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Gender and Racial/Ethnic Differences in the Effects of Child Sexual Abuse

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2016

Abstract

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by

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MS, Walden University, 2014

MS, Walden University, 2012

BA, University of Nevada, Las Vegas, 2006

Dissertation Submitted in Partial Fulfillment

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Abstract

Child sexual abuse (CSA) has been linked to a number of adverse effects including hypersexuality (HYP), substance use (SUB), suicidality (SUI), and depression (DEP). Despite a plethora of research on CSA, little is known about how it affects adolescents and the cultural factors that influence their coping styles. This study was founded on social-cultural coping theory and the model of traumagenic dynamics of sexual abuse, suggesting that CSA consequences lead to maladaptive coping mechanisms influenced by sociocultural factors. Using archival data, log-linear analysis was conducted to examine gender differences within racial/ethnic groups in HYP, SUI, DEP, and SUB among adolescent survivors of CSA in a National sample of 13,583 male and female high school students. The purpose of the study was to identify differences in the effects of CSA as manifested by variations of maladaptive coping across racial/ethnic groups and gender. Boys were significantly more likely to use substances, while girls were more likely to experience depressive symptoms and suicidality. Notably, this study did not reveal any significant racial/ethnic differences in adolescent coping. Findings from this study can inform treatment planning and interventions for adolescents who may present with DEP, SUI, SUB, or risky sexual behaviors, but may have underlying trauma from CSA. This study offers positive social change by contributing to the knowledge base about the processes that take place within adolescent CSA survivors, shedding light on cultural nuances among adolescent coping, and informing culturally-competent practice. These findings can ultimately assist in the development of tailored treatment interventions for the prevention of adverse long term effects of adolescent CSA.

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Dedication

This dissertation is dedicated to my boys, Anthony and Noah. All of my work and sacrifices are for both you and your future. It is also dedicated to my parents, who emigrated to the U.S. and ensured that I was given the opportunity to acquire an education and not have to endure the struggles they endured growing up.

“Y sigue dando la mata”-Acensión “Apa Chonillo” Villa

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Chapter 1: Introduction to the Study

Introduction

Child sexual abuse (CSA) is defined as the use of a child (18 years and under) for the purposes of sexual pleasure with or without physical contact from another individual whether known, unknown, older or the same age (Olafson, 2011). It is further defined as a sexual crime committed on a minor by another individual including a friend, peer, another child, adult, relative, or stranger (Finkelhor, 2009). Many offenders are not prosecuted given that most are juveniles and are not prior offenders, predators, or pedophiles (Finkelhor, 2009). There are several long term and short term effects associated with sexual abuse. The effects of abuse include an increased risk for substance abuse and depression, anxiety, interpersonal problems, aggression, anger, and difficulty trusting others due to negative attachments (Wurtele, 2009).

Child sexual abuse is a worldwide phenomenon that crosses all cultural and socioeconomic status boundaries and continues to impact children on a daily basis. Albeit current prevalence estimates of CSA are based on official data sources (e.g., governmental agencies, child welfare, etc.) which only account for substantiated or reported cases (Douglas & Finkelhor, 2011). In fact, according to these estimates, CSA affects 1.2 out of every 1000 children (Douglas & Finkelhor, 2011). Although researchers have explored the long and short term effects of CSA, the data that explore the differential effects of CSA across gender and ethnicity are lacking. Furthermore, little research on CSA has focused on male adolescents. Moreover, how individuals cope varies across cultural groups and provides insight as to the risk of developing long term

psychiatric problems in adolescents who have experienced CSA (Shapiro, Kaplo, Amaya-Jackson, & Dodge, 2012). Avoidant coping strategies such as substance abuse, suicidal ideation, depression, and hypersexuality have been identified as some of the adverse effects of CSA. If these effects are different among these groups, the literature has not examined how these differ among boys and girls or the racial and ethnic differences in adolescents. In the psychological community, successful treatment is guided by accurate assessment of presenting symptoms and case conceptualization. As such, shedding light on these differences poses several implications for the treatment of adolescents who have experienced CSA taken from a culturally competent perspective.

Chapter 1 will provide a background, problem statement, and purpose of this study. The theoretical framework is presented after theses sections followed by the research questions and definition of terms and variables. Finally, the assumptions, scope, and limitations of this study are identified.

Background

Child sexual abuse is an international problem that impacts children of all ages, racial and ethnic backgrounds, sexes, and socioeconomic status (Collin-Vezina, Daigneault, & Hebert, 2013). However, adolescence is a period of high risk of sexual assault (Finkelhor, Shattuck, Turner, & Hamby, 2014). Child sexual abuse has significant adverse consequences for victims that persist well into adulthood. These consequences often manifest themselves through externalizing and internalizing behaviors (Jones et al., 2013). Child sexual abuse has been linked with various externalizing and internalizing behaviors and symptoms including: depression, suicidality, hypersexual behavior (i.e.,

risky sexual behaviors and multiple sexual partners), and substance abuse (Jones et al., 2013; Olafson, 2011). Olafson (2011) explained that gender is one of the variables that impacts the duration and severity of symptoms and behaviors. Internalizing and externalizing behaviors have been viewed in the literature as symptoms or behavior problems (Jones et al., 2013) rather than coping mechanisms developed by victims to deal with the underlying trauma resulting from abuse.

Multicultural psychology extends not only to the study of different groups, but also to the study of new constructs that may or may not be culturally specific (Cauce, 2011). Similarly, multiculturalism is not merely having more than one culture, but also more than one way of viewing the world (Cauce, 2011) such as in the case of adolescents, gender, race, and ethnicity. Reporting of CSA is highly influenced by culture which is comprised of age, gender, race, ethnicity, and various other factors (Fontes & Plummer, 2010). Lee et al. (2011) found racial/ethnic differences in the consequences and prevalence of child maltreatment in adolescent boys. However, Lee et al. (2011) focused on other forms of child abuse in addition to CSA. As such, these findings cannot be generalized to adolescent male CSA victims. Studies on adolescent boys are further limited by underreporting of male CSA because it is associated with social stigmas regarding sexual orientation and masculinity. This study contributes to the differences in female CSA studies compared to male CSA studies. Despite these differences, these studies indicate that there may be gender and perhaps cultural differences in CSA outcomes and coping styles. For example, Berliner (2011) found Hispanic adolescent girls are more likely to report CSA than their White, African American, and Asian

counterparts, while Thompson, McGee, and Mays (2012) found that the rates of CSA were higher in African American girls relative to Hispanic, White, and Asian girls. Conversely, Behnken, Le, Temple, and Berenson (2010) found that African American girls were more likely to report forced sexual intercourse.

Although it is known that CSA has several consequences, it is unknown how gender and racial/ethnic background influence coping mechanisms in adolescents. Many studies have been conducted on adult women. Consequently, less is known about the experiences of male adolescent victims. Further investigation on differential consequences will better inform intervention and prevention of CSA from a culturally competent and relevant perspective. Findings from this study provide insight into the clinical treatment needs of diverse populations who experience CSA through the predictive utility of coping. That is, because coping is influenced by culture (Aldwin, 2007), we may be better equipped to predict outcomes in various populations and as such, implement prevention interventions when a CSA victim is identified. Furthermore, mental health treatment should be tailored to the individual, and findings inform as well as guide treatment for youth who are already experiencing these externalizing and internalizing symptoms when CSA is an underlying factor. This study presented several implications for practice. The first is that it contributes to the knowledge base about the processes that take place and provide insight as to the cultural nuances of coping for adolescents who have been sexually abused. Furthermore, it assists in the prevention of long term psychiatric problems from CSA through symptom management and intervention which are at higher risk of development when avoidant coping is identified.

Problem Statement

Finkelhor et al. (2014) described the CSA prevalence as one of the most stable and lasting statistics with 1 in 4 girls and 1 in 20 boys being commonly cited in the research. It is estimated that there are approximately 80,000 reported allegations of CSA every year in the United States (American Academy of Child and Adolescent Psychiatry [AACAP], 2012). These estimates however, are an underrepresentation of the actual rates at which CSA occurs due to fear of disclosing (AACAP, 2012). Current estimates of the lifetime prevalence of CSA suggests that approximately 26.6% of girls (i.e., one in four) and 5.1% of boys (i.e., one in 20) will experience CSA by the age of 17 (Finkelhor et al., 2014). Nonetheless, there is a lack of consensus in the prevalence of CSA with percentages ranging from 25% to 40% of women and 8% to 13% of men (Finkelhor, 2009). The current knowledge base regarding CSA suggests that CSA is associated with hypersexual behavior, substance abuse, suicidality, and depression (Jones et al., 2011). Approximately only one in 20 CSA cases is reported based on retrospective studies in adults (Kellog, 2005). Furthermore, male CSA is under reported by victims due to social stigmas regarding masculinity and sexual orientation (Olfason, 2011). Much of this research has been conducted with adult CSA survivors reporting in retrospect the bulk of which has focused on adult women. Currently, there are no known studies focused on both male and female adolescent victims for the purpose of identifying gender and racial/ethnic differences in the effects of CSA. Moreover, no studies have focused on adolescent, high school students in the United States in order to examine gender and racial/ethnic differences in coping in the context of CSA.

Multiculturalism is defined not only as having multiple cultures, but as having multiple worldviews (Cauce, 2011). As such, it is essential to understand how culture (i.e. race, ethnicity, age, and gender) influences coping mechanisms that are utilized to cope with CSA and manifest as psychiatric symptoms. These mechanisms are often perceived as behavior problems and symptoms that may persist through adulthood. Identifying these coping differences can aid in the prevention of the long term effects of CSA. Shedding light on the effects of CSA and the cultural considerations associated with it may provide insight to treatment interventions, symptom management, and prevention of the development of long term effects of CSA (i.e., psychiatric problems). Currently, what is known regarding CSA is that it poses a risk for long term negative consequences that often times remain pervasive well into adulthood. However, it remains unknown how these effects are manifested during adolescence and how they differ from one racial/ethnic group to another and between boys and girls.

Purpose Statement

The purpose of this quantitative study was to examine the gender and racial/ethnic differences in the consequences of CSA in adolescents. Child sexual abuse has several consequences that affect youth well into adulthood. However, it is unknown how these effects differ among gender and racial/ethnic groups. Thus, it may be beneficial to consider the differential consequences of sexual abuse among gender and racial/ethnic groups and other factors such as depressive symptomatology, suicidal ideation, substance use, and hypersexual behavior which have been linked to CSA. This study sought to examine how the relationship between sexual abuse and suicidal ideation, sexual abuse

and substance abuse, and sexual abuse and hypersexual behavior differ among boys and girls and different racial/ethnic groups.

Research Questions & Hypotheses

Research Question 1: Are there gender differences within racial/ethnic groups in hypersexual behavior?

$H_0$1: There will be no gender differences within racial/ethnic groups in hypersexual behavior among adolescent CSA survivors.

$H_1$1: There will be gender differences within racial/ethnic groups in hypersexual behavior among adolescent CSA survivors.

Research Question 2: Are there gender differences within racial/ethnic groups in substance use?

$H_0$2: There will be no gender differences within racial/ethnic groups in substance use among adolescent CSA survivors.

$H_1$2: There will gender differences within racial/ethnic groups in substance use among adolescent CSA survivors.

Research Question 3: Are there gender differences within racial/ethnic groups in suicidal ideation?

$H_0$3: There will be no gender differences within racial/ethnic groups in suicidal ideation among adolescent CSA survivors.

$H_1$3: There will be gender differences within racial/ethnic groups in suicidal ideation among adolescent CSA survivors.

Research Question 4: Are there gender differences within racial/ethnic groups in depressive symptomatology?

$H_0$4: There will be no gender differences within racial/ethnic groups in depressive symptomatology among adolescent CSA survivors.

$H_1$4: There will be gender differences within racial/ethnic groups in depressive symptomatology among adolescent CSA survivors.

Framework

The theoretical framework for this study was Aldwin's (2007) sociocultural theory of coping. Aldwin's sociocultural theory of coping posits that the culture of an individual influences the way stressors are perceived, how one interprets, copes, and seeks help or support. Thus, culture also dictates how one implements a given coping mechanism (Aldwin, 2007). Furthermore, culture may contribute to the type of stressors experienced and levels of family support. This will likely impact coping and perceived support (Aldwin, 2007). Fontes and Plummer (2009) explained that CSA disclosures are dependent on cultural norms and gender, as well as other factors.

Coping is defined as the study of individual differences in stress response (Aldwin, 2007). Aldwin (2007) suggested that culture influences coping in the following ways:

1. Culture influences the types of stressors experienced.
2. Culture impacts interpretation of the stressor.
3. Culture will influence the coping mechanisms that are utilized.
4. Culture provides a set of tools that can be used for coping.

Thus, the assumptions under this theory suggest that when an adolescent is negatively impacted by a stressor such as CSA, coping will be guided by culture. For adolescents, this takes on a multicultural approach to coping taking into account their age, gender, race, ethnicity, and other cultural subgroups (i.e., peer groups) that will influence how they cope. A more detailed description of the theoretical framework is provided in Chapter 2.

Nature of the Study

This was a quantitative ex post facto study using data from the 2013 (Youth Risk Behavior Survey) ([YRBS] Center for Disease Control [CDC], 2013). The study was grounded on postpositivist worldview which is based on the assumption that knowledge is gained through examining cause and effect relationships through careful measurement and observations (Creswell, 2009). The independent variables in the study are gender and race/ethnicity. The dependent variables were suicidal ideation, depression, substance use, and hypersexual behavior. Specifically, I examined whether or not there are any gender and/or racial/ethnic differences in the incidence of substance abuse, hypersexual behavior, depressive symptomatology, and suicidal ideation among those who have experienced sexual abuse.

I examined any ethnic differences that may shed light on how culture plays a role in adolescents coping with CSA. Increased awareness of these differences will increase understanding about cultural differences that may impact and guide both prevention and treatment interventions. Shapiro et al. (2012) stated that identifying children who are most at risk for long term psychiatric problems through their coping behaviors, may aid

in the prevention of persistent and pervasive symptoms in children who have been sexually abused. Archival data from the 2013 YRBS was used in this study (CDC, 2013). The YRBS is a self-report national survey completed by students in Grades 9-12 in both public and private schools every two years (i.e., odd years) (CDC, 2013). The YRBS uses a three-stage cluster design to obtain a nationally representative sample with estimates that are accurate within a 95% confidence level (CDC, 2013). These population estimates include gender, grade, race, and ethnicity (CDC, 2013). One of the sampling stages includes random selection of classes of students, while the remaining two consisted of major counties and the clustering of smaller and rural counties (CDC, 2013). The survey consisted of 86 questions pertaining to demographic information (5), injuries and violence (23), drug and alcohol use (28), sexual behavior (7), and mental health (i.e., suicidality and depressive symptomatology), physical activity, diet, and health (23) (CDC, 2013). The sample consisted of 13,583 students in public and private high schools in the United States. Log-linear analyses were conducted to examine the data using SPSS.

Definitions

The variables in the study were defined as follows:

Child sexual abuse: A sexual crime in which a child under the age of 18 is used by another individual (i.e., known, unknown, relative, stranger, adult, minor, or same age peer) for sexual pleasure with or without physical contact (Finkelhor, 2009; Olafson, 2011). In this study, *yes* responses endorsing being physically forced to have sexual intercourse when a participant did not want to and/or having been forced in the last 12

months one or more times to do sexual things the participant did not want to within the context of a dating relationship was considered child sexual abuse.

Ethnicity: was the self-reported race or ethnic background of the participant and included the following responses: American Indian, Asian, Black, Native Hawaiian or Pacific Islander, White, Hispanic/Latino, Multiple with Hispanic/Latino heritage, and Multiple with no Hispanic/Latino heritage.

Gender: Self-reported sex of the participant and defined as boy or girl.

Hypersexuality: Developmentally inappropriate sexual behavior that causes significant distress or dysfunction such that the sexual behaviors are both repeated over time and high risk (Adelson et al., 2012). In this study, hypersexuality is the self-reported sexual intercourse with four or more people during the lifetime and/or two or more people during the past three months.

Suicidal ideation: was a *yes* response to having seriously considered attempting suicide in the past 12 months, having a plan for suicide in the past 12 months, and having attempted suicide one or more times in the past 12 months.

Depressive symptomatology: was the self-reported *yes* response to feel sad or hopeless every day for two weeks or more in a row in the past 12 months.

Substance use: The self-reported use of alcohol, marijuana, cocaine, or other illicit substance in the last 30 days.

Assumptions

In this study, the following assumptions were held regarding the YRBS survey and its participants:

1. Participant responses were an honest and accurate representation of the participants' experiences.
2. Adolescents were able to respond in a confidential manner.
3. The data collected were both reliable and valid.

These assumptions are essential in ensuring that findings are accurately interpreted with regards to any gender and racial/ethnic differences identified in this study considering an that the study is an ex-post facto design. These limitations are further discussed below.

Scope and Delimitations

This study was limited to adolescents which will impact generalizability to other age groups. Additionally, because of the nature of the study, there is no random assignment which limits the generalizability of the findings. The YRBS included a nationally representative sample of high school students (i.e., grades 9 through 12) enrolled in the 50 United States with a confidence level of 95% (CDC, 2013). While the sample is representative of the United States population of high school enrolled adolescents, findings cannot be generalized to people who dropped out of high school or adolescents in other geographical locations (CDC, 2013). The survey only included high school enrolled adolescents within the United States. However, this study may be replicated in other countries and be compared to these findings (i.e., adolescents in the United States).

Limitations

This study had several limitations. The first was with regard to using an ex post facto design. An ex post facto design limits the researcher's ability to control variables

because the archival data or participants cannot be manipulated. Sampling bias is another limitation. While the sample included high school students, findings from this study cannot be generalized to students who are homeschooled or have dropped out. Researcher bias, a third limitation, was addressed by running a sound and objective analysis of the data obtained from the YRBS. Additionally, because the survey is based on participant self-report, it was uncertain the extent to which adolescents were honest in their answers. Finally, recall bias may influence reporting for various reasons. The first is that with a trauma such as CSA, there are factors such as dissociation, which may negatively impact the ability to accurately recall an event. Moreover, individuals may have difficulty retrieving a memory or remember it inaccurately. The CDC (2013) indicated that while the honesty of student responses cannot be determined, the data provided are considered acceptable in quality. The YRBS conducts a validity check by assessing the consistency of student responses (CDC, 2013). Surveys with fewer than 20 valid responses are deleted, and questions that are inconsistent are deemed invalid and counted as missing (CDC, 2013). However, underreporting was expected as individuals tend to respond in a socially desirable manner. The CDC (2013) stated that although the extent of underreporting cannot be determined, the survey questions demonstrate good test-retest reliability. Therefore, the findings from this study were interpreted with caution.

