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THE EFFECTS OF ADVERSE CHILDHOOD EXPERIENCES ON LATER SEXUAL VIOLENCE
PERPETRATION AMONG MALE COLLEGE STUDENTS: A MODERATED MEDIATION MODEL

By

SAJA BASSAM KHADER

Under the Direction of Laura Salazar, PhD

ABSTRACT

Sexual violence (SV) is a significant public health problem in the United States, specifically among undergraduate college students. Experiencing adverse childhood experiences or ACEs is also a significant public health problem and may act as a potential risk factor for perpetrating SV later in life. This study investigated whether ACEs was associated with an increased likelihood of SV perpetration, and whether several other risk factors for SV perpetration (hypermasculinity, hostility towards women, and binge drinking) acted as mediators between the relation between ACEs and later SV perpetration in adulthood. This study also tested whether perceptions of social norms moderated these relationships in male undergraduate students. Secondary data was drawn from the Freshman of Georgia study (FoG), a longitudinal CDC-funded study. A total of 1,144 male college freshmen enrolled at one of 30 participating colleges and universities in Georgia were included in this study via online survey completion. Statistical analyses were performed using SAS 9.4 software through SAS Studio University Edition. Three separate moderated mediation analyses were conducted via Hayes PROCESS macro model 14. Results showed that hypermasculinity and binge drinking mediated the relationship between ACEs and later SV perpetration, and also that perception of social norms was a significant moderator. These findings contribute to the growing body of literature surrounding SV perpetration and provide further understanding of the ACEs – SV perpetration relationship among male college students. SV prevention and education programming for this population should target the modifiable SV perpetration risk factors of hypermasculinity, binge drinking, and perceptions of social norms.

INDEX WORDS: Sexual violence, Adverse childhood experiences, ACEs, Hypermasculinity, Hostility towards women, Binge drinking, Perceptions of social norms, Moderated mediation

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B.S., UNIVERSITY OF GEORGIA

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APPROVAL PAGE

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Author's Statement Page

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Chapter I. Introduction

Background

Sexual violence (SV) is a prominent problem in the United States that has been on the forefront of public health over the last two decades. Surveillance data suggest that one in four women may experience sexual violence by an intimate partner and one-third of adolescent girls report their first sexual experience as being forced (World Health Organization, 2011). SV encompasses a wide range of victimizations in which sexual activity is forced upon an individual without proper consent by means of violence or coercion (National center for Injury Prevention and Control, 2020). SV is not limited to rape or attempted rape and is defined by the World Health Organization (WHO) as physically forced or coerced perpetration by an offender on an unwilling victim (World Health Organization, 2011). It includes an array of sexually violent acts such as sexual abuse, sexual harassment, denial to right for contraceptive, forced multi-partner sexual acts, etc. (World Health Organization, 2011).

The term “coercion” is used within the definition of SV. Coercion tactics can include “psychological intimidation, blackmail, and other threats” such as job security, personal welfare, and physical violence (World Health Organization, 2011). In addition, coercion is present when consent is given unwillingly or when the person is in an inebriated state (World Health Organization, 2011). SV can occur in a variety of different settings and contexts, including in intimate partner relationships, acquaintances, and among strangers (World Health Organization, 2011). SV is present among all gender, sexual, and racial minorities, regardless of SES (World Health Organization, 2011). It is important to note that SV

victimization can be experienced by men; however, for the purposes of this study the focus will be on male inflicted SV perpetration.

Despite increased SV awareness in recent years due to increased victim visibility campaigns and popular media attention (i.e. #MeToo, Time Out, and It's On Us), the rate of sexual assault victimization in the U.S. increased from 1.6 to 2.7 victimizations per 1,000 persons age 12 or older from 2015 to 2018 (Morgan & Oudekerk, 2019). Along with this, the rate of SV reporting has decreased by over 15% since 2015 (Morgan & Oudekerk, 2019). Victims often choose not to report experiences of SV to authorities because of various reasons, such as fear of public exposure, fear of not being believed, and other possible perceived consequences. Many victims of SV are left without proper support and underreporting has led to a lack of representative surveillance data surrounding the issue. Therefore, SV continues to be a wide-spread, prevalent problem in the United States.

Increasing evidence suggests that undergraduate women are at an elevated risk of SV when compared to other groups (Cantor, David; Fisher, Bonnie; Chibnall, Susan; Townsend, Reanne; Lee, Hyunshik; Herbison, Randy; Madden, 2020). The 2019 Association of American Universities (AAU) Survey on Sexual Assault and Misconduct found that the rate of SV since enrollment to be 13% among students (Cantor et al., 2020). Undergraduate women are three times more at risk for SV than graduate students (Cantor et al., 2020). Approximately 42% of all students reported at least one instance of sexual harassment (Cantor et al., 2020). Among women who reported SV, follow-up resource(s) or support program(s) were contacted for after-care assistance in only 30% of incidents (Cantor et al., 2020). However, roughly 92% of women reported at least one type of subsequent emotional or behavioral consequences (Cantor et al., 2020). Current data overwhelming

reflects that SV is significantly pervasive among college-aged women, highlighting a great need for effective comprehensive SV prevention programming that are evidence-based and aim to reduce SV perpetration by male college students.

ACEs & Later Outcomes

Studies within the last two decades have explored the impact of adverse childhood experiences (ACEs) on long-term health outcomes, including risk of SV perpetration and victimization. According to the CDC-Kaiser Ace study, one of the largest studies on childhood abuse and later outcomes, there are ten different types of ACEs that fit within one of three broad ACE categories, which are abuse, household challenges, and neglect (CDC, 2020). ACEs include childhood emotional abuse (CEA), physical abuse (CPA), sexual abuse (CSA), violence towards a mother, household substance abuse, household mental illness, parental separation or divorce, incarcerated household member, emotional neglect, and physical neglect (CDC, 2020). The study revealed that ACEs are not mutually exclusive; a co-occurrence of violence is repeatedly present among many cases (CDC, 2020). Therefore, a graded dose-response relationship exists – as the ACE score (scale of 1-10) for an individual increase so does their risk for negative health outcomes (CDC, 2020).

Existing literature has also concluded that experiencing ACEs increases the risk for mental illness, chronic health problems, and substance misuse (CDC, 2020). Such risks pose as not only a threat to one's health, but also one's job and educational opportunities (CDC, 2020). The CDC states that ACEs are common, with roughly 61% of adults reporting that they have experienced at least one type of ACE, and one in six adults reporting experiencing multiple ACEs (CDC, 2020). In the United States, roughly 28% of adults reported experiencing CPA, 21% reported CSA, and more than 10% experienced CEA (CDC, 2020).

Research has also shown a significant disparity surrounding ACEs. Specifically, racial and ethnic minority groups and women are at greater risk of experiencing four or more types of ACEs (CDC, 2020).

