & Kemmelmeier, 2001; Utsey et al., 2007). The finding that higher social support significantly exacerbates the relationship between alcohol use and IPV perpetration could be due to the fact that is it not the presence of a support system that is effective in reducing IPV perpetration, but rather what those supportive relationships provide (Cullen, 1994; Nurullah, 2012). Additionally, given the exacerbating effect of social support on alcohol use and subsequent IPV perpetration, it is also possible that Black men who consume alcohol receive social support from other alcohol users, resulting in an increased risk for violence perpetration. Therefore, future studies should explore not just the presence of social support in examining the relationship between alcohol use and IPV perpetration, but also the effectiveness of such support.

Covariates

Covariates including age, marital status, eduation, perceived stress, and income were significantly associated with alcohol use in adulthood and IPV perpetration among Black men. Older age was found to be associated with lower alcohol use and IPV perpetration, which is consistent with the existing literature (Johnson et al., 2015; Kim et al., 2008). Also consistent with studies by Herrera et al. (2008) and Priestley and Lee (2019), this study's findings indicated that being married or in cohabitating relationship was associated with increased risk for IPV perpetration. However, being married or living with someone as if married was found to be associated with lower alcohol use. This finding could be due to the fact that the psychological and social components of being married and the monitoring of health by spouses acts as a protective factor in men's alcohol use (Kendler et al., 2016). Education was only found to be a significant predictor of alcohol use in adulthood and not IPV perpetration in this study. Studies have shown that education is a marker in determining drinking patterns, with higher educational attainment being associated with more alcohol consumption (Assari & Lankarani, 2016; Dawson et al., 1995). The nonsignificant association between educational attainment and

IPV perpetration are not in alignment with the literature, where lower educational attainment was found to be associated with higher rates of IPV perpetration among men (CDC, 2018b; Lee et al., 2014). The difference in the existing literature and the finding of this study could be due to the fact that Black men in the overall sample had higher levels of educational attainment (i.e., high school [45%; n = 1,032] and greater than high school [50%; n = 1136]).

This study also found that increased perceived stress was associated with alcohol use and IPV perpetration. This finding advances the literature, where limited attention has been given to the role of perceived stress, in addition to the inconsistent findings regarding these relationships in the extant literature (Capaldi et al., 2012; Lewis et al., 2017; Smith Slep et al., 2010). Finally, income was also found to be associated with IPV perpetration and alcohol use in this study. Lower income was associated with increased risk for perpetration, while having higher income lowered the risk for violence perpetration, which are in alignment with existing research (CDC, 2018a). Conversely, 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), with higher income associated with greater frequency of "light" drinking (Huckle et al., 2010; Ziebarth & Grabka, 2009). The difference between this finding and the literature could be because Black men with lower household income have less 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.

Main Effects

Higher Cumulative ACE score on alcohol use and IPV perpetration. Findings regarding the cumulative effects of ACEs on alcohol use are consistent with the extant literature, where higher scores are associated with greater risk for alcohol use (Anda et al., 2006). Similarly, this study finding enhanced that cumulative ACEs score have a dose-response effect on risk for IPV perpetration, which is in alignment with the literature (Anda et al., 2006; Fonseka et al., 2015; Whitfield et al., 2003). These findings highlight the fact that ACEs are highly interrelated and have a graded relationship to alcohol use and IPV perpetration, above and beyond other factors, which appears to be the case for Black men as well as for other samples.

Racial discrimination on alcohol use and IPV perpetration. Racial discrimination was not found to be significantly associated with alcohol use in adulthood or IPV perpetration. These findings could be due to the fact that only a small percentage of men who reported experiences of racial discrimination consumed alcoholic drinks (45%) or perpetrated IPV (8.7%). Furthermore, these findings are not in alignment with the extant literature, which posits that racial discrimination is associated with increased substance use (Gibbons et al., 2010) and IPV perpetration (Reed et al., 2010; Stueve & O'Donnell, 2008; Tobler et al., 2013; Waltermaurer et al., 2006). These differences could be due to the narrow scope of the racial discrimination scale because it measures *perceived* discrimination and does not take into account the impact of structural discrimination and its effect on Black communities (Krieger, 2015). Also, the sample consisted of men who were primarily born in the United States (90%; n = 2,129) which may act as a protective factor in both Black men's experiences of racial discrimination and ultimately study findings. Furthermore, perceived experiences of racial discrimination may be different among Black men based on their ethnicities (e.g., African, Caribbean, African American, etc.). This may have contributed to the non-significant findings, because this study did not examine the role of ethnicity in the context of these relationships.

Given these findings, future studies should explore the role of structural racial discrimination on alcohol use and IPV perpetration using larger samples of Black men with these exposures. Examination of factors that could buffer the impact of racial discrimination on alcohol use and IPV perpetration should also be assessed in future studies. Notably, examination of optimism and church-based social support as protective factors in the relationships between racial discrimination and alcohol use and between racial discrimination and IPV perpetration among Black men may help in understanding the stress associated with experiences of perceived racial discrimination and how the availability of these psychological resources aids in the development of positive expectations (Barbain 1993; Mattis et al., 2003; Utsey et al., 2008). Additionally, examination of ethnicity, immigration status, socioeconomic status (e.g., education, employment, etc.) and neighbourhood-level characteristics (e.g., alcohol outlet density, access to health care, poverty, community violence, etc.) could aid in better understanding other factors that may buffer the risk for alcohol use and IPV perpetration among men with perceived experiences of racial discrimination.

Finally, racial discrimination was not a part of the SPM model, but was included in the adapted model because Black men face myriad structural and societal challenges (DeGruy Leary, 2005; Hampton et al., 2003; Utsey et al., 2007), which create stressors resulting in negative behavioral outcomes. Despite the non-significant findings, future studies should continue to explore the role of racial discrimination in predicting alcohol use and IPV perpetration among Black men to aid in the development of the SPM. Specifically, examination of the effects of structural discrimination on Black communities could be insightful.

Latent Class Analysis

Class membership on IPV perpetration and alcohol use. For this research aim, a latent class analysis (LCA) generated three classes of ACEs for Black men: Class 1 = high exposure, class 2 = medium exposure, and class 3 = low exposure. Across all three classes, the most common ACEs were emotional abuse, physical abuse, having a battered mother, and having an individual with alcohol problems in household. The prevalence of these factors in the LCA, regardless of class membership, are consistent with other studies that have conducted LCA using ACEs despite using different samples and finding different outcomes (Blum et al., 2019; Vaughn et al., 2017). Membership in classes 1 and 2 was significantly associated with IPV perpetration when compared to men with class 3 membership. Similarly, class 1 membership was significantly associated with alcohol use. These findings are consistent with the literature regarding the effects of ACEs and subsequent risk for perpetrating violence (Anda et al., 2006; Whitfield et al., 2003) and alcohol use (Brady & Back, 2012; Dube et al., 2002; Felitti et al., 1998; Mersky et al., 2013). Given that children from racial/ethnic minority populations, including Black children (CDC, 2010), have higher prevalence of ACEs, the findings of this study suggest that ACEs increases the risk for both alcohol use and IPV perpetration among Black men. These findings are also in alignment with the SPM, where the more adversity an individual is exposed to in childhood, the greater the activation of stress response (allostatic load; McEwen, 2007), resulting in increased risk for problematic mental and behavioral outcomes in adulthood.

Limitations and Strengths of the Study

Study limitations. The study has a few limitations that must be noted. First, the study is limited to the use of self-reported, retrospective, uncorroborated data related to childhood adversities, alcohol use (quantity and frequency), and IPV perpetration. The self-reported data allowed for recall bias and the provision of socially desirable responses. However, studies have shown adequate stability and reliability in the reporting of ACEs (da Silva & da Costa Maia, 2013), alcohol use, and IPV perpetration (Ruan et al., 2008). Also, the use of cross-sectional data does not allow for causality to be determined, especially related to alcohol use and IPV, because these behaviors can co-occur. Longitudinal studies could aid in determining the causal relationships between ACEs, alcohol use in adulthood, and IPV perpetration, for which these dynamics may change over time.

Second, the use of a secondary dataset did not allow for the examination of the role of ethnic differences among Black men in rates of IPV perpetration, due to small sample sizes, for which studies of other racial/ethnic groups have found significant relationships (Chang et al., 2009; West et al., 1998). Third, the study is also limited because it does not explore all the variables that may explain alcohol use and IPV perpetration, including psychological factors, such as post-traumatic stress disorder (PTSD), depression, and anxiety, as well as other variables not available for evaluation in this study, such as cultural factors and situational stressors. The inability to include different cultural measures and to explicate each individual's ethnic identity limits the ability to determine other factors that could be at play in fostering IPV perpetration.

Fourth, this sample did not include only Black men in heterosexual relationships, although the men in the sample largely identified as heterosexual (straight; 98%, n = 2,260); the remaining sample reported their sexual orientation as gay, bisexual, and "not sure." The inclusion of men with different sexual orientation in this study should not affect findings because existing research has not found any differences in rates of perpetration among individuals in heterosexual or same-sex relationships (Turell, 2000; Spencer et al., 2016). Fifth, the ACEs and IPV perpetration measures were not included in the survey until Wave 2 of the data collection process, thereby limiting comparative analysis using the two waves. These limitations should be explored in future research studies.

Sixth, there was not much variability in the interpersonal social support measure because there was a ceiling effect with Black men in this sample having higher scores on average, which may have affected this study's findings. More specifically, Black men reported high levels of social support, which is consistent with the extant literature where Black individuals operate from a collectivist worldview and social orientation (Coon & Kemmelmeier, 2001; Utsey et al., 2007), receiving large amounts of social and psychological support through sources such as familial relationships (Hill, 1999) and the Black church (Mattis et al., 2003). Furthermore, it was unclear precisely whom Black men were thinking of when responding to the interpersonal social support measure, which may have also impacted study findings. Seventh, this study was also limited by the measures used. The framing of having a parent or other adult with a mental illness, incarceration, or substance abuse problem as “household dysfunction” in the ACEs literature appears to be a limitation of the field and of the measure. That is, framing these factors as household dysfunction does not account for the role of cultural, sociocultural, or psychological factors. Also, the adapted racial discrimination scale measures *perceived* interpersonal experiences with discrimination (i.e., directly perceived discrimination through interactions with individuals) and not the effects of structural discrimination (e.g., housing, education, employment, media, criminal justice systems, etc.; Krieger, 2015). Additionally, the ISEL-12 which measured interpersonal social was also limited in scope. More specifically, ISEL-12 only measured the presence of various supports, and not the value of those support systems or what they provide (Cullen, 1994; Nurullah, 2012).

Eighth although the study used the SPM to examine the interrelationships of ACEs, alcohol use in adulthood, and IPV perpetration, there are alternative explanations in exploring this pathway, including genetic/biological predisposition, in addition to social learning processes (e.g., intergenerational transmission of violence), which the model does not account for. Additionally, because of the difficulty in measuring stress, exploration of stress was not a focus of this dissertation. Finally, not all constructs of the SPM, such as environmental factors, were included in this study because these variables were not available in the secondary dataset. Future studies should explore all the constructs of the SPM to aid in better understanding the interrelationships among ACEs, alcohol use, and IPV perpetration among Black men.

Study strengths. This study has several strengths. First, this study was conducted using a nationally representative sample of individuals within the United States. This rich dataset allows for the generalization of study findings and also improves on methodological limitations (e.g., convenience samples, small sample size) of existing studies that have explored the role of ACEs and alcohol use in adulthood on IPV perpetration. Second, to date this is the first known study to examine the interrelationships of ACEs, alcohol use in adulthood, and IPV perpetration among Black men. Findings from this study can be used to inform racially-effective prevention and intervention initiatives, as discussed below. Third, the complex dynamics of ACEs, alcohol use, IPV, racial discrimination, and interpersonal social support, and covariates (sociodemographic characteristics and mental health outcomes) were also examined in this study. Finally, ACEs have been shown to have deleterious mental and behavioral health outcomes; however, although this study does not control for the individual effects of mental health disorders, a global measure of well-being (NBCMS) was included as a covariate. The use of this measure controlled for the confounding effects of mental health on the interrelationships of ACEs, alcohol use in adulthood, and IPV perpetration among the sample.

Implications

Implications for social work practice. Study findings have implications for social work practice in multiple ways. Adverse childhood experiences have detrimental effects on behavioral outcomes in adulthood, including alcohol use (Dube et al., 2002;

Pilowsky et al., 2009) and IPV perpetration (Anda et al., 2006; Cunradi et al., 2013; Whitfield et al., 2003) especially among Black individuals. Social workers are on the front line and interact with individuals and families from minority populations for whom experiences of childhood adversities, intimate partner violence, and social and structural inequity are high. Social workers should be equipped with the necessary skill set (such as, ability to be respectful and compassionate while honoring the client's right to self-determination; Levenson, 2017) to provide culturally-relevant and evidenced-based interventions to support this underserved, yet overrepresented, population.