Significance

Over half of CSA offenses are committed by juvenile perpetrators including friends, acquaintances, and same age peers (Finkelhor et al., 2014). With adolescents being at a high risk for CSA (Finkelhor et al., 2014), information obtained from this study

may provide insight as to how different groups of adolescents may react to, cope with, and experience sexual abuse. Furthermore, given the few studies conducted with boys who have experienced CSA, the findings from this study provided increased understanding of the potential effects and coping mechanisms used by adolescent boys based on their unique experiences.

The consequences of CSA are not only short term, but got well into adulthood and may develop into long term psychological problems (Shapiro et al., 2012). Coping plays an essential role as an indicator of the development of long term psychiatric symptomatology (Shapiro et al., 2012). That is, identifying children via observed coping may provide a starting point for prevention. Findings from this study may help guide clinician exploration of underlying causes for externalizing and internalizing symptoms and behaviors. Exploring for the root of these symptoms will inform treatment, prevent the development of long term consequences, and potentially identify individuals who have not disclosed CSA when they present with these symptoms. Shapiro et al. (2012) stated that avoidant coping and suppressing emotions negatively impacts mental health. As such, findings will further inform treatment interventions and prevention efforts for youth who present with depressive symptoms, substance use, suicidal ideation or hypersexual behaviors that may have underlying trauma. Identifying patterns of coping may promote the implementation of effective interventions in CSA survivors. Adolescents who are identified as having internalizing symptoms behavior disturbances, substance use problems, and who engage in risky sexual behaviors may be labeled as problem children when in fact they may be experiencing the consequences of CSA.

Culturally competent treatment with racial, ethnic, and gender minority populations involves consideration of the sociocultural context from the treatment provider to other systemic levels including policy (Huey, Tilley, Jones, & Smith, 2014). Furthermore, it involves cultural awareness, adaption and modifications to the therapeutic process, and cultural meaning of experiences (Huey et al., 2014). Thus, the findings from this study may improve treatment and prevention programs by increasing our understanding of cultural differences in coping as such, creating more tailored approaches to treatment. This study effects positive social change globally as it will contribute to the knowledge base about physically and behaviorally expressed effects of CSA in adolescents. Additionally, it will examine cultural influences on adolescent coping with CSA and inform culturally competent practice. Further, it will assist in preventing the adverse long term effects of CSA through symptom management and intervention. The ability to identify adolescents who are at risk for long term psychiatric problems will contribute to the prevention of persistent symptomatology (Shapiro et al., 2012).

Summary

The purpose of this quantitative study was to examine the relationship between the independent variables of gender and racial/ethnic background and the dependent variables of hypersexual behavior, substance use, depressive symptomatology, and suicidal ideation among adolescent CSA victims. The theoretical foundation of this study was sociocultural coping theory (Aldwin, 2007). It was founded on an ex post facto design using archival data from the 2013 YRBS survey (CDC, 2013).

Chapter 2 will provide an in-depth review of the literature on CSA, its consequences, prevalence, as well as gender and racial/ethnic differences. This chapter will discuss in detail the current body of knowledge on CSA and hypersexuality, CSA and substance abuse, CSA and depression, and CSA and suicidality. Additionally, Finkelhor and Browne's (1985) model of traumagenic dynamics of CSA and Aldwin's (2007) sociocultural theory are discussed more in-depth in this chapter.

Chapter 2: Literature Review

Introduction

Child sexual abuse is defined as the use of an individual under 18 years of age for the purposes of sexual pleasure with or without physical contact from another individual whether known, unknown, older or the same age (Olafson, 2011). It is further defined as a sexual crime committed on a minor by another individual including a friend, peer, another child, adult, relative, or stranger (Finkelhor, 2009). Many offenders are not prosecuted given that most are juveniles and are not prior offenders, predators, or pedophiles (Finkelhor, 2009). There are several long term and short term effects associated with childhood sexual abuse. The effects of CSA include an increased risk for substance abuse and depression, anxiety, interpersonal problems, substance abuse, aggression, anger, and difficulty trusting others due to negative attachments (Wurtele, 2009).

Although researchers have explored the long and short term effects of CSA, the data on differential effects of CSA across gender and ethnicity are lacking. If the effects are different among these groups, the researchers have not examined how these differ among boys and girls or the racial and ethnic differences in adolescents. Cauce (2011) explained that multicultural psychological science has often led to the development of a deeper understanding about the samples studied. Moreover, Cauce (2011) asserted that a study conducted on one sample, does not necessarily provide meaningful information about another because of multicultural nuances. That is, a study on CSA with a female sample, does not necessarily provide any information about the experiences of boys who

experienced CSA. Furthermore, an adult study on CSA does not tell us much about the experiences of adolescents. This can be applied to various racial ethnic groups and their experiences as well.

Child sexual abuse has several consequences that affect youth well into adulthood. Thus, it may be beneficial to consider the differential consequences of sexual abuse and other factors such as suicidal ideation, depression, substance use, and hypersexual behavior which have been linked to CSA while controlling for gender and racial/ethnic differences. This study seeks to examine (a) whether there are differences in substance abuse, hypersexual behavior, depression, and suicidal ideation between boys and girls who have been sexually abused; and (b) whether there are differences in substance abuse, hypersexual behavior, depression, and suicidal ideation between different racial/ethnic groups.

Literature Search Strategy

This literature review used the following databases: PsycINFO, PsycARTICLES, SocIndex, and Google Scholar. The following keywords were utilized in searching these databases: *child sexual abuse, consequences of child sexual abuse, sexual abuse, prevalence, gender, race, ethnicity, coping, culture, cultural, children,* and *adolescents.* The search was limited to five years. However, significant and more historic articles were also included in order to provide insight into previous findings and understanding of theories relevant to the study. Due to the fact that much of the research on CSA has been conducted in retrospect and on adult CSA survivors, these studies were also reviewed. This chapter begins with a discussion on CSA in addition to its prevalence, gender and

racial ethnic differences, and CSA and adolescents. The consequences of CSA including externalizing and internalizing symptoms, substance abuse, and hypersexuality, are then discussed. These sections are followed by a detailed explanation of the theoretical underpinnings for the study and a brief discussion on research methodology.

Child Sexual Abuse

Prevalence

Child sexual abuse occurs in all cultures, levels of socioeconomic status, and in both genders. Rates for CSA indicate a higher prevalence in girls than in boys with most perpetrators being known to the survivor and most often male (Olafson, 2011). Child sexual abuse often occurs in the company of other forms of child abuse such as physical abuse and neglect. Despite that the prevalence of CSA is lower compared to other forms of child abuse (i.e., physical abuse and neglect), the actual rates of CSA are unknown due to lack of evidence in reported cases and underreporting (Olafson, 2011). However, the most current rates indicate that 6% of all children are sexually abused every year (Finklehor, 2009). Finkelhor (2009) explained that perpetrators typically go without getting caught or legally charged because they are usually known to the survivor and will utilize access and opportunity (i.e., being left alone with a child) to victimize a child. Therefore, while the rates for CSA remain overall consistent in the literature, it is important to be mindful that it is likely that the incidence of CSA may be higher. Furthermore, the variability of CSA incidence across the literature is attributed to lack of consensus in CSA definitions (Collin-Vezina, Daigneault, & Hebert, 2013). Additionally, these discrepancies between reported cases and the literature may be due to the steps

taken by Child Protective Services (CPS) to substantiate allegations of CSA compared to retrospective reports made by adults (Collin-Vezina et al., 2013). While adults may be more likely to report CSA for the purposes of research, children may be less likely to disclose their abuse to authorities or CPS workers for multiple reasons and factors that influence disclosure.

Gender

While researchers have attempted to provide estimates on the prevalence of CSA both in the United States and in other countries, research on CSA has mostly focused on adult, female survivors, with less attention given to male survivors (Olafson, 2011). Even less research has been conducted in adolescent male and female CSA survivors perhaps due to vulnerability of this population. Barth, Bermetz, Heim, Trelle, and Tonia (2013) conducted a meta-analysis in which they reviewed 55 CSA studies conducted worldwide over the past 50 years in an effort to examine the current incidence of CSA. They found that across studies, girls were two to three times more likely to be sexually abused compared to boys (Barth et al., 2013). Finkelhor (2009) estimated that one in four girls (25%) are victimized compared to 8% of boys. These estimates, however, are confounded by underreporting, unsubstantiated cases, and social stigma about the abuse of boys. Additionally, these differences may be due to methodological issues such that the focus of most CSA studies have been on female survivors. As such, research questions regarding CSA have not adequately addressed CSA experiences of boys (Barth et al., 2013). Furthermore, as mentioned earlier, social stigma placed on the abuse of boys may result in labeling of boys as homosexual which may further influence underreporting

(Barth et al., 2013). That is, boys who have been victimized by other boys or adult men may not want to report in fear of being identified as homosexual by peers and/or family. Nevertheless, prevalence rates continue to place girls as more at risk of CSA. Jones et al. (2013) explained that despite the increased awareness regarding the influence of gender in development, these deficits in the research remain. The risk of CSA for girls continues to increase with age, whereas for boys, the highest risk is during puberty and then diminishes (Finkelhor, 2009).

Racial and Ethnic Differences

While there are no accurate estimates on the prevalence of CSA among racial/ethnic groups, child maltreatment rates do show some racial/ethnic differences. Child maltreatment encompasses various types of abuse and neglect including CSA. According to the U.S. Department of Health and Human Services (2013), in 2012 the maltreatment rates were comprised of 21% African American, 1.2 % American Indian/Alaskan Native, .8% Asian, 21.8% Hispanic, 4.7% Pacific Islander, 8.2% White, and 10.8% multiracial children. Similar to other findings on CSA, most racial ethnic differences examined have been based on adult surveys. Berliner (2011) explained that these surveys have found the prevalence of CSA to be higher in Hispanic girls than their White and African American counterparts (as cited in Olafson, 2011). A retrospective survey (Berliner, 2011) found slight racial and ethnic differences among African American, Caucasian, Native American, and Asian women. Among these groups, the rates were higher for Native American and Asian women, although these differences were not significant (Olafson, 2011). Another study (Thompson, McGee, & Mays, 2012)

found that among adolescent girls, the likelihood of CSA was higher in African American with the lowest rates among Asians (i.e., including Native Hawaiians and Pacific Islanders). These findings may also be exacerbated by underreporting due to the stigma associated with CSA within cultures. Fontes and Plummer (2010) explained that disclosures are influenced by culture and gender. More often, it is the survivors who experience shaming associated with the abuse rather than the perpetrator (Olafson, 2011).

Lee et al. (2012) conducted a longitudinal study in which they examined data on black and white adolescent boys with a history of physical, sexual, emotional abuse, and/or neglect. The study sought to examine racial differences in negative consequences associated with child maltreatment. Lee et al. (2012) found that Black boys were more likely to experience some type of maltreatment compared to their White counterparts, but there were no racial differences in the type of abuse, severity or chronicity. The authors found that childhood maltreatment significantly predicted depression and violent behavior in both Blacks and Whites, but found no significant relationship between childhood maltreatment and heavy drinking. Nevertheless, current research has not indicated that racial/ethnic differences influence externalizing behaviors in CSA survivors (Jones et al., 2013); yet it is uncertain if racial/ethnic background serves as a moderator early on in development considering that the literature has mainly focused on adult CSA survivors.

Adolescents

Other studies have examined racial/ethnic differences among adult men and women which are not generalizable to adolescent populations. Of the few studies on

adolescents, most have focused on female survivors. Thompson et al. (2012) examined racial/ethnic differences in the prevalence of being forced to engage in unwanted sexual intercourse and the prevalence of substance abuse in adolescent girls. The authors found both racial/ethnic differences in the likelihood of experiencing CSA as well as in substance abuse (Thompson et al., 2012). However, while these findings are valuable, they cannot be generalized to adolescent boys. Other studies have utilized Child Protective Services (CPS) allegations of abuse, both substantiated and unsubstantiated (Bedi et al., 2011). However, these studies do not encompass the many unreported and undisclosed abuse that children experience. Studies on boys have been limited to retrospective surveys of adult men with CSA histories (Schraufnagel, Davis, George, & Norris, 2010). What is known regarding adolescent CSA experiences is that adolescents are at an increased risk for long term psychiatric problems (Shapiro et al., 2012) including revictimization, substance abuse, depression, hypersexuality (Olafson, 2011). Additionally, coping plays a significant role in determining the severity and duration of these negative consequences of CSA (Shapiro et al., 2012).

Consequences of Child Sexual Abuse

Emotional dysregulation negatively impacts children placing them at higher risk for psychological disorders (Messman-Moore, Walsh, & DiLillo, 2010). Child sexual abuse survivors experiencing emotional dysregulation will often display symptoms well into adulthood, and consequently engage in maladaptive coping such as self-harming behaviors, substance abuse, and risky sexual behavior. (Messman-Moore et al., 2010).

Externalizing Symptoms

Child sexual abuse has been linked to risky behavior that has been examined in retrospect in adult survivors (Jones et al., 2013). Although the consequences of CSA can vary from one individual to another, symptoms may be lifelong impacting survivors psychologically, behaviorally, and physically (Olafson, 2011). Child sexual abuse consequences are on a spectrum with some survivors being asymptomatic, while others experience impairment in overall functioning. These symptoms vary due to multiple factors (e.g., duration and nature of abuse, relationship to the perpetrator, support network, and gender) that will influence symptom severity and duration (Olafson, 2011). Jones et al. (2013) conducted a study utilizing data from substantiated child protective services (CPS) cases which does not account for the many unsubstantiated and/or unreported CSA. The authors found that while CSA was not significantly associated with alcohol use or sexual risk behaviors in adolescents, there were gender differences. Specifically, there was a direct relationship between female CSA survivors, alcohol use and sexual intercourse, and male CSA survivors and alcohol use (Jones et al., 2013). Drug dependence was also more likely reported in women with CSA histories relative to those who did not report CSA (Olafson, 2011).

Substance Use

Children who have been sexually abused are more likely to use alcohol in adulthood than children who have experienced other forms of childhood maltreatment even without a family history of alcohol abuse (Olafson, 2011). One adolescent study found that Hispanic girls were more likely to report alcohol use in their lifetime, Whites

were more likely to binge drink, and Asians and Blacks were likely to use substances (Thompson et al., 2012). Overall African Americans had a higher rate of lifetime use of substances compared to the other racial/ethnic groups (Thompson et al., 2012). Another adolescent study found that female CSA survivors were at higher risk for substance and polysubstance use relative to their male counterparts (Shin, Hong, & Hazen, 2010). The authors posited that for female adolescents, CSA may influence the development of substance abuse problems. In this study, alcohol and cannabis use were the most highly used types of substances for CSA survivors (Shin et al., 2010).

Schraufnagel, Davis, George, and Norris (2010) examined the relationship between CSA and risky sexual behavior and alcohol use as a mediator for this relationship. They found that the severity of CSA was associated with early onset drinking and suggested that early age drinking was utilized as a coping mechanism (Schraufnagel et al., 2010). Early age drinking was also associated with heavy drinking in adulthood. Of note, current drinking in adult men was not predicted by the severity of abuse, but rather may be a result of maladaptive coping (Schraufnagel et al., 2010). However, alcohol use did not have a direct effect on the relationship between CSA and sexual behavior (Schraufnagel et al., 2010). Thus, in adolescents, alcohol abuse as a coping mechanism may present with long term CSA consequences and negative coping mechanisms.

In another study (Behnken, Le, Temple, & Berenson, 2010), researchers examined the role of binge drinking in mediating the relationship between CSA (i.e., forced sexual intercourse) and suicidality in female adolescents. Behnken et al. (2010)

found that binge drinking did mediate the relationship between CSA and suicidality. Moreover, they found that CSA was associated with binge drinking and that binge drinking may increase the risk for suicidality in sexually abused adolescent girls (Behnken et al., 2010). Notably, for African American girls, alcohol did not mediate the relationship between CSA and suicidality although this group was more likely to report forced sexual intercourse (Behnken et al., 2010), suggestive of possible differences in coping strategies among different cultural groups. They advised that binge drinking in Hispanic and Caucasian groups likely exacerbated depressive symptoms and suicidal thoughts. However, the factors that mediate suicidality in African American girls are unclear. Perhaps, rather than binge drinking contributing towards increased suicidality, binge drinking may be an additional coping mechanism used by CSA survivors for avoidance. As such, a possible explanation for these findings might be that coping mechanisms vary and are influenced by culture.

Hypersexuality

Hypersexuality is defined as pathological sexual behavior that is both repeated and high risk (Adelson et al., 2012). It may be a result of traumatic sexualization which is the distorted sexuality of a CSA survivor resulting from the sexual abuse (Collin-Vezina et al., 2013). It may result in confusion regarding sexual behavior due to the abuse and leads to a distorted perception of sexual relationships. Hypersexual behavior is posited to be a self-soothing behavior or coping mechanism in CSA survivors that contributes toward emotional regulation (Messman-Moore et al., 2010). Child sexual abuse is linked to having a higher number of sexual partners, engaging in intercourse both at a younger

age and more frequently in adolescents (Messman-Moore et al., 2010). Schraufnagel et al. (2010) examined the relationship between CSA and number of sexual partners in adult male survivors and found that CSA severity was linked to the number of sexual partners. Promiscuous and risky sexual behaviors place adolescent girls at risk for unplanned pregnancies and exposure to sexually transmitted diseases (STD) (Olafson, 2011). Furthermore, risky sexual behavior increases the risk for revictimization, sexual intercourse outside of a relationship, and increased casual sex in adolescents who have been sexually abused. Because CSA survivors are more likely to engage in these risky sexual behaviors as a means of coping, they may be placing themselves in situations where they are at high risk of being raped and assaulted (Messman-Moore et all, 2010).

Adelson et al. (2012) explained that compared to children without sexual abuse histories, CSA survivors displayed significantly more sexual behaviors during their childhood. Messman-Moore et al. (2010) found that for CSA survivors with emotional dysregulation, the number of sexual intercourse partners and frequency of sexual intercourse were strong predictors of adolescent rape. However, Fargo (2009) found that revictimization was mediated by other factors such as alcohol use before sexual activity, engaging in risky sexual behavior, child physical abuse history, and lack of familial support. The author added that CSA survivors are at highest risk for revictimization during adolescence (Fargo, 2009).

Adolescent male CSA survivors are also more likely to engage in sexual risk behaviors (i.e., unprotected sex, multiple partners, and causing a pregnancy) than their nonabused counterparts (Homma, Wang, Saewyc, & Kishor, 2012). In fact, boys who

experienced child sexual abuse were five times more likely to cause a pregnancy (Homma et al., 2002). Additionally, the authors indicated that the stronger effect of CSA on boys was related to cultural norms about masculinity which may lead to increased shame and conflicts about sexual orientation (Homma et al., 2012).