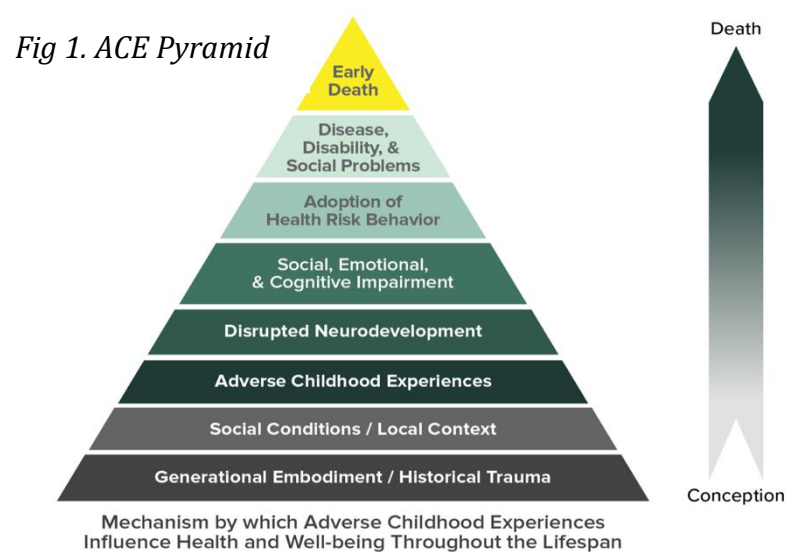
Emerging research has also recognized ACEs as contributors to increased sexual aggression and predictors of SV perpetration among college-aged males (Abbiati et al., 2014; Casey et al., 2017; Voith et al., 2017). According to the literature, CPA and CSA have been found to independently have a high predictive power for future perpetration among men (Voith et al., 2017). Studies have concluded that CEA has a high protective power for perpetration among men; however, conversely, experiencing CEA increases the likelihood of later victimization among men (Voith et al., 2017). CSA is a major risk factor for experiencing adulthood sexual victimization (Abbiati et al., 2014; Burton et al., 2002; Jespersen et al., 2009; Ports et al., 2016; Voith et al., 2017). In one study, individuals who reported CSA were 3.17 times more likely to experience victimization (Port et al., 2016). Furthermore, Abiatti et al. (2014) conducted an ACE qualitative study among adult male sex offenders ($n=54$) 63% of men reported that they had experienced CEA, 61% experienced CPA, and 33% had experienced CSA. Experiencing ACEs leads to negative health outcomes and can increase the risk of SV victimization and perpetration among men.

In addition, there are a variety of modifiable shared risk and protective factors that influence likelihood of later perpetration among men such as hostile masculinity, binge drinking, substance abuse issues, attitudes towards sex, and hostility towards women, etc. (Casey et al., 2017). These factors will be examined more in-depth in the next chapter.

Theoretical Framework

The theoretical framework for this study includes the ACEs framework and the confluence model of sexual aggression to examine the effects of ACEs on later SV outcomes among male college students and whether these effects are mediated by several confluence model variables. The ACEs framework was developed as a result of the previously mentioned CDC-Kaiser ACE study that was conducted from 1995 to 1997 (CDC, 2020).

The ACE pyramid (see fig. 1) was created to represent the ACEs conceptual framework, which identifies the mechanisms through which ACEs impact an individual's health in the long term (CDC, 2020). The pyramid also reflects the found graded-dose relationship between the number of ACEs experienced and the risk of negative outcomes.



The confluence model of sexual aggression proposes two independent pathways of sexual aggression in men: hostile masculinity (i.e. hypermasculinity) and impersonal sexual relationships (Malamuth et al., 1996). Hostile masculinity refers to holding a general attitude of male dominance over women that encompasses the belief of traditional male gender roles (Malamuth et al., 1996). Findings suggest that hypermasculinity is a predictor for sexually aggressive behavior among men (Casey et al., 2017). Impersonal sex describes an emotional detachment towards sex in which men hold casual attitudes towards sex and tend to objectify women for sexual pleasure (Malamuth et al., 1996). Limited findings

suggest that casual attitudes towards sex is also a predictor for sexual aggression in men (Alexander, 2019; Casey et al., 2017; Malamuth et al., 1996). The establishment of this model has served as a theoretical backing in research surrounding SV towards women by male perpetrators (Abbey et al., 2011; Alexander, 2019; Casey et al., 2017; Malamuth et al., 1996; Swartout, 2013; Warkentin & Gidycz, 2007).

Significance & Purpose of Study

Although research has identified an association between ACEs and increased risk of SV, few studies have explored these relationships further in an extensive context regarding later perpetration, specifically among men (Casey et al., 2017; Voith et al., 2017). Existing research has focused primarily on high school populations; thus, a significant gap in literature exists surrounding male college students. Few studies have identified risk and protective factors for SV perpetration among men, however, their findings are inconclusive due to conflicting results (Casey et al., 2017; Voith et al., 2017). In addition, limited research has explored the underlying mechanisms that explain the ACEs – SV perpetration relationship. Potential mediators such as hypermasculinity, hostility towards women, etc., may independently affect the risk of future SV perpetration. Such mediators are modifiable, therefore wide-scale implementation of an informed, comprehensive SV education programming targeting these factors is an effective and critical prevention method for this population.

Public health research has only begun to scratch the surface in exploring the complex pathways between ACEs and SV among men, and there is a need to understand more about the direct and indirect effects of such modifiable factors. Therefore, the goal of this study is to fill this gap by examining the effects of ACEs on later SV perpetration among

male college students through a moderated mediation model. This study investigated the effects of theoretical mediators and potential moderators of the ACEs – SV perpetration relationship among male college students. Potential mediators that were examined included hypermasculinity, hostility towards women, and binge drinking. Perceptions of social norms was explored as a potential moderator in that it may buffer the indirect effects of each mediator on SV perpetration. It is important to note that mediation analysis does not imply causation, rather it establishes empirically based correlations.

Research Questions

1. What is the relationship between adverse childhood experiences and risk of later perpetration among male college students?
2. Is there an indirect effect of adverse childhood experiences on SV perpetration through potential mediators: hypermasculinity, hostility towards women, and binge drinking?
3. Does perception of social norms serve as moderator and buffer the relationships between the hypothesized mediators and SV perpetration among male college students?

Chapter II. Literature Review

Introduction & Problem Justification

Sexual violence (SV) is a serious public health problem facing many university and college campuses across the nation (CDC, 2020). SV surveillance data strongly identifies female college students to be at high-risk for SV victimization in comparison to other population groups (Morgan & Oudekerk, 2019). College women are disproportionately raped when compared to populations of women not in college and men (Krebs et al., 2018). The CDC estimates that one in five women experience attempted or completed SV while in college (CDC, 2020). Male college students have been found to be the dominant population perpetrating SV against college women (CDC, 2020). Studies found that the rate of SV perpetration among college men ranges from approximately 25% to 35% (Abbey et al., 2004; Loh et al., 2005; Salazar et al., 2014; Swartout, 2013; White & Smith, 2004)

The Association of American Universities (AAU) Climate Survey on Sexual Assault and Sexual Misconduct is a popularly cited annual publication that reports on SV prevalence among students enrolled in various U.S. universities. The most recent survey ($N = 181,752$) found that 35.6% of women had experienced an attempted or completed act of SV since enrollment (Cantor et al., 2020). Of those women, roughly 26% were undergraduates, with 10% of women experiencing physically forced SV and 35.3% experienced incapacitated SV (Cantor et al., 2020). This research adds to the existing body of literature suggesting that SV is more common among freshmen and sophomore women when compared with female students in their later years (Cantor et al., 2020). SV prevention education is imperative in decreasing these rates and advancing the elimination of the present disparity among female college students.

The goal of this literature review is to examine the relationships between ACEs and the risk of later SV perpetration among male college students. This review also seeks to further explore the mechanisms by which the ACEs – SV perp relation operates. Mediators that will be researched include hypermasculinity, hostility towards women, and binge drinking. The moderator that will be researched within this relation is perception of social norms. More specifically, how higher or lower scores of perceptions of social norms effect the magnitude of each independent mediator’s indirect effect. Peer-reviewed publications were analyzed within this review of literature in order to effectively create a theoretically derived and empirically supported hypothesis for this study’s research question.