The examination of ACEs, alcohol use in adulthood, and IPV perpetration by Black men in this study has shed light on an unexplored area. Given that Black men perpetrate IPV at higher rates in comparison to other racial/ethnic groups (Straus et al., 1980; Straus & Gelles, 1986; Cunradi et al., 2013; Schafer et al., 2004; West, 2012), social work practitioners should develop culturally-appropriate interventions aimed at engaging and retaining Black men in batterers' intervention programs. Although intervention and prevention programs focus on perpetrators of IPV, there is a need for interventions targeted at preventing and treating trauma related to ACEs as a significant key element to preventing or interrupting alcohol use and IPV perpetration later in life (Gilchrist et al., 2017). Additionally, social workers should develop culturally responsive, trauma-informed, evidence-based strategies in an effort to address one of the 12 grand challenges of Social Work—"*Stop Family Violence*"—initiated by the American Academy of Social Work and Social Welfare (Grand Challenges for Social Work, 2018). The development of these strategies will aid in addressing traumatic experiences and promoting violence-free relationships in Black families.

Finally, given that findings of this study indicate an interrelationship among ACEs, alcohol use, and IPV perpetration among Black men, it is imperative that social work practitioners and service providers screen for history of ACEs and current alcohol use among men who are in IPV treatment programs. Such screening will allow for the development of more effective interventions and treatment strategies, as well as an integrated system of care. It is important that, at a minimum, an integrated treatment care strategy that addresses ACEs, alcohol use, and IPV perpetration (Easton et al., 2017; Gilchrest et al., 2017) be developed. Treatment programs for substance-using IPV perpetrators have evidenced a reduction in IPV post-treatment (Murphy & Ting, 2010). However, IPV perpetrators with co-occurring alcohol dependence typically receive treatment from separate treatment facilities (Easton et al., 2007), resulting in a low likelihood that both alcohol use and IPV perpetration problems will be addressed, and where there is coordination or communication between substance use disorder treatement facilities and domestic violence agencies (Bennet & Lawson, 1994). Men with co-occurring alcohol use and domestic violence typically fail to attend a single treatment program, thus reducing the likelihood that they will attend two programs with differing schedules and treatment philosophies (Easton et al., 2007). Moreover, referrals to different treatment programs for alcohol use and domestic violence are not effective in treating alcohol use/abuse and use of violence in a systematic way (Bennet & Lawson, 1994; Easton et al., 2007).

Implications for social work policy. The effects of ACEs, alcohol use, and IPV perpetration by Black men in comparison to other racial/ethnic groups highlight the needs for policies aimed at addressing the interrelationships among ACEs, alcohol use in adulthood, and IPV perpetration. Furthermore, given the myriad of structural and socioeconomic challenges experienced by Black men—placing them at elevated risks for violence perpetration—study findings suggests a need for policy changes aimed at improving the economic and social well-being of Black men, resulting in a possible reduction in IPV perpetration.

Additionally, findings from this study provide a better understanding of the interrelationships of ACEs, alcohol use in adulthood, and IPV perpetration among Black men to facilitate the integration of Black men as allies in policy areas and actions to combat IPV perpetration—which researchers have long called for (Tolman & Walsh, 2017). The use of men as allies could also aid in the development of more effective policies that seek to change the culture that supports the abusive behavior of men and the historically negative perceptions of Black men. Ultimately, incorporating men as allies would help in the promotion of non-violence in intimate relationships and gender equality (WHO, 2012), especially in a sample that disproportionately perpetrates higher rates of IPV.

Furthermore, the findings of this study highlight the need for policy development aimed at explicating the social and structural factors that foster IPV among Black men. More specifically, social work policies should identify and address how the social and structural barriers faced by Black men, such as high rates of poverty, unemployment, low educational attainment, and racially-based social inequalities, result in IPV perpetration (Foshee et al., 2005; Fox et al., 2002; Valandra et al., 2019) and the continued cycle of victim blaming within African American communities (George & Martinez, 2002).

Findings of this study also suggest a need for the development of policies addressing services to prevent and respond to ACEs, alcohol use, and IPV perpetration among Black men. Minority populations experience higher rates of ACEs (Slopen et al., 2016), with Black men perpetrating IPV at higher rates in comparison to other racial groups (Cunradi et al., 2009; Ellison et al., 2007; Ramisetty-Mikler et al., 2007). Additionally, Black men have disproportionately higher rates of incarceration (Oliver & Hairston, 2008) for crimes such as domestic violence, resulting in more social stigma and harmful effects on children and families, including potential homelessness and mothers' reliance on public assistance (Goodmark, 2017). Ultimately, findings of this study should be helpful to social service agencies that may have challenges in implementing organizational-level policies to address ACEs, alcohol use, and IPV perpetration among Black men.

Implications for social work research. Findings of this study have significant implications for future research. Longitudinal studies should be conducted to better explore the interrelationships among ACEs, alcohol use in adulthood, IPV perpetration, and associated covariates. Longitudinal studies will allow for causality and directionality to be determined. Given that most of the studies conducted on ACEs, alcohol use, and IPV perpetration rely on retrospective data, longitudinal studies will allow researchers to determine if the constructs are related in a hypothesized manner and if they are more frequent among Black individuals, particularly among Black men. A clearer understanding of the mechanisms and pathways through which ACEs is associated with IPV perpetration and the role of alcohol use and other constructs as highlighted in the Stress Process Model (Pearlin, 1981) may lead to the development of more culturally-and racially-specific intervention strategies and theoretical framework for use with Black men.

Although research has highlighted that Black men perpetrate IPV at higher rates in comparison to their racial/ethnic counterparts, there is a lack of research that has focused on Black men of different ethnicities. Future research should explore these constructs with a specific focus on ethnicity (e.g., African, African American, Caribbean, etc.) due to social and cultural differences (Griffith et al., 2011; Lacey et al., 2016) that may have unique effects on experiences of childhood adversity, and subsequent alcohol use and IPV perpetration among groups. Finally, future studies should also examine psychological factors and situational stressors in understanding the role of alcohol use and rates of perpetration.

Conclusion

This study sought to examine the interrelationships of ACEs, alcohol use in adulthood, and IPV perpetration; the moderating effects of alcohol use on ACEs and IPV perpetration; the moderating role of interpersonal social support on ACEs and IPV perpetration and on alcohol use and IPV perpetration; if a higher cumulative ACE score is associated with alcohol use and IPV perpetration; and to identify how subgroups of ACEs are associated with excessive alcohol use in a sample of Black men. A significant interrelationship was found between ACEs, alcohol use, and IPV perpetration. Contrary to study hypotheses, alcohol use was found to exacerbate the relationship between ACEs and IPV perpetration, and social support also exacerbated the relationship between (a) ACEs and IPV perpetration and (b) alcohol use and IPV perpetration. Cumulative ACE score was a statistically significant predictor of alcohol use in adulthood and IPV perpetration. Finally, latent class analysis highlighted three classes of ACEs, with membership in class 1 and 2 being significantly associated with IPV perpetration, and class 1 membership associated with excess alcohol use in comparison to men with class 3 membership. Findings revealed factors that may contribute to IPV perpetration among a sample of Black men. Future research with Black men should aid in the development of culturally-appropriate prevention and intervention strategies.

APPENDICES

Appendix A: IRB Determination Letter

University of Maryland, Baltimore
Institutional Review Board
Phone: (410) 706-5037
Fax: (410) 706-4189
Email: hrpo@umaryland.edu

NOT HUMAN RESEARCH DETERMINATION

Date: May 7, 2019

To: Paul Sacco
RE: HP-00085966
Name: The Interrelationships Among Adverse Childhood Experiences (ACEs), Alcohol use in Adulthood, and Intimate Partner Violence (IPV) Perpetration among Black Men.

This letter is to acknowledge that the UMB IRB reviewed the information provided and has determined that the submission does not require IRB review. This determination has been made with the understanding that the proposed project does not involve a systematic investigation designed to develop or contribute to generalizable knowledge **OR** a human participant (see definitions below).

This determination applies only to the activities described in the IRB submission and does not apply should any changes be made. If changes are made and there are questions about whether these activities are human subject research in which the organization is engaged, please submit a new request to the IRB for a determination.

Definitions –

Human Research: Any activity that either:
- Is "Research" as defined by DHHS and involves "Human Subjects" as defined by DHHS ("DHHS Human Research"); or
- Is "Research" as defined by FDA and involves "Human Subjects" as defined by FDA ("FDA Human Research").

Research as Defined by DHHS: A systematic investigation, including research development, testing and evaluation, designed to develop or contribute to generalizable knowledge.

Research as Defined by FDA: Any experiment that involves a test article and one or more human subjects, and that meets any one of the following:
- Must meet the requirements for prior submission to the Food and Drug Administration under section 505(i) of the Federal Food, Drug, and Cosmetic Act meaning any use of a drug other than the use of an approved drug in the course of medical practice;
- Must meet the requirements for prior submission to the Food and Drug Administration under section 520(g) of the Federal Food, Drug, and Cosmetic Act meaning any activity that evaluates the safety or effectiveness of a device; OR
- Any activity the results of which are intended to be later submitted to, or held for inspection by, the Food and Drug Administration as part of an application for a research or marketing permit.

Human Subject as Defined by DHHS: A living individual about whom an investigator (whether professional or student) conducting research obtains (1) data through Intervention or Interaction with the individual, or (2) information that is both Private Information and Identifiable Information. For the purpose of this definition:

- Intervention means physical procedures by which data are gathered (for example, venipuncture) and manipulations of the subject or the subject's environment that are performed for research purposes.
- Interaction means communication or interpersonal contact between investigator and subject.
- Private Information means information about behavior that occurs in a context in which an individual can reasonably expect that no observation or recording is taking place, and information which has been provided for specific purposes by an individual and which the individual can reasonably expect will not be made public (for example, a medical record).
- Identifiable Information means information that is individually identifiable (i.e., the identity of the subject is or may readily be ascertained by the investigator or associated with the information).

Human Subject as Defined by FDA: An individual who is or becomes a subject in research, either as a recipient of the test article or as a control. A subject may be either a healthy human or a patient. A human subject includes an individual on whose specimen (identified or unidentified) a medical device is used.

Please keep a copy of this letter for future reference. If you have any questions, please do not hesitate to contact the Human Research Protections Office (HRPO) at (410) 706-5037 or HRPO@umaryland.edu.

Appendix B: Description of Study Variables

Variable	Source Code	Questions	Level of Measurement
Independent Variables			
Adverse childhood Experiences (ACEs)			
Physical Neglect	W2S13Q1_1	Before the age of 18, how often did parent/caregiver make you do chores that were difficult or dangerous for someone your age?	Dichotomous
	W2S13Q1_2	How often did parent/caregiver leave you alone or unsupervised before 10 years old?	
	W2S13Q1_3	Before age of 18, how often did you go without things you needed because a parent/caregiver spent the money on themselves?	
	W2S13Q1_4	Before age 18, how often did parent/caregiver make you go hungry or not prepare regular meals?	
	W2S13Q1_5	Before age 18, how often did parent/caregiver ignore/fail to get you treated when you were sick?	
Emotional Neglect	W2S13Q31	Before age 18, I felt there was someone in	Dichotomous

		family that wanted me to be a success?	
	W2S13Q32	Before age 18, I felt there was someone in family who helped me feel that I was important or special.	
	W2S13Q33	Before age 18, I felt that my family was a source of strength and support.	
	W2S13Q34	Before age 18, I felt that I was part of a close-knit family.	
	W2S13Q35	Before age 18, I felt that someone in my family believed in me.	
Physical Abuse	W2S13Q1_9	Before age 18, how often did parent/caregiver push, grab, shove, slap, or hit you?	Dichotomous
	W2S13Q1_10	Before age 18, how often did parent/caregiver hit you that you had marks or bruises or were injured?	
Sexual Abuse	W2S13Q21	Before age 18, how often did your father/other person fondle/touch you in a sexual way when you didn't want this/were too young to know what was happening?	Dichotomous
	W2S13Q22	Before age 18, how often did your father/other person have you touch them in a	

		sexual way when you didn't want this/were too young to know what was happening?	
	W2S13Q23	Before age 18, how often did your father/other person attempt sexual intercourse with you when you didn't want this/were too young to know what was happening?	
	W2S13Q24	Before age 18, how often did your father/other person have sexual intercourse with you when you didn't want this/were too young to know what was happening?	
Emotional Abuse	W2S13Q1_6	Before age 18, how often did parent/caregiver swear, insult, or say hurtful things to you?	Dichotomous
	W2S13Q1_7	Before age 18, how often did parent/guardian threaten to hit you or throw something at you?	
	W2S13Q1_8	Before age 18, how often did parent/caregiver make you fear that you would be physically hurt or injured?	
Battered Mother	W2S13Q1_11	Before age 18, how often did your father/other adult male	Dichotomous