Internalizing Symptoms

There is a significant relationship between childhood trauma and depressive disorders (Olafson, 2011). More specifically, CSA has been associated with major depressive disorder (MDD) and posttraumatic stress disorder (PTSD) (Bedi et al., 2011). The severity of the abuse is also a predictor of long lasting symptoms leading to increased risk of impairment in functioning due to PTSD, dissociative disorders, substance abuse, anxiety, and conduct problems (Olafson, 2011). However, findings on the relationship between CSA and internalizing problems (i.e., depression and suicidal ideation) are inconsistent and may be adversely influenced by caregiver reports and attempts to link internalizing problems to externalizing behaviors (Jones et al., 2013). It should be noted, however, that these findings may be expected given that individuals who experience internalizing symptoms may not be acting out behaviorally and thus, may go unnoticed by caregivers who may consequently fail to report.

Depression and Suicidality

Suicide is among the top three causes of death in individuals aged 15 to 24 years and is associated with CSA (Bedi et al., 2011; Rhodes et al., 2011). Rhodes et al. (2011) suggested that suicidal behaviors may be a coping mechanisms for depression while reinforcing avoidance, withdrawal, and self-blaming behaviors. The association between

CSA and suicidal ideation and behaviors is significantly stronger in male adult survivors compared to female survivors (Rhodes et al., 2011). Bedi et al. (2011) found that women with CSA histories attempted suicide five years earlier than men, yet the risks were consistent in both genders. While the risk of suicidality increases with the presence of depressive disorders and/or PTSD, when paired with CSA, it is uncertain how this risk is exacerbated (Bedi et al., 2011). However, CSA was found to be directly associated with suicidal behavior in adults who were not experiencing depressive or PTSD symptoms (Bedi et al., 2011) suggesting that CSA alone is a predictor of suicidality.

Bedi et al. (2011) found that among these reported CPS cases, CSA was a strong predictor for suicidal behavior whether the adolescent presented symptoms of depression or not. When controlling for major depressive disorder and posttraumatic stress disorder, the risk for suicide remained significant (Bedi et al., 2011). The authors noted that many of the CSA findings are limited to girls given the low samples of abused boys in studies. They added that this negatively impacts how the literature interprets the prevalence and effects of CSA on boys (Bedi et al., 2011).

Barth et al. (2012) conducted a meta-analysis on the prevalence of CSA and only included that had utilized samples of individuals 18 years of age and under and were conducted after the year 2000. The authors only included 55 of the 3,295 potentially eligible studies identified. Of these studies only 13 were conducted in the United States (Barth et al., 2012). Overall, they noted that nearly all of the studies were conducted with children at the age of 18 (Barth et al., 2012) suggestive of the need for research in adolescent populations. It is known that CSA is associated with increased risk for

suicidal ideation (Bedi et al., 2011; Rhodes et al., 2011), substance abuse, depression (Olafson, 2011), and risky sexual behavior (Homma et al., 2012). However, it remains to be studied what cultural factors (i.e., race, ethnicity, and gender) influence coping mechanisms that translate into the negative consequences of CSA.

Theoretical Foundations and Framework

Model of Traumagenic Dynamics in Child Sexual Abuse

Finkelhor and Browne (1985) proposed a theory of child sexual abuse based on traumagenic dynamics of CSA. They posited that four factors contribute to trauma:

1. Traumatic sexualization
2. Betrayal
3. Powerlessness
4. Stigmatization

While these factors may occur separately in other types of abuse, Finkelhor and Browne (1985) suggested that they occur simultaneously in CSA. These factors serve as a framework for understanding the effects of CSA and assessing for trauma in survivors under this model. Traumatic sexualization may result in hypersexual and promiscuous behavior in adolescence. Survivors also experience the effects of stigmatization and may resort to maladaptive coping strategies such as drug and/or alcohol abuse, self-harming behaviors, low self-esteem, and risky sexual behaviors (Finkelhor & Browne, 1985). Betrayal and powerlessness may result in feelings of loss, grief, loss of control, suicidal behavior, and depression especially when the abuse is perpetrated by a close loved one the child trusted (Finkelhor & Browne, 1985). This model provides insight as to how

CSA impacts children and how CSA may be an underlying factor to externalizing and internalizing behaviors. These behaviors, manifested as symptoms or behavioral problems, serve as coping mechanism for survivors. For instance, individuals who experience trauma also experience symptoms of avoidance. Adolescents may resort to drug use, suicide, withdrawal, and risky sexual relationships in order to avoid dealing with the trauma. Messman-Moore et al. (2010) explained that traumatic sexualization may result in individuals seeking sexual relationships as a self-soothing mechanism. Adolescents may turn to substance use as a maladaptive form of coping. Individuals with depression experience hopelessness and may isolate as a form of avoidance. Clearly, hopelessness may lead an adolescent to suicidal ideations, an extreme form of avoidance of dealing with emotional pain.

Sociocultural Coping Theory

Trauma involves the shattering of an individual's beliefs about the meaning and predictability of the world, and it impacts how one perceives the world, justice, the trustworthiness of others, and one's self-worth (Aldwin, 2007). The concept of coping is based on observations of the differences in how individuals react and deal with stress (Aldwin, 2007). In regards to sexual abuse, patterns of coping following the abuse will highly influence mental health well into adulthood more so than the actual abuse (Aldwin, 2007). Therefore, coping may be a significant factor in long term wellbeing for CSA survivors. Emotional numbing is the most common form of maladaptive coping in emotion-focused trauma (Aldwin, 2007). Consequently, the process of coping with trauma may be long term (Aldwin, 2007).

Aldwin's (2007) sociocultural theory of coping proposes that the culture of an individual influences how stressors are perceived and how one interprets, copes, and seeks help or support. Thus, culture also dictates how one implements a given coping mechanism (Aldwin, 2007). Furthermore, culture plays a role as to what types of stressors are experienced and how supportive one's family is. This will likely impact coping and perceived support (Aldwin, 2007). Fontes and Plummer (2009) explained that CSA disclosures are dependent on cultural norms and gender as well as other factors. The social and cultural factors that impact coping include gender, age, family, context, race and ethnicity.

One of the greatest social-cultural distinctions in coping is gender despite the lack of consensus in the literature regarding whether gender differences exist (Aldwin, 2007). However, perhaps many assumptions regarding how boys cope compared to girls may be influenced by social and gender roles (Aldwin, 2007). Social context may impact individual coping. This is particularly true for adolescents because of the importance of peers. Adolescents may turn to their peers for coping which may result in maladaptive coping styles (i.e., substance use) which develop through peer pressure (Aldwin, 2007). Another social context that will influence coping is family. When an event or experience (i.e., sexual abuse) disrupts the family's homeostasis, it also disrupts how families cope. Additionally, parents provide mode ling for coping mechanisms whether these are healthy or not (Aldwin, 2007).

Aldwin (2007) explained that cultural values within different racial/ethnic groups influence coping in various ways including the types of stressors that may be

experienced, the appraisal of the event, the choice of coping strategies, and how and when the individual can cope.

Within each culture there are subcultures such as gender, socioeconomic status, and ethnicity that will further impact the stressors experienced and the resources accessible (Aldwin, 2007). Therefore, emotion-focused and problem-focused coping will take on various forms from one culture to another (Aldwin, 2007). Moreover, the long-term consequences of CSA (i.e., substance abuse, depression, suicidal ideation, conduct problems, etc.) have been linked to individual coping styles (Shapiro et al., 2012). Specifically, avoidant coping styles were associated with long term negative mental health outcomes (Aldao, Nolen-Hoeksema, & Schweizer, 2010). Shapiro et al. (2012) highlighted the importance of identifying children who are at an increased risk of long term psychiatric dysfunction by observing the behavioral coping styles of children who have been sexually abused. With regards to hypersexuality, from the perspective of emotional regulation, it is viewed as an impulse control problem that emerges when an individual is attempting to regulate his or her emotions (Garofalo, Velotti, & Zavattini, 2015). As such, it is essential to identify the emotional component of hypersexuality in the treatment of an individual who engages in hypersexual behaviors (Garofalo et al, 2015). Furthermore, in the case of adolescents, emotional stressors are less likely to result in the use of emotion focused coping strategies because of developmental age, such that hypersexuality is means of coping in response to the stressor (Garofalo et al., 2015).

Research Methodology

This study was grounded on a postpositivist world view which is founded on experimental research which examines data from an objective perspective (Creswell, 2009). Postpositivism posits that the knowledge about the world is gained through the measurement of cause and effect relationships. This study examined (a) whether there are differences in substance use, hypersexual behavior, depressive symptomatology, and suicidal ideation between boys and girls who have been sexually abused; and (b) whether there are differences in substance abuse, hypersexual behavior, depressive symptomatology, and suicidal ideation between African American, White, and Hispanic adolescent CSA survivors. Archival data was utilized from a national database, the 2013 Youth Risk Behavior Survey (YRBS), conducted by the Centers for Disease Control (CDC).

This secondary analysis of the YRBS archival data utilized an ex post facto design. The advantages of using this design are that the data are already collected which saves the examiner time. Furthermore, because this proposed study seeks to examine a vulnerable population, an ex post facto design is ideal in eliminating ethical issues associated with working with a vulnerable population.

The disadvantages of the design are that because the data have already been collected, there is no random assignment, and that data cannot be manipulated. As such, findings may not be generalizable to all adolescents. That is, because the YRBS is based on adolescents in the United States, the findings may not be generalizable to adolescents in other countries. However, this study may be replicated with different populations in

other countries. A log-linear analysis was used in order to examine the influence of more than one independent variable on the dependent variables. Specifically, this study explored whether there are differences between genders or racial/ethnic groups on the dependent variables of substance abuse, hypersexuality, depression, and suicidality. The assumptions for this log-linear analysis are met in that the dependent variables and are categorical.

Summary

The purpose of this study was to examine the gender and ethnic differences in coping styles of adolescent CSA. Although literature reports some research on adolescent CSA survivors, there is limited research exploring gender and ethnic differences that may exist. Some research has investigated racial/ethnic differences among female CSA survivors. Findings in the literature indicate that ethnic differences do exist with regards to CSA consequences and coping styles (i.e., substance abuse, hypersexuality, and suicidality). It is hypothesized that gender and ethnicity would be significantly associated with coping style in CSA survivors.

Chapter 3 will include a description of the research design, methodology, and threats to validity. In the research design section, the overarching methodological approach and the research variables will be described. The methodology section will identify the targeted population, sample and sampling procedure, as well as the 2013 Youth Risk Behavioral Survey (YRBS) recruitment procedures. The procedures for gaining access to the data set will also be described. It will further identify the operationalization of the variables, statistical analysis and process for interpretation of the

results, threats to validity, and ethical procedures. Currently, there are no CSA studies in the United States that have focused on adolescents or have examined racial/ethnic and gender differences in the effects of CSA. Findings from this study shed light on the experiences of adolescents who have been sexually abused. Specifically, this study provided insights regarding cultural differences in coping which influence the risk for long term psychiatric problems. Findings from this study inform treatment and prevention of the development and maintenance of long term mental health issues through culturally informed interventions.

Chapter 3: Research Method

Introduction

The purpose of this quantitative study was to explore the gender and racial/ethnic differences in the consequences of CSA in adolescents. Child sexual abuse has several consequences that affect youth well into adulthood. It may be beneficial to consider the differential consequences of sexual abuse among gender and racial/ethnic groups and other factors such as suicidal ideation, substance use, depression, and hypersexual behavior which have been linked to CSA. This study sought to explore how the relationship between sexual abuse and suicidal ideation, sexual abuse and depression, sexual abuse and substance use, and sexual abuse and hypersexual behavior differ among boys and girls and different racial/ethnic groups.

This chapter will include a description of the research design and methodology. Threats to internal and external validity are discussed as well as the validity of the YRBS survey. In the research design section, the overarching methodological approach and the research variables are described. The methodology section will identify the targeted population, sample and sampling procedure, as well as the 2013 YRBS recruitment procedures. The procedures for gaining access to the data set will also be described. It will further identify the operationalization of the variables, statistical analysis and process for interpretation of the results, and ethical procedures.

Research Design and Rationale

Philosophical perspectives influence research design and approach. Creswell (2009) noted that worldviews consist of paradigms, beliefs, and area of discipline. One

quantitative approach to research is a postpositivist world view, also known as the scientific approach to research or empirical science (Creswell, 2009). The overall goal of this postpositivism is to inform about the outcomes between certain relationships (Creswell, 2009). One assumption of a postpositivist approach is that absolute truth cannot be found, but hypotheses can be tested through research that provides evidence and contributes to knowledge (Creswell, 2009). This study was grounded on a postpositivist worldview which holds to an objective approach to examining the relationships between variables by minimizing threats to validity and reliability (Creswell, 2009).

This study utilized an ex-post facto design using archival data. This secondary analysis of the YRBS archival data has several advantages. The first is that the data are already collected which saves the examiner time. Secondly, ethical issues are minimized as this study seeks to examine a vulnerable population (i.e., child sexual abuse survivors; adolescents). Finally, the design allowed the examiner to test the hypotheses about the relationships between the variables that were examined. Of note, causality cannot be implied because of the nature of using archival data. Other disadvantages are described below.

There are also several disadvantages to an ex-post facto design. The first is that random assignment is not achievable with archival data. Consequently, findings may not be generalizable to all adolescents not included in the sample. The YRBS sample is representative of adolescents in the United States. As such, the findings may not be

generalizable to adolescents in other countries. Nonetheless, this study may be replicated with different populations in other countries.

A log-linear analysis is appropriate for this study. The research questions aim towards identifying significant differences between two independent variables and four dependent variables. This study also sought to examine potential within group differences. Additionally, in a log-linear analysis, the independent variables and the dependent variables are categorical (Field, 2013).

Variables

The study consisted of two independent variables and four dichotomous dependent variables. Table 1 presents the independent variables, dependent variables, and their levels of measurement.

Table 1

Proposed Study Variables and Scale of Measurement

Variable	Scale of Measurement
Gender (Independent)	Binary
Race/Ethnicity (Independent)	Nominal
Hypersexuality	Nominal
Suicidality	Binary
Substance Use	Nominal
Depression	Binary

Methodology

Population

The 2013 YRBS consisted of a sampling frame of students in grades 9-12 enrolled in both public and private schools in the United States (CDC, 2013b). Male and

female students of all races, ethnicities, and socioeconomic status were the targeted population. Additionally, the target population consisted of all 50 States, including the District of Columbia (DC). Of note, U.S. Territories were not included in the target population.

Sampling and Sampling Procedure

The YRBS uses a three-cluster sampling design in order to obtain a nationally representative sample (CDC, 2013a). Weights based on sex, race, and ethnicity were implemented to adjust for non-responding and the oversampling of Blacks and Hispanics (CDC, 2013a). Additionally, individuals who refused to participate were not replaced in an effort to maintain integrity and avoid unmeasurable bias (CDC, 2013a). Table 2 describes the sampling process used by the 2013 YRBS.

Table 2

Description of the 2013 YRBS Sampling Process

Cluster	Sampling Frame	Process
1	Primary Sampling Units (PSU)	PSU's were comprised of counties, large counties, subareas of counties, and groups of smaller adjacent counties. These were categorized into 16 strata according to their Metropolitan Statistical Area (MSA) and percentages of Blacks and Hispanic students.
2	Clusters	Drawn from the PSUs, 193 schools were sampled with proportional probability of overall student enrollment size.
2	Classes	Random samples were drawn from classes from each of the grades 9-12 from a required classes or period such as English, Social Studies, homeroom, or second period.

Note: Weighting ensured that the sample was nationally representative of students, grades 9-12, in the United States.

Sample Size

Thirteen thousand, six hundred and thirty-three questionnaires were completed. Of these surveys obtained, fifty were deemed invalid due to inconsistent responding (CDC, 2013b). The sample consisted of 13,583 male and female students. This was a representative sample of high school students in the United States by race, ethnicity, sex, and grades (CDC, 2013a).

Procedures for Recruitment of the YRBS 2013 Study

Schools were selected to participate based on the three-cluster sampling strategy described in Table 2. All sampled schools and students within these sample frames were eligible to voluntarily participate. Participating schools utilized, at their discretion, active or passive permission from parents to allow student participation (CDC, 2013b). Trained data collectors were sent to each sampled school and read a standardized script prior to the administration of the survey (CDC, 2013a). Students completed a self-administered questionnaire during one class period (CDC, 2013a). Responses were anonymous and were recorded on a computer-scannable booklet. To ensure privacy, desks were spread out if feasible, and the students were encouraged to use an additional sheet of paper to cover their responses.

Procedures for Gaining Access to the YRBS 2013 Data

The 2013 YRBS data files can be downloaded from the CDC's website at http://www.cdc.gov/healthyyouth/data/yrbs/data.htm. No prior permission is necessary to download and analyze the files, as the data are freely available to download (CDC, 2013).

Operationalization of Variables

The independent variables were gender and race/ethnicity. Gender was defined as the self-reported response as either male or female. Race and ethnicity was defined as the self-reported cultural background of an individual based on descent, nationality, and membership in a racial or ethnic group.

The dependent variables were substance use, hypersexuality, depression, and suicidality. Substance use was defined as responses in which a participant endorses having utilized alcohol or marijuana three or more times in the last 30 days, or in his or her lifetime having used cocaine, methamphetamines, heroin, or ecstasy three or more times. Suicidality was a "yes" response to having seriously considered attempting suicide in the past 12 months and/or having a plan for suicide in the past 12 months. Depressive symptomatology was the self-reported "yes" response to feeling sad or hopeless every day for two weeks or more in a row in the past 12 months. Hypersexuality was the self-reported sexual intercourse with four or more people during the lifetime and/or two or more people during the past three months (see the Appendix for a depiction of the variables, questions, and item responses on the YRBS for each variable).

Data Analysis Plan

Research Questions & Hypotheses

The data analysis plan was developed to address the following questions:

Research Question 1: Are there gender differences within racial/ethnic groups in hypersexual behavior?

$H_0$1: There will be no gender differences within racial/ethnic groups in hypersexual behavior among adolescent CSA survivors.

$H_1$1: There will be gender differences within racial/ethnic groups in hypersexual behavior among adolescent CSA survivors.

Research Question 2: Are there gender differences within racial/ethnic groups in substance use?

$H_0$2: There will be no gender differences within racial/ethnic groups in substance use among adolescent CSA survivors.

$H_1$2: There will gender differences within racial/ethnic groups in substance use among adolescent CSA survivors.

Research Question 3: Are there gender differences within racial/ethnic groups in suicidal ideation?

$H_0$3: There will be no gender differences within racial/ethnic groups in suicidal ideation among adolescent CSA survivors.