ACEs & Risk of SV Perpetration

Evidence from the past two decades suggests that chronic or repetitive stress in childhood (i.e. neglect, abuse, financial strain) negatively impacts brain development and future functioning (Anda et al., 2006). This impact has been shown to contribute to an array of behavioral and neurological consequences such as unhealthy social attachments, poor mood regulation, cognitive issues, anxiety, depression, substance abuse, hyperarousal, and aggression (Anda et al., 2006). As mentioned, research has concluded that a prevalent dose-response relationship exists between number of ACEs and the severity and presence of such consequences within individuals (Anda et al., 2006, Ports et al., 2016). Risk of early intercourse, promiscuity, and sexual dissatisfaction have been shown to increase as ACE score increases, in that prevalence of these measures more than double for adults who have experienced four or more ACEs (Anda et al., 2006). Similarly, individuals effected by ACEs have greater emotional and behavioral dysregulation where effects include difficulty controlling anger and a substantial increased risk of perpetrating intimate partner violence

(IPV) and sexual violence (Anda et al., 2006). As a result, these individuals are more often likely to engage in risky sexual behavior and have multiple sexual partners (Anda et al., 2006).

A study conducted among males within three incoming freshman classes (N = 835) at a southwestern university in the United States found that men who experienced CPA, CSA, and/or witnessed domestic violence were at increased risk for SV perpetration in high school (White & Smith, 2004). Among those who perpetrated during high school, risk for later SV perpetration in college increased significantly by roughly 25% ($p < .001$) (White & Smith, 2004). Interestingly, men who had experienced CSA (9.5%) were solely at a greater risk for SV perpetration in college, when compared to those who experienced other types of ACEs (White & Smith, 2004). This finding concurs with the majority of literature that has suggested that CSA has the highest predictive power for later SV perpetration among men (Abbiati et al., 2014; Burton et al., 2002; Jespersen et al., 2009; Ports et al., 2016; Voith et al., 2017).

White & Smith (2004) concluded that ACEs among men doubled the relative risk of SV perpetration in adolescents, which subsequently increases risk of perpetration in college (i.e. adulthood). Similarly, Voith et al. (2017) found that CSA has the highest predictive power for later SV perpetration in adulthood among male college students (n = 423), when compared to CPA and CEA. Along with this, researchers concluded that CPA is also predictive of later perpetration, but CEA was only predictive of later victimization among men (Voith et al., 2017). This finding contributes to the growing evidence that CEA is not predictive of later perpetration for this population. In addition, CSA and CPA indicated higher likelihood of polyperpetration (i.e. two or more types of perpetration) in

men (Voith et al., 2017). Therefore, history of ACEs and perpetration in adolescence are important measures to account for when developing more effective, trauma-informed sexual violence prevention education targeted towards male college and high school students.

Studies among male sex offenders have been performed in developing a greater understanding of the relationship between ACEs and SV perpetration in adulthood (Abbiati et al., 2014; Burton et al., 2002; Jespersen et al., 2009; Zinzow & Thompson, 2015). Conducting retrospective studies among male sex offenders provides a valid method of examining the association between past ACEs and perpetration as adults. This research indicates that a majority of sex offenders report various types of ACEs (Alexander, 2019; Casey et al., 2017; Malamuth et al., 1996). Sex offenders report greater rates of sexual violence, along with co-occurrent physical violence when compared with other types of violence (Abbiati et al., 2014; Burton et al., 2002; Jespersen et al., 2009; Zinzow & Thompson, 2015). Sex offenders have a higher prevalence of CSA compared to non-sex offenders (Burton et al., 2002; Jespersen et al., 2009; Zinzow & Thompson, 2015). Research on sexual and violent offenders helps better highlight the potential negative impacts of ACEs on risk of SV perpetration, violence against women, and incarceration in adulthood.

Hypermasculinity & Hostility Towards Women

Literature suggests that hypermasculinity along with hostility towards women are both independently predictive of SV perpetration (Antonia Abbey et al., 2011; Alexander, 2019; Casey et al., 2017; Forbes et al., 2004; Malamuth et al., 1996; Warkentin & Gidycz, 2007). Hypermasculinity refers to an attitudinal construct that upholds stern, traditional definitions of masculinity that endorse beliefs of male dominance over women and

controlling behavior (Casey et al., 2017; Malamuth et al., 1996). Hostility towards women describes another traditional attitudinal construct that warrants male sexual aggression towards women. Research indicates that hypermasculinity is significantly related to CSA, CPA, and witnessing IPV in childhood (Antonia Abbey et al., 2011; Alexander, 2019; Casey et al., 2017). Both hypermasculinity and hostility towards women independently increase risk of SV perpetration in men.

An interview-based study conducted in Detroit examined a variety of risk factors for sexual aggression among single young men (n = 470) including hostile masculinity, impersonal sexual orientation, misperception of women's sexual intent, childhood victimization, psychopathic personality traits, adolescent delinquency, and alcohol use (Abbey, et al., 2011). The results of the study indicated that 43% of men (n= 202) self-reported some form of sexual aggression since the age of 14 (Abbey, et al., 2011.). Additionally, they found that there was a strong association between heavy alcohol consumption and impersonal sex (Abbey et al., 2011). It is important to note that hypermasculinity has been shown to be associated with binge drinking which further exacerbates the risk of SV perpetration, especially among college males (Abbey et al., 2011; Casey et al., 2017).

In addition, studies have found that college males who participate in varsity athletics and/or fraternity affiliation have increased rates of hypermasculinity, rape-myth supportive beliefs, and perpetuate hostility towards women (McCray, 2015; Swartout, 2013). Research suggests both male student athletes and fraternity members make up majority of SV perpetrators among male college students (McCray, 2015; Seabrook & Ward, 2019). Findings indicate that this may be due to a multitude of reasons including the

hypermasculine environment commonly found among heterogeneous groups, inflated sense of self (i.e. egotistic), increased risk of binge drinking and drug use, and increased rates of coercive or sexually forceful behavior towards women (McCray, 2015). Seabrook & Ward (2019) found that male fraternity members uphold strong victim-blaming beliefs, along with viewing perpetrators as less guilty especially when the perpetrator also holds fraternity affiliation. There is an evident “brotherhood culture” that serves to protect other fraternity members and more generally, fellow male college students (Seabrook & Ward, 2019). Researchers agree that comprehensive sexual violence prevention educational programming targeted towards collegiate athletes and fraternity members are necessary in order to significantly reduce the prevalence of SV perpetration across college campuses throughout the United States (McCray, 2015; Seabrook & Ward, 2019).

Binge Drinking

Binge drinking considerably increases the risk of both SV perpetration and victimization. Binge drinking is defined as a pattern of drinking that brings a person’s blood alcohol concentration (BAC) to 0.08 g/dl or above (CDC, 2002). This typically amounts to five drinks for men and four drinks for women within a two-hour period (CDC, 2002). Incapacitated sexual assault refers to incidents of SV where victims were unable to properly give consent due to being incapacitated (Krebs et al., 2009). The 2020 Association of American Universities (AAU) Climate Survey on Sexual Assault and Misconduct found that substance use (i.e. alcohol and/or drugs) is a significant risk factor of sexual assault (Cantor et al., 2020). According to the survey, offenders reported drinking alcohol before 65% of forced penetration incidents and roughly 67% of unwanted sexual touching (Cantor et al., 2020). Similarly, approximately 80% of forced penetration and 75% of sexual

touching incidents occurred after the victim consumed alcohol. In addition, 35.3% of forced penetration incidents occurred when the victim was blacked out (Cantor et al., 2020).

Therefore, binge drinking significantly increases both the likelihood of both SV perpetration and/or victimization.