		push, grab, slap, or throw something at your mother?	
	W2S13Q1_12	Before age 18, how often did your father/other adult hit your mother with a fist or with something hard?	
	W2S13Q1_13	Before age 18, how often did your father/other adult male repeatedly hit your mother for at least a few minutes?	
	W2S13Q1_14	Before age 18, how often did your father/other adult male threaten your mother with a knife/gun or use a knife/gun to hurt her?	
Global Household Dysfunction			
Household Alcohol Abuse	W2S13Q4A	Before age 18, parent/other adult living in home was problem drinker/alcoholic?	Dichotomous
Household Drug Abuse	W2S13Q4B	Before Age 18, parent/other adult in home had similar problems with drugs?	Dichotomous
Incarcerated Household Member	W2S13Q5	Before age 18, parent/other adult living in home went to jail/prison?	Dichotomous
Mental Illness in Household	W2S13Q6	Before age 18, parent/other adult living in home	Dichotomous

		treated/hospitalized for mental illness?	
	W2S13Q7	Before age 18, parent/other adult living in home attempted suicide?	
	W2S13Q8	Before age 18, parent/other adult living in home committed suicide?	
Racial Discrimination	W2S2DQ10A1	During the previous year (PY) how often did you experience discrimination in ability to obtain health care or health insurance coverage because of your race/ethnicity?	Continuous
	W2S2DQ10A2	During PY how often did you experience discrimination in how you were treated when you got care because of your race/ethnicity?	
	W2S2DQ10A3	During PY how often did you experience discrimination in public (on the street, in stores or restaurants) because of your race/ethnicity?	
	W2S2DQ10A4	During the PY how often did you experience discrimination because of your race/ethnicity in any other situation (obtaining a job, on the job, getting admitted to school/training program, in the courts	

		or by police, or obtaining housing)?	
	W2S2DQ10A5	During the PY how often were you called a racist name because of your race/ethnicity?	
	W2S2DQ10A6	During the PY how often were you made fun of, picked on, pushed, shoved, hit, or threatened with harm because of your race/ethnicity?	
Alcohol Use (Wave 2)	W2ETOTLCA2	Average daily ethanol consumption in last 12 months in ounces, adjusted for frequencies of drinking 5+ drinks and of drinking largest quantity of drinks.	Continuous
Moderator Variable			
Interpersonal Social Support	W2S2DQ27A	If I wanted to go on a trip for a day (to the country, city, mountains, or beach) I would have a hard time finding someone to go with me.	Continuous
	W2S2DQ27B	I feel that there is no one I can share my most private worries and fears with.	
	W2S2DQ27C	If I were sick, I know I would find someone to help me with my daily chores.	

W2S2DQ27D	There is someone I can turn to for advice about handling problems with my family.
W2S2DQ27E	If I decide one afternoon that I would like to go to a movie that evening, I could easily find someone to go with me.
W2S2DQ27F	When I need suggestions on how to deal with a personal problem, I know someone I can turn to.
W2S2DQ27G	I don't often get invited to do things with others.
W2S2DQ27H	If I had to go out of town for a few weeks, it would be difficult to find someone who would look after my house or apartment (taking care of my plants, garden or pets, getting the mail, or watching the house in general).
W2S2DQ27I	If I wanted to have lunch with someone, I could easily find someone to join me.
W2S2DQ27J	If I were stranded 10 miles from home, someone I know would come and get me.
W2S2DQ27K	If a family crisis arose, it would be difficult to find someone who

		could give me good advice about how to handle it.	
	W2S2DQ27L	If I needed some help in moving to a new house or apartment, I would have a hard time finding someone to help me.	
Dependent Variable			
Intimate Partner Violence (IPV)	W2S13Q10A1	How often did you push, grab, or shove your spouse/partner PY?	Continuous
	W2S13Q10A2	How often did you slap, kick, bite, or hit your spouse/partner PY?	
	W2S13Q10A3	How often did you threaten your spouse/partner with a weapon like a knife or gun PY?	
	W2S13Q10A4	How often did you cut or bruise your spouse/partner PY?	
	W2S13Q10A6	How often did you injure your spouse/partner enough that they had to get medical care PY?	
Control Variables			
Age	W2AGE	Age at Wave 2 interview.	Continuous
Household Income	W2S1Q20BR	Total household income PY (including any income from food stamps).	Categorical

Education	W2S1Q15AR	Highest grade or year of school completed.	Categorical
Employment	W2S1Q121	Present situation includes working full-time (35+ hours a week).	Categorical
	W2S1Q122	Present situation includes working part-time (< 35 hours a week).	
	W2S1Q123	Present situation includes employed but not at work because of illness or injury.	
	W2S1Q124	Present situation includes employed but on paid vacation.	
	W2S1Q125	Present situation includes employed but absent from work without pay.	
	W2S1Q126	Present situation includes unemployed or laid off and looking for work.	
	W2S1Q127	Present situation includes unemployed or laid off and not looking for work.	
	W2S1Q128	Present situation includes unemployed and permanently disabled.	
	W2S1Q129	Present situation includes retired.	

	W2S1Q1210	Present situation includes in school full-time.	
	W2S1Q1211	Present situation includes in school full-time.	
	W2S1Q1212	Present situation includes on summer break holiday from school.	
	W2S1Q1213	Present situation includes full-time homemaker.	
	W2S1Q1214	Present situation includes some other activity.	
Marital status	W2MARITAL	Marital status.	Categorical
Perceived Stress	W2S2DQ16A	In the PY how often have you felt that you were not able to control important things in your life?	Continuous
	W2S2DQ16B	In the PY how often have you felt confident about your ability to handle your personal problems?	
	W2S2DQ16C	In the PY how often have you felt things were going your way?	
	W2S2DQ16D	In the PY how often have you felt difficulties were piling up so high that you could not overcome them?	

Excess Alcohol Consumption	W2EXCEED	Exceeded weekly or daily drinking limits in last 12 months.	Categorical
NBMCS	W2NBMCS	Norm-based mental functioning scale (SF12-V2R).	Continuous

Notes. PY = previous year; NBMCS = norm-based mental component summary

Appendix C. Amount of Missing Data for Study Variable

Variable	N = 2,326	
	n	% missing
U.S. Born	2,326	-
Marital Status	2,326	-
Sexual Orientation	2,306	0.85
Education	2,326	-
Household Income	2,326	-
Employment Status	2,326	-
Lifetime Alcohol Drinking Status	2,326	-
Exceeded Weekly Drinking Limits[1]	1,426	0.30
Norm-Based Mental Component Summary (NBMCS)	2,317	0.38
Perceived Stress	2,313	0.55
Interpersonal Social Support (ISEL-12)	2,310	0.68
Racial Discrimination	2,314	0.51
Alcohol Use[1]	1,423	0.49
IPV Perpetration[2]	1,755	24.5
Adverse Childhood Experiences (ACEs)	2,306	0.85
Physical Neglect	2,305	0.04
Emotional Neglect	2,304	0.08
Emotional Abuse	2,304	0.08
Physical Abuse	2,302	0.17
Sexual Abuse	2,301	0.21
Battered Mother	2,297	0.39
Mental Illness in Household	2,306	0.85
Drug Problems in Household	2,301	0.21
Alcohol Problems in Household	2,301	0.21
Incarcerated Household Member	2,303	0.13

Note. [1]Missingness calculated using the number of Black men who were current drinkers (N = 1,430); [2]It was unknown if participants were married, dating, or involved in a romantic relationship in the previous year prior to data collection as there was no way to ascertain this data.

Appendix D. Correlation Matrix

Variable	IPVp^{i}	Alc^{ii}	ACEs^{iii}	Age	Income	Educ.	Mar Stat.
IPVp^{i}							
Alc^{ii}	.119*						
ACEs^{iii}	.156*	.056*					
Age	-.080*	-.093	-.024				
Income	-.128**	-.105	.016*	.041			
Edu.	-.098	-.042	.003	-.059	.451*		
Mar Sta.	.006*	.075	.028	-.519*	-.254*	-.002	
Emp.	.027	.074**	-.047**	.172*	-.472*	-.022*	.192*
NBMCS	-.119	-.196	-.249*	.029	.209	.122**	-.131
Rac Disc.	.057	.025*	.241*	-.161*	-.016	.036*	.059*
PSS	.163*	.213	.232*	-.083	-.245*	-.094	.201*
ISS	-.102	-.118	-.213*	-.043*	.225*	.142*	-.117
IPVp^{v}	-	.065	.234*	-.247*	-.175*	-.109	.072
Alc^{iv}	.117**	.547*	.056	-.112*	-.110**	-.070**	.126*
ACEs^{vi}	.237**	.062*	-	-.016	.025*	.040**	.029**

Note. Weighted data were used in these analyses; IPVp = Intimate partner violence perpetration; Alc = alcohol use; ACEs = adverse childhood experiences; Educ. = education; Mar stat = marital status; EMP = employment status; NBMCS = norm-based mental component summary score; Rac Disc. = racial discrimination; PSS = perceived stress score; ISS = interpersonal social support; IPVp^{i} = continuous variable; Alc^{i} = number of standard drinks consumed daily; ACEs^{iii} = composite score (0-10); Alc^{iv} = number of standard drinks consumed daily (log transformed); IPVp^{v} = IPV perpetration (binary: 0 = no; 1 = yes); ACEs^{vi} = categorical variable (0, 1, 2, 3, & ≥ 4); Correlation between IPVp^{i}, Alc^{ii}, and ACEs^{iii} were performed using a Pearson correlation to address research aims 1a; All other correlations were assessed using a Polychoric correlation analyses to account for the different levels of measurement among study variables.

*$p < 0.001$; **$p \leq 0.05$

Appendix D Continued

Variable	Emp.	NBMCS	Rac Disc.	PSS	ISS	IPVp^{v}	Alc^{iv}	ACEs^{vi}
IPVp^{i}								
Alc^{ii}								
ACEs^{iii}								
Age								
Income								
Edu.								
Mar Sta.								
Emp.								
NBMCS	-.173**							
Rac Disc.	-.011**	-.231**						
PSS	.189*	-.510*	.276*					
ISS	-.158*	.334*	-.173*	-.372*				
IPVp^{v}	.043	-.154	.048	.286*	-.169**			
Alc^{iv}	.079*	-.102	.044	.159*	-.082**	.215*		
ACEs^{vi}	-.060*	-.254*	.111*	.239*	-.228*	.276*	.060*	

Note. Weighted data were used in these analyses; IPVp = Intimate partner violence perpetration; Alc = alcohol use; ACEs = adverse childhood experiences; Educ. = education; Mar stat = marital status; EMP = employment status; NBMCS = norm-based mental component summary score; Rac Disc. = racial discrimination; PSS = perceived stress score; ISS = interpersonal social support; IPVp^{i} = continuous variable; Alc^{i} = number of standard drinks consumed daily; ACEs^{iii} = composite score (0-10); Alc^{iv} = number of standard drinks consumed daily (log transformed); IPVp^{v} = IPV perpetration (binary: 0 = no; 1 = yes); ACEs^{vi} = categorical variable (0, 1, 2, 3, & ≥ 4);

Correlation between IPVp^{i}, Alc^{ii}, and ACEs^{iii} were performed using a Pearson correlation to address research aims 1a; All other correlations were assessed using a Polychoric correlation analyses to account for the different levels of measurement among study variables.