$H_1$3: There will be gender differences within racial/ethnic groups in suicidal ideation among adolescent CSA survivors.

Research Question 4: Are there gender differences within racial/ethnic groups in depressive symptomatology?

$H_0$4: There will be no gender differences within racial/ethnic groups in depressive symptomatology among adolescent CSA survivors.

$H_1$4: There will be gender differences within racial/ethnic groups in depressive symptomatology among adolescent CSA survivors.

Statistical Analysis

A log-linear analysis, also known as a multiway frequency analysis (MFA), was appropriate in order to examine the categorical variables in this study. Log-linear analysis is utilized to examine categorical or grouped variables by examining all possible interaction effects (Garson, 2012). It is a multi-frequency analysis that utilizes a general linear model similar to an analysis of variance (ANOVA) or regression (Garson, 2012). A log-linear model is based on three assumptions (Eye & Mum, 2013):

1. Each case is independent of each other.
2. The data are drawn from a homogenous sample and thus, have a similar distribution.
3. The sample size is large enough.

Moreover, the log-linear model is made up of the variables (i.e., factors) and the parameters set up in a contingency table in order to examine specific interactions (Eye & Mum, 2013). The purpose of this type of analysis is to examine all levels of interaction effects and identify the most parsimonious model, compared to saturated model that can account for differences in the frequencies that are being examined (Garson, 2012). A saturated model is one that includes all possible interactions (i.e., parameters) such that it fits the model perfectly (Azen & Walker, 2011). That is, it exhausts all possible parameters. Moreover, a saturated model has no degrees of freedom and will always fit the model perfectly, but will not produce any meaningful information about the associations between the variables (Azen & Walker, 2011). A parsimonious model is one

that restricts the parameters in order to make the data more meaningful by only examining selected interactions (Azen & Walker, 2011).

Using SPSS, a general log-linear analysis was conducted using a GENLOG module (Garson, 2012). Contingency tables were developed for all hypotheses using the factors gender (GEN), race/ethnicity (ETH), depression (DEP), suicidality (SUI), hypersexuality (HYP), and substance use (SUB). For the purposes of this analysis, each variable, or factor defined the rows and columns for the following models:

1. GEN x ETH x DEP
2. GEN x ETH x SUI
3. GEN x ETH x HYP
4. GEN x ETH x SUB

Each analysis produced three main effects, three 2-way interactions, and one 3-way interaction. In a log-linear analysis, a likelihood ratio is used in order to determine the goodness of fit of the model. A likelihood ratio chi-square test is used, rather than a Pearson chi-square, to determine whether there are any significant differences (Garson, 2012). When the likelihood ratio is not significantly different, then the model is determined to be a good fit (Garson, 2012). Goodness of fit of the model is determined when a parsimonious model is not statistically significant from the saturated model as the restricted model will produce more meaningful data about the relationship between the variables (Azen & Walker, 2011).

The approach for selecting a model for this study was based on theoretical specification. Theoretical specification refers to the setting of parameters (i.e.,

interactions that should be included in the model) by the researcher based on theory or research literature (Garson, 2012). For instance, the variables GEN, ETH, and DEP were one of the models which was analyzed. In a saturated model 7 effects are produced by these variables: GEN, ETH, DEP, GEN*ETH, GEN*DEP, ETH*DEP, GEN*ETH*DEP. However, in setting parameters based on the research questions, the following effects were examined GEN*DEP, ETH*DEP, and GEN*ETH*DEP which produced three main effects, three 2-way interactions, and one 3-way interaction. If the latter model is not statistically significant from the saturated model (i.e., the model with all seven effects), then it is considered a good fit. Once the model is determined to be a good fit, the interactions can be examined to determine whether or not they are statistically significant; that is, whether or not associations exist. In fact, if a model is not a good fit, it cannot be interpreted (Eye & Mum, 2013).

A threshold criterion of $\alpha = .05$ was used for statistical significance. However, because multiple analyses were conducted, a Bonferroni correction was used. The Bonferroni method adjusts the *P* value by multiplying *P* by the number of analyses in order to determine if the results remain significant. This minimized the risk of making Type I errors that multiple, simpler analyses (i.e., chi-square) can produce. Type I errors occur when results are interpreted as having an effect when in fact there is none and the chance of making this type of error increases with the number of tests conducted. Thus, using the Bonferroni method and having a large sample size will reduce Type I errors.

Threats to Validity

The use of archival data and an ex post fact design presents with several limitations to validity. These limitations are discussed in the following sections.

Internal Validity

The CDC (2013b) has not conducted any validity tests on the YRBS. However, they noted that upon review of the literature, adolescent responses are influenced by environmental factors and thought process that may influence responses and consequently, validity. They added that the influence of these factors differs across behaviors and consequently, responses. Response bias may also influence internal validity. Response bias is described as the effect of non-responses (i.e., skipping items) on surveys (Creswell, 2009). Albeit that adolescents were able to respond anonymously, CSA is a sensitive topic which may lead not responding to such items. Additionally, respondents may underreport in an effort to respond in a more socially desirable manner rather than truthfully which may in turn impact findings. As such, findings should be interpreted with caution, non-responses discussed, and a discussion with consideration of how these factors might influence responses are included.

External Validity

The sampling process of the YRBS contributed to obtaining a nationally representative sample of high school students enrolled in the United States. As such, a limitation is sampling bias and findings from this study cannot be generalized to other adolescents in similar grade levels outside of this geographic population. Furthermore,

although the sample did not include students who dropped out, it is likely that those who dropped out may experience risk behaviors at a higher rate (CDC, 2013a).

Statistical Conclusion Validity

Statistical conclusion validity refers to type I and type II errors (Frankfort-Nachmias & Nachmias, 2009). Field (2009) explained that type I errors are caused by erroneously interpreting an effect in a population; whereas a type II error is stating there is no effect, when in fact there is. Threats to statistical conclusion validity are avoided by conducting the appropriate analysis. As such, a goodness of fit model was conducted in order to ensure that the data fits the model. Furthermore, the assumptions of a log-linear analysis are met. Finally, having a sufficient sample size minimizes the risk of errors in interpretation; sample size is described below.

Reliability of the Instrument

The CDC (2013b) conducted two test-retest reliability studies of the YRBS. These were conducted in 1992 and the most recent in 2000 (CDC, 2013b). In the first study, a convenience sample of 1,679 students in grades 7 through 12 were administered the 1991 survey on two occasions within a two-week period. Approximately 75% of the questions had kappa coefficients of 66% or higher with no significant differences among responses. It was noted that the students in Grades 9 through 12 had more consistent responses, such that the survey may be more suitable for this age group.

In the second study, a convenience sample of 4,619 high school students was administered the 1999 survey on two occasions in a two-week period (CDC, 2013b). One of five questions was significantly different between the two administrations, and ten

questions showed significantly different (i.e., kappa of >61%) prevalence rates suggesting questionable reliability of the instrument. However, these questions were revised or removed from the survey.

Ethical Procedures

The 2013 YRBS utilized passive and active permission for participation (CDC, 2013a). Passive permission to participate referred to parents having to sign a form in order to refuse participation (CDC, 2013a). Active participation referred to parents having to send a signed form agreeing to participate (CDC, 2013a). Students and schools participated voluntarily and were able to refuse participation. Furthermore, participation is anonymous.

Students were spread apart in classrooms in order to increase privacy and anonymity (CDC, 2013a). They were encouraged to use a piece of paper or envelope provided by the data collector to cover their responses. Upon completion, students sealed their survey in an envelope before placing it in a box (CDC, 2013). Surveys do not contain any identifying information

In order to maintain the privacy of the YRBS data I will maintain all documents and data on a password protected external drive. Documents, data sets, and statistical analysis will only be shared with the dissertation committee members. Data will be maintained for a period of five years and then will be destroyed (American Psychological Association (APA), 2011).

Summary

The purpose of this quantitative study was to examine the influence between the independent variables of gender and racial/ethnic background on the dependent variables of hypersexual behavior, substance use, depressive symptomatology, and suicidality among adolescent CSA victims. Substance use was defined as endorsing having used alcohol or marijuana three or more times in the last 30 days, or having used cocaine, methamphetamines, heroin, or ecstasy three or more times in one's lifetime. Suicidality was answering "yes" to having seriously considered attempting suicide in the past 12 months and having a plan for suicide in the past 12 months. Depressive symptomatology was a "yes" response to feeling sad or hopeless every day for two weeks or more in a row in the past 12 months. Hypersexuality was sexual intercourse with four or more people during the lifetime and/or two or more people during the past three months. A log-linear analysis was used to analyze the data. Findings from this study may not be generalizable to other adolescents as the population was representative of high school students in the United States. However, it can be replicated in other geographic locations. Chapter 4 will present the results of the study.

Chapter 4: Results

Introduction

The purpose of this quantitative study was to examine the gender and racial/ethnic differences among adolescents who have experienced sexual abuse in hypersexual behavior, substance use, depressive symptomatology, and suicidality. Substance use was defined as endorsing having used alcohol or marijuana three or more times in the last 30 days, or having used cocaine, methamphetamines, heroin, or ecstasy three or more times in one's lifetime. Suicidality was answering "yes" to having seriously considered attempting suicide in the past 12 months and having a plan for suicide in the past 12 months. Depressive symptomatology was a "yes" response to feeling sad or hopeless every day for two weeks or more in a row in the past 12 months. Hypersexuality was sexual intercourse with four or more people during the lifetime and/or two or more people during the past three months.

Data Collection

Archival data from the 2013 Youth Risk Behavior Survey were used in this study (YRBS; CDC, 2013). The YRBS is a self-report national survey completed by students in grades 9-12 in both public and private schools every two years (i.e., odd years) (CDC, 2013). The YRBS uses a three-stage cluster design to obtain a nationally representative sample with estimates with a 95% confidence level (CDC, 2013). The survey consisted of 86 questions pertaining to demographic information (5), injuries and violence (23), drug and alcohol use (28), sexual behavior (7), and mental health (i.e., suicidality and depressive symptomatology), physical activity, diet, and health (23) (CDC, 2013). The

sample consisted of a total of 13,583 male and female students. This was a representative sample of high school students in the United States by race, ethnicity, sex, and grades (CDC, 2013a).

Data Analysis

A log-linear analysis, a multiway frequency analysis (MFA), was appropriate in order to examine the categorical variables in this study. Log-linear analysis is utilized to examine categorical or grouped variables by examining all possible interaction effects (Garson, 2012). It is a multi-frequency analysis that utilizes a general linear model similar to an analysis of variance (ANOVA) or regression (Garson, 2012). A log-linear model is based on three assumptions (Eye & Mum, 2013):

1. Each case is independent of each other.
2. The data are drawn from a homogenous sample and thus, have a similar distribution.
3. The sample size is large enough.

Moreover, the log-linear model is made up of the variables (i.e., factors) and the parameters set up in a contingency table in order to examine specific interactions (Eye & Mum, 2013). The purpose of this type of analysis is to examine all levels of interaction effects and identify the most parsimonious model compared to the saturated model that can account for differences in the frequencies that are being examined (Garson, 2012). A saturated model is one that includes all possible interactions (i.e., parameters) such that it fits the model perfectly (Azen & Walker, 2011). That is, it exhausts all possible parameters. Moreover, a saturated model has no degrees of freedom and will always fit

the model perfectly, but will not produce any meaningful information about the associations between the variables (Azen & Walker, 2011). A parsimonious model is one that restricts the parameters in order to make the data more meaningful by only examining selected interactions (Azen & Walker, 2011).

Using SPSS, a general log-linear analysis was conducted using a GENLOG module (Garson, 2012). Contingency tables were developed for all hypotheses using the factors gender (GEN), race/ethnicity (ETH), depression (DEP), suicidality (SUI), hypersexuality (HYP), and substance use (SUB). For the purposes of this analysis, each variable, or factor defined the rows and columns for the following models:

1. GEN x ETH x DEP
2. GEN x ETH x SUI
3. GEN x ETH x HYP
4. GEN x ETH x SUB

Each analysis produced three main effects, three 2-way interactions, and one 3-way interaction. In a log-linear analysis, a likelihood ratio is used in order to determine the goodness of fit of the model. A likelihood ratio chi-square test is used, rather than a Pearson chi-square, to determine whether there are any significant differences (Garson, 2012). When the likelihood ratio is not significantly different, then the model is determined to be a good fit (Garson, 2012). Goodness of fit of the model is determined when a parsimonious model is not statistically significant from the saturated model as the restricted model will produce more meaningful data about the relationship between the variables (Azen & Walker, 2011).

The approach for selecting a model for this study was based on theoretical specification. Theoretical specification refers to the setting of parameters (i.e., interactions that should be included in the model) by the researcher based on theory or research literature (Garson, 2012). For instance, the interactions between the variables GEN, ETH, and DEP (i.e., a model) are analyzed. In a saturated model 7 effects are produced by these variables: GEN, ETH, DEP, GEN*ETH, GEN*DEP, ETH*DEP, GEN*ETH*DEP. However, in setting parameters based on the research questions, the following effects were examined GEN*DEP, ETH*DEP, and GEN*ETH*DEP which produced three main effects, three 2-way interactions, and one 3-way interaction. If the latter model is not statistically significant from the saturated model (i.e., the model with all seven effects), then it is considered a good fit. Once the model is determined to be a good fit, the interactions can be examined to determine whether or not they are statistically significant; that is, whether or not associations exist. In fact, if a model is not a good fit, it cannot be interpreted (Eye & Mum, 2013).

Results

Loglinear analysis was conducted using SPSS to test four hypotheses. The fifth hypothesis (comparing prevalence of sexual abuse) was tested using a binomial test. Of note, in these analyses, the variable Race/Ethnicity was recoded as White/NonWhite. The NonWhite variable was comprised of Black and Hispanic respondents. In order to ensure that the analysis fit the model, recoding was necessary. Specifically, examining each race/ethnicity individually would add approximately 18 additional effects to each model and thus, negatively affect power. Moreover, adding this amount of effects per model

would reduce the likelihood of obtaining any meaningful effects. Interactions between these variables were examined using a log-linear analysis to answer the following research questions:

Research Question 1: Are there gender differences within racial/ethnic groups in hypersexual behavior?

$H_0$1: There will be no gender differences within racial/ethnic groups in hypersexual behavior among adolescent CSA survivors.

$H_1$1: There will be gender differences within racial/ethnic groups in hypersexual behavior among adolescent CSA survivors.

Research Question 2: Are there gender differences within racial/ethnic groups in substance use?

$H_0$2: There will be no gender differences within racial/ethnic groups in substance use among adolescent CSA survivors.

$H_1$2: There will gender differences within racial/ethnic groups in substance use among adolescent CSA survivors.

Research Question 3: Are there gender differences within racial/ethnic groups in suicidal ideation?

$H_0$3: There will be no gender differences within racial/ethnic groups in suicidal ideation among adolescent CSA survivors.

$H_1$3: There will be gender differences within racial/ethnic groups in suicidal ideation among adolescent CSA survivors.

Research Question 4: Are there gender differences within racial/ethnic groups in depressive symptomatology?

$H_0$4: There will be no gender differences within racial/ethnic groups in depressive symptomatology among adolescent CSA survivors.

$H_1$4: There will be gender differences within racial/ethnic groups in depressive symptomatology among adolescent CSA survivors.

Hypothesis 1

Hypothesis 1 was that there will be significant gender differences within racial/ethnic groups in Hypersexual behavior among adolescent CSA survivors. The null hypothesis was that there will be no gender differences within racial/ethnic groups in Hypersexual behavior among adolescent CSA survivors. Hierarchical loglinear analysis was conducted to test the hypothesis. As seen from the cell counts in Table 3, none of the observed counts were less than 5 which meet the assumptions for log linear analysis. The chi-square goodness of fit statistic could not be computed by SPSS indicating that the model was a perfect fit for the data.

Table 3

Cell Counts and Residuals for Race/Ethnicity, Gender, and Hypersexuality

			Observed		Expected			Std.
Race/Ethnicity	Gender	Hypersexuality	*n*[a]	%	*n*	%	Residuals	Residuals
White	Female	Yes	139.500	13.6%	139.500	13.6%	.000	.000
		No	116.500	11.4%	116.500	11.4%	.000	.000
	Male	Yes	55.500	5.4%	55.500	5.4%	.000	.000
		No	45.500	4.4%	45.500	4.4%	.000	.000
Non-White	Female	Yes	209.500	20.4%	209.500	20.4%	.000	.000
		No	253.500	24.7%	253.500	24.7%	.000	.000
	Male	Yes	111.500	10.9%	111.500	10.9%	.000	.000
		No	98.500	9.6%	98.500	9.6%	.000	.000

Note. a. For saturated models, .500 was added to all observed cells.

K-way and higher-order effects for race/ethnicity, gender, and hypersexuality. In this analysis, an assessment of classes of effects was conducted in order to assess the impact of removing these effects (i.e., the effects are all variables and possible interactions: Race, Gender, Hyper-sexuality, Race*Gender, Race*Hyper-sexuality, Gender*Hyper-sexuality, and Race*Gender*hyper-sexuality). Due to the large sample size, the Likelihood ratio test was used.

As seen in Table 4, the impact of removing an effect and all higher order (K-way and Higher Order) effects was assessed. Based on the Likelihood Ratio tests, removing

the $K = 1$ order effects or higher would affect the model significantly ($x^2 = 274.81$, $p = .001$), removing $K = 2$ order effects or higher would affect the model significantly ($x^2 = 9.06$, $p = .05$), and removing the $K = 3$ (Race*Gender*hyper-sexuality) would not affect the model significantly ($x^2 = 1.03$, $p = .30$).

Moreover, in order to assess whether individual (K-Way) effects contributed to the model's good fit, a comparison was made to what the Pearson chi square and the Likelihood ratio statistic would be if each category of effect were omitted one at a time. The results of the K-way effects indicate that if either a one-variable ($x^2 = 4760.32$, $p = .001$), two-variable ($x^2 = 158.78$, $p = .001$), or three-variable ($x^2 = 44.16$, $p = .001$) model is used, the model would have a good fit.

Table 4

K-Way and Higher-Order Effects for Race/Ethnicity, Gender, and Hypersexuality

			Likelihood Ratio		Pearson	
	K	*df*	x^2	*p*	x^2	*p*
K-way and Higher Order	1	7	274.81	.001	279.591	.001
Effects[a]	2	4	9.06	.059	9.003	.06
	3	1	1.03	.30	1.041	.30
K-way Effects[b]	1	3	265.74	.001	270.587	.001
	2	3	8.02	.04	7.962	.04
	3	1	1.03	.30	1.041	.30

Note. a. Tests that k-way and higher order effects are zero. b. Tests that k-way effects are zero.