Findings have also linked alcohol and other substance use as a major contributor to SV with alcohol consumption being reported in over 50% of SV situations (Abbey et al., 2011; Casey et al., 2017; Krebs et al., 2016). Specifically, studies performed among college-aged men reflect that heavy episodic drinking (i.e. binge drinking) is a contributor in self-reported SV perpetration (Abbey et al., 2001; Abbey et al., 2011; Casey et al., 2017; Krebs et al., 2009, 2016). Findings suggest that the effects of alcohol consumption significantly increase sexual risk taking by lowering inhibitions, increasing impulsivity for casual or impersonal sex, and increasing sexual aggression among males (Abbey et al., 2001; Abbey et al., 2011). In addition, studies indicate that men who typically binge drink are likely to binge drink in sexual situations, therefore risk of SV perpetration increases with heavy episodic drinking primarily due to the resulting cognitive impairment (Abbey et al., 2011). The majority of evidence-based SV prevention initiatives include alcohol and substance use safety education programming in effort to decrease risk of SV, specifically among college students.

Perceptions of Social Norms

Research over the last two decades has also highlighted that perceptions of social norms contributes to risk of SV perpetration in that social norms further strengthen sexual aggressive and coercive behavior among college males (Abbey et al., 2011; Swartout, 2013; Zinzow & Thompson, 2015). This construct can be defined as the boundaries or beliefs

individuals view as typical (i.e. the norm) within their social environment or amongst peers (Swartout, 2013). Perception of social norms is also applied in many prominent behavioral models such as Social Norms Theory, Social Cognitive Theory, and the Social Ecological Model. Essentially, findings indicate that individual members in a peer group are strongly influenced by their groups' preestablished status quo in that new members typically conform to uphold the majority's beliefs, opinions, perspectives, and behaviors (Swartout, 2013).

Converging literature reflects that college males who are affiliated with a specific group (i.e. fraternity member, student athletes, etc.) report greater adherence to rigid gender roles, tend to objectify women, endorse rape myths, and uphold sexually aggressive behaviors towards women (Abbey et al., 2001; Swartout, 2013; Zinzow & Thompson, 2015). Interestingly, findings suggest that individuals within a lower density peer network generally maintain fewer hostile attitudes towards women, and vice-versa (Swartout, 2013). Studies have concluded that men whose majority of friends are accepting of nonconsensual sexual activity are at an elevated risk for future SV perpetration (Abbey et al., 2001, Swartout, 2013; Zinzow & Thompson, 2015). In addition, men whose social circle supports verbal pressure to have sex or any other coercive tactics are at significant risk for future SV perpetration (Abbey et al., 2001).

Theoretical Applications

As mentioned in the previous chapter, the confluence model of sexual aggression is a commonly recognized theory that suggests both hostile masculinity (i.e. hypermasculinity) and impersonal sex are the two main pathways to sexual assault perpetration (Malamuth et al., 1996). Impersonal sex describes an emotional detachment

towards sex in which men hold casual attitudes towards sex and tend to objectify women for sexual pleasure (Malamuth et al., 1996). Studies indicate that high levels of hypermasculinity and impersonal sex both independently increase sexual aggression and perpetration among men (Casey et al., 2017; Malamuth et al., 1996). Sexism and rape-myth supportive beliefs have been found to be co-occurrent and both linked to increased rates of aggressive, sexual coercive behavior towards women (Forbes et al., 2004). Findings have concluded that sexually aggressive male college students possess a stronger need for sexual dominance, traditional attitudes towards gender roles, display higher rape-myth acceptance, and exhibit hostility towards women (Abbey et al., 2011; Alexander, 2019; Casey et al., 2017; Forbes et al., 2004; Malamuth et al., 1996; Warkentin & Gidycz, 2007). In addition, the literature suggest that hostility towards women and hypermasculinity are associated with increased sexual aggression, and furthermore are considerable risk factors for SV perpetration among men (Alexander, 2019; Anda et al., 2010; Malamuth et al., 1996). In a study investigating this association, 99 undergraduate male students from a large university located in the Southeastern United States completed survey questionnaires (Alexander, 2019). The results revealed that hypermasculinity mediated the relationship between childhood polyvictimization and coercive sexual behavior as presented in the confluence model for sexual aggression (Alexander, 2019). Therefore, the effects of childhood polyvictimization on engagement in coercive behavior are contingent on hypermasculinity measures (Alexander, 2019).

Summary & Hypothesis

An evidence-based hypothesis (*see fig. 2*) predicting a potential moderated mediation mechanism between ACEs and later SV perpetration in men was created through

application of both the ACEs framework and the confluence model of sexual aggression.

This research study will examine potential mediators and moderators of the ACEs – SV perpetration risk relation among a large sample of male college students in Georgia. The following are the hypotheses for this study:

- 1) The risk of SV perpetration will be related to ACEs among the study sample, in that risk of perpetrating SV will be higher in participants who report adverse childhood experiences.
- 2) The relation between ACEs and SV perpetration will be mediated by hypermasculinity, hostility towards women, and binge drinking.
- 3) Perceptions of social norms that endorse SV will moderate the mediator– SV perpetration relation, such that the association between each hypothesized mediator and SV perpetration within the model will depend on the level of perceptions of social norms such that at lower scores of the perceptions of social norms measure the relationship will be significantly negative.