*$p < 0.001$; **$p \leq 0.05$

Appendix E. Logistic Regression Analysis for Independent Effects of Alcohol Use, ACEs, and Covariates on IPV Perpetration (N = 1,136)

Predictor	B	SE_B	OR	SE_{OR}	95% CI
Age	-0.03*	0.006	0.96*	0.006	[0.95, 0.97]
Employment status[1]					
Employed	-0.01	0.24	1.01	0.24	[0.62, 1.64]
Income[2]					
$25,000–$39,999	0.51**	0.21	1.66**	0.35	[1.09, 2.54]
$40,000–$69,999	-0.31	0.19	0.73	0.14	[0.49, 1.08]
$70,000–$99,999	-0.78**	0.23	0.45**	0.10	[0.28, 0.73]
≥ $100,000	-0.07	0.17	0.93	0.16	[0.65, 1.32]
Education[3]					
High school	0.75	1.06	2.13	2.26	[0.24, 18.24]
Greater than high school	0.57	1.06	1.78	1.89	[0.20, 15.26]
Marital status[4]					
Married/living with someone as if married	0.45**	0.21	1.56**	0.33	[1.01, 2.42]
Widowed/divorced/separated	0.23	0.26	1.27	0.33	[0.74, 2.16]
NBMCS	0.006	0.007	1.00	0.007	[0.99, 1.02]
Racial discrimination	-0.005	0.02	1.00	0.02	[0.95, 1.04]
Perceived stress	0.15*	0.03	1.16*	0.03	[1.10, 1.24]
Number of ACEs[5]					
1	0.94*	0.23	2.55*	0.59	[1.59, 4.10]
2	0.82**	0.31	2.28**	0.71	[1.21, 4.30]
3	0.71	0.36	2.04	0.73	[0.98, 4.24]
≥ 4	1.47*	0.32	4.37*	1.43	[2.26, 8.48]
Alcohol use	0.16*	0.03	1.17*	0.04	[1.09, 1.25]
Constant	-3.84**	1.20	0.02**	0.02	[0.001, 0.24]

Note. Weighted data were used in these analyses; *B* = standardized coefficients; *SE* = standard error; *OR* = odds ratio; *CI* = confidence interval; 152 strata were removed from this analysis because they contained no data for Black men; [1]Reference = not employed; [2]Reference = < $25,000; [3]Reference = less than high school education; [4]Reference = never married; [5]Reference = 0 (no ACEs); NBMCS = norm-based mental component summary score; Alcohol Use = average # of standard drinks (0.6 fl oz of pure alcohol) consumed daily; *p < 0.001; **p < 0.05

Appendix F. Logistic Regression Analysis for the Independent Effects of Interpersonal Social Support, ACEs, and Covariates on IPV Perpetration (N = 1,752)

Predictor	B	SE_B	OR	SE_{OR}	95% CI
Age	-0.04*	0.006	0.95*	0.005	[0.94, 0.971]
Employment status[1]					
Employed	0.16	0.21	1.01	0.21	[0.66, 1.54]
Income[2]					
$25,000–$39,999	0.38**	0.17	1.46**	0.26	[1.02, 2.09]
$40,000–$69,999	-0.17	0.18	0.84	0.15	[0.58, 1.21]
$70,000–$99,999	-0.70*	0.18	0.49*	0.09	[0.34, 0.72]
≥ $100,000	-0.23	0.14	0.79	0.11	[0.58, 1.06]
Education[3]					
High school	0.49	0.78	1.63	1.28	[0.33, 7.92]
Greater than high school	0.33	0.79	1.40	1.10	[0.28, 6.87]
Marital status[4]					
Married/living with someone as if married	0.42*	0.16	1.52**	0.24	[1.09, 2.11]
Widowed/divorced/separated	0.25	0.24	1.29	0.32	[0.78, 2.13]
NBMCS	0.006	0.006	1.00	0.006	[0.99, 1.01]
Racial discrimination	0.005	0.01	1.00	0.01	[0.96, 1.04]
Perceived stress	0.11**	0.03	1.11*	0.03	[1.04, 1.18]
Number of ACEs[5]					
1	0.89*	0.20	2.45*	0.49	[1.62, 3.69]
2	0.93**	0.28	2.53**	0.72	[1.43, 4.50]
3	1.01**	0.28	2.74**	0.78	[1.55, 4.86]
≥ 4	1.59*	0.27	4.92*	1.32	[2.86, 8.46]
ISEL	-0.02*	0.01	0.97**	0.01	[0.95, 0.99]
Constant	-2.43	0.97	0.87**	0.08	[0.01, 0.62]

Note. Weighted data were used in these analyses; B = standardized coefficients; SE = standard error; OR = odds ratio; CI = confidence interval; 126 strata were removed from this analysis because they contained no data for Black men;[1]Reference = not employed; [2]Reference = < $25,000; [3]Reference = less than high school education; [4]Reference = never married; [5]Reference = 0 (no ACEs); NBMCS = norm-based mental component summary score; ISEL = interpersonal social support

*$p < 0.001$; **$p < 0.05$

Appendix G. Logistic Regression Analysis for the Independent Effects of Interpersonal Social Support, Alcohol Use, and Covariates on IPV Perpetration (N = 1,137)

Predictor	B	SE_B	OR	SE_{OR}	95% CI
Age	-0.03*	0.005	0.96*	0.005	[0.95, 0.97]
Employment status[1]					
Employed	0.15	0.24	1.16	0.28	[0.71, 1.89]
Income[2]					
$25,000–$39,999	0.48**	0.18	1.62**	0.30	[1.11, 2.37]
$40,000–$69,999	-0.33	0.17	0.71	0.12	[0.50, 1.01]
$70,000–$99,999	-0.66**	0.21	0.51**	0.11	[0.33, 0.79]
≥ $100,000	-0.08	0.16	0.92	0.15	[0.66, 1.28]
Education[3]					
High school	0.79	1.04	2.21	2.31	[0.26, 18.26]
Greater than high school	0.61	1.03	1.85	1.92	[0.22, 15.13]
Marital Status[4]					
Married/living with someone as if married	0.47**	0.21	1.60**	0.33	[1.04, 2.44]
Widowed/divorced/separated	0.29	0.24	1.33	0.33	[0.81, 2.20]
NBMCS	0.007	0.006	1.00	0.006	[0.98, 1.01]
Racial discrimination	0.01	0.02	1.01	0.02	[0.97, 1.06]
Perceived stress	0.16*	0.02	1.17*	0.03	[1.11, 1.24]
Alcohol use	0.17*	0.03	1.19*	0.03	[1.11, 1.27]
ISEL	-0.02	0.01	0.97	0.01	[0.95, 1.00]
Constant	-2.05	1.04	0.12	0.13	[0.01, 1.06]

Note. Weighted data were used in these analyses; B = standardized coefficients; SE = standard error; OR = odds ratio; CI = confidence interval; 152 strata were removed from this analysis because they contained no data for Black men;[1]Reference = not employed; [2]Reference = < $25,000; [3]Reference = less than high school education; [4]Reference = never married; [5]Reference = 0 (no ACEs); NBMCS = norm-based mental component summary score; Alcohol Use = average # of standard drink (0.6 fl oz of pure alcohol) consumed daily; ISEL = interpersonal social support

*$p < 0.001$; **$p < 0.05$

Appendix H. Demographic Characteristics of Sample Based on Class Membership

Characteristics	Class 1 (High Exposure) Membership (N = 238)	Class 2 (Medium Exposure) Membership (N = 763)	Class 3 (Low Exposure) Membership (N = 1,305)
	n (%)	*n* (%)	*n* (%)
U.S. born			
No	9 (4.86)	63 (8.83)	119 (11)
Yes	229 (95.14)	700 (91.17)	1,186 (89)
Marital status			
Married/living with someone as if married	114 (51.76)	379 (56.04)	604 (49)
Widowed/divorced/separated	53 (15.95)	183 (16.62)	323 (17.66)
Never married	71 (32.29)	201 (27.34)	378 (33.25)
Sexual Orientation			
Heterosexual (straight)	229 (96.2)	741 (97.4)	1,287 (99.3)
Gay	6 (2.1)	9 (0.8)	5 (0.2)
Bisexual	2 (0.7)	6 (1.1)	4 (0.2)
Not sure	1 (1.0)	7 (0.7)	3 (0.3)
Education			
Less than high school	15 (3.42)	37 (4.11)	104(5.49)
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)
\$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)
Retired	31 (8.85)	121 (12.15)	283 (15.48)
Unemployed	38 (17.57)	84 (10.03)	164 (13.37)
Other	6 (3.09)	21 (3.0)	46 (4.69)
Perpetrated IPV			
No	180 (86.45)	576 (92.42)	891 (96.53)
Yes	25 (13.55)	51 (7.58)	31 (3.47)
Lifetime drinking status			
Current drinker	154 (67.27)	504 (69.62)	766 (60.68)
Drank since Wave 1 interview but not in PY	4 (1.44)	18 (2.09)	32 (2.96)
Drank before Wave 1 interview, but not since	61 (22.11)	175 (20.18)	345 (23.29)

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)
Yes	81 (56.96)	235 (49.49)	355 (50.17)
Number of ACEs			
0	-	-	721 (55.87)
1	-	-	458 (34.47)
2	-	264 (33.49)	120 (9.23)
3	40 (18.99)	246 (34.54)	6 (0.43)
≥ 4	198 (81.01)	253 (31.97)	-
Types of Childhood Exposure			
Physical neglect			
No	82 (32.86)	320 (42.59)	1,146 (89.38)
Yes	156 (67.14)	443 (57.41)	158 (10.62)
Emotional neglect			
No	199 (82.35)	732 (97.08)	1232 (94.63)
Yes	39 (17.65)	30 (2.92)	72 (5.37)
Emotional abuse			
No	76 (32.28)	66 (8.18)	1,177 (90.83)
Yes	161 (62.72)	697 (91.82)	127 (9.17)
Physical abuse			
No	82 (37.86)	92 (12.11)	1,204 (92.84)
Yes	155 (62.14)	669 (87.89)	100 (7.16)
Sexual abuse			
No	187 (76.06)	675 (88.73)	1,277 (97.43)
Yes	51 (23.94)	86 (11.27)	25 (2.57)
Battered mother			
No	97 (42.66)	494 (65.49)	1,258 (97.05)
Yes	139 (57.34)	266 (34.51)	43 (2.95)
Mental illness in household			
No	154 (68)	748 (98.25)	1,289 (98.59)
Yes	84 (32)	15 (1.75)	16 (1.41)
Alcohol problem in household			
No	44 (18.89)	614 (80.78)	1,178 (90)
Yes	194 (81.11)	148 (19.22)	123 (10)
Drug problem in household			
No	128 (49.66)	759 (99.42)	1,293 (99.09)
Yes	107 (50.34)	4 (0.58)	10 (0.91)
Incarcerated household member			
No	73 (32.15)	742 (96.42)	1,260 (95.89)
Yes	165 (67.85)	21 (3.58)	42 (4.11)

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

References

Adjei, S. B. (2016). Masculinity and spousal violence: Discursive accounts of husbands who abuse their wives in Ghana. *Journal of Family Violence*, *31*, 411–422. https://doi.org/10.1007/s10896-015-9781-z

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.

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., 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.

Anderson, P. (2006). Global use of alcohol, drugs, and tobacco. *Drug and Alcohol Review, 25,* 489–502.

Aneshensel, C. S. (2009). Towards explaining mental health disparities. *Journal of Health & Social Behavior, 50*(4), 377–394. https://doi.org/10.1177/002214650905000401

Archer, J. (2000). Sex differences in aggression between heterosexual partners: A meta-analytic review. *Psychological Bulletin, 126,* 651–680.

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.

Assari, S., & Lankarani, M. M. (2016). Education and alcohol consumption among older Americans; Black–White differences. *Frontier in Public Health, 4*(67), 1–7. https://doi.org/10.3389/fpubh.2016.00067

Averett, S. L., & Wang, Y. (2016). Identifying the causal effect of alcohol abuse on the perpetration of intimate partner violence by men using a natural experiment. *Southern Economic Journal*, *82*(3), 697–724. https://doi.org/10.1002/soej.12104.

Barbarin O. (1993). Coping and resilience: Exploring the inner lives of African American children. *Journal of Black Psychology, 19*, 478–492.

Bennett, L., & Lawson, M. (1994). Barriers to cooperation between domestic-violence and substance-abuse programs. *Families in Society, 75*, 277–286.

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.

Björkenstam, E., Hjern, A., Mittendorfer-Rutz, E., Vinnerljung, B., Hallqvist, J., & Ljung, R. (2013). Multi-exposure and clustering of adverse childhood experiences, socioeconomic differences and psychotropic medication in young adults. *PLoS One*, *8*(1):e53551. http://dx.doi.org/10.1371/journal.pone.0053551.15

Black, M. C., Basile, K. C., Breiding, M. J., Smith, S. G., Walters, M. L., Merrick, M. T., Chen, J., & Stevens, M. R. (2011). *The National Intimate Partner and Sexual Violence Survey (NISVS): Summary report*. National Center for Injury Prevention and Control, Centers for Disease Control and Prevention.

Blasco-Fontecilla, H., Jaussent, 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. http://dx.doi.org/10.1016/j.jpsychires.2013.02.017

Blum, R. W. M., Li, M., & Naranjo-Rivera, G. (2019). Adverse childhood experiences among young adolescents globally: Relationships with depressive symptoms and violence. *Journal of Adolescent Health, 65*, 86–93.

Brady, K. T., & Back, S. E. (2012). Childhood stress, posttraumatic stress disorder, and alcohol dependence. *Alcohol Research: Current Reviews, 34*, 408–413.

Breiding, M. J., Chen J., & Black, M. C. (2014). *Intimate partner violence in the United States–2010.* Atlanta, GA: National Center for Injury Prevention and Control, Centers for Disease Control and Prevention.

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

Brown, M. J. (2013). Association between adverse childhood experiences and diagnosis of cancer. *PLos One, 8*, e65524.

Brown, M. J., Perera, R. A., Masho, S. W., Mezuk, B., & Cohen, S. A. (2015). Adverse childhood experiences and intimate partner aggression in the U.S.: Sex differences and similarities in psychosocial mediation. *Social Science & Medicine, 121*, 43–57. http://dx.doi.org/10.1016/j.socscimed.2015.02.044

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.

Caetano, R., Ramisetty-Mikler, S., & Vaeth, P. A. (2007). Acculturation stress, drinking, and intimate partner violence among Hispanic couples in the U.S. *Journal of Interpersonal Violence, 22*, 1431–1447.

Caetano, R., Vaeth, P. A. C., & Ramisetty-Mikler, S. (2008). Intimate partner violence victim and perpetrator characteristics among couples in the United States. *Journal of Family Violence, 23*(6), 507–518.