In order to assess and identify the specific effects identifying the model's fit, partial chi-square statistics were used (see Table 5). It is clear from the results of the partial association analysis that three of the effects (Gender [$x^2 = 166.81$, $p = .001$], Race [$x^2 = 98.92$, $p = .001$], and Race*Hyper-sexuality [$x^2 = 4.71$, $p = .03$) had statistically significant contributions (effects) to the overall model. Therefore, all these effects were included in the overall model.

Table 5

Partial Chi-Square Statistics for Race/Ethnicity, Gender, and Hypersexuality

Effect	*df*	Partial x^2	*p*	Number of Iterations
Race (White/nonWhite) * Gender	1	1.20	.27	2
Race (White/nonWhite)*Hypersexuality	1	4.71	.03	2
GENDER*Hypersexuality	1	2.54	.11	2
Race (White/nonWhite)	1	98.92	.001	2
Gender	1	166.81	.001	2
Hypersexuality	1	0.004	.95	2

The parameter estimates appear in Table 6; based on the *z*-score of the parameter effects, Gender had the strongest effect on the model (*z*-score = 11.89, $p = .001$), followed by Race (*z*-score = -9.18, $p = .001$). Race/Ethnicity*Gender*Hypersexuality,

Race/Ethnicity*Gender, Race/Ethnicity*Hypersexuality, Gender*Hypersexuality, and Gender were not statistically significant.

Table 6

Parameter Estimates for Race/Ethnicity, Gender, and Hypersexuality

Effect	Parameter	Estimate	*SE*	*Z*	*p*	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
Race/Ethnicity*Gender*Hypersexuality	1	.03	.036	1.02	.30	-.034	.108
Race/Ethnicity*Gender	1	.03	.036	.98	.32	-.035	.107
Race/Ethnicity*Hypersexuality	1	.05	.036	1.54	.12	-.015	.127
Gender*Hypersexuality	1	-.04	.036	-1.15	.24	-.112	.029
Race/Ethnicity	1	-.33	.036	-9.18	.001	-.403	-.261
Gender	1	.43	.036	11.89	.001	.359	.501
Hypersexuality	1	.03	.036	1.08	.28	-.032	.110

The step summary (backward elimination statistics) revealed that deleting the triple interaction between Race*gender*Hyper-sexuality would not have a statistically significant effect on the goodness of fit for the model (x^2 =1.03, p = 30). The three-way interaction was not a good fit for the model.

Based on the results, the three-way interaction term Race*Gender*Hyper-sexuality was not statistically significant. Therefore, it can be concluded that there were no statistically significant gender differences within racial/ethnic groups in hypersexual

behavior among the adolescent CSA survivors in the sample. As such, the null hypothesis (i.e., $H1_0$) was retained.

Hypothesis 2

Hypothesis 2 was that there will be significant gender differences within racial/ethnic groups in substance use among adolescent CSA survivors. Substances under this construct included the use of alcohol, marijuana, cocaine (i.e., including powder, crack, or freebase), methamphetamines (i.e., also called speed, crystal, crank, or ice), heroine (i.e., also called smack, junk, or China White), and ecstasy (also called MDMA). The null hypothesis was that there will be no gender differences within racial/ethnic groups in substance use among adolescent CSA survivors. Hierarchical loglinear analysis was conducted to test the hypothesis. As seen from the cell counts in Table 7, none of the observed counts are less than 5 which indicates the data meet the assumptions for log linear analysis. The goodness of fit statistic could not be computed by SPSS indicating that the model was a perfect fit for the data.

Table 7

Cell Counts and Residuals for Race/Ethnicity, Gender, and Substance Use

		Substance	Observed		Expected			Std.
Race/Ethnicity	Gender	use	Count	%	Count	%	Residuals	Residuals
White	Female	Yes	104.500	10.2%	104.500	10.2%	.000	.000
		No	151.500	14.8%	151.500	14.8%	.000	.000
	Male	Yes	66.500	6.5%	66.500	6.5%	.000	.000
		No	34.500	3.4%	34.500	3.4%	.000	.000
Non-White	Female	Yes	199.500	19.4%	199.500	19.4%	.000	.000
		No	263.500	25.7%	263.500	25.7%	.000	.000
	Male	Yes	127.500	12.4%	127.500	12.4%	.000	.000
		No	82.500	8.0%	82.500	8.0%	.000	.000

K-way and higher-order effects for race/ethnicity, gender, and substance use. In this analysis, an assessment of classes of effects was conducted to assess the impact of removing these effects (Effects are all variables and possible interactions: Race, Gender, Substance Use, Race*Gender, Race* Substance Use, Gender* Substance Use, and Race*Gender* Substance Use). This was done using the Likelihood ratio test given that this study has a large sample size.

As seen in Table 8, the impact of removing an effect and all higher order (K-way and Higher Order) effects was assessed. Based on the Likelihood Ratio tests, removing the K=1 order effects or higher would affect the model significantly ($x^2 = 304.52$, $p = .001$), removing K = 2 order effects or higher would affect the model significantly ($x^2 =$

37.65, $p = .001$), and removing the K = 3 (Race*Gender*Substance use) would not affect the model significantly ($x^2 = 1.14$, $p = .28$).

Moreover, in order to assess whether individual (K-Way) effects contributed to the model's good fit, a comparison was made to what the Pearson chi square and the Likelihood ratio statistic would be if each category of effect were omitted one at a time. The results of the K-way effects indicate that if either a one-variable ($x^2 = 266.87$, $p = .001$), two-variable ($x^2 = 36.50$, $p = .001$), or three-variable ($x^2 = 44.16$, $p = .001$) model is used, the model would have a good fit. The model however indicated that should the three-variable effect is omitted, there would be no statistically significant effect on the model ($x^2 = 1.14$, $p = .28$).

Table 8

K-Way and Higher-Order Effects for Race/Ethnicity, Gender, and Substance Use

	K	*df*	Likelihood Ratio		Pearson	
			x^2	Sig.	x^2	Sig.
K-way and Higher	1	7	304.523	.001	305.400	.000
Order Effects[a]	2	4	37.652	.001	37.071	.000
	3	1	1.149	.284	1.142	.285
K-way Effects[b]	1	3	266.870	.001	268.329	.000
	2	3	36.503	.001	35.929	.000
	3	1	1.149	.284	1.142	.285

Note. a. Tests that k-way and higher order effects are zero. b. Tests that k-way effects are zero.

In order to assess and identify the specific effects identifying the model's fit, partial chi-square statistics were used (see Table 9). The results of the partial association analysis indicated that four of the effects (Gender [$x^2 = 7.97$, $p = .005$], Race[$x^2 = 531.54$, $p = .001$], Substance Use[$x^2 = 3204.23$, $p = .001$], Gender*Substance[$x^2 = 72.96$, $p = .001$] have statistically significant contributions (effects) in the overall model. Race*Gender [$x^2 = 3.60$, $p = .05$] and Race*Substance Use[$x^2 = 0.004$, $p = .94$]) does not have a significant effect on gender.

Table 9

Partial Chi-Square Statistics for Race/Ethnicity, Gender, and Substance Use

Effect	*df*	Partial x^2	*p*	Number of Iterations
Race (White/nonWhite)*Gender	1	.940	.332	2
Race (White/nonWhite)*Substance	1	.001	.976	2
Gender*Substance Use	1	35.474	.000	2
Race (White/nonWhite)	1	98.926	.000	2
Gender	1	166.818	.000	2
Substance Use	1	1.127	.288	2

The results of the partial association analysis indicated that four of the effects (Gender[x^2 = 166.81, p = .001], Race [x^2= 98.92, p = .001], and Gender*Substance Use [x^2 = 35.74, p = .001] have statistically significant contributions (effects) in the overall model. Based on the statistically significant results of the parameter estimates seen in Table 10, Gender had the strongest effect (z-score = 11.87) in the model, followed by Race (z-score = -9.12) and Gender*Substance Use (z-score = -5.83). The three-way interaction between Race*Gender* Substance use had a z-score of -1.05 and was not statistically significant (p = .29).

Table 10

Parameter Estimates for Race/Ethnicity, Gender, and Substance Use

Effect	Parameter	Estimate	*SE*	*Z*	*p*	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
Race/Ethnicity*Gender*Substance	1	-.039	.037	-1.053	.292	-.112	.034
Race/Ethnicity *Gender	1	.040	.037	1.082	.279	-.033	.113
Race/Ethnicity *Substance	1	.016	.037	.428	.668	-.057	.089
Gender*Substance	1	-.218	.037	-5.83	.001	-.291	-.145
Race/Ethnicity	1	-.340	.037	-9.12	.001	-.413	-.267
Gender	1	.443	.037	11.87	.001	.369	.516
Substance Use	1	.055	.037	1.482	.138	-.018	.128

The step summary (backward elimination statistics) revealed that deleting the triple interaction between Race*gender*Substance use would not have a statistically significant effect on the goodness of fit for the model (x^2 =1.14, p = .28). As such, the three-way interaction was not a good fit for the model.

The three-way interaction between Race*Gender*Substance was not statistically significant in the log linear analysis. Therefore, it can be concluded therefore that there were no gender differences within racial/ethnic groups in substance use among the sample of adolescent CSA survivors. As such, the null hypothesis that there will be no gender differences within racial/ethnic groups in substance use among adolescent CSA survivors was accepted. However, there was a significant two-way interaction between

gender and substance use (*p = .001)* suggestive that there are gender differences in substance use. Specifically, boys who experienced CSA (62.5%) were more likely to report substance use than girls who experienced CSA (42.3%).

Hypothesis 3

Hypothesis 3 was that there will be gender differences within racial/ethnic groups in suicidal ideation among adolescent CSA survivors. The null hypothesis was that there will be no gender differences within racial/ethnic groups in suicidal ideation among adolescent CSA survivors. Hierarchical loglinear analysis was conducted to test the hypothesis. As seen from the cell counts in Table 11, none of the observed counts are less than 5 which indicates the data meet the assumptions for log linear analysis. The goodness of fit statistic could not be computed by SPSS indicating that the model was a perfect fit for the data.

Table 11

Cell Counts and Residuals for Race/Ethnicity, Gender, and Suicidal Ideation

Race/Ethnicity	Gender	Suicidality	Observed		Expected		Residuals	Std. Residuals
			n[a]	%	*N*	%		
White	Female	Yes	126.500	12.5%	126.500	12.5%	.000	.000
		No	128.500	12.6%	128.500	12.6%	.000	.000
	Male	Yes	36.500	3.6%	36.500	3.6%	.000	.000
		No	63.500	6.3%	63.500	6.3%	.000	.000
Non-White	Female	Yes	220.500	21.7%	220.500	21.7%	.000	.000
		No	241.500	23.8%	241.500	23.8%	.000	.000
	Male	Yes	74.500	7.3%	74.500	7.3%	.000	.000
		No	128.500	12.6%	128.500	12.6%	.000	.000

Note. a. For saturated models, .500 has been added to all observed cells.

K-way and higher-order effects for race/ethnicity, gender, and suicidal ideation. The impact of removing the effects of all variables and possible interactions (Race, Gender, suicidal ideation, Race*Gender, Race* suicidal ideation, Gender* suicidal ideation, and Race*Gender* suicidal ideation) was assessed with the Likelihood ratio test. As seen in Table 12, removing the K=1 order effects or higher would affect the model significantly ($x^2 = 293.51$, $p = .001$), and removing K = 2 order effects or higher would affect the model significantly ($x^2 = 13.03$, $p = .01$). Conversely, removing the K = 3 (Race*Gender* suicidal ideation) would not affect the model significantly ($x^2 = .08$, $p = .77$).

Second, in order to assess whether individual (K-Way) effects contributed to the model's good fit, a comparison was made to what the Pearson Chi-Square and the Likelihood ratio statistic would be if each category of effect were omitted one at a time. The results of the K-way effects in Table 12 indicate that either a one-variable (x^2 = 280.48, p = .001) or two-variable (x^2 = 12.94, p = .005) effect would have significant effects to the model. The three-variable model would not have a significant effect on the model (x^2 = 0.08, p = .77).

Table 12

K-Way and Higher-Order Effects for Race/Ethnicity, Gender, and Suicidal Ideation

			Likelihood Ratio		Pearson		Number of
	K	*df*	x^2	*p*	x^2	*p*	Iterations
K-way and Higher	1	7	293.51	.001	290.03	.001	0
Order Effects[a]	2	4	13.03	.01	12.93	.01	2
	3	1	0.08	.77	.08	.77	3
K-way Effects[b]	1	3	280.48	.001	277.09	.001	0
	2	3	12.94	.005	12.85	.005	0
	3	1	0.08	.77	.08	.77	0

Note. a. Tests that k-way and higher order effects are zero. b. Tests that k-way effects are zero.

In order to assess and identify the specific effects identifying the model's fit, partial chi-square statistics were used (see Table 13). The results of the partial association analysis indicated that four of the effects (Gender [x^2 = 173.70, p = .001], Race [x^2 =

96.11, $p = .001$], suicidal ideation [$x^2 = 10.66$, $p = .001$], and Gender* Suicidal ideation [$x^2 = 12.07$, $p = .001$]) have statistically significant contributions (effects) on the overall model. However, Race*Gender and Race* Suicidal ideation, did not have a significant effect on the model.

Table 13

Partial Chi-Square Statistics for Race/Ethnicity, Gender, and Suicidal Ideation

Effect	*df*	Partial x^2	*p*	Number of Iterations
Race(White/nonWhite)*Gender	1	.57	.447	2
Race(White/nonWhite)*Suicidality	1	.15	.699	2
Gender*Suicidality	1	12.07	.001	2
Race(White/nonWhite)	1	96.11	.001	2
Gender	1	173.70	.001	2
Suicidality	1	10.66	.001	2

As outlined in Table 14, the results of the model fit shows that Gender had the strongest effect (*z*-score = 12.30, *p* = .001) followed by Race/Ethnicity (*z*-score = -8.74, *p* = .001), Suicidality (*z*-score = -4.04, *p* = .001), and Gender*Suicidality (*z*-score = 3.33, *p* = .001). Race/Ethnicity *Gender, Race/Ethnicity *Suicidality, and the three-way interaction between Race*Gender* Suicidal ideation were not statistically significant.

Table 14

Parameter Estimates for Race/Ethnicity, Gender, and Suicidal Ideation

Effect	Parameter	Estimate	*SE*	*Z*	*p*	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
Race/Ethnicity *Gender*Suicidality	1	.010	.037	0.28	.77	-.06	.08
Race/Ethnicity *Gender	1	.029	.037	0.77	.43	-.04	.10
Race/Ethnicity *Suicidality	1	.008	.037	0.22	.82	-.06	.08
Gender*Suicidality	1	.124	.037	3.33	.001	.05	.19
Race/Ethnicity	1	-.326	.037	-8.74	.001	-.39	-.25
Gender	1	.458	.037	12.30	.001	.38	.53
Suicidality	1	-.151	.037	-4.04	.001	-.22	-.07

The step summary (backward elimination statistics) revealed that deleting the triple interaction between Race*gender*Suicidality would not have a statistically significant effect on the goodness of fit for the model (x^2 =0.08, p = .77. As such, the three-way interaction was not a good fit for the model.

Based on the results of the loglinear model, Race*Gender* suicidal ideation does not have a statistically significant effect. Therefore, it can be concluded that there were no gender differences within racial/ethnic (White/non-White) groups in suicidal ideation

among the sample of adolescent CSA survivors. As a result, the null hypothesis was accepted. Of note, there was a significant two-way interaction between gender and suicidal ideation (*p = .001)* suggestive that there are gender differences in suicidal ideation. Girls who reported CSA (48.4%), were more likely to experience suicidal ideation compared to boys with reported CSA (36.5%).

Hypothesis 4

Hypothesis 4 was that there will be gender differences within racial/ethnic groups in depressive symptomatology among adolescent CSA survivors. The null hypothesis was that there will be no gender differences within racial/ethnic groups in depressive symptomatology among adolescent CSA survivors. Hierarchical loglinear analysis was conducted to test the hypothesis. As seen from the cell counts in Table 15, none of the observed counts are less than 5 which indicates the data met the assumptions for log linear analysis. The goodness of fit statistic could not be computed by SPSS indicating that the model was a perfect fit for the data.

Table 15

Cell Counts and Residuals for Race/Ethnicity, Gender, and Depressive Symptomatology

			Observed		Expected			Std.
Race/Ethnicity	Gender	Depression	*n*[a]	%	*n*	%	Residuals	Residuals
White	Female	Yes	168.500	16.6%	168.500	16.6%	.000	.000
		No	85.500	8.4%	85.500	8.4%	.000	.000
	Male	Yes	47.500	4.7%	47.500	4.7%	.000	.000
		No	52.500	5.2%	52.500	5.2%	.000	.000
Non-White	Female	Yes	309.500	30.5%	309.500	30.5%	.000	.000
		No	151.500	14.9%	151.500	14.9%	.000	.000
	Male	Yes	92.500	9.1%	92.500	9.1%	.000	.000
		No	111.500	11.0%	111.500	11.0%	.000	.000

Note. a. For saturated models, .500 has been added to all observed cells.

K-way and higher-order effects for race/ethnicity, gender, and depressive symptomatology. In this analysis, an assessment of classes of effects was done to examine the impact of removing all variables and possible interactions (Race, Gender, depressive symptomatology, Race*Gender, Race* depressive symptomatology, Gender* depressive symptomatology, and Race*Gender* depressive symptomatology). This was done using the Likelihood ratio test.

As outlined in Table 16, the impact of removing an effect and all higher order (K-way and Higher Order) effects was assessed. Based on the Likelihood Ratio tests, removing the K = 1 order effects or higher would affect the model significantly (x^2 = 353.99, p = .001), removing K = 2 order effects or higher would affect the model

significantly ($x^2 = 39.09$, $p = .001$). Conversely, removing the K = 3 (Race*Gender* depressive symptomatology) would not affect the model significantly ($x^2 = 0.16$, $p = .68$).

In order to assess whether individual (K-Way) effects contributed to the model's good fit, a comparison was made to what the Pearson chi-square and the Likelihood ratio statistic would be if each category of effect were omitted one at a time. The results of the K-way effects below indicate that either a one-variable ($x^2 = 314.89$, $p = .001$) or two-variable ($x^2 = 38.93$, $p = .001$) effect would have significant effects to the model. The three-variable ($x^2 = 0.16$, $p = .68$) model would not have a significant effect on the model.

Table 16

K-Way and Higher-Order Effects for Race/Ethnicity, Gender, and Depressive Symptomatology

			Likelihood Ratio		Pearson		Number of
	K	*df*	x^2	*p*	x^2	*p*	Iterations
K-way and Higher	1	7	353.99	.001	399.21	.001	0
Order Effects[a]	2	4	39.09	.001	39.76	.001	2
	3	1	0.16	.68	0.16	.68	3
K-way Effects[b]	1	3	314.89	.001	359.45	.001	0
	2	3	38.93	.001	39.60	.001	0
	3	1	0.16	.68	0.168	.68	0

Note. a. Tests that k-way and higher order effects are zero. b. Tests that k-way effects are zero.