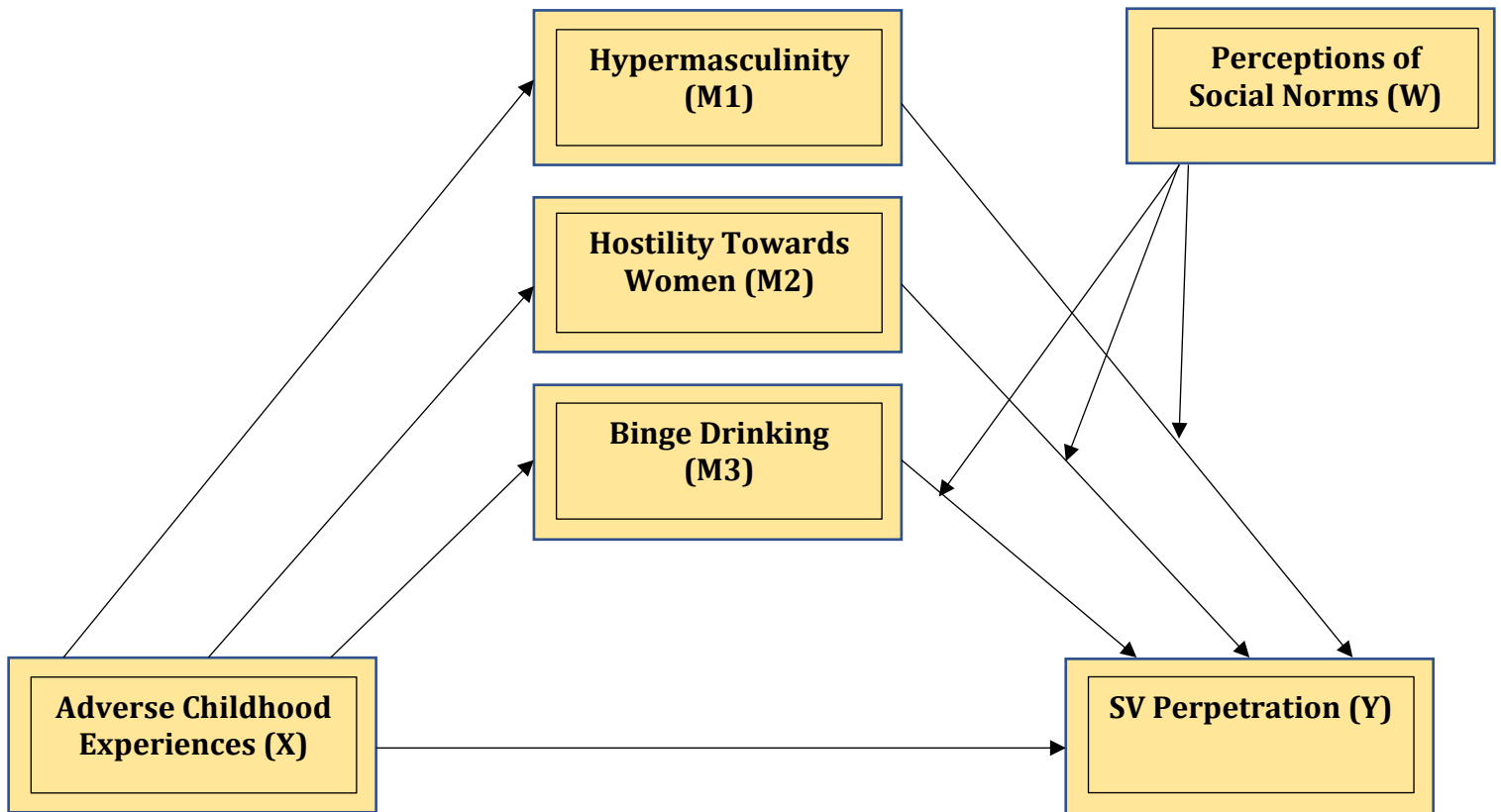


Fig 2. Hypothesized moderated mediation model for SV perpetration risk.

Chapter III. Methodology

Freshmen of Georgia (FoG) Study Background

Secondary data were drawn from a longitudinal CDC-funded study (i.e. Freshmen of Georgia) conducted from 2013-2014 that explored SV behaviors and associated risk factors for perpetration among freshmen men enrolled in one of 30 select colleges and universities across the state of Georgia (Salazar et al., 2018). The purpose of this research was to better inform federally mandated SV prevention programming aimed towards college men (Salazar et al., 2018). The study was funded by the National Center for Injury Prevention and Control, Centers for Disease Control and Prevention (CDC), Cooperative Agreement U01 CE002123-01 (Salazar et al., 2018).

Participants & Procedures

Participant inclusion criteria for this study included male, college freshmen (18-24 years), who were enrolled at one of the 30 participating colleges and universities in Georgia (Salazar et al., 2018). A total of 1,144 male college freshmen participated in the research study. Recruitment for study participants via web-based study screening questionnaire occurred during fall 2013, spring 2014, and fall 2014 academic semesters (Salazar et al., 2018). Diverse recruitment techniques were implemented such as, “Facebook advertisements, campus tabling events, classroom announcements, e-mail blasts to freshman professors asking them to announce the study, and peer referrals” (Salazar et al., 2018). All eligible respondents reviewed informed consent materials and were enrolled into the study (Salazar et al., 2018). Participants who confirmed via school e-mail address were then emailed a survey questionnaire link to complete the study surveys (Salazar et al., 2018). All participants received \$25 compensation upon completing the Wave 1 baseline

survey, however, were eligible for earning up to \$150 in total compensation amount throughout all four assessments (Salazar et al., 2018).

Measures

A multitude of various measures were assessed throughout four different timepoints within the original FOG study. For the purpose of this analysis, the following selected measures were further examined.

Sociodemographic Characteristics. Demographic information was collected in the FOG study at each timepoint. Age, race/ethnicity, relationship status, whether they lived on or off campus, whether they participated in collegiate varsity athletics, and fraternity membership were assessed and controlled for in this analysis.

Adverse Childhood Experiences (ACEs) Index. Childhood experiences and abuse were measured in only timepoint 1 (TP1) during the FOG study using four questions drawn from the CDC's Second Injury Control and Risk Survey (ICARIS-2). Participants selected "Yes" or "No" for each question; however, a third answer choice, "I Don't Know", was given for the third question. The three questions most related to ACEs were used in this analysis by developing an ACE index score (i.e. totaled composite variable) and included the following:

- 1) "Looking back on your childhood, did you have injuries, such as a bruises, cuts, or broken bones, as a result of being spanked, struck, or shoved by your parents or guardians, or their partners? The term 'partners' can include spouses and boyfriends or girlfriends.
- 2) As a child, did you ever see or hear one of your parents or guardians being hit, slapped, punched, shoved, kicked, or otherwise physically hurt by their spouse or partner?
- 3) Were you ever forced to have sex before age 14?"

Sexual Violence (SV) Perpetration. The Sexual Experiences Short Form Perpetration Survey – Revised (SES-R-P) was employed in screening for SV perpetration among participants (Koss et al., 2007). For this analysis, only measures from timepoint 3 (TP3) were used. The

survey encompasses seven varying acts of SV accompanied by five different SV coercive tactics (NOQ=35). An example question is:

“I had oral sex with someone or had someone perform oral sex on me without their consent by:
Taking advantage when they were too drunk or out of it to stop what was happening.”

Participants selected the number of times each SV experience happened since their last survey (i.e. Spring Freshman year to Fall Sophomore year). All responses were coded binary as “Yes” for perpetrator or “No” for non-perpetrator of SV in their most recently completed semester of college. In addition, responses for all 35 questions were totaled and then dichotomized to reflect “no SV perpetration” or “1+ SV acts”. Cronbach’s alpha for all 35 items was .97.

Hypermasculinity. The Hypermasculine Values Questionnaire (HVQ) was used to assess views on and personal adherence to gender roles (Archer, 2010). For this analysis, only measures from timepoint 3 (TP3) were used. The HVQ is composed of a total of 26 items in which the responses range on a 7-point Likert scale from 1 (strongly disagree) to 7 (strongly agree). Some examples of such items include:

“Sex is essentially a passive activity for women.”
“Men should be able to hold their drink.”
“A sensitive man is a weak man.”

Responses per participant summed across all 26 items to calculate a total score. Higher scores indicated hypermasculine traits. Cronbach’s alpha for all items was .84.

Hostility Towards Women. This measure assessed anger and resentment towards women among participants. For this analysis, only measures from timepoint 3 (TP3) were used. The Hostility Towards Women scale (HTW) was employed and includes ten items in which

the responses range on a 7-point Likert scale from 1 (strongly disagree) to 7 (strongly agree) (Check, 1985). Examples of such items are as follow:

“Generally, it is safer not to trust women.”

“I am easily angered by women”

“Women are responsible for most of my troubles”

Responses were averaged and summed for total scores. Higher scores suggested hostile beliefs towards women. Cronbach’s alpha for all ten items was .83.

Binge Drinking. Also referred to as heavy episodic drinking, was measured by one item within the National Institute on Drug Abuse (NIDA) Modified Alcohol, Smoking, and Substance Involvement Screening Test (NMASSIST) that assessed alcohol consumption. For this analysis, only measures from timepoint 3 (TP3) were used. The specific item for the binge drinking measure read:

“Thinking back over the LAST THIRTY DAYS, how many times, if any, have you had FIVE OR MORE ALCHOHOLIC DRINKS in one sitting?”

Respondents selected from 9 answer choices that ranged from none to 9 or more times. Higher scores indicated heavy episodic drinking (i.e. binge drinker).

Perceptions of Social Norms. The Other Comfort subscale of the Reactions to Offensive Language and Behavior Scale (ROLB) was used for this measure and assessed participants’ perceptions of an average male student’s discomfort with inappropriate behavior of other men. For this analysis, only measures from timepoint 3 (TP3) were used. The subscale is composed of eight items in which the responses range on a 7-point Likert scale from 1 (not at all comfortable) to 7 (extremely comfortable) such as:

“While talking with a friend about a woman the friend likes, the friend says, “I took her out for dinner and a movie, and we didn’t even hook up.”