Capaldi, D. M., Kim, H. K., & Owen, L. D. (2008). Romantic partners' influence on men's likelihood of arrest in early adulthood. *Criminology, 46*, 401–433.

Capaldi, D. M., Knoble, N. B., Shortt, J. W., & Kim, H. K. (2012). A systematic review of risk factors for intimate partner violence. *Partner Abuse, 3*(2), 231–280. https://doi.org/10.1891/1946-6560.3.2.231

Casey, B. J., Tottenham, N., Liston, C., & Durston, S. (2005). Imaging the developing brain: What have we learned about cognitive development? *Trends in Cognitive Sciences, 9*, 104–110.

Celeux, G., & Soromenho, G. (1996). An entropy criterion for assessing the number of clusters in a mixture model. *Journal of Classification, 13*, 195–212.

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 August 10, 2018, from https://www.cdc.gov/mmwr/preview/mmwrhtml/mm5949a1.htm

Centers for Disease Control and Prevention [CDC]. (2017). *The national intimate partner and sexual violence survey (NISVS).* Retrieved August 5, 2018, from http://www.cdc.gov/ViolencePrevention/NISVS/index.html

Centers for Disease Control and Prevention [CDC]. (2018a). *Intimate partner violence: Consequences.* Retrieved August 5, 2019, from https://www.cdc.gov/violenceprevention/intimatepartnerviolence/consequences.html

Centers for Disease Control and Prevention [CDC]. (2018b). *Intimate partner violence: Risk and protective factors for perpetration.* Retrieved August 5, 2019, from https://www.cdc.gov/violenceprevention/intimatepartnerviolence/riskprotectivefactors.html

Center on the Developing Child. (2007). *The impact of early adversity on children's development (In Brief).* Retrieved September 3, 2018, from https://developingchild.harvard.edu/resources/inbrief-the-impact-of-early-adversity-on-childrens-development/

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, 7*3(8), 1178–1185.

Chang, D. F., Shen, B., & Takeuchi, D. T. (2009). Prevalence and demographic correlates of intimate partner violence in Asian Americans. *International Journal of Law and Psychiatry, 32*, 167–175.

Chartier, K., & Caetano, R. (n.d.). *Ethnicity and health disparities in alcohol research*. Retrieved March 2, 2019 from https://pubs.niaaa.nih.gov/publications/arh40/152-160.htm

Chen, C., Yi, H., Stinson, F., & Grant, B. (2010). Alcohol use and alcohol use disorders in the United States, a 3-year follow-up: Main findings from the 2004-2005 Wave 2 National Epidemiologic Survey on Alcohol and Related Conditions (NESARC). (10–7677). NIH Publications.

Chirwa, E. D., Sikweyiya, Y., Addo-Lartey, A. A., Alangea, D. O., Coker-Appiah, D., Adanu, R. K., & Jewkes, R. (2018). Prevalence and risk factors of physical or sexual intimate partner violence perpetration amongst men in four districts in the central region of Ghana: Baseline findings from a cluster randomised controlled trial. *PLoS ONE, 13*(3): e0191663. https://doi.org/10.1371/journal.pone.0191663

Cohen, J. (1988). *Statistical power analysis for the behavioural sciences*, (2nd ed). Lawrence Erlbaum.

Cohen, J., Cohen, P., West, S. G., & Aiken, L. S. (2002). *Applied multiple regression/correlation analysis for the behavioral sciences* (3rd ed.). Routledge.

Cohen, S., & Hoberman, H. M. (1983). Positive events and social supports as buffers of life changes stress. *Journal of Applied Social Psychology, 13*, 99–125.

Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior, 24*, 385–396.

Cohen, S., Mermelstein, R., Kamarck, T., & Hoberman, H. M. (1985). Measuring the functional components of social support. In I.G. Sarason & B.R. Sarason (Eds.). *Social support: theory, research and applications* (pp. 73–94). Sage.

Cohen, S., & Williamson, G. (1988). Perceived stress in a probability sample of the United States. In S. Spacapam & S. Oskamp (Eds.). *The social psychology of health: Claremont Symposium on applied social psychology* (pp. 31–67). Sage.

Coon, H. M., & Kemmelmeier, M. (2001). Cultural orientations in the United States: (Re)examining differences among ethnic groups. *Journal of Cross-Cultural Psychology, 32*, 348–364.

Crane, C. A., Godleski, S. A., Przybyla, S. M., Schlauch, R. C., & Testa, M. (2016). The proximal effects of acute alcohol consumption on male to female aggression: A meta-analytic review of the experimental literature. *Trauma, Violence and Abuse*, *17*(5), 520–531. https://doi.org/10.1177/1524838015584374

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.

Cullen, F. T. (1994). Social support as an organizing concept for criminology: Presidential address to the Academy of Criminal Justice Sciences. *Justice Quarterly, 11*, 527–559.

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., Bermasin, M., & Ames, G. (2009). Agreement on intimate partner violence among a sample of blue-collar couples. *Journal of Interpersonal Violence, 24*(4), 551–568.

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.

Daly, M. C., Hobijn, B., & Pedtke, J. H. (2017). *Disappointing facts about the Black-Wage Gap.* (FRBSF Economic letter, 2017-26). Research from the Federal Reserve Bank of San Francisco. Retrieved May 11, 2018, from https://www.frbsf.org/economic-research/files/el2017-26.pdf

Danese, A., & McEven, 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

Dawson, D. A., Grant, B. F., Chou, S. P., & Pickering, R. P. (1995). Subgroup variation in U.S. drinking patterns: Results from the 1992 national longitudinal alcohol epidemiologic study. *Journal of Substance Abuse, 7*(3), 331–344. https://doi.org/10.1016/0899-3289(95)90026-8

DeGruy Leary, J. (2005). *Post traumatic slave syndrome: America's legacy of ensuring injury and healing*. Uptone Press.

Del Santo, T. S., Scharlach, A. E., Nielsen, J., & Fox, P. J. (2007). The stress process model of family caregiver service utilization: Factors associated with respite and counseling service use. *Journal of Gerontological Social Work, 49*(4), 29–49. https://doi.org/10.1300/J083v49n04_03

Desmarais, S. L., Reeves, K. A., Nicholls, T. L., Telford, R. P., & Fiebert, M. S. (2012). Prevalence of physical violence in intimate relationships, part 2: Rates of male and female perpetration. *Partner Abuse, 3*(2), 170–198. https://doi.org/10.1891/1946-6560.3.2.170

Dong, M., Anda, R. F., Felitti, V. J., Dube, S. R., Williamson, D. F., Thompson, T. J., Loo, C. M., & Giles, W. H. (2004). The interrelatedness of multiple forms of childhood abuse, neglect, and household dysfunction. *Child Abuse & Neglect, 28*, 771–784.

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.

Duke, N. N., Pettingell, S. L., McMorris, B. J., & Borowsky, I. W. (2010). Adolescent violence perpetration: Associations with multiple types of adverse childhood experiences. *Pediatrics, 125*, e778-e786. https://doi.org/10.1542/peds.2009-0597

Easton, C. J., Mandel, D. L., Hunkele, K. A., Nich, C., Rounsaville, B. J., & Carroll, K. M. (2007). A cognitive behavioral therapy for alcohol-dependent domestic violence offenders: An integrated substance abuse-domestic violence treatment approach (SADV). *American Journal on Addictions, 16*, 24–31. https://doi.org/10.1080/10550490601077809

Easton, C. J., Crane, C. A., & Mandel, D. (2017). A Randomized controlled trail assessing the efficacy of cognitive behavioral therapy for substance dependent domestic violence offenders: An integrated substance abuse-domestic violence treatment approach (SADV). *Journal of Marital and Family Therapy, 44*(3), 483–498.

Eckhardt, C. I., Parrott, D. J., & Sprunger, J. G. (2015). Mechanisms of alcohol-facilitated intimate partner violence. *Violence against women*, *21*(8), 939–57.

Ehrensaft, M. K., Cohen, P., Brown, J., Smailes, E., Chen, H., & Johnson, J. G. (2003). Intergenerational transmission of partner violence: A 20-year prospective study. *Journal of Consulting and Clinical Psychology, 71*(4), 741–753. https://doi.org/10.1037/0022-006X.71.4.741

Ellison, C. G., Trinitapoli, J. A., Anderson, K. L., & Johnson, B. R. (2007). Race/ethnicity, religious involvement, and domestic violence. *Violence against Women, 13*(11), 1094–1112.

Etherington, N. A., & Baker, L. L. (2016). *The link between boys' victimization and adult perpetration of intimate partner violence: Opportunities for prevention across the life course.* Centre for Research & Education on Violence Against Women & Children.

Fang, X., & Corso, P. (2008). Gender differences in the connections between violence experienced as a child and perpetration of intimate partner violence in young adulthood. *Journal of Family Violence, 23*(5), 303–313.

Farmer, M. M., & Ferraro, K. F. (2005). Are racial disparities in health conditional on socioeconomic status? *Social Science & Medicine, 60*(1), 191–204. http://dx.doi.org/10.1016/j.socscimed.2004.04.026.

Faul, F. F., Erdfelder, E., Buchner, A., & Lang, A. G. (2009). Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses. *Research Methods, 41*(4), 1149–1160. https://doi.org/10.3758/BRM.41.4.1149

Feingold, A., Kerr, D. C. R., & Capaldi, D. M. (2008). Associations of substance use problems with intimate partner violence for at-risk men in long-term relationships. *Journal of Family Psychology, 22*, 429–438.

Feingold, A., Washburn, I. J., Tiberio, S. S., & Capaldi, D. (2015). Changes in the association of heavy drinking and drug use with intimate partner violence in early adulthood. *Journal of Family Violence*, *30*, 27–34. https://doi.org/10.1007/s10896-014-9658-6

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.

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

Fergusson, D. M., Boden, J. M., & Horwood, L. J. (2008). Developmental antecedents of interpartner violence in a New Zealand birth cohort. *Journal of Family Violence, 23,* 737–753.

Finkelhor, D., Ormrod, R. K., & Turner, H. A. (2007). Poly-victimization: A neglected component in child victimization. *Child Abuse & Neglect, 31*(1), 7–26.

Folkman, S., & Moskowitz, J. T. (2004). Coping: Pitfalls and promise. *Annual Review of Psychology, 55*, 745–774. https://doi.org/10.1146/annurev.psych.55.090902.141456

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/10.137/journal.pone.0136321

Foran, H, M., & O'Leary, K. D. (2008). Alcohol and intimate partner violence: A meta-analytic review. *Clinical Psychology Review*, *28*, 1222–1234. https://doi.org/10.1016/j.cpr.2008.05.001

Foshee, V.A., Ennett, S. T., Bauman, K. E., Benefield, T., & Suchindran, C. (2005). The association between family violence and adolescent dating violence onset: Does it vary by race, socioeconomic status, and family structure. https://doi.org/10.1177%2F0272431605277307

Foster, H., & Brooks-Gunn, J. (2011). Towards a stress process model of children's exposure to physical family and community violence. *Clinical Child & Family Psychology Review, 12*(2), 71–94.

Fox, G. L., Benson, M. L., DeMaris, A. A., & Van Wynk, J. (2002). Economic distress and intimate violence: Testing family stress and resources theories. *Journal of Marriage and Family, 64*(3), 793–807 https://doi.org/10.1111/j.1741-3737.2002.00793.x

Franklin, C., & Kercher, G. A. (2012). The intergenerational transmission of intimate partner violence: differentiating correlates in a random community sample. *Journal of Family Violence, 27*, 187–199. https://doi.org/10.1007/s10896-012-9419-3

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

Gelles, R. J., & Straus, M. A. (1988). *Intimate violence: The causes and consequences of abuse in the American family.* Simon and Schuster.

George, W. H., & Martinez, L. J. (2002). Victim blaming in rape: Effects of victim and perpetrator race, type of rape, and participant racism. *Psychology of Women Quarterly, 26*, 110–119. https://doi.org/10.1111/1471-6402.00049

Giancola, P. R., Josephs, R. A., Parrott, D. J., & Duke, A. A. (2010). Alcohol myopia revisited: Clarifying aggression and other acts of disinhibition through a distorted lens. *Perspective on Psychological Science, 5*(3), 265–78.

Gibbons, F. X., Etcheverry, P. E., Stock, M. L., Gerrard, M., Weng, C. Y., Kiviniemi, M., & O'Hara, R. E. (2010). Exploring the link between racial discrimination and substance use: What mediates? What buffers? *Journal of Personality and Social Psychology*, *90*, 785–801.