In order to assess and identify the specific effects identifying the model's fit, partial chi-square statistics were used. The results of the partial association analysis

indicated that four of the effects (Gender [$x^2 = 171.30$, $p = .001$], Race [$x^2 = 96.84$, $p = .001$], Depression [$x^2 = 46.75$, $p = .001$], and Gender*Depression [$x^2 = 38.20$, $p = .001$] had statistically significant contributions (effects) to the overall model. Race*Gender and Race*Depression did not have a significant effect on the model.

Table 17

Partial Chi-Square Statistics for Race/Ethnicity, Gender, and Depressive Symptomatology

Effect	*df*	Partial x^2	*p*	Number of Iterations
Race (White/nonWhite)*Gender	1	0.65	.41	2
Race (White/nonWhite)*Depression	1	0.001	.98	2
Gender*Depression	1	38.20	.001	2
Race (White/nonWhite)	1	96.84	.001	2
Gender	1	171.30	.001	2
Depression	1	46.75	.001	2

As seen in Table 18, based on the overall results of the model, Gender (*z*-score = 11.05, *p* = .001), Race (*z*-score = -8.79, *p* = .001), Depression (*z*-score = 3.74, *p* = .001), and Gender*Depression (*z*-score = 5.68, *p* = .001) had statistically significant effects. Race*Gender*Depression and Race*Gender (*z*-score = -0.81) do not have statistically significant effects.

Table 18

Parameter Estimates for Race/Ethnicity, Gender, and Depressive Symptomatology

Effect	Parameter	Estimate	*SE*	*Z*	*p*	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
Race/Ethnicity*Gender*Depression	1	-.015	.037	-0.41	.67	-.088	.057
Race/Ethnicity *Gender	1	.030	.037	0.81	.41	-.042	.102
Race/Ethnicity *Depression	1	.006	.037	0.17	.86	-.066	.079
Gender*Depression	1	.210	.037	5.68	.001	.138	.282
Race/Ethnicity	1	-.325	.037	-8.79	.001	-.397	-.253
Gender	1	.409	.037	11.05	.001	.336	.481
Depression	1	.138	.037	3.74	.001	.066	.211

The step summary (backward elimination statistics) revealed that deleting the triple interaction between Race*gender*Depression would not have a statistically significant effect on the goodness of fit for the model (x^2 =1.16, p = .68), such that, the

backwards elimination stops. Given that a hierarchical analysis always retains lower order effects contained within retained higher order effects, this model also includes the main effects.

Based on the results of the analysis the interaction term Race*Gender*Depression does not have a significant effect. Therefore, there were no significant gender differences within racial/ethnic groups in depressive symptomatology among the sample of adolescent CSA survivors. As a result, the null hypothesis was accepted. Notably, there was a significant two-way interaction between gender and depressive symptomatology ($p = .001$) suggestive that there were significant gender differences in depressive symptomatology. Girls who reported CSA reported experiencing depressive symptomatology at higher rates (66.9%) than boys (46%).

Summary

This analysis did not find any significant three-way interactions among the variables race/ethnicity, gender, and hypersexuality; race/ethnicity, gender, and substance use; race/ethnicity, gender, and suicidality; or race/ethnicity, gender, and depressive symptomatology. Nonetheless, there were three significant two-way interactions which indicated that gender played a significant role in substance use, suicidal ideation, and depressive symptomatology in adolescents who have been sexually abused.

Chapter 5 provides a summary of the study, in addition to, an interpretation of the findings, limitations of the study, recommendations for future research, as well as implications for social change.

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

This chapter provides a brief description of the purpose of the study alongside an interpretation of the findings for the research questions. A discussion as to how these findings relate to the current literature as well as theoretical framework of the study, the limitations of the study, implications for social change, and recommendations for future research are presented.

Purpose

The purpose of this quantitative study was to examine the gender and racial/ethnic differences in hypersexual behavior, substance use, suicidality, and depressive symptomatology among adolescents who have experienced sexual abuse. While researchers have examined CSA, the literature is lacking in examining any gender and racial/ethnic differences in the effects of CSA. CSA has been associated with both short term and long term consequences including emotional dysregulation which negatively impacts children by increasing the risk for psychological disorders (Messman-Moore, Walsh, & DiLillo, 2010). Consequently, CSA survivors may experience symptoms well into adulthood and develop and maintain maladaptive coping mechanisms including suicidal ideation, depression, substance abuse, and risky sexual behaviors (Messman-Moore et al., 2010). As such, this study examined the interactions between these coping behaviors (i.e., variables) using a log-linear analysis.

Interpretation of Findings

Four research questions were developed in order to examine gender and racial/ethnic differences in the effects of child abuse on adolescents:

1. Are there gender differences within racial/ethnic groups in hypersexual behavior?
2. Are there gender differences within racial/ethnic groups in substance use?
3. Are there gender differences within racial/ethnic groups in suicidal ideation?
4. Are there gender differences within racial/ethnic groups in depressive symptomatology?.

Of the overall sample, 1,026 adolescents reported having been forced to engage in sexual intercourse (i.e., CSA). Of those that reported CSA, 70% (*n=717)* were female, and 30% *(n = 309)* were male. As such, this study contributed to the knowledge base of the underlying processes that occur in male adolescents who have experienced child sexual abuse given that studies on boys have been limited to retrospective surveys of adult men with CSA histories (Schraufnagel, Davis, George, & Norris, 2010).

Gender and racial/ethnic background made significant contributions to overall fit of the models such that, these variables together, play a role in the interactions between the variables substance use, depressive symptomatology, suicidal ideation, and hypersexuality in all four models. However, this study did not reveal any significant interactions in race/ethnicity with regard to coping mechanism or effects of CSA suggesting that these main effects (i.e., the contribution to the model) may need to be examined further in order to determine more specifically what role race/ethnicity play

among these variables. Researchers have suggested racial/ethnic differences in the prevalence of CSA (Berliner, 2011 as cited in Olafson, 2011; Lee et al., 2012; Thompson, McGee, & Mays, 2012). However, current research does not indicate that racial/ethnic differences influence externalizing behaviors in CSA survivors (Jones et al., 2013) which was consistent with the findings of this study. Researchers have indicated that there are various cultural factors that contribute to disclosure of CSA including level of acculturation, type of abuse (i.e., intercourse, fondling, exposure), the perpetrator-victim relationship, and racial/ethnic background (Fontes & Plummer, 2010). This may suggest that, again, race/ethnicity play more of a role. As such, it is likely that this study did not capture these factors given the use of archival data. Moreover, the race/ethnicity variable was dichotomized into to two groups (i.e. White/NonWhite) which may have contributed to the lack of significant findings for racial/ethnic differences in any of the research hypotheses. That is, this study did not examine differences between individual groups (i.e., Blacks, Whites and Hispanics). As such, dichotomizing these racial/ethnic groups may have led to the loss of main effects and power, as well as the loss of differences among these groups. Given that this study revealed that race/ethnicity made a statistically significant contribution to the overall fit of the model, it is likely that recoding this variable may have been a flaw in this study. Overall, this study did not identify any race/ethnic differences in how adolescents cope with CSA. Nonetheless, the findings did suggest that race and ethnicity made a statistically significant contribution to the models.

Similarly, while gender did play a role in the interactions in all of the models, there were no gender differences within race/ethnicity. Nevertheless, there were significant interactions between gender and substance use, gender and suicidal ideation, and gender and depressive symptomatology. Specifically, boys who reported CSA (62.5%) were more likely to engage in substance use than girls were (42.3%). Girls who reported CSA were more likely to report depressive symptomatology (66.9%) and suicidal ideation (48.4%) than boys (46% and 36.5% respectively). This indicates that gender plays an influencing role on how an adolescent may cope with sexual abuse as it pertains to substance use, suicidal ideation, and depressive symptomatology.

Regarding substance use, these findings were consistent with the literature indicating that children who have been sexually abused are more likely to use alcohol than children experiencing other forms of childhood maltreatment (Olafson, 2011). Furthermore, these findings were consistent with the literature suggesting there are gender differences in the use of substances for CSA survivors (Shin et al., 2010). Notably, much of the research on substance abuse in individuals with CSA histories is limited to girls due to small male samples (Shin et al., 2010; Thompson et al., 2012); This study contributed to the literature by shedding light on the coping mechanisms of boys who have experienced CSA. Specifically, the findings indicate that male adolescents who have experienced CSA, are more likely to utilize substances as a means of coping than their female counterparts. Adolescence is a critical time in development. As such, these findings have several implications for male survivors, treatment, and long term consequences. From a sociocultural coping perspective, context (e.g., peer groups),

gender, and age are essential factors in substance use as well as treatment approach. Peer influences and masculinity in adolescence are intertwined and may contribute to risk taking behaviors such as substance use. For example, refusing to participate in the use of substances in a peer group, may negatively impact masculinity. Similarly, as mentioned before, disclosing CSA also has negative effects on masculinity. Consequently, boys may be more likely to seek out substances as a means coping with their CSA experience(s), and unfortunately, this may lead to long term substance use disorders among adolescents who have experienced CSA.

With regard to depressive symptomatology and suicidal ideation, the findings from this study were consistent with the literature which indicates that CSA is directly associated with suicidal behavior in adult survivors as well as a predictor of suicidality and depression in adolescents (Bedi et al., 2011). While previous research indicates that CSA is associated with depression and suicidal ideation, gender differences remained unclear. The present study added to the literature by identifying gender differences in coping, suggesting that female CSA survivors are more likely to experience depressive symptomatology and suicidal ideation compared to male adolescents. Together, these findings suggest that girls experience higher rates of depression than boys who have experienced CSA. Depression and suicidality, through the lens of coping, are forms of emotional avoidance. This avoidance often leads to isolation and withdrawal which are common behaviors among individuals experiencing depressive symptomatology, alongside recurrent thoughts of death (i.e., suicidal ideation). This presents with

significant implications for treatment and prevention, given that suicide is the third leading cause of death among adolescents ages 10 to 14 (CDC, 2015).

The findings did not reveal any significant interactions between gender, race/ethnicity, and hypersexual behavior suggesting that there were no gender or racial ethnic differences in the rates at which adolescents with CSA engage in hypersexual behavior. Nevertheless, individuals who reported forced sexual intercourse were engaging in risky sexual behaviors (i.e., sexual intercourse with multiple partners). In this study, 48.5% of girls with CSA and 53.7% of boys reported hypersexual behavior. This was consistent with the research indicating that CSA survivors are more likely to engage in risky sexual behaviors as a means of coping (Messman-Moore et all, 2010; Adelson et al., 2012; Homma, Wang, Saewyc, & Kishor, 2012). These results suggest that while there were no gender or racial/ethnic differences, adolescents who reported experiencing CSA also reported engaging in high risk sexual behaviors (i.e., having sexual intercourse with multiple partners). Moreover, consistent with the Model of Traumagenic Dynamics in Sexual Abuse, individuals who are sexualized through a CSA, may become promiscuous and hypersexualized as a result (Finkelhor & Browne, 1985). The findings of this study are consistent with the Socio-cultural Coping Theory suggesting that gender is one of the greatest social-cultural distinctions in coping (Aldwin, 2007). As mentioned above, this study revealed gender differences in substance abuse, depressive symptomatology, and suicidal ideation. Gender, context (e.g., peer groups, school, and environment), as well as age are socio-cultural factors that influence coping. The theory posits that social context impacts coping for adolescents given the

importance of peers, which may result in maladaptive coping styles (Aldwin, 2007). For example, issues of masculinity, peer influence, and being part of an in-group may influence coping styles, risk taking, and decision making in male adolescents. Additionally, consistent with the Model of Traumagenic Dynamics in Sexual Abuse (Finkelhor & Browne, 1985), survivors may resort to maladaptive coping strategies resulting in substance use, suicidal behavior, and depression (Finkelhor & Browne, 1985). Finkelhor and Browne (1985) identified substance use, depressive symptoms, as well as suicidality, as avoidant coping and suppression of emotions. Stigmatization, betrayal, and powerlessness experienced as a consequence of CSA result in maladaptive coping strategies manifested as symptoms or behavioral problems. Avoidance of dealing with the trauma may come in the form of depressive symptoms including hopelessness and isolation. As mentioned in chapter two, hopelessness increases the risk of suicidality, an extreme form of avoidance of dealing with emotional pain.

Limitations

There were several limitations due to the design of this study (i.e., ex post facto design). First, I was limited with regards to my ability to control variables as the data are archival. As such, this study did not encompass all types of CSA (e.g., molestation, exposure, etc.) given that responses were based on the YRBS questionnaire (i.e., Have you ever been forced to engage in sexual intercourse?). Additionally, sampling bias was a limitation. While the sample included high school students within the 50 United States, these findings cannot be generalized to students who are homeschooled, have dropped out, or live in a different geographic area. Individuals who may have dropped of school

are more likely to engage in health risk behaviors (CDC, 2013). As such, including this population may impact findings given that there may be a higher prevalence of reports of CSA and maladaptive coping. Additionally, including other geographic areas outside the United States may have highlighted some more salient racial/ethnic differences given issues of acculturation.

Self-report is another limitation to this study as it is uncertain the extent to which adolescents were honest in their answers. Moreover, recall bias and social desirability bias may influence reporting. First, in traumatic experiences such as CSA, there are factors such as dissociation, which may negatively impact the ability to accurately recall an event. Moreover, individuals may have difficulty retrieving a memory or remember it inaccurately. Socially desirable answers may influence responses given the nature of the topic (i.e., CSA). Albeit that the data were collected anonymously, underreporting may have occurred as individuals tend to respond in a socially desirable manner. As such, the extent of underreporting cannot be determined (CDC, 2013). Other factors such as culture and gender may influence responses as CSA disclosures are influenced by these factors (Fontes & Plummer, 2010). In fact, there are a number of issues influencing disclosure of abuse including the relationship between the perpetrator, whether or not the survivor is using substances, as wells as the survivor's sex and age (Fontes & Plummer, 2010). For instance, researchers have found a relationship between level of acculturation and disclosure (Katerndahl, Burge, Kellogg, & Parra, 1992 as cited in Fontes & Plummer, 2010). Others (Feiring, Coates, & Taska, 2001; Rao, DiClemente, & Ponton, 1992 as cited in Fontes & Plummer, 2010) have indicated that Hispanic girls are more likely to

live with their perpetrator or be abused by a parent compared to their White and African American counter parts. Furthermore, Hispanic girls are more likely to wait longer to disclose compared to Whites and African Americans (Shaw, Lewis, Loeb, Rosado, & Rodriguez, 2001 as cited in Fontes & Plummer, 2010). Boys may be less likely to report CSA because of social stigmas regarding masculinity. For example, a male abused by another male may avoid disclosing in order to avoid being perceived as gay (Barth et al., 2013). Conversely, a male abused by a female may not disclose in an effort to avoid negatively impacting his masculinity by admitting to having been victimized (i.e., the sexual encounter was unwanted and he was not in control).

Finally, a log-linear analysis only allows for examining interactions among variables such that, it is a confirmatory analysis. As such, the analyses did not examine further the extent of the significant contribution that race/ethnicity made to the overall fit of the model. Additionally, as mentioned earlier, it is likely that the dichotomization of the variables negatively impacted the results, such that, there were no significant racial/ethnic differences in any of the hypotheses.

Recommendations for Future Research

The findings from this study suggest that gender influences the types of coping mechanism that adolescents employ. Notably, although this study did not reveal any significant racial/ethnic differences, racial/ethnic background did make statistically significant contribution to the overall model. Thus, future research on this topic may be beneficial in order to explore the role of race and ethnicity further. As mentioned above, given this analysis, this contribution could not be further explored. A chi-square analysis

may provide more insight as to the role and contribution of racial/ethnic background. Moreover, while gender significantly interacted with the variables substance use, suicidal ideation, and depressive symptomatology, future researchers should examine the processes underlying these interactions in order to provide insight as to these gender differences. Currently, the literature on gender differences in the effects of CSA is lacking. Rather, the research indicates that the CSA is associated with substance use (Schraufnagel et al., 2010), but does not allude to any gender differences in coping. This study added to the knowledge base by identifying these gender differences in an adolescent sample which included boys. While research has examined racial/ethnic differences in substance use in female survivors who have experienced CSA, these findings are limited to female survivors only (Shin et al., 2010; Thompson et al., 2012). The present study provided some insight as to the coping mechanisms of boys who have experienced CSA. Future researchers may wish to further explore these findings which indicate that boys are more likely to use substance than girls who have experienced CSA. Particularly, future research may expand on these findings and examine further the experiences of boys who have experienced CSA which may potentially identify underlying factors of substance abuse (e.g., depression). Additionally, as discussed earlier, this study did not encompass all possible CSA experiences. Future research should focus on including various experiences of CSA in order to explore more in-depth the effects of CSA on adolescents and their coping mechanisms. Qualitative research may also provide more insight as to the cultural factors that influence coping as well as the lived experiences of adolescents who have experienced CSA. Research indicates that

individuals who have experienced CSA are more likely to experience depression and suicidality (Bedi et al., 2011). As such, qualitative research (i.e., interviews) may provide insight as to why and how girls experience depression and suicidal ideation at higher rates than boys. That is, are girls more likely to report depressive symptoms and suicidal thoughts because socially it is more acceptable for girls to verbalize their emotions? Conversely, qualitative interviews may provide insight as to what the underlying factors of substance use are in boys. For example, boys who report CSA may be using substances in an effort to self-medicate underlying mental health problems which may include depressive symptomatology.

Implications

Practice

This study sheds light on the gender differences in coping mechanisms utilized in adolescents who have experienced CSA. Specifically, it sheds light as to what these differences may look like in a clinical setting across genders and informs treatment. Due to the high risk for CSA in adolescence (Finkelhor et al., 2014), it is essential to identify how different groups of adolescents cope with and experience CSA. Therefore, these findings may improve treatment and prevention programs by increasing the understanding of sociocultural differences in coping. Cultural competence extends outside of race and culture, and is an ongoing process that involves the consideration of the sociocultural context from the treatment provider (Huey, Tilley, Jones, & Smith, 2014). As such, more tailored and individualized approaches to treatment can be implemented through increasing cultural competence.