“He asks a male friend about a woman in one of his classes. His friend says, “She’s hot, but she’s a slut.”

“He’s outside and his friend tells him, “She wants me”, just after a pretty woman walks by.”

Responses were totaled and averaged for scoring across participants. Higher scores reflected a greater degree of comfort in situations where other men are exhibiting inappropriate behavior towards women. Cronbach's alpha for all eight items was .90.

Data Analysis

Statistical analyses were performed using SAS 9.4 software through SAS Studio University Edition programming. Univariate descriptive analyses were conducted on the sociodemographic variables such as age, race/ethnicity, relationship status, whether they lived on or off campus, whether they participated in collegiate varsity athletics, and fraternity membership. The mean (*M*) and standard deviation (*SD*) were computed for the continuous variable of age. Frequencies (*n*) and percentages (%) were computed for all other categorical variables. In addition, univariate analyses were conducted on the dependent and independent variables including ACEs, SV perpetration, hypermasculinity, hostility towards women, binge drinking, and perceived social norms. The *M* and *SD* were computed for the variables of hypermasculinity, hostility toward women, binge drinking, and perceived social norms. Frequencies and percentages were computed for the variables of ACEs and SV perpetration. Bivariate analyses were conducted on all independent and dependent study variables, controlling for selected sociodemographic variables, in order to assess correlation between each individual variable and SV perpetration (outcome). P-values (*p*) were used to measure individual variable significance ($\alpha \leq .15$).

Three individual sophisticated moderated mediation analyses via Hayes PROCESS macro, model 14, for SAS were employed in order to gain a better understanding surrounding the potential mediation and moderation effects on the relationship between ACEs and later SV perpetration among male college students. Moderated mediation, also

referred to as conditional process analysis, can provide greater explanation of the underlying mechanisms within the ACEs - SV perpetration relation. Literature describes that this analysis explores the direct and/or indirect effect of an independent variable (X) on an outcome variable (Y) through a mediator (M) that is moderated by one or more variables (W) (Hayes, 2018). Potential mediators that were assessed include hypermasculinity, hostility towards women, and binge drinking. Perception of social norms served as the potential moderator. It is important to note that mediation analysis does not imply causation, rather it establishes empirically based correlations.

Chapter IV. Results

The study population included a total of 1,444 participants. As mentioned previously in chapter three, data from selected timepoints (TP1/TP3) were used for the purpose of this analysis. It is important to note that missing data were automatically omitted in SAS, and the remaining data were used when analyses were ran.

Univariate Analysis

Overall descriptive statistics of sociodemographic variables are presented in Table 1. The average age of the male college students in the sample was 19.2 years. Slightly over half of the men (51.2%) were Caucasian, followed by 19.8% African American, 16% Asian or Pacific Islander, 7.06% Biracial, and 6% Hispanic. The majority of men were single (e.g. not married or in a relationship) (62.6%), but almost one-quarter were in a serious relationship (23.7%). Approximately 57% of the study sample lived on-campus (i.e. dorm, apartment, Greek housing, etc.) and about 43% lived off-campus. In addition, only 6% of men reported varsity athletic affiliation and about 14% were fraternity members.

The majority of men did not report experiencing any ACEs (79.5%), however, the remaining 20.5% did indicate experiencing one to three ACEs. Similarly, most of the men did not report any past acts of SV perpetration (92.7%) and approximately 7% had perpetrated SV one or more times. The mean hypermasculinity score in this sample was 3.07 ($SD = .75$). The mean score for the hostility towards women measure was 3.13 ($SD = 1.05$). The mean binge drinking score was 1.16 ($SD = 1.89$). The mean score for perceptions of social norms was 3.55 ($SD = 1.21$). Note that these measures were scored according to corresponding scales. See Table 2 below for full descriptive statistics of these variables including scale minimum and maximum values.

Table 1. Participant Descriptive Statistics

	N	Mean	SD
Age (years)	934	19.2	.729
	N	n	%
Race/Ethnicity	1113		
<i>Caucasian</i>		580	51.2
<i>African American</i>		224	19.8
<i>Asian or Pacific Islander</i>		181	16.0
<i>Biracial/Multicultural</i>		80	7.06
<i>Hispanic</i>		68	6.00
Current Relationship Status	935		
<i>Single</i>		585	62.6
<i>Casual Dating</i>		121	13.0
<i>Serious Relationship</i>		221	23.7
<i>Other</i>		8	.86
Housing Status	934		
<i>On-Campus Dorm</i>		311	33.3
<i>On-Campus Apartment/House</i>		199	21.3
<i>On-Campus Greek Housing</i>		22	2.36
<i>Off-Campus</i>		399	42.7
<i>Other</i>		3	.32
Varsity Athletic Affiliation	932		
<i>Yes</i>		59	6.33
<i>No</i>		873	93.7
Fraternity Membership	931		
<i>Yes</i>		132	14.2
<i>No</i>		799	85.8

Table 2. Descriptive Statistics for Study Variables

	N	n	%
ACE Index	1144		
0 ACE		909	79.5
1 ACE		181	15.9
2 ACEs		49	4.28
3 ACEs		5.00	.440
SV Perpetration	923		
No SV perp		856	92.7
1+ SV acts		67.0	7.30
	N	Mean (SD)	Min-Max
Hypermasculinity (HYPMASC)	923	3.07(.749)	1.00 – 5.38
Hostility Towards Women (HTW)	920	3.13(1.05)	1.00 – 7.00
Binge Drinking (BINGE)	923	1.16(1.89)	0.00 – 8.00
Perceived Social Norms (PSN)	918	3.55(1.21)	1.00 – 7.00

Bivariate Analysis

Results from the Pearson Correlation analysis are depicted in Table 3 shown below. The results revealed that SV perpetration had a positive association with hypermasculinity ($r = .179, p < .001$) and binge drinking ($r = .131, p < .001$). SV perpetration was also negatively associated with perceptions of social norms ($r = -.102, p < 0.002$). Hostility towards women was moderately and positively correlated with hypermasculinity ($r = .501, p < .001$). Binge drinking had a weak positive association with hypermasculinity ($r = .146, p < .001$). Lastly, perceptions of social norms were positively correlated with hostility towards women ($r = .216, p < .001$). It is important to note that although the p-values for the

associations between variables were significant, the correlation coefficients were relatively small. This is most likely due to the large sample size.

Table 3. Bivariate Correlation Analysis for Study Variables (N = 906)

Variables	1	2	3	4	5	6
(1) SV Perp	---					
(2) ACE Index	-.024	---				
(3) Hypermasculinity	.179***	-.003	---			
(4) Hostility Towards Women	.061*	-.005	.501***	---		
(5) Binge Drinking	.131***	.005	.146***	.054*	---	
(6) Perceptions of Social Norms	-.102**	-.007	.008	.216***	.001	---

* $p < .15$, ** $p < .05$, *** $p < .001$; Note: Controlled for sociodemographic variables including age, race, relationship status, housing status, varsity athletic affiliation, and fraternity membership.

Moderated Mediation Analysis

After running the univariate and bivariate analyses, three separate moderated mediation analyses using Hayes PROCESS macro employing model 14 via SAS were ran. Age, race, relationship status, housing status, varsity affiliation, and fraternity membership were controlled for as possible covariates. The first hypothesis of this study stated that risk of SV perpetration in college men will be related to ACEs. As shown below in Table 4, ACE index was not significantly associated with risk of SV perpetration ($\beta = -0.391$, $p = .377$, $CI: -1.26, 0.478$). Therefore, there is not a statistically significant relationship between SV perpetration and ACEs in this sample and we fail to reject the null hypothesis.