Gilbert, L. K., Breiding, M. J., Merrick, M. T., Thompson, W. W., Ford, D. C., Dhingra, S. S., & Parks, S. E. (2015). Childhood adversity and adult chronic disease: An update from ten states and the District of Columbia, 2010. *American Journal of Preventive Medicine, 48*(3), 345–349. https://doi.org/10.1016/j.amepre.2014.09.006

Gilchrist, L., Ireland, L., Forsyth, A., Laxton, T., & Goodwin, J. (2014). Roles of alcohol in intimate partner abuse. *Alcohol Research UK, 117.* Retrieved January 3, 2019, from https://alcoholchange.org.uk/publication/roles-of-alcohol-in-intimate-partner-abuse

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

Goodmark, L., (2017). Should domestic violence be decriminalized? (University of Maryland Legal series research paper No. 2017-15). *Harvard Journal of Law & Gender, 40(53)*, 52–113. Retrieved October 18, 2017, from https://papers.ssrn.com/sol3/papers.cfm?abstractid=2985139

Gould, E. (February, 2019). Stark black-white divide in wages is widening further. Economic Policy Institute. Retrieved March 9, 2020, from https://www.epi.org/blog/stark-black-white-divide-in-wages-is-widening-further/

Graham, K., Bernards, S., Wilsnack, S. C., & Gmel, G. (2011). Alcohol may not cause partner violence but it seems to make it worse: A cross-national comparison of the relationship between alcohol and severity of partner violence. *Journal of Interpersonal Violence, 26*(8), 1503–1523. https://doi.org/10.1177/0886260510370596

Grand Challenges for Social Work. (2018). Stop family violence. 2018 GC Fact Sheet No. 3. Retrieved October 10, 2019, from https://grandchallengesforsocialwork.org/wpcontent/uploads/2015/12/180604-GC-family-violence.pdf

Grant, B. F., & Dawson, D. A. (2006). Introduction to the National Epidemiologic Survey on Alcohol and Related Conditions. *Alcohol Research & Health, 29*(2), 74–78.

Grant, B. F., Dawson, D. A., Stinson, F. S., Chou, P. S., Kay, W., & Pickering, R. (2003). The Alcohol Use Disorder and Associated Disabilities Interview Schedule-IV (AUDADIS-IV): Reliability of alcohol consumption, tobacco use, family history of depression and psychiatric diagnostic modules in a general population sample. *Drug & Alcohol Dependence, 71*, 7–16.

Graubard, B. I., & Korn, E. L. (1996). Modelling the sampling design in the analyses of health surveys. *Statistical Methods in Medical Research, 5*, 263–281.

Greenman, S. J., & Matsuda, M. (2016). From early dating violence to adult intimate partner violence: Continuity and sources of resilience in adulthood. *Criminal Behaviour and Mental Health: CBMH*, *26*(4), 293–303.

Griffith, D. M., Johnson, J., Zhang, R., Neighbors, H. W., & Jackson, J. S. (2011). Ethnicity, nativity and the health of American Blacks. *Journal of Health Care for the Poor and Underserved, 22*(1), 142–156. https://doi.org/10.1353/hpu.2011.0011

Guerri, C., & Pascual, M. (2010). Mechanisms involved in the neurotoxic, cognitive, and neurobehavioral effects of alcohol consumption on adolescence. *Alcohol, 44*(1), 15–26. https://doi.org/10.1016/j.alcohol.2009.10.2003

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. https://doi.org/10.1177/1077801202250450

Hasin, D. S., & Grant, B. F. (2015). The National Epidemiologic Survey on Alcohol and Related Conditions (NESARC) Waves 1 and 2: Review and summary of findings. *Social Psychiatry and Psychiatric Epidemiology*, *50*(11), 1609–1640.

Hellmuth, J. C., Gordon, K. C., Stuart, G. L., & Moore, T. M. (2012). Risk factors for intimate partner violence during pregnancy and postpartum. *Archives of Women's Mental Health*, *16*(1), 19–27.

Hernandez, D. J., & Napierala, J. S. (2013). *Diverse Children: Race, Ethnicity, and Immigration in America's New Non-Majority Generation.* New York, NY: The Foundation for Child Development.

Herrera, V. M., Wiersma, J. D., & Cleveland, H. H. (2008). The influence of individual and partner characteristics on the perpetration of intimate partner violence in young adult relationships. *Journal of Youth and Adolescence, 37*(3), 284–296. https://doi.org/10.1007/s10964-007-9249-4

Hilgeman, M. M., Durkin, D. W., Sun, F., DeCoster, J., Allen, R. S., Gallagher-Thompson, D., & Burgio, L. D. (2009). Testing a theoretical model of the stress process in Alzheimer's caregivers with race as a moderator. *Gerontologist, 49*(2), 248–261. https://doi.org/10.1093/geront/gnp015

Hill, R. (1999). *The strengths of African American families: Twenty-five years later*. University Press of America.

Hobfoll, S. E. (2001). The influence of culture, community, and the nested-self in the stress process: Advancing conservations of resources theory. *Applied Psychology: An International Review, 11*, 213–218.

Houry, D., Rhodes, K. V., Kemball, R. S., Click, L., Cerulli, C., McNutt, L. A., & Kaslow, N. J. (2008). Differences in female and male victims and perpetrators of partner violence with respect to WEB scores. *Journal of interpersonal violence*, *23*(8), 1041–55.

Huang, C. C., Son. E., & Wang, L. R. (2010). Prevalence and factors of domestic violence among unmarried mothers with a young child. *Families in Society, 91*(2), 171–177.

Huckle, T., You, R. Q., & Casswell, S. (2010). Socio-economic status predicts drinking patterns but not alcohol-related consequences independently. *Addiction, 105*, 1192–1202.

Hvidtfeldt, U. A., Tolstrup, J. S., Jakobsen, M. U., Heitmann, B. L., Grønbaek, M., O'Reilly, E., Bälter, K., Goldbourt, U., Hallmans, G., Knekt, P., Liu, S., Pereira, M., Pietinen, P., Spiegelman, D., Stevens, J., Virtamo, J., Willett, W. C., Rimm, E. B., & Ascherio, A. (2010). Alcohol intake and risk of coronary heart disease in younger, middle-aged, and older adults. *Circulation, 121*, 1589–1597. http://dx.doi.org/10.1161/CIRCULATIONAHA.109.887513.

IBM Corp. (2016). *IBM SPSS Statistics for Windows, Version 24*. Armonk, NY: IBM Corp.

Jacobson, J. O., Robinson, P. L., & Bluthenthal, R. N. (2007a). A multilevel decomposition approach to estimate the role of program location and neighborhood disadvantage in racial disparities in alcohol treatment completion. *Social Science & Medicine, 64*(2), 462–476. https://doi.org/10.1016/j.socscimed.2006.08.032

Jacobson, J. O., Robinson, P. L., & Bluthenthal, R. N. (2007b). Racial disparities in completion rates from publicly funded alcohol treatment: Economic resources explain more than demographics and addiction severity. *Health Services Research, 42*(2), 773–794. https://dx.doi.org/10.1111%2Fj.1475-6773.2006.00612.x

Jewkes, R. K., Dunkle, K., Nduna, M., Jama, P. N., & Puren, A. (2010). Associations between childhood adversity and depression, substance abuse and HIV and HSV2 incident infections in rural South African youth. *Child Abuse & Neglect, 34*, 833–841. https://dx.doi.org/10.1016%2Fj.chiabu.2010.05.002

Johnson, W. L., Giordano, P. C., Manning, W. D., & Longmore, M. A. (2015). The age–IPV curve: Changes in the perpetration of intimate partner violence during adolescence and young adulthood. *Journal of Youth and Adolescence, 44*, 708–726. https://dx.doi.org/10.1007%2Fs10964-014-0158-z

Kalmakis, K. A., & Chandler, G. E. (2014). Adverse childhood experiences: towards a clear conceptual meaning. *Journal of Advanced Nursing*, *70*(7), 1489–1501. https://doi.org/10.1111/jan.12329

Kanner, A. D., Coyne, J. C., Schaefer, C., & Lazarus, R. C. (1981). Comparison of modes of stress measurement: Daily hassles and uplifts and major life events. *Journal of Behavioral Medicine, 4*, 1–39. https://doi.org/10.1007/bf00844845

Karageorge, E. (2017, November). *The unexplainable, growing black-white wage gap. Monthly Labor Review, BLS*. Retrieved October 15, 2018, from https://www.bls.gov/opub/mlr/2017/beyond-bls/pdf/the-unexplainable-growing-black-white-wage-gap.pdf

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

Karslen, S., & Nazroo, J. Y. (2002). Relation between racial discrimination, social class, and health outcomes among ethnic minority groups. *American Journal of Public Health, 92*(4), 624–631. https://dx.doi.org/10.2105%2Fajph.92.4.624

Katerndahl, D., & Parchman, M. (2002). The ability of the stress process model to explain mental health outcomes. *Comprehensive Psychiatry, 34*(5), 351–360. https://doi.org/10.1053/comp.2002.34626

Kendler, K. S., Larsson Lönn, S., Salvatore, J., Sundquist, J., & Sundquist, K. (2016). Effect of marriage on risk for onset of alcohol use disorder: Longitudinal and co-relative analysis im a Swedish national sample. *American Journal of Psychiatry, 17*3(9), 911–918. https://doi.org/10.1176/appi.ajp.2016.15111373

Kennedy, P. (1992). *A guide to econometrics*. Blackwell.

Keyes, K., Vo, T., Wall, M., Caetano, R., Suglia, S. F., Martins, S. S.Galea, S., & , Hasin, D. (2015). Racial/ethnic differences in use of alcohol, tobacco, and marijuana: Is there a cross-over from adolescence to adulthood? *Social Science & Medicine, 124*, 132–141. https://doi.org/10.1016/j.socscimed.2014.11.035

Kilpatrick, D. G., Saunders, B. E., & Smith, D. W. (2003). Youth victimization: Prevalence and implications: Research in brief. Washington, DC: U.S. Department of Justice, Office of Justice Programs, National Institute of Justice. *American Journal of Public Health, 92*(4), 530–534.

Kim, H. K., Laurent, H. K., Capaldi, D. M., & Feingold, A. (2008). Men's aggression toward women: A 10-year panel study. *Journal of Marriage and Family, 70*(5), 1169–1187.

Krieger, N. (2015). Discrimination and health inequities. In L. F. Berkman, I. Kawachi, & M. M. Glymour (Eds). *Social Epidemiology*, (2nd ed., pp 63–125). Oxford Press.

Krieger, N. (2003). Does racism harm health? Did child abuse exist before 1962? On explicit questions, critical science, and current controversies: an ecological perspective. *American Journal of Public Health, 93*, 194–199. https://dx.doi.org/10.2105%2Fajph.93.2.194

Krieger, N., Sidney, S., & Coakley, E. (1998). Racial discrimination and skin color in the CARDIA study: Implications for public health research. Coronary artery risk development in young adults. *American Journal of Public Health, 88*, 1308–1313. https://dx.doi.org/10.2105%2Fajph.88.9.1308

Krieger, N. (1990). Racial and gender discrimination: Risk factors for high blood pressure? *Social Science & Medicine, 30*, 1273–1281. https://doi.org/10.1016/0277-9536(90)90307-E

Krieger, N., & Sidney, S. (1997). Prevalence and health implications of anti-gay discrimination: A study of Black and White women and men in the CARDIA study. *International Journal of Health Services, 27*, 157–176. https://doi.org/10.2190%2FHPB8-5M2N-VK6X-0FWN

Krieger, N., Smith, K., Naishadham, D., Hartman, C., & Barbeau, E. M. (2005). Experiences of discrimination: Validity and reliability of a self-report measure for population health research on racism and health. *Social Science & Medicine, 61*, 1576–1596. https://doi.org/10.1016/j.socscimed.2005.03.006

Lacey, K. K., West, C. M., Matusko, N., & Jackson, J. S. (2016). Prevalence and factors associated with severe physical intimate partner violence among U.S. Black women: A comparison of African American and Caribbean Blacks. *Violence Against Women, 22*(6), 651–670. https://doi.org/10.1177/1077801215610014

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 [Manuscript submitted for publication]. School of Social Work, University of Maryland, Baltimore.

Lee, M., Stefani, K. M., & Park, E. C. (2014). Gender-specific differences in risk for intimate partner violence in South Korea. *BMC Public Health, 14*, 415. https://doi.org/10.1186/1471-2458-14-415

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

Lee, R. K., Sanders Thompson, V. L., & Mechanic, M. B. (2002). Intimate partner violence and women of color: A call for innovations. *American Journal of Public Health, 92*(4), 530–534. https://dx.doi.org/10.2105%2Fajph.92.4.530

Levenson, J. (2017). Trauma-informed social work practice. *Social Work, 62*(2), 105–113. https://doi.org/10.1093/sw/swx001

Lewis, J. B., Sullivan, T. P., Angley, M., Callands, T., Divney, A. A., Magriples, U., Gordon, D. M., & Kershaw, T. S. (2017). Psychological and relational correlates of intimate partner violence profiles among pregnant adolescent couples. *Aggressive Behaviors, 43*(1), 26–36. https://doi.org/10.1002/ab.21659

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

Luciana, M., Collins, P. F., Muetzel, R. L., & Lim, K. O. (2013). Effects of alcohol use initiation on brain structure in typically developing adolescents. *The American Journal of Drug & Alcohol Abuse, 39*(6), 345–355. https://doi.org/10.3109/00952990.2013.837057

Mair, C., Cunradi, C. B., Gruenewald, P. J., Todd, M., & Remer, L. (2013). Drinking context-specific associations between intimate partner violence and frequency and volume of alcohol consumption. *Society for the Study of Addiction*, *108*, 2102–2111. https://doi.org/10.1111/add.12322

Mair, C., Cunradi, C. B., & Todd, M. (2012). Adverse childhood experiences and intimate partner violence: Testing psychosocial meditational pathways among couples. *Annals of Epidemiology, 22*, 832–839. https://dx.doi.org/10.1016%2Fj.annepidem.2012.09.008

Mason, R. L., Gunst, R. F., & Hess, J. L. (1989). *Statistical design and analysis of experiments: Applications to engineering and science.* Wiley.