Moreover, avoidant coping, including substance use, depressive symptomatology, and suicidal ideation negatively impact mental health (Shapiro et al., 2012). As such, findings will further inform treatment interventions for youth who present with depressive symptoms, substance use, suicidal ideation or hypersexual behaviors that may have underlying trauma. Identifying patterns of coping may promote the implementation of effective interventions in CSA survivors. For instance, the findings inform treatment by identifying the gender differences in coping and ultimately clinical presentation (i.e., depression, substance use, suicidal ideation). In practice, knowledge of these gender differences in coping within the context of CSA may inform treatment and prevention for a child who has experienced CSA. For example, when a child or adolescent has been identified as having been victimized, reported symptoms can be viewed through the lens of trauma (i.e., CSA). Observed or reported maladaptive coping mechanisms can be targeted in treatment and viewed as a coping strategy, rather than a separate diagnosis. Once these coping mechanisms are identified, supportive services and resources, teaching effective coping skills, and communication skills may be implemented in treatment planning in an effort to prevent the development of or maintenance of maladaptive coping. Simultaneously, the clinician is aware that CSA is an underlying factor, and treatment can be approached within this context while providing psychoeducation to caregivers and the child/adolescent.

Prevention

As explained in Chapter 2, the consequences of CSA go well into adulthood and may develop into long term psychological problems (Shapiro et al., 2012). Coping is an

indicator of the development of long term psychiatric symptomatology (Shapiro et al., 2012). As such, this study demonstrates that there are factors such as gender which are related to coping style in adolescents who have experienced CSA. Thus, identifying children via observed coping may provide a starting point for prevention. Findings from this study may help guide clinician exploration of underlying causes for externalizing and internalizing symptoms and behaviors in order to inform treatment, prevent the development of long term consequences, and potentially identify individuals who have not disclosed CSA when they present with these symptoms. As mentioned above, the implementation of preventative services, resources, and skill building in treatment may disrupt the development and maintenance of maladaptive coping. Changing the way adolescents cope with CSA will consequently aid the prevention of long term and/or adult substance abuse problems, completing suicide, chronic and persistent depressive symptomatology, and trauma and stressor related disorders. Furthermore, the present study highlights the importance of viewing symptoms and problem behaviors, if you will, as coping strategies utilized to regulate emotions and essentially cope with CSA. Experiencing depressive symptoms, suicidal thoughts, and substance use may lead adolescents to feeling isolated, withdrawn, as if there is something wrong with them. These findings can further be utilized to educate survivors regarding the short term and long term effects of CSA as well as gender differences in coping. In educating an individual about trauma symptoms, viewing symptoms through the lens of trauma may emphasize that the individual is experiencing a normal reaction (i.e., trying to cope and doing the best he or she can) to an abnormal experience (i.e., CSA).

Social Change

This study contributes to positive social change globally by eliciting more research in the area of gender and racial/ethnic differences in coping. It contributes to the knowledge base about physically and behaviorally expressed effects of CSA in adolescents by providing information about the effect of sociocultural influences (i.e., gender and adolescence) on coping within the context of CSA. This study further informs culturally competent practice by informing clinicians on considerations in treatment. As mentioned earlier, cultural competence entails the modification of any treatment approach in order to tailor treatment to socio-culture factors which influence the presenting problem (Huey et al., 2014). Furthermore, it assists in the prevention of the development and maintenance of adverse, long term, psychiatric problems and persistent symptomatology resulting from CSA through the identification of an adolescent's coping mechanisms (Shapiro et al., 2012).

Currently, in the literature, there are no studies which call for such a shift in the perception of behavioral or emotional consequences of CSA in adolescents. Ultimately, this study calls for a shift on the perception of survivors as problem children or problem behaviors rather than an individual attempting to cope with a trauma such as CSA. Specifically, adolescents who are identified as having internalizing symptoms and/or externalizing symptoms or behaviors may be labeled as problem children when in fact they may be coping with their experience with CSA. Children who are stigmatized due to both CSA and their maladaptive coping strategies (e.g., those identified as having behavior problems or withdrawn), may in turn develop an increased sense of self-worth if

they are educated as to the where their current emotional or behavioral problems stem from (i.e., CSA and trauma). Furthermore, family members, caregivers, and providers may shift their perceptions of these youth through psychoeducation and increased understanding of the effects of CSA on behavioral, emotional, and psychological functioning. When these perceptions change, so will the way society addresses these issues and perceives survivors of CSA.

Conclusion

CSA is a world-wide problem that negatively impacts children of all ages, racial and ethnic backgrounds, sexes, and socioeconomic status (Collin-Vezina, Daigneault & Hebert, 2013) with adolescence being a high risk period for sexual assault (Finkelhor, Shattuck, Turner, & Hamby, 2014). The consequences of CSA persist well into adulthood often manifesting themselves through externalizing and internalizing behaviors (Jones et al., 2013) including depression, suicidality, hypersexual behavior (i.e., risky sexual behaviors and multiple sexual partners), and substance use (Jones et al., 2013; Olafson, 2011). Gender is one of the factors that impacts the duration and severity of symptoms and behaviors (Olafson, 2011) and is one of the greatest distinctions in coping (Aldwin, 2007). The results of this study indicated that gender is a strong predictor of coping mechanisms in adolescents who have been sexually abused which is consistent with the theoretical framework and the research. Specifically, this study revealed that gender is a strong predictor for substance use, depressive symptomatology, and suicidal ideation in adolescents who have experienced CSA. This study adds to our understanding that there are coping differences across gender groups in adolescents who have experienced CSA.

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Appendix A: Operationalization of the Independent and Dependent Variables

Operationalization of the Independent Variables	
Variable	Question/Reponses
Gender	What is your sex? 1. Male 2. Female
Race/Ethnicity	Are you Hispanic or Latino? 1. Yes 2. No What is your race? 1. American Indian or Alaska Native 2. Asian 3. Black or African American 4. Native Hawaiian or Pacific Islander 5. White

Operationalization of Dependent Variables	
Variable	Question/Responses
Depressive Symptomatology	During the past 12 months, did you ever feel so sad or hopeless almost every day for two weeks or more in a row that you stopped doing some usual activities?

	1. Yes 2. No
Suicidality	During the past 12 months, did you ever seriously consider attempting suicide? 1. Yes 2. No During the past 12 months, did you make a plan about how you would attempt suicide? 1. Yes 2. No
Substance Abuse	During the past 30 days, on how many days did you have at least one drink of alcohol? 1. 0 days 2. 1 day 3. 2 days 4. 3 to 5 days 5. 6 to 9 days 6. 10 to 19 days 7. 20 to 29 days During the past 30 days, how many times did you use marijuana? 1. 0 times 2. 1 or 2 times 3. 3 to 9 times 4. 10 to 19 times 5. 20 to 39 times

During your life, how many times have you used any form of cocaine, including powder, crack, or freebase?
1. 0 times

2. 1 or 2 times

3. 3 to 9 times

4. 10 to 19 times

5. 20 to 39 times

6. 40 or more times

6. 40 or more times

During your life, how many times have you used heroin (also called smack, junk, or China White)?
1. 0 times

2. 1 or 2 times

3. 3 to 9 times

4. 10 to 19 times

5. 20 to 39 times

During your life, how many times have you used methamphetamines (also called speed, crystal, crank, or ice)?
1. 0 times

2. 1 or 2 times

3. 3 to 9 times

4. 10 to 19 times

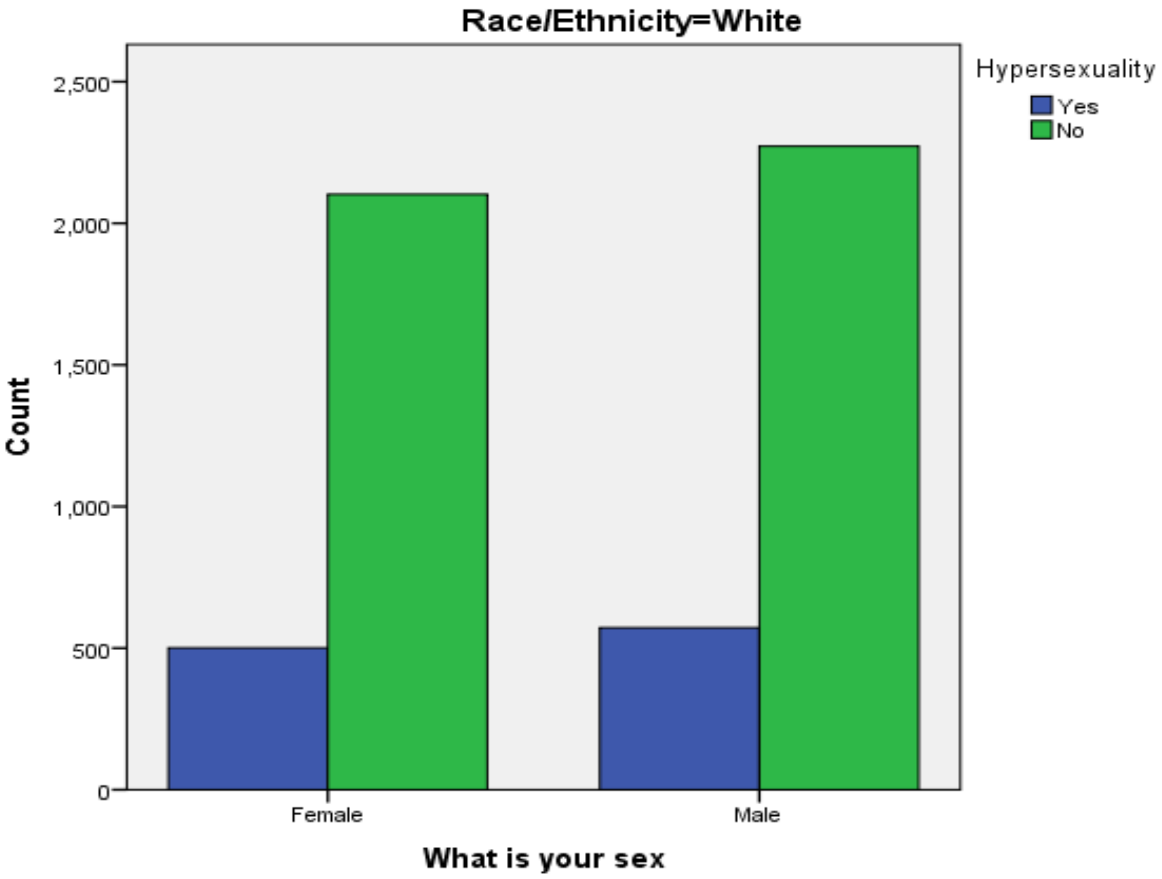
5. 20 to 39 times

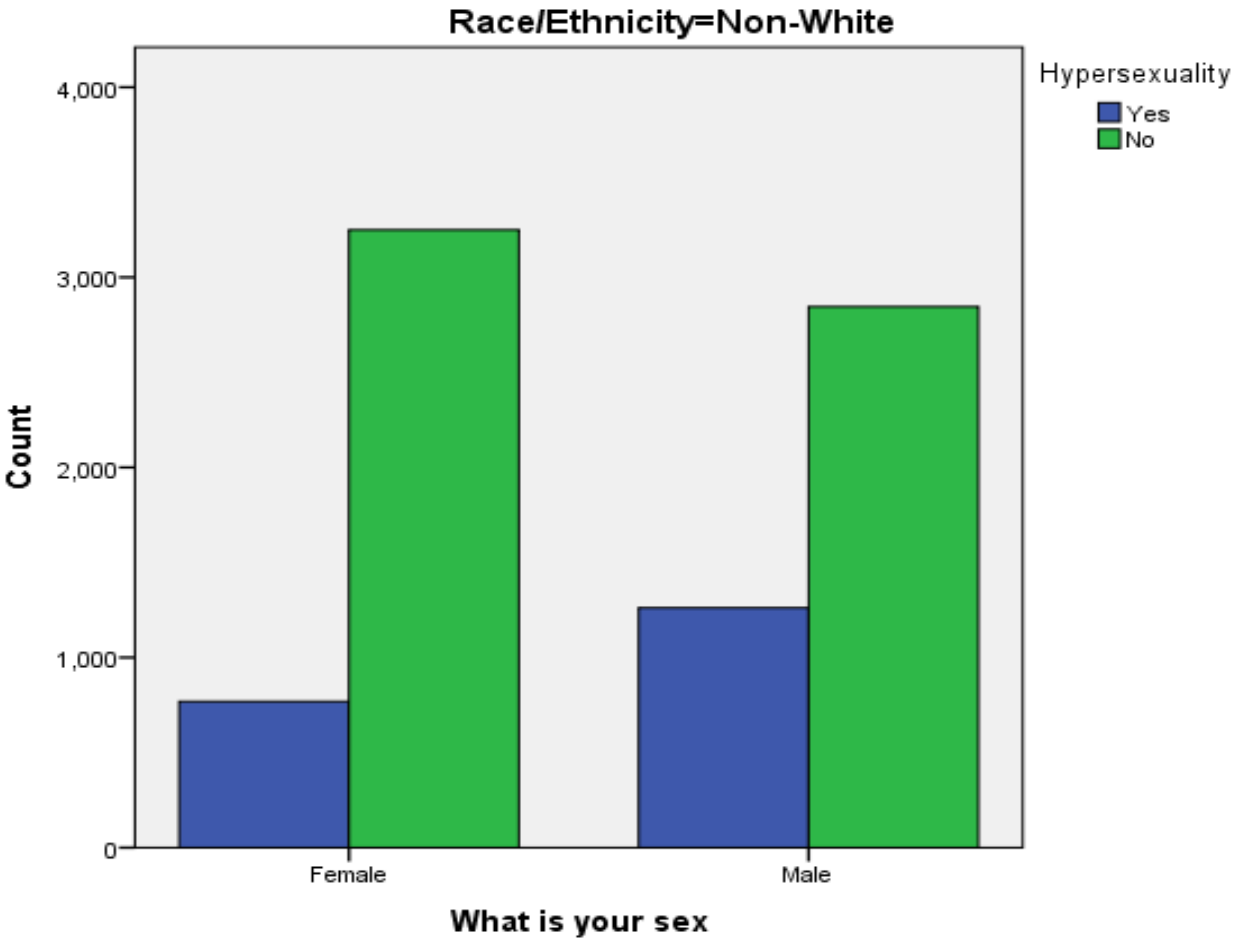
	6. 40 or more times
	6. 40 or more times
	During your life, how many times have you used ecstasy (also called MDMA)? 1. 0 times
	2. 1 or 2 times
	3. 3 to 9 times
	4. 10 to 19 times
	5. 20 to 39 times
	6. 40 or more times
Hypersexuality	During your life, with how many people have you had sexual intercourse? 1. I have never had sexual intercourse
	2. 1 person
	3. 2 people
	4. 3 people
	5. 4 people
	6. 5 people
	7. 6 or more people
	During the past 3 months, with how many people have you had sexual intercourse? 1. I have never had sexual intercourse
	2. I had sexual intercourse, but not during
	the past 3 months.
	3. 1 person

	4. 2 people
	5. 3 people
	6. 4 people
	7. 5 or more people
	8. 6 or more people

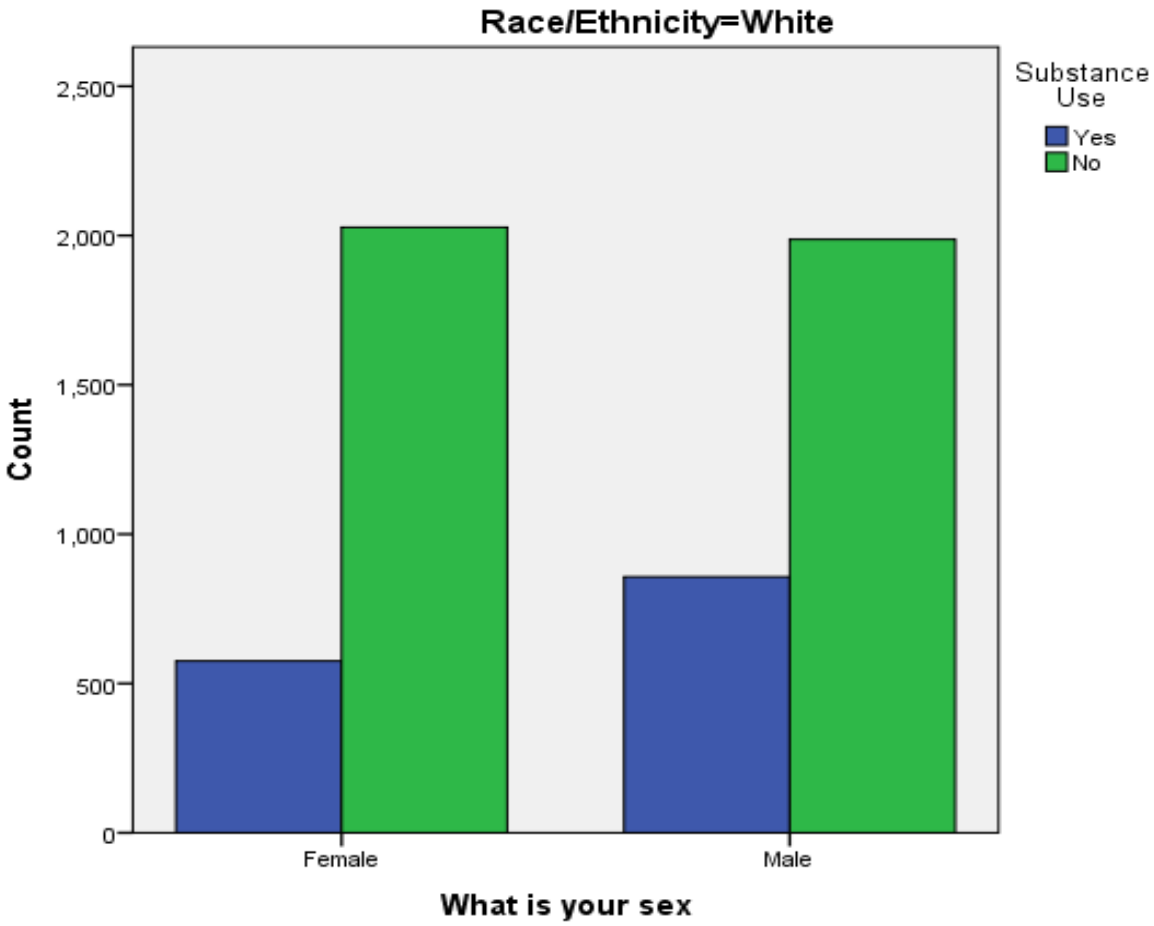
Note: The dependent variables substance abuse and hypersexuality be dichotomized.