The second hypothesis tested whether hypermasculinity, hostility towards women, and binge drinking individually mediated the relation between the ACE index score and SV perpetration. As reflected in Table 4, there was a significant indirect effect of ACE on SV perpetration risk through hypermasculinity ($\beta = 4.09, p = .001, CI: 2.06, 6.12$). There was not a significant indirect effect of ACEs on SV perpetration risk through hostility towards women ($\beta = .729, p = .347, CI: -.792, 2.25$). Lastly, there was significant indirect effect of ACEs on SV perpetration on SV perpetration risk through binge drinking ($\beta = 1.21, p = .003, CI: .403, 2.01$). Therefore, the results indicated that the relationship between ACE index score and later SV perpetration was partially mediated by hypermasculinity and also binge drinking, but not by hostility towards women.

The third hypothesis of this study was to test whether perceptions of social norms that endorse aggression toward women would independently moderate the relation between each mediator and SV perpetration. As shown in Table 5, the interaction effect of perceptions of social norms on hypermasculinity was significantly related to SV perpetration ($\beta = -.690, p = .014, CI: -1.24, -.014$). Similarly, the interaction effect of binge drinking and perceptions of social norms on SV perpetration was significant ($\beta = -.222, p = .045, CI: -.440, -.005$). The interaction term for hostility towards women and perceptions of social norms on SV perpetration was not significant ($\beta = -.197, p = .339, CI: -.599, .206$). Furthermore, to describe the nature of the interaction effect, the association between each of the two risk factors (hypermasculinity and binge drinking) and SV perpetration was estimated at three levels of the perceptions of norms moderator (1 SD below mean, at the mean, and 1 SD above mean) at the 95% confidence. As reflected in Table 5, the conditional effect of perceived social norms on the association between the two mediators, hypermasculinity and binge drinking, and SV perpetration indicated that at

lower and mean levels of perceived social norms, the associations were positive and statistically significant compared to higher levels of perceived social norms. Hostility towards women was not assessed in this step because there was not a significant indirect effect. Overall, these results indicate that perceptions of social norms act as a moderator in this model, although in the opposite hypothesized direction.

Table 4. Mediation Analysis Summary (N = 906)

Variables	β	SE	p	(LLCI, ULCI)
ACE INDEX → HYPMASC	-.004	.046	>.001	(-.095, .086)
ACE INDEX → HTW	.023	.076	.764	(-.126, .171)
ACE INDEX → BINGE	.025	.113	>.001	(-.197, .246)
HYPMASC → SV PERP	4.64	.982	>.001	(2.06, 6.57)
HTW → SV PERP	.919	.579	.113	(-.218, 2.06)
BINGE → SV PERP	1.38	.449	>.001	(.559, 2.19)
ACE INDEX → SV PERP	-.329	.449	.465	(-1.21, .554)

Table 5. Moderated Mediation Analysis Summary (N = 906)

Interaction Terms	β	SE	p	(LLCI, ULCI)
HYPEMASC x PSN	-.815	.261	.024*	(-1.33, -.302)
HTW x PSN	-.142	.155	.359	(-.446, .162).
BINGE x PSN	-.247	.112	.028*	(-.467, -.026)

Index of Moderated Mediation (W = PSN)

	Index	BootSE	(BootLLCI, BootULCI)
ACE INDEX → HYPMASC → SV PERP	.003	.042	(-.077, .091)
ACE INDEX → HTW → SV PERP	-.003	.016	(-.040, .028)
ACE INDEX → BINGE → SV PERP	-.006	.037	(-.085, .068)

Perceived Peer Norms' Conditional Effect of M on Y			
	LOW	MODERATE	HIGH
Mediators	PSN (-1 SD) = 2.25	PSN = 3.75	PSN (+1 SD) = 4.63
HYPMASC			
Effect:	2.81	1.59	.873
p:	<.001	<.001	.041
(LLCI, ULCI):	(1.89, 3.73)	(.948, 2.22)	(-.03, 1.71)
BINGE			
Effect:	.819	.449	.233
p:	>.001	.006	.204
(LLCI, ULCI):	(.331, 1.08)	(.109, .638)	(-.177, .535)

Chapter V. Discussion and Conclusion

This study explored the underlying mechanisms between ACEs and risk of later SV perpetration in adulthood through developing and testing a moderated mediation model. More specifically, it examined whether hypermasculinity, hostility towards women, and binge drinking operate as mediators in the ACEs – SV perpetration relation, as well as if perceptions of social normal acts as a moderator and buffers the effects of each mediator on the outcome individually. It was previously hypothesized that there would be a significant relation between ACE index score and SV perpetration among college men in this sample. In addition, it was hypothesized that hypermasculinity, hostility towards women, and binge drinking would mediate this relation, while perceptions of social norms moderated the effects of each mediator on SV perpetration. This research contributes to the emerging body of literature surrounding the potential long-term effects of ACEs and provides a more in-depth understanding of predictive factors that could further clarify the ACEs – SV perpetration relationship. These findings can be applied for the development of

more effective, trauma-informed and evidence-based SV preventative education programming for college student in order to significantly reduce the risk and prevalence of SV perpetration among this population.

Contrary to the hypothesis, the ACE index score was not significantly related to SV perpetration in this study sample. This finding is not consistent with previous research in which ACEs has been repetitively shown to effect likelihood of later SV perpetration, specifically among male college students (Abbiati et al., 2014; Anda et al., 2006; Burton et al., 2002; Jespersen et al., 2009; Ports et al., 2016; Voith et al., 2017; White & Smith, 2004). One possible reason for this may be due to the relatively small percentage of participants within the study sample who reported both history of ACEs (n=20.5%) and past but recent SV perpetration (n=7.30%). In addition, the ACE index comprised only three types of ACEs, therefore, the measure did not reflect an accurate overall assessment of ACEs among participants because it did not account for the additional ACE types. For instance, if an alternative survey was provided assessing for all ten types of ACEs, we can expect to see an increased percentage of participants who report history of ACEs.