Mattis, J., Fontenot, D. L., & Hatcher-Kay, C.A. (2003). Religiosity, racism, and dispositional optimism among African Americans. *Personality and Individual Differences, 34*, 1025–1038. https://doi.org/10.1016/S0191-8869(02)00087-9

McEwen, B. S. (2007). Physiology and neurobiology of stress and adaptation: Central role of the brain. Physiological Reviews, 87(3), 873–904. https://doi.org/10.1152/physrev.00041.2006

McKinney, C. M., Caetano, R., Ramisetty-Mikler, S., & Nelson, S. (2009). Childhood family violence and perpetration and victimization of intimate partner violence: Findings from a national population-based study of couples. *Annals of Epidemiology, 19*, 25–32. http://dx.doi.org/10.1016/j.annepidem.2008.08.008

McMahon, K., Hoertel, N., Wall, M. M., Okuda, M., Limosin, F., & Blanco, C. (2015). Childhood maltreatment and risk of intimate partner violence: A national study. *Journal of Psychiatric Research, 69,* 42–49. https://doi.org/10.1016/j.jpsychires.2015.07.026

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

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%2Fj.chiabu.2013.07.011

Merz, E. L., Roesch, S., Malcarne, V. L., Penedo, F., Liabre, M. M., Weitzman, O. B., Navas-Nacher, E. L., Perriera, K. M., Gonzalez, F. II., Ponguta, L. A., Johnson, T. P., & Gallo, L. C. (2014). Validation of the interpersonal support evaluation list (ISEL-12) scores among Engligh- and Spanish-speaking Hispanics/Latinos from the HCHS/SOL sociocultural ancillary study. *Psychological Assessment, 26*(2), 384–394. https://doi.org/10.1037/a0035248

Milkie, M. A., Bierman, A., & Schieman, S. (2008). How adult children influence older parents' mental health: Integrating stress-process and life-course perspectives. *Social Psychology Quarterly, 71*(1), 86–105. https://doi.org/10.1177%2F019027250807100109

Mitchell, I., & Beech, A. (2011). Towards a neurobiological model of offending. *Clinical Psychology Review*, *31*, 872–882. https://doi.org/10.1016/j.cpr.2011.04.001

Moore, T. M., Elkins, S. R., McNulty, J. K., Kivisto, A. J., & Handsel, V. A. (2011). Alcohol use and intimate partner violence perpetration among college students: Assessing the temporal association using electronic diary technology. *https://doi.org/10.1037/a0025077*

Moore, T. M., Stuart, G. G. L., Meehan, J. C., Rhatigan, D. L., Hellmuth, J. C., & Keen, S. M. (2008). Drug abuse and aggression between intimate partners: A meta-analytic review. *Clinical Psychology Review*, *28*, 247–274. https://doi.org/10.1016/j.cpr.2007.05.003

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://dx.doi.org/10.15288%2Fjsad.2008.69.824

Mulia, N., Ye, Y., Greenfield, T. K., & Zemore, S. E. (2009). Disparities in alcohol-related problems among White, Black, and Hispanic Americans. *Alcoholism: Clinical and Experimental Research, 33*(4), 654–662. https://dx.doi.org/10.1111%2Fj.1530-0277.2008.00880.x

Mullaney, J. L. (2007). Telling it like a man: Masculinities and battering men's accounts of their violence. *Men and Masculinities*, *10*(2), 222–247. https://doi.org/10.1177/1097184X06287758

Murphy, C. M., & Ting, L. (2010). The effects of treatment for substance use problems on intimate partner violence: A review of empirical data. *Aggression and Violence Behavior, 15*(2010), 325–333. https://doi.org/10.1016/j.avb.2010.01.006

Murrell, A. R., Christoff, K. A., & Henning, K. R. (2007). Characteristics of domestic violence offenders: Associations with childhood exposure to violence. *Journal of Family Violence, 22*(7), 523–532. https://doi.org/10.1007/s10896-007-9100-4.

Muthén, L. K., & Muthén, B. O. (1998–2017). *Mplus user's guide* (8th ed.). Muthén & Muthén.

National Epidemiologic Suvery of Alcohol and Related Conditions. (2008). *Wave 2 NESARC data notes.* National Institute on Alcohol Abuse and Alcoholism.

National Institute on Alcohol Abuse and Alcoholism [NIAAA]. (n.d). *What is a standard drink*. Retrieved January 23, 2020, from https://www.niaaa.nih.gov/what-standard-drink

NIAAA. (2006). *Alcohol use and alcohol use disorders in the United States: Main findings from the 2001-2002 National Epidemiologic Survey on Alcohol and Related Conditions (NESARC).* National Institutes of Health.

National Institutes of Health. (2010). Alcohol use and alcohol use disorders in the United States, a 3-year follow-op: Main findings from the 2004-2005 Wave 2 National Epidemiologic Survey on Alcohol and Related Conditions (NESARC). *U.S. Alcohol Epidemiologic Data Reference Manual, 8*(2), 1–309.

Neter, J., Wasserman, W., & Kutner, M. H. (1989). *Applied linear regression models*. Irwin.

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., Logan-Greene, P., & Green, S. (2012). Adverse childhood experiences (ACE) within a social disadvantage framework: Distinguishing unique, cumulative, and moderated contributions to adult mental health. *Journal of Prevention & Intervention in the Community, 40*(4), 278–290. https://doi.org/10.1080/10852352.2012.707443

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%2Fj.chiabu.2015.03.008

Nurius, P. S., Green, S., Logan-Greene, P., Longhi, D., & Song, C. (2016). Stress pathways to health inequlities: Embedding ACEs within a social and behavioral context. *International Public Health Journal, 8*(2), 241–256.

Nurse, K. (2004). Masculinities in transition. Gender and the global problematique. In Reddock, R.E. (Ed). *Interrogating Caribbean masculinities*. *Theoretical and empirical analyses* (pp. 3–33). University of the West Indies Press.

Nurullah, A. S. (2012). Received and provided social support: A review of current evidence and future directions. *American Journal of Health Studies, 27*(3), 173–188.

O'Donnell, C. J., Smith, A., & Madison, J. R. (2002). Using demographic risk factors to explain variations in the incidence of violence against women. *Journal of Interpersonal Violence, 17*, 1239–1262. https://doi.org/10.1177%2F088626002237854

O'Farrell, T. J., Murphy, C. M., Stephan, S. H., Fals-Stewart, W., Murphy, M. (2004). Partner violence before and after couples-based alcoholism treatment for male alcoholic patients: The role of treatment involvement and abstinence. *Journal of Consulting & Clinical Psychology, 72*(2), 202–217. https://doi.org/10.1037/0022-006X.72.2.202

O'Keefe, J. H., Bhatti, S. K., Bajwa, A., DiNicolantonio, J. J., & Lavie, C. J. (2014). Alcohol and cardiovascular health: The dose makes the poison... or the remedy. *Mayo Clinic Proceedings, 89,* 382–393. https://doi.org/10.1016/j.mayocp.2013.11.005

O'Leary, K. D. (1999). Developmental and affective issues in assessing and treating partner aggression. *Clinical Psychology: Science and Practice, 6,* 400–414. https://doi.org/10.1093/clipsy.6.4.400

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

Ong, A. D., Fuller-Rowell, T., & Burrow, A.L. (2009). Racial discrimination and the stress process. *Journal of Personality & Social Psychology, 96*(6), 1259–1271. https://doi.org/10.1037/a0015335

Pearlin, L. I. (1991). The study of coping: Problems and directions. In J. Eckenrode (Ed.). *The social context of coping* (pp. 261–276). Plenum Press.

Pearlin, L. I. (1999). The stress process revisited: Reflections on concepts and their interrelationships. In C.S. Aneshensel and J.C. Phelan (Eds.). *Handbook of the sociology of mental health* (pp. 395–415). Kluwer Academic/Plenum Publishers.

Pearlin, L. I. (2009). The life course and the stress process: Some conceptual comparisons. *Journal of Gerontology: Social Science, 65B*(2), 207–215. https://dx.doi.org/10.1093%2Fgeronb%2Fgbp106

Pearlin, L. I., & Aneshensel, C. A. (1986). Coping and social supports: Their functions and applications. In L.H. Aiken & D. Mechanic (Eds.). *Social science, medicine, and policy* (pp. 417–439). Rutgers University Press.

Pearlin, L. I., Aneshensel, C. A., & Leblanc, A. J. (1997). The forms and mechanisms of stress proliferation: The case of AIDS caregivers. *Journal of Health and Social Behavior, 38*(3), 223–236. https://doi.org/10.2307/2955368

Pearlin, L. I., Aneshensel, C. A., Mullan, J. T., & Whitlatch, C. J. (1995). Caregiving and its social support. In R.H. Binstock & L.K. George (Eds.). *Handbook of aging and the social sciences* (4th ed., pp. 283–302). Academic Press.

Pearlin, L. I., Menaghan, E. G., Lieberman, M. A., & Mullan, J. T. (1981). The stress process. *Journal of Health and Social Behavior, 22*(4), 337–357.

Pearlin, L. I., Mullan, J. T., Semple, S., & Skaff, M. M. (1990). Caregiving and the stress process: An overview of concepts and their measures. *Gerontological Society of America, 30*(5), 583–594.

Pearlin, L. I., Nguyen, K., Schieman, S., & Milkie, M. A. (2007). The life-course origins of mastery among older people. *Journal of Health and Social Behavior, 48*, 164–179.

Pearlin, L. I., Schieman, S., Fazio, E. M., & Meersman, S. C. (2005). Stress, health, and the life course: Some conceptual perspectives. *Journal of Health and Social Behavior, 46*(2), 205–219.

Pearlin, L. I., & Skaff, M. M. (1995). Stressors and adaptation in late life. In M. Gatz (Ed.). *Emerging issues in mental health and aging* (pp. 97–123). American Psychiatric Association Press.

Peralta, R. L., & Tuttle, L. A. (2013). Male perpetrator of heterosexual-partner-violence: The role of threats to masculinity. *Journal of Men's Studies*, *21*(3), 255–276. https://doi.org/10.3149%2Fjms.2103.255

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.

Pfeffermann, D., Skinner, C. J., Holmes, D. J., Goldstein, H., & Rasbash, J. (1998). Weighting for unequal selectiom probabilities in multilevel models. *Journal of Royal Statistical Society. Series B (Statistical Methodology), 60*(1), 23–40. https://www.jstor.org/stable/2985969

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%2FAJPH.2008.139006

Ports, K. A., Lee, R. D., Raiford, J., Spikes, P., Manago, C., & Wheeler, D. P. (2017). Adverse childhood experiences among Black men who have sex with men. *Journal of Urban Health, 94*(3), 375–383. https://doi.org/10.1007/s11524-017-0146-1

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. doi:10.1177/0886260519854553

Rabe-Hesketh, S., & Skrondal, A. (2006). Multilevel modelling of complex survey data. Journal of the Royal Statistical Society. Series A (Statistics in Society), 169(4), 805–827. https://www.jstor.org/stable/3877401

Ramisetty-Mikler, S., Caetano, R., & McGrath, C. (2007). Sexual aggression among White, Black, and Hispanic couples in the U.S.: Alcohol use, physical assault, and psychological aggression as its correlates. *American Journal of Drug and Alcohol Abuse, 33*, 31–43. https://doi.org/10.1080/00952990601082639

Reed, E., Silverman, J. G., Ickovics, J. R., Gupta, J., Welles, S. L., Santana, M. C., & Raj, A. (2010). Experiences of racial discrimination and relation to violence perpetration and gang involvement among a sample of urban African American men. *Journal of Immigrant Minority Health, 12,* 319–326. https://doi.org/10.1007/s10903-008-9159-x

Reidy, D. R., Shirk, S. D., Sloan, C. A., & Zeichner, A. (2009). Men who aggress against women: Effects of feminine gender role violation on physical aggression by hypermasculine men. *Psychology of Men & Masculinity, 10*, 1–12. https://doi.org.10.1037/a0014794

Renner, L. M., & Whitney, S. D. (2012). Risk factors for unidirectional and bidirectional intimate partner violence among young adults. *Child Abuse & Neglect, 36*(2012), 40–52. https://doi.org/10.1016/j.chiabu.2011.07.007