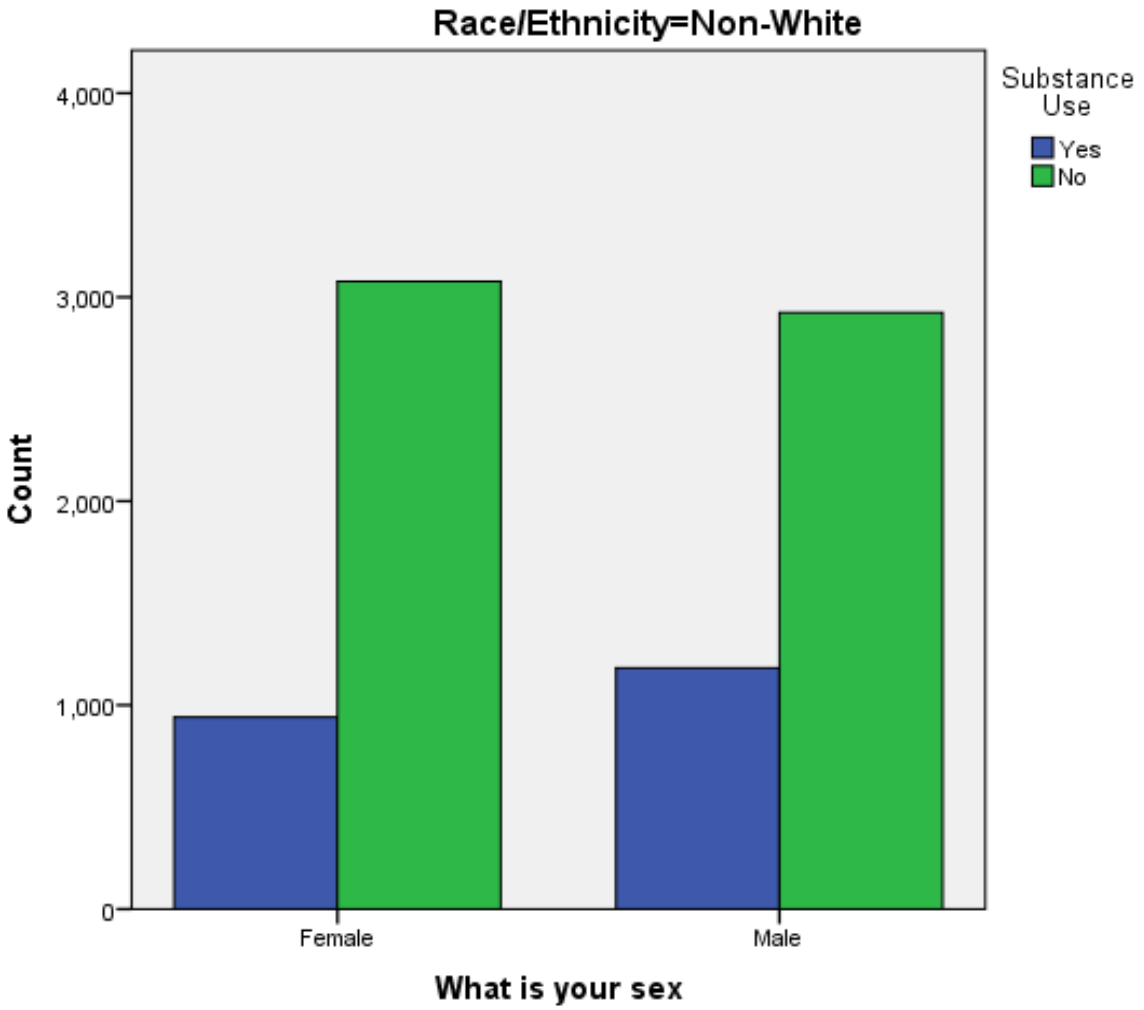
Appendix B: Racial Ethnic Differences in Hypersexuality Among Whites/NonWhites



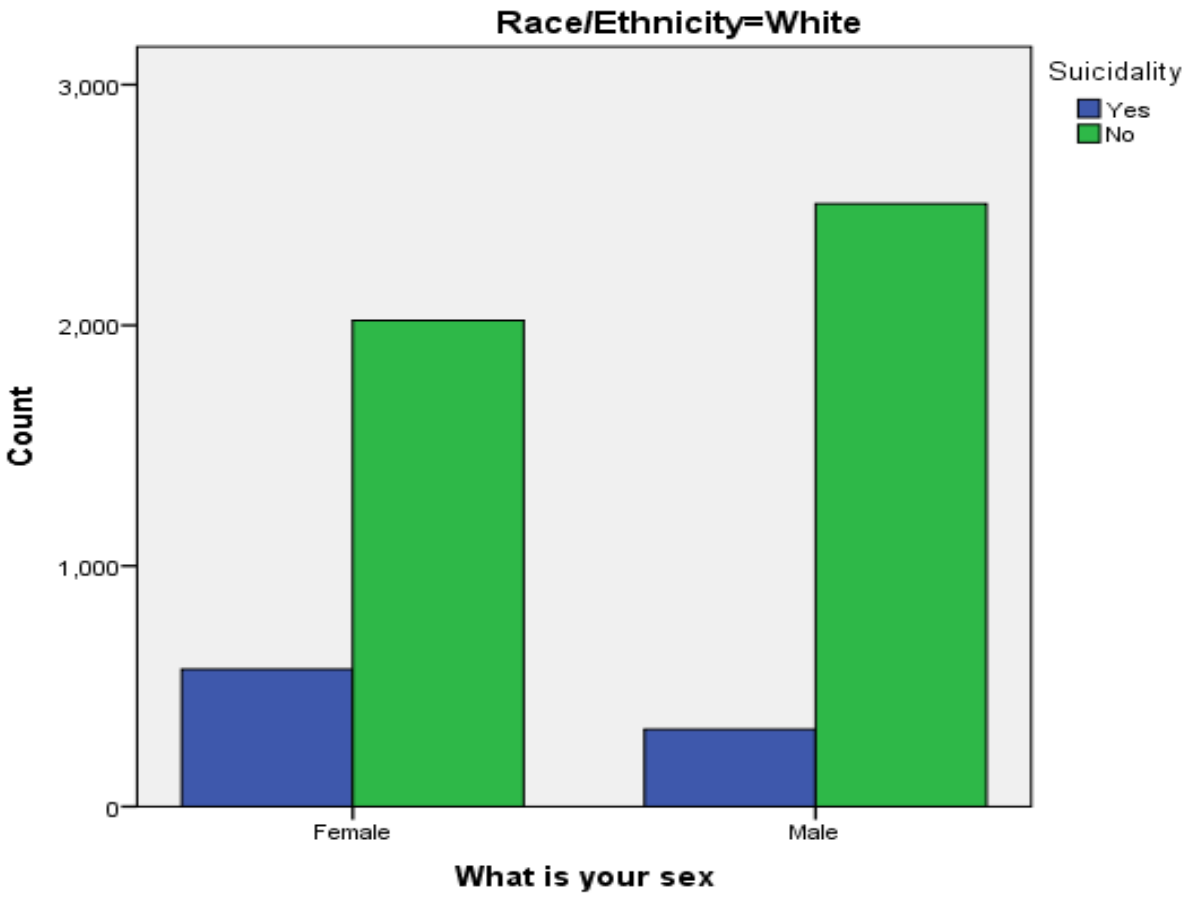

Race/Ethnicity=Non-White
Hypersexuality
Yes
No
Count
4,000
3,000
2,000
1,000
0
Female
Male
What is your sex

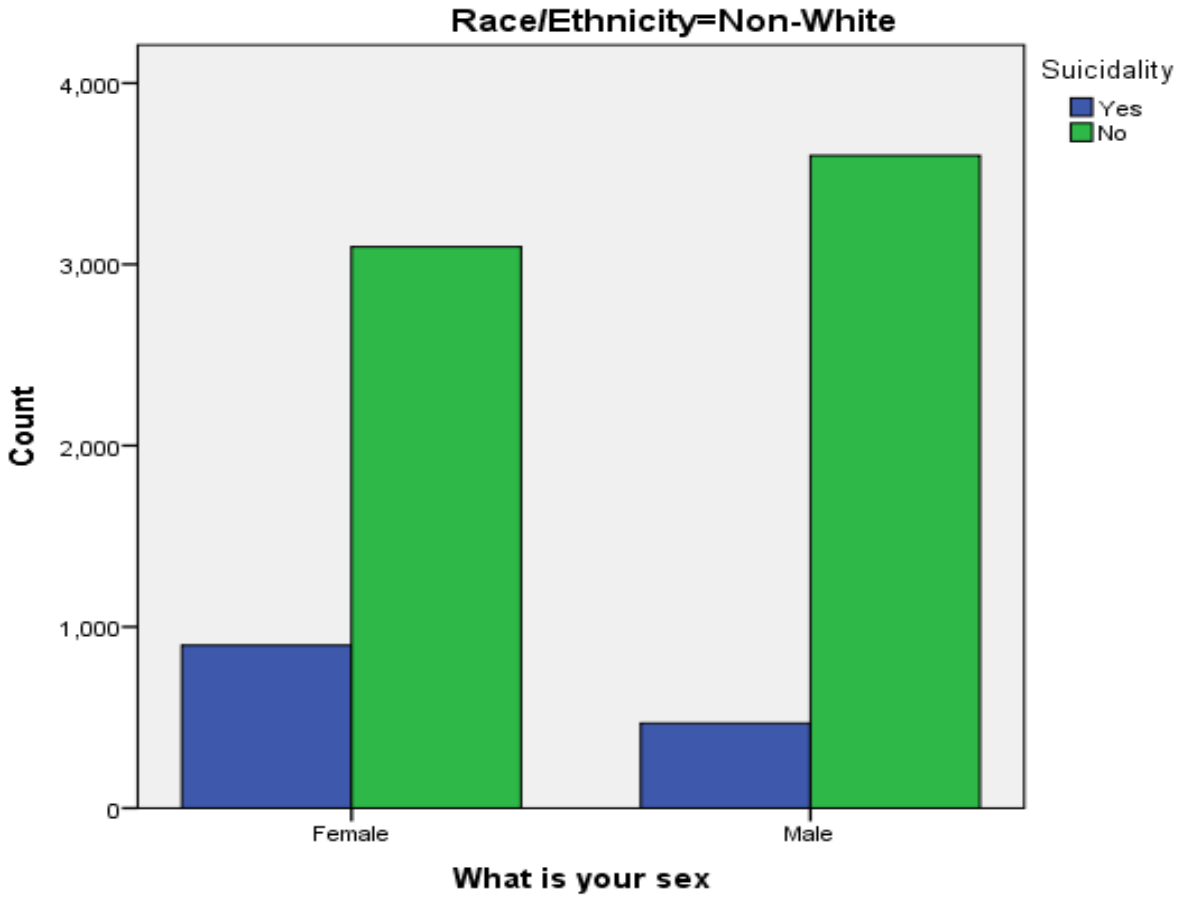
Appendix C: Racial Ethnic Differences in Substance Use Among Whites/NonWhites



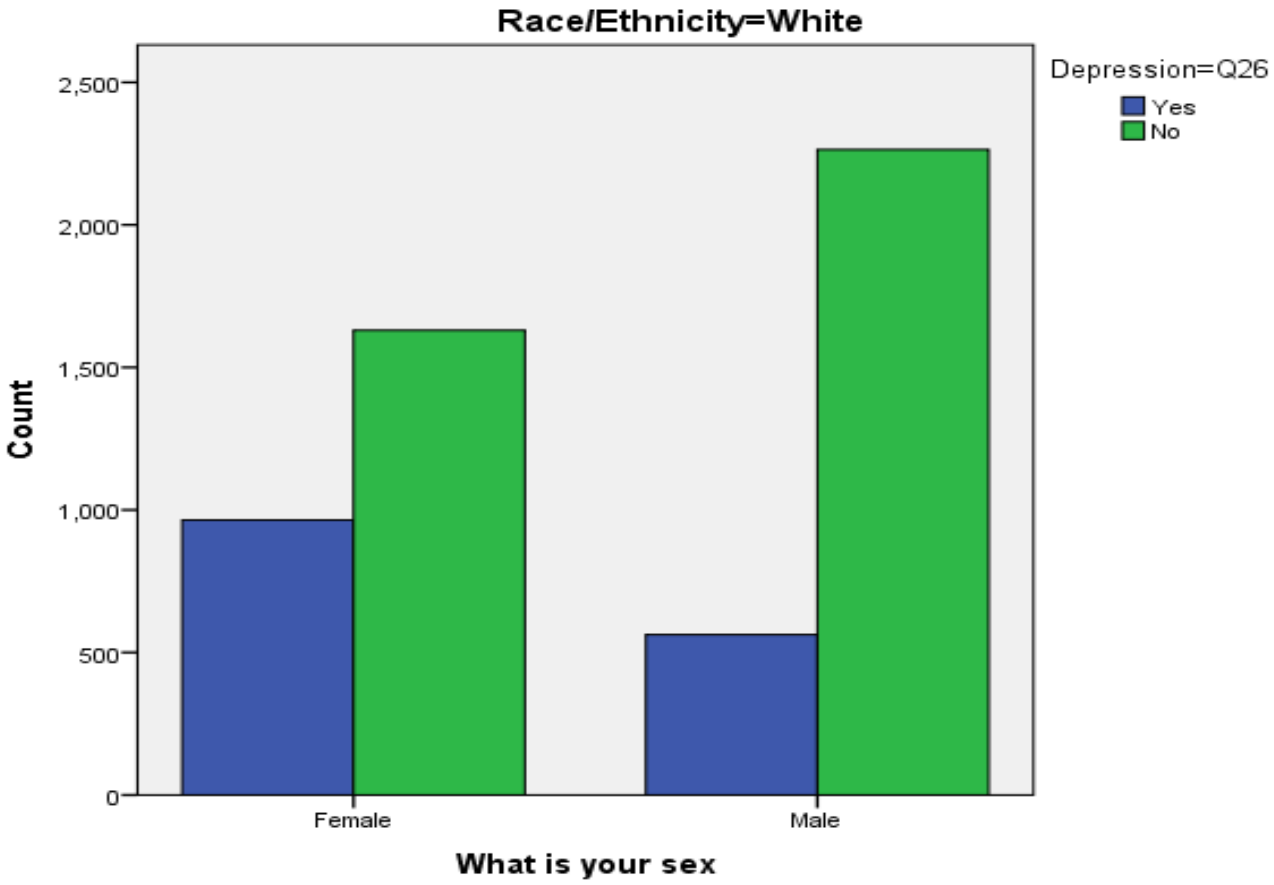

Race/Ethnicity=Non-White
Substance Use
Yes
No
Count
4,000
3,000
2,000
1,000
0
Female
Male
What is your sex

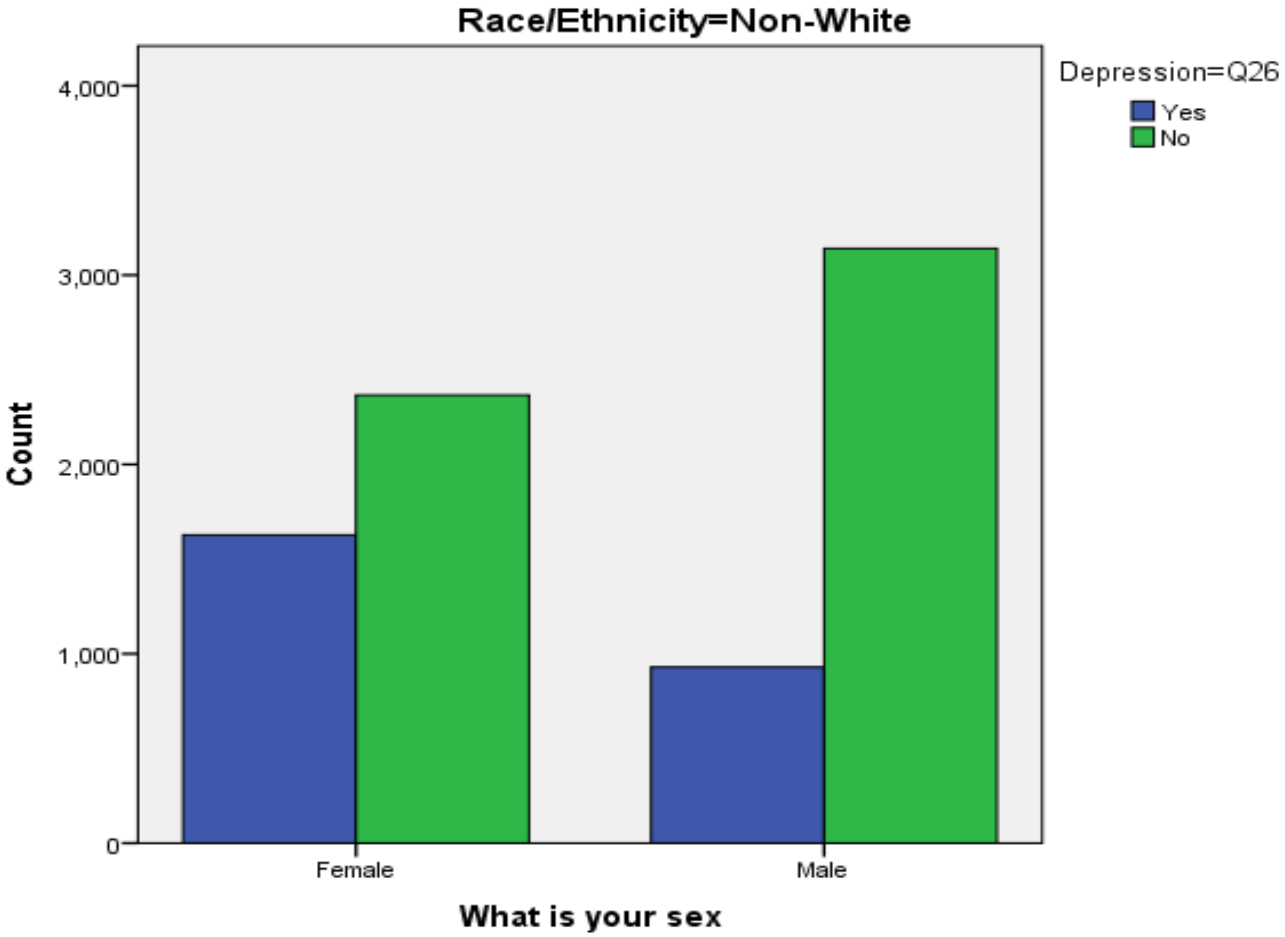
Appendix D: Racial Ethnic Differences in Suicidality Among Whites/NonWhites




Race/Ethnicity=Non-White
Suicidality
Yes
No
4,000
3,000
2,000
1,000
0
Count
Female
Male
What is your sex

Appendix E: Racial Ethnic Differences in Depressive Symptomatology Among Whites/NonWhites




Race/Ethnicity=Non-White
Depression=Q26
Yes
No
Count
4,000
3,000
2,000
1,000
0
Female
Male
What is your sex