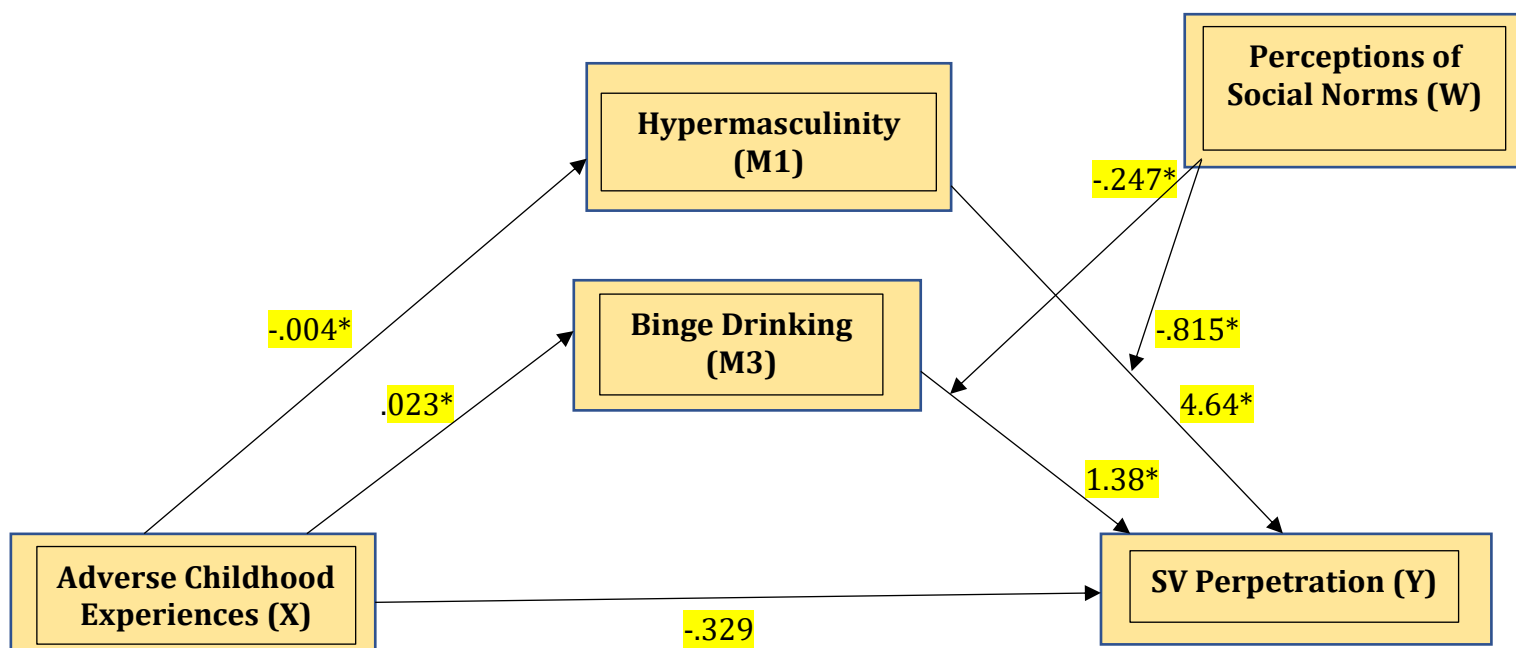
As predicted, ACE index had an indirect effect on SV perpetration through both hypermasculinity and binge drinking. The analyses revealed that ACE index had a strong, positive indirect effect on SV perpetration, through hypermasculinity ($\beta = 4.09$, $p = .001$, $CI: 2.06, 6.12$). In addition, ACE index did not have an indirect effect on SV perpetration through hostility towards women ($\beta = .729$, $p = .347$, $CI: -.792, 2.25$). ACE index did not have a significant indirect effect on SV perpetration through hostility towards women, differing from what was original hypothesized. ACEs had a significant, positive indirect

effect on SV perpetration through binge drinking ($\beta = 1.21, p = .003, CI: .403, 2.01$). Many studies have shown that hypermasculinity, hostility towards women, and binge drinking are all individually related to risk of later SV perpetration among college men (A. Abbey et al., 2001; Antonia Abbey et al., 2011; Alexander, 2019; Casey et al., 2017; Forbes et al., 2004; Krebs et al., 2009, 2016; McCray, 2015; Seabrook & Ward, 2019; Swartout, 2013; Zinzow & Thompson, 2015). However, this study presents these factors as underlying mediating mechanisms explaining the relationship between ACEs and risk of SV perpetration.

Lastly, perceptions of social norms did moderate the effect of each mediator on SV perpetration. The results yielded significant interaction effects such that the association between hypermasculinity, as well as binge drinking on SV perpetration, depends on the level of perceptions of social norms. In contrast, perceptions of social norms did not moderate the effect of hostility towards women and SV perpetration. Perceptions of social norms measured the college freshmen's perceptions of the level of comfort their peers have towards inappropriate behaviors towards women. The higher the level of comfort the higher the score, and vice versa. Previous findings have indicated that perceptions of social norms are linked to risk of SV perpetration (Abbey et al., 2001; Swartout, 2013; Zinzow & Thompson, 2015). However, this study presents perceptions of social norms as a moderator in the relationship between our hypothesized mediators and SV perpetration. The conditional indirect effect of perceptions of social norms on the relationship between both hypermasculinity and binge drinking on SV perpetration were

larger at lower levels of perceptions of social norms and at the mean level (i.e. lower degree of confront with inappropriate behavior towards women) in comparison to high levels.

The results of this study indicate that perceptions of social norms moderate the strength of the relationship between hypermasculinity and binge drinking on risk of later SV perpetration among male college students. This is illustrated below in figure 3. The results indicate that men who have lower and moderate scores of perceived social norms have a larger, negative association between hypermasculinity and SV perpetration. Similarly, lower and moderate scores of perceived social norms have a larger, negative association between binge drinking and SV perpetration. These findings are contrary to what was hypothesized. This may be due to men who have high levels of hypermasculinity and binge drinking having less care or giving less thought towards other men's actions and beliefs. Future research should examine this relationship further.



Implication:

Figure 3. Moderated mediation model of SV Perpetration.

NOTE: * = $p < .05$; sociodemographic controlled for.

The results of this study contribute to the current literature surrounding SV perpetration among college students, and more specifically, can better inform future SV prevention initiatives aimed towards this population. Since 2013, the Campus Sexual Violence Elimination (SaVE) Act federally mandates all post-secondary education institutes to provide campus-wide SV prevention and education programming for incoming freshman students (*H.R.2016 - Campus Sexual Violence Elimination Act, 2011*). Through revamping the current programming to one that is evidence-based and trauma-informed, the risk of SV perpetration and victimization may greatly decrease. Furthermore, these findings may be used to adapt, modify, and develop future comprehensive SV prevention programming that targets the modifiable risk factors surrounding SV perpetration among college males, such as hypermasculinity, binge drinking, and perception of social norms. The implementation of such programs may reduce the steadily increasing rates of SV among college campuses by prevention of future SV incidents.

RealConsent is an example of an effective, and comprehensive sexual prevention education for college students. RealConsent is a web-based sexual violence prevention education program tailored to male and female college students in the United States. It has two gender-specific versions that focuses on reducing risk of SV perpetration among men and victimization among women through employing the Social Norms Theory (Salazar et al., 2014). Social Norms Theory upholds that individual's behavior is influenced by misperceptions of how our peers thinks and act. RealConsent targets the theorized mediators and moderators of SV among this population through educational videos, serial drama episodes, and interactive activities that appeal to the college population (Salazar et al., 2014). In addition, a social norm social media marketing campaign can also be effect in

such an intervention among the U.S. college population The Be A Watch Dawg program that took place at the University of Georgia was developed in effort to increase prosocial bystander behaviors. Wide-spread implementation of such programs are both federally mandated and critical in preventing SV among college campuses across the nation.

Limitations & Future Directions

There are a few limitations that should be considered when reviewing this study. Firstly, self-reported measures via survey methods may limit the validity of collected data due to potential participant response biases. A geographical limitation also exists in that this study sample included male college freshmen from only the state of Georgia. Therefore, the results may not be generalizable for male college students across the rest of the United States. Replication of the study among an array of college populations across the United States is recommended in order to establish representative and generalizable conclusions.

In addition, the data from this study depicted a small percentage of college men who had history of ACEs and/or past SV perpetration. Future research should focus on developing a study for this specific sub-population (i.e. college men who have experienced ACEs and/or have perpetrated SV) in order gain a better understand the ACEs- SV perpetration relationship and the role that hypermasculinity, hostility towards women, binge drinking, and perceptions of social norms play within that relationship.

Conclusion

Sexual violence (SV) is a pervasive public health problem that has plagued college populations in the United States. This study examined the possible underlying mechanisms linking ACEs to risk of later SV perpetration in adulthood among male college students in Georgia. Findings indicated that hypermasculinity and binge drinking mediated the relation

between ACEs and SV perpetration in adulthood, and that the relationship between mediators and SV perpetration was moderated by perceptions of social norms. SV prevention and education programming for male college students should target the modifiable SV perpetration risk factors of hypermasculinity, binge drinking, and perceptions of social norms. Additionally, trauma-informed content surrounding ACEs should be included within this programming. Adoption and implementation of such comprehensive SV prevention education for college students will aid in the reduction of SV perpetration and victimization among college students across the United States.

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