Roberts, A. L., Gilman, S. E., Fitzmaurice, G., Decker, M. R., & Koenen, K. C. (2010). Witness of intimate partner violence in childhood and perpetration of intimate partner violence in adulthood. *Epidemiology, 21*(6), 809–818. https://dx.doi.org/10.1097%2FEDE.0b013e3181f39f03

Roberts, A. L., McLaughlin, K. A., Conron, K. J., & Koenen, K. C. (2011). Adulthood stressors, history of childhood adversity, and risk of perpetration of intimate partner violence. *American Journal of Preventive Medicine, 40*(2), 128–138. https://dx.doi.org/10.1016%2Fj.amepre.2010.10.016

Rothman, E. F., Reyes, L. M., Johnson, R. M., & LaValley, M. (2012). Does the alcohol make them do it? Dating violence perpetration and drinking among youth. *Epidemiologic Reviews*, *34*, 103–119. https://doi.org/10.1093/epirev/mxr027

Ruan, W. J., Goldstein, B. R., Chou, S. P., Smith, S. M., Saha, T. D., Pickering, R. P., 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%2Fj.drugalcdep.2007.06.001

SAMSHA's Center for the Application of Prevention Technologies (2018). *The role of adverse childhood experiences in substance abuse and related behavioral health problems*. Retrieved March 15, 2019, from https://www.samhsa.gov/capt/sites/default/files/resources/aces-behavioral-health-problems.pdf

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%2F0886260503260244

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

Schulz, A. J., Gravlee, C. C., Williams, D. R., Israel, B. A., Mentz, G., & Rowe, Z. (2006). Discrimination symptoms of depression, and self-rated health among African American women in Detroit: Results from a longitudinal analysis. *American Journal of Public Health*, *96*(7), 1265–1270. https://dx.doi.org/10.2105%2FAJPH.2005.064543

Sellers, S. L., Bonham, V., Neighbors, H. W., & Amell, J. W. (2006). Effects of racial discrimination and health behaviors on mental and physical health of middle-class African American men. *Health Education Behavior, 36*(1), 31–44. https://doi.org/10.1177/1090198106293526

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

Shonkoff, J. P., Gardner, A. S., 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

Singh, V., Tolman, R., Walton, M., Chermack, S., & Cunningham, R. (2014). Characteristics of men who perpetrate intimate partner violence. *Journal of American Board of Family Medicine, 27*(5), 6610668. https://doi.org/10.3122/jabfm.2014.05.130247

Slopen, N., Shonkoff, J. P., Albert, M. A., Yoshikawa, H., Jacobs, A., Stoltz, R., & Williams, D. R. (2016). Racial disparities on child adversity in the U.S. Interactions with family immigration history and income. *American Journal of Preventative Medicine, 50*(1), 47–56. http://dx.doi.org/10.1016/j.amepre.2015.06.013

Smith, E. (2008). African American men and intimate partner violence. *Journal of African American Studies*, *12*, 156–179. https://doi.org/10.1007/s12111-008-9039

Smith, P. H., Homish, G. G., Leonard, K. E., & Cornelius, J. R. (2012). Intimate partner violence and specific substance use disorders: Findings from the National Epidemiologic Survey on alcohol and related conditions. *Psychology of Additive Behaviors, 22*(2), 236–245. https://doi.org/10.1037/a0024855

Smith Slep, A. M. S., Foran, H. M., Heyman, R. E., & Snarr, J. D. (2010). Unique risks and protective factors for partner aggression in a large scale Air Force survey. *Journal of Community Health, 35*(4), 375–383. https://doi.org/10.1007/s10900-010-9264-3

Spencer, C., Cafferky, B., & Stith, S. M. (2016). Gender differences in risk markers for perpetration of physical partner violence: Results from a meta-analytic review. *Journal of Family Violence, 31*, 981–984. https://doi.org/10.1007/s10896-016-9860-9

Spencer, C., Mallory, A. B., Cafferky, B. M., Kimmes, J. G., Beck, A. R., & Stith, S. M (2017). Mental health factors and intimate partner violence perpetration and victimization: A meta-analysis. *Psychology of Violence.* Advance online publication. http://dx.doi.org/10.1037/vio0000156

Spratt, E. G., Backs, S. E., Yeatts, S. D., Simpson, A. N., McRae-Clark, A., Moran-Santa Maria, M. M., Price, K. L., Hartwell, K. T., & Brady, K. T. (2009). Relationship between child abuse and adult smoking. *Interpersonal Journal of Psychiatry in Medicine, 39*, 417–426. https://doi.org/10.2190/PM.39.4.f

StataCorp. (2019). *Stata statistical software: Release 16*. StataCorp, LLC.

Stover, C. S., Meadows, A. L., & Kaufman, J. (2009). Interventions for intimate partner violence: Review and implications for evidence-based practice. *Professional Psychology: Research and Practice, 40*(3), 223–233. http://dx.doi.org/10.1037/a0012718

Straus, M. (1979). Measuring intrafamily conflict and violence: the conflict tactics (CT) scales. *Journal of Marriage & the Family, 41*, 75–88.

Straus, M. A., Gelles, R. J., & Steinmetz, S. K. (1980). *Behind closed doors: Violence in the American family*. Doubleday.

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.

Stuart, G. L., Meehan, J. C., Moore, J. M., Morean, M., Hellmuth, J., & Follansbee, K. (2006). Examining conceptual frameworks of intimate partner violence in men and women arrested for domestic violence. *Journal of Studies on Alcohol & Drugs, 67*, 102–112. https://doi.org/10.15288/jsa.2006.67.102

Stueve, A., & O'Donnell, L. (2008). Urban young women's experiences of discrimination and community violence and intimate partner violence. *Journal of Urban Health*, *85*, 386–401. https://doi.org/10.1007/s11524-008-9265-z

Taylor, T. R., Williams, C. D., Makambi, K. H., Mouton, C., Harrell, J. P., Cozier, Y., Palmer, J. R., Rosenberg, L., Adams-Campbell, L. L. (2007). Racial discrimination and breast cancer incidence in US Black women: The Black women's health study. *American Journal of Epidemiology, 166*(1), 46–54. https://doi.org/10.1093/aje/kwm056

Teicher, M. H. (2007, April 12). *Childhood abuse, brain development and impulsivity*. Paper presented at MASOC/MATA Joint Conference, Marlborough, MA, USA. Retrieved January 18, 2018, from http://www.mclean.harvard.edu/pdf/research/clinicalunit/ dbrp/mteicher-talks/MASOC_MATSA_meeting.pdf

Theall, K. P., Lancaster, B. P., Lynch, S., Haines, R. T., Scribner, S., Scribner, S., & Kishore, V. (2011). The neighborhood alcohol environment and at-risk drinking among African Americans. *Alcoholism: Clinical and Experimental Research, 35*(5), 996–1003. https://dx.doi.org/10.1111%2Fj.1530-0277.2010.01430.x

Tobler, A. L., Maldanado-Molina, M. M., Staras, S. A. S., O'Mara, R. J., Livingston, M. D., & Komro, K. A. (2013). Perceived racial/ethnic discrimination, problem behaviors, and mental health among minority urban youth. *Ethnicity & Health*, *18*, 337–349. https://dx.doi.org/10.1080%2F13557858.2012.730609

Tolman, R. M., & Walsh, T. (2017). Engaging men in violence prevention. In C.M. Renzetti, J.L., Edleson, & R. Kennedy Bergen (Eds.). *Sourcebook on violence against women* (3rd ed., pp. 327–349). SAGE Publications, Inc.

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

Turner, R. J., & Avison, W. R. (2003). Status variations in stress exposure: Implications for the interpretation of research on race, socioeconomic status, and gender. *Journal of Health & Social Behavior, 44*, 488–505.

Turrell, C. S. (2000). A descriptive analysis of same-sex relationship violence for a diverse sample. *Journal of Family Violence, 15*, 281–293. https://doi.org/10.1023/A:1007505619577

U.S. Department of Health and Human Services Office of the Surgeon General. (1999). *Mental health: Culture, race, and ethnicity—A supplement to mental health: A report of the surgeon general.* Author.

Utsey, S. O., Bolden, M A., Lanier, Y., & Williams, Otis., III. (2007). Examining the role of culture-specific coping as a predictor of resilient outcomes in African Americans from high-risk urban communities. *Journal of Black Psychology, 33*(1), 75–93. https://doi.org/10.1177%2F0095798406295094

Utsey, S. O., Giesbrecht, N., Hook, J., & Stanard, P. M. (2008). Cultural, sociofamilial, and psychological resources that inhibit psychological distress in African Americans exposed to the stressful life events and race-related stress. *Journal of Couseling Psychology, 55*(1), 49–62. https://psycnet.apa.org/doi/10.1037/0022-0167.55.1.49

Varese, F., Smeets, F., Drukker, M., Lieverse, 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

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.

Van Wyk, J. A, Benson, M. L, Fox, G. L, & DeMaris, A. (2003). Detangling individual, partner, and community-level correlates of partner violence. *Crime & Delinquency, 49*(3), 412–438. https://doi.org/10.1177%2F0011128703049003004

Vaughn, M., Salas-Wright, C., Huang, J., Qian, Z., Terzis, L., & Helton, J. (2017). Adverse childhood experiences among immigrants to the United States. *Journal of Interpersonal Violence, 32*(10), 1543–1564. https://doi.org/10.1177%2F0886260515589568

Waltermaurer, E., Watson, C. A., & McNutt, L. A. (2006). Black women's health: The effect of perceived racism and intimate partner violence. *Violence Against Women*, *12*, 1214–1222. https://doi.org/10.1177/1077801206293545

Ware, J. E., Kosinski, M., Turner Bowker, D. M., & Gandek, B. (2002). *How to score version 2 of the SF-12 health survey*. Quality Metrics.

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

Warshaw, C., Brashlet, P., & Gill, J. (2009). Mental health consequences of intimate partner violence. In C. Mitchell & D. Anglin (Eds.). *Intimate partner violence: A health-based perspective*, (pp. 147–171). New York, NY: Oxford University Press. Retrieved September 20, 2018, from http://www.nationalcenterdvtraumamh.org/wp-content/uploads/2015/10/Mitchell-Chapter-12.pdf

West, C. M. (2012). Partner abuse in ethnic minority and lesbian, gay, bisexual, and transgender populations. *Partner Abuse, 3*, 336–357. https://doi.org/10.1891/1946-6560.3.3.336

West, B. T., Berglund, P., & Heeringa, S. G. (2008). A closer examination of subpopulation analysis of complex-sample survey data. *The stata journal, 8*(4), 520-531.

West, C. M., Kaufman Kantor, G., & Jasinski, J. L. (1998). Sociodemographic predictors and cultural barriers to help-seeking behavior by Latinas and Anglo American battered women. *Violence & Victims, 13*, 361–375. http://doi.org/10.4324/9780203955048

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

White, H. R., & Widom, C. S. (2003). Intimate partner violence among abused and neglected children in young adulthood: The mediating effects of early aggression, antisocial personality, hostility, and alcohol problems. *Aggressive Behavior, 29*(4), 332–345. https://psycnet.apa.org/doi/10.1002/ab.10074

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%2F0886260502238733

Widom, C. S., Czaja, S., & Dutton, M. A. (2014). Child abuse and neglect and intimate partner violence victimization and perpetration: A prospective investigation. *Child Abuse & Neglect, 38*(4), 650–663. https://dx.doi.org/10.1016%2Fj.chiabu.2013.11.004

Witbrodt, J., Mulia, N., Zenmore, S. E., & Kerr, W. C. (2014). Racial/ethnic disparities in alcohol-related problems: Differences by gender and level of heavy drinking. *Alcoholism: Clinical and Experimental Research, 38*(6), 1662–1670. https://dx.doi.org/10.1111%2Facer.12398

World Health Organization [WHO]. (2012). *Understanding and addressing violence against women*. Retrieved September 9, 2018, from http://apps.who.int/iris/bitstream/handle/10665/77432/WHO_RHR_12.36_eng.pdf?sequence=1

World Health Organization [WHO]. (2013). *Global and regional estimates of violence against women: Prevalence and health effects of intimate partner violence and non-sexual violence*. Retrieved August 15, 2018, from http://apps.who.int/iris/bitstream/handle/10665/85239/9789241564625_eng.pdf?sequence=1

World Health Organization [WHO]. (2014). *Violence against women*. Retrieved July 8, 2018 from http://www.who.int/ mediacentre/factsheets/fs239/en

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

Yeung, E. W., Lee, R. M., McDowell, Y., Sher, K. J., & Gizer, I. R. (2020). The association between alcohol consumption and pain interference in a nationally representative sample: The moderating roles of gender and alcohol use disorder symptomatology. *Alcoholism: Clinical and Experimental Research,* 1–15. https://doi.org/10.1111/acer.14282

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

Zinzow, H. M., & Thompson, M. (2015). A longitudinal study of risk factors for repeated sexual coercion and assault in U.S. college men. *Archives of Sexual Behavior, 44*, 213–222. https://doi.org/10.1007/s10508-013-0243